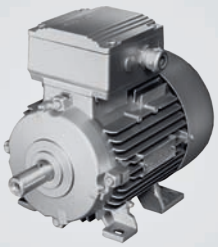

IEC Squirrel-Cage Motors

Frame sizes 56 to 450
Power range 0.06 to 1250 kW

Price List D 81.1 P · August 2008

Motors

SIEMENS

Related catalogs

IEC Squirrel-Cage Motors D 81.1

E86060-K5581-A111-A2-7600

MOTOX Geared Motors D 87.1

E86060-K5287-A111-A1-7600

SINAMICS G110/SINAMICS G120 D 11.1
Inverter Chassis Units
SINAMICS G120D
Distributed Frequency Inverters

E86060-K5511-A111-A5-7600

SINAMICS G130 D 11
Drive Converter Chassis Units
SINAMICS G150
Drive Converter Cabinet Units

E86060-K5511-A101-A4-7600

MICROMASTER DA 51.2
MICROMASTER 420/430/440
Inverters
0.12 kW to 250 kW

E86060-K5151-A121-A6-7600

Industrial Communication IK PI
Part 5: ET 200 Distributed I/O
ET 200S FC Frequency Converter

E86060-K6710-A101-B6-7600

AC NEMA & IEC Motors D81.2 U.S./Canada
Further details available on the Internet at:

Only PDF
http://www.sea.siemens.com/motors

Industry Automation and Motion Control CA 01
The Offline-Mall
(DVD)

E86060-D4001-A510-C7-7600

Industry Automation and Motion Control
Information and ordering platform on the Internet at:
www.siemens.com/automation/mall

Additional documentation

You will find all information material, such as brochures, catalogs, manuals and operating instructions for standard drive systems up-to-date on the Internet at the address
http://www.siemens.com/motors/printmaterial
You can order the listed documentation or download it in common file formats (PDF, ZIP).

Catalog CA 01 – Selection tool SD configurator

The selection tool SD configurator is available in combination with the electronic catalog CA 01 on DVD.
Furthermore, the SD configurator can now be used on the Internet without installation. The SD configurator can be found in the Siemens Mall under the following address:
http://www.siemens.com/sd-configurator
In the main menu of the CA 01 under the tab "Selection tool", you will find the SD configurators for low-voltage motors, MICROMASTER 4 inverters, SINAMICS G110 and SINAMICS G120 inverter chassis units as well as SINAMICS G120D distributed frequency inverters and SIMATIC ET 200S FC and SIMATIC ET 200pro FC frequency converters for distributed I/O, complete with:

- Dimension drawing generator for motors
- Data sheet generator for motors and inverters
- Starting calculation
- 3D models in STP format
- Extensive documentation

Hardware and software requirements

- PC with 1.5 GHz CPU or faster
- Operating systems: Windows 98/ME, Windows 2000, Windows XP, Windows NT 4.0 (Service Pack 6 or higher), Windows Vista
- 1024 MB work memory (minimum)
- Screen resolution 1024 x 768, graphic with more than 256 colors, small fonts
- CD-ROM drive
- Windows-compatible sound card
- Windows-compatible mouse

Installation: You can install this catalog directly from the DVD as a partial version or full version on your hard disk or in the network.

Surcharges for Freight and Packaging

Additional surcharges for freight and packaging will be calculated in addition to orders.

Order Value in EUR	Quote in %
Up to 500	7.5
Up to 2.500	5
Above 2.500	3

Price Groups

Motors								**Accessories/Spare Parts**
	available ex stock	standard programm acc. to catalog with standard delivery time						
Type	1LA7 1LA5 1LG4 1LE1 General Line	1LE1 1PC1	1LA7 1LA5 1LA9 1PP7 1PP5 1LP7 1LP5	1LG4 1LG6 1LA6 1PP4 1PP6 1LP4	1MA7 1MA6	1MJ6 1MJ7	1LA8 1PQ8 1LL8 1LH8	1XP8 2CW2
Price group	**3Z0**	**3Z1**	**3Z1**	**3Z1**	**3Z4**	**3Z5**	**6ZZ**	**3Z6**

Changes or Cancellation

Costs will be calculated according to expenses occurred through changes or cancelation.

Motors

IEC Squirrel-Cage Motors
Frame sizes 56 to 450
Power range 0.06 to 1250 kW

Price List D 81.1 P · August 2008

The products and systems described in this price list are manufactured/distributed under application of a certified quality management system inaccordance with DINEN ISO 9001 (Certified Registration No.DE-000357 QM). The certificate is recognized by all IQNet countries.

The prices are valid from 8/01/2008.

Exception:
The prices for the non-standard motors 1LA8, 1PQ8 and 1LL8 are valid from 10/01/2008.

Supersedes:
Price list D 81.1 P · October 2007

The products contained in this price list can also be found in the e-Catalog CA 01.
Order No.:
E86060-D4001-A510-C7-7600 (DVD)

Please contact your local Siemens branch

Definition of Delivery Time

The longest possible delivery time (motor + supplements) is determined by the longer delivery time of the associated components. Delivery times apply to clarified orders from the supplying factory.

		Standard delivery times:		
Ex stock	These motors are currently in stock and available for delivery.	**10 working days**	**20 working days**	**On request**

Ex stock motors

Self-ventilated energy-saving motors with improved efficiency
Aluminum series 1LA7/1LE1, Cast-iron series 1LG4

Metal factor for metal surcharges (MS):
N - W - - -

Ex stock

Selection and ordering data

3000 rpm 2-pole · IP 55 · 50/60 Hz · 155 (F) · SF 1,1	Rated output at 50 Hz	Frame size	Efficiency-Class	Order No. for motors ex stock 1LA7/1LG4 and General Line 1LE1	Price plus MS for order no. supplement EUR 230 VΔ / 400 VY, 50 Hz, 460 VY, 60 Hz					400 VΔ / 690 VY, 50 Hz, 460 VΔ, 60 Hz					Version for branches 1) 230 VΔ / 400 VY	400 VΔ / 690 VY	
					IM B 3	with PTC thermistor	IM B 5, IM V 1*, IM V 3	with PTC thermistor	IM B 14 standard flange	IM B 3	with PTC thermistor	IM B 5, IM V 1*, IM V 3	with PTC thermistor	IM B 35	IM B 5, IM V 1*, IM V 3	IM B 5, IM V 1*, IM V 3	IM B 35
				1LA7 ■■■-■■■ ..	10	10-Z A11	11	11-Z A11	12	–	60-ZA11	–	–	–	11-Z X66	61-Z X66	66-Z X66
				1LG4 ■■■-■■■ ..	–	–	–	–	–	60	60-ZA11	–	61-Z A11	–	–	–	
CCC	kW			1LE1 ■■■-■■■■.-....	2-2AA0	–	2-2FA0	2-2FB0	2-2KA0	3-4AA0	3-4AB0	3-4FA0	3-4FB0	–	–	–	–
▲	0,18	63 M		1LA7 060-2AA ..	205, -	–	242, -	–	242, -	–	–	–	–	–	–	–	–
▲	0,25			1LA7 063-2AA ..	217, -	–	255, -	–	255, -	–	–	–	–	–	–	–	–
▲	0,37	71 M		1LA7 070-2AA ..	224, -	–	265, -	340, -	265, -	–	–	–	–	–	–	–	–
▲	0,55			1LA7 073-2AA ..	253, -	328, -	294, -	369, -	294, -	–	–	–	–	–	–	–	–
▲	0,75	80 M		1LA7 080-2AA ..	285, -	373, -	330, -	418, -	330, -	–	–	–	–	–	463, -	–	–
▲	1,1		2	1LA7 083-2AA ..	327, -	415, -	373, -	460, -	373, -	–	–	–	–	–	504, -	–	–
▲	1,5	90 S	2	1LA7 090-2AA ..	389, -	475, -	443, -	529, -	443, -	–	–	–	–	–	577, -	–	–
▲	2,2	90 L	2	1LA7 096-2AA ..	501, -	588, -	555, -	640, -	555, -	–	588, -	–	–	–	688, -	–	–
	3	100 L	2	1LA7 106-2AA ..	–	–	–	–	–	–	–	–	–	–	–	801, -	–
			2	1LE1 002-1AA4.-....	602, -	–	667, -	766, -	667, -	602, -	700, -	667, -	–	–	–	–	–
	4	112 M	2	1LA7 113-2AA ..	–	–	–	–	–	–	–	–	–	–	–	959, -	–
			2	1LE1 002-1BA2.-....	741, -	–	823, -	–	823, -	741, -	839, -	823, -	921, -	–	–	–	–
	5,5	132 S	2	1LA7 130-2AA ..	–	–	–	–	–	–	–	–	–	–	–	–	1.320, -
			2	1LE1 002-1CA0.-....	955, -	–	1.060, -	–	–	955, -	1.100, -	1.060, -	1.210, -	–	–	–	–
	7,5	132 S	2	1LA7 131-2AA ..	–	–	–	–	–	–	–	–	–	–	–	–	1.600, -
			2	1LE1 002-1CA1.-....	1.230, -	–	1.340, -	–	–	1.230, -	1.380, -	1.340, -	1.490, -	–	–	–	–
	11	160 M	2	1LA7 163-2AA ..	–	–	–	–	–	–	–	–	–	–	–	–	2.150, -
			2	1LE1 002-1DA2.-....	–	–	–	–	–	1.700, -	1.850, -	1.840, -	1.990, -	–	–	–	–
	15	160 M	2	1LA7 164-2AA ..	–	–	–	–	–	–	–	–	–	–	–	–	2.680, -
			2	1LE1 002-1DA3.-....	–	–	–	–	–	2.220, -	2.380, -	2.370, -	2.520, -	–	–	–	–
	18,5	160 L	2	1LA7 166-2AA ..	–	–	–	–	–	–	–	–	–	–	–	–	3.110, -
			2	1LE1 002-1DA4.-....	–	–	–	–	–	2.660, -	2.810, -	2.800, -	2.950, -	–	–	–	–
	22	180 M	2	1LG4 183-2AA ..	–	–	–	–	–	3.160, -	3.370, -	–	3.590, -	–	–	–	4.350, -
	30	200 L	2	1LG4 206-2AA ..	–	–	–	–	–	4.110, -	4.310, -	–	4.580, -	–	–	–	5.460, -
	37		2	1LG4 207-2AA ..	–	–	–	–	–	5.370, -	5.560, -	–	5.840, -	–	–	–	6.720, -
	45	225 M	2	1LG4 223-2AA ..	–	–	–	–	–	6.520, -	6.790, -	–	–	–	–	–	–
	55	250 M	2	1LG4 253-2AB ..	–	–	–	–	–	7.940, -	8.210, -	–	–	–	–	–	–
	75	280 S	2	1LG4 280-2AB ..	–	–	–	–	–	10.900, -	11.200, -	–	–	–	–	–	–
	90	280 M	2	1LG4 283-2AB ..	–	–	–	–	–	13.100, -	13.500, -	–	–	–	–	–	–

1500 rpm 4-pole · IP 55 · 50/60 Hz · 155 (F) · SF 1,1	Rated output at 50 Hz	Frame size	Efficiency-Class	Order No. for motors ex stock 1LA7/1LG4 and General Line 1LE1	Price plus MS for order no. supplement EUR 230 VΔ / 400 VY, 50 Hz, 460 VY, 60 Hz					400 VΔ / 690 VY, 50 Hz, 460 VΔ, 60 Hz					Version for branches 1) 230 VΔ / 400 VY	400 VΔ / 690 VY	
					IM B 3	with PTC thermistor	IM B 5, IM V 1*, IM V 3	with PTC thermistor	IM B 14 standard flange	IM B 3	with PTC thermistor	IM B 5, IM V 1*, IM V 3	with PTC thermistor	IM B 35	IM B 5, IM V 1*, IM V 3	IM B 5, IM V 1*, IM V 3	IM B 35
				1LA7 ■■■-■■■ ..	10	10-Z A11	11	11-Z A11	12	–	–	–	–	–	11-Z X66	61-Z X66	66-Z X66
				1LG4 ■■■-■■■ ..	–	–	–	–	–	60	60-ZA11	61	61-Z A11	66	–	–	
CCC	kW			1LE1 ■■■-■■■■.-....	2-2AA0	2-2AB0	2-2FA0	2-2FB0	2-2KA0	3-4AA0	3-4AB0	3-4FA0	3-4FB0	3-4JA0	–	–	–
▲	0,12	63 M		1LA7 060-4AB ..	203, -	–	240, -	316, -	240, -	–	–	–	–	–	–	–	–
▲	0,18			1LA7 063-4AB ..	217, -	–	255, -	332, -	255, -	–	–	–	–	–	–	–	–
▲	0,25	71 M		1LA7 070-4AB ..	220, -	296, -	261, -	337, -	261, -	–	–	–	–	–	395, -	–	–
▲	0,37			1LA7 073-4AB ..	247, -	323, -	287, -	364, -	287, -	–	–	–	–	–	422, -	–	–
▲	0,55	80 M		1LA7 080-4AA ..	274, -	362, -	320, -	407, -	320, -	–	–	–	–	–	453, -	–	–
▲	0,75			1LA7 083-4AA ..	297, -	384, -	343, -	431, -	343, -	–	–	–	–	–	475, -	–	–
▲	1,1	90 S	2	1LA7 090-4AA ..	364, -	450, -	418, -	504, -	418, -	–	–	–	–	–	552, -	–	–
	1,5	90 L	2	1LA7 096-4AA ..	432, -	518, -	486, -	572, -	486, -	–	–	–	–	–	620, -	–	–
	2,2	100 L	2	1LA7 106-4AA ..	–	–	–	–	–	–	–	–	–	–	729, -	–	–
			2	1LE1 002-1AB4.-....	529, -	627, -	595, -	693, -	595, -	529, -	627, -	595, -	–	–	–	–	–
	3	100 L	2	1LA7 107-4AA ..	–	–	–	–	–	–	–	–	–	–	–	809, -	–
			2	1LE1 002-1AB5.-....	609, -	–	675, -	773, -	675, -	609, -	707, -	675, -	–	–	–	–	–
	4	112 M	2	1LA7 113-4AA ..	–	–	–	–	–	–	–	–	–	–	–	993, -	–
			2	1LE1 002-1BB2.-....	774, -	–	856, -	955, -	856, -	774, -	873, -	856, -	955, -	–	–	–	–
	5,5	132 S	2	1LA7 130-4AA ..	–	–	–	–	–	–	–	–	–	–	–	–	1.350, -
			2	1LE1 002-1CB0.-....	988, -	–	1.090, -	–	–	988, -	1.130, -	1.090, -	1.240, -	1.120, -	–	–	–
	7,5	132 M	2	1LA7 133-4AA ..	–	–	–	–	–	–	–	–	–	–	–	–	1.620, -
			2	1LE1 002-1CB2.-....	1.260, -	–	1.370, -	–	–	1.260, -	1.410, -	1.370, -	1.520, -	1.400, -	–	–	–
	11	160 M	2	1LA7 163-4AA ..	–	–	–	–	–	–	–	–	–	–	–	–	2.190, -
			2	1LE1 002-1DB2.-....	1.740, -	–	1.880, -	–	–	1.740, -	1.890, -	1.880, -	2.030, -	1.930, -	–	–	–
	15	160 L	2	1LA7 166-4AA ..	–	–	–	–	–	–	–	–	–	–	–	–	2.710, -
			2	1LE1 002-1DB4.-....	2.260, -	–	2.400, -	–	–	2.260, -	2.410, -	2.400, -	2.550, -	2.450, -	–	–	–
	18,5	180 M	2	1LG4 183-4AA ..	–	–	–	–	–	2.750, -	2.960, -	2.970, -	3.180, -	3.040, -	–	–	3.930, -
	22	180 L	2	1LG4 186-4AA ..	–	–	–	–	–	3.250, -	3.460, -	3.470, -	3.680, -	3.550, -	–	–	4.430, -
	30	200 L	2	1LG4 207-4AA ..	–	–	–	–	–	4.310, -	4.510, -	4.590, -	4.790, -	4.710, -	–	–	5.670, -
	37	225 S	2	1LG4 220-4AA ..	–	–	–	–	–	5.260, -	5.530, -	5.610, -	5.870, -	5.840, -	–	–	–
	45	225 M	2	1LG4 223-4AA ..	–	–	–	–	–	6.350, -	6.620, -	6.700, -	6.960, -	–	–	–	–
	55	250 M	2	1LG4 253-4AA ..	–	–	–	–	–	7.710, -	7.980, -	8.120, -	8.400, -	–	–	–	–
	75	280 S	2	1LG4 280-4AA ..	–	–	–	–	–	10.600, -	10.900, -	–	–	–	–	–	–
	90	280 M	2	1LG4 283-4AA ..	–	–	–	–	–	12.500, -	12.800, -	–	–	–	–	–	–
	110	315 S		1LG4 310-4AA ..	–	–	–	–	–	15.400, -	15.800, -	–	–	–	–	–	–
	132	315 M		1LG4 313-4AA ..	–	–	–	–	–	18.300, -	18.600, -	–	–	–	–	–	–
	160	315 L		1LG4 316-4AA ..	–	–	–	–	–	22.600, -	–	–	–	–	–	–	–
	200	315 L		1LG4 317-4AA ..	–	–	–	–	–	28.000, -	–	–	–	–	–	–	–

1) The branch design (order code X66) can only be ordered for the selected stock motors (please refer to the table). If further special designs are needed, order codes A11+K94+K11 contained in X66 must be indicated one by one when ordering. For further informations refer to part 6 "pump motors".

The prices specified in Part 0 for motors supplied from stock are preferential prices and only apply to the technical versions listed.".

▲ **With "CCC" (China Compulsory Certification) for the export to China**

* IM V1 without protective cover

Ex stock

Metal factor for metal surcharges (MS):
N - W - - -

**Self-ventilated energy-saving motors with improved efficiency
Aluminum series 1LA7/1LE1, Cast-iron series 1LG4**

Selection and ordering data

1000 rpm 6-pole · IP 55 · 50/60 Hz · 155 (F) · SF 1,1	Rated output at 50 Hz	Frame size	Order No. for motors ex stock 1LA7/1LG4 and General Line 1LE1	Price plus MS for order no. supplement EUR *230 VΔ / 400 VY, 50 Hz, 460 VY, 60 Hz*					*400 VΔ / 690 VY, 50 Hz, 460 VΔ, 60 Hz*				
				IM B 3	*with PTC thermistor*	*IM B 5, IM V 1*, IM V 3*	*with PTC thermistor*	*IM B 14 standard flange*	*IM B 3*	*with PTC thermistor*	*IM B 5, IM V 1*, IM V 3*	*with PTC thermistor*	*IM B 35*
			1LA7 ■■■-■■■ ..	10	–	11	11-Z A11	12	–	–	–	–	–
			1LG4 ■■■-■■■ ..	–	–	–	–	–	60	60-ZA11	–	–	–
CCC	kW		1LE1 ■■■-■■■■.-....	2-2AA0	–	2-2FA0	2-2FB0	2-2KA0	3-4AA0	3-4AB0	3-4FA0	3-4FB0	–
▲	0,18	71 M	1LA7 070-6AA ..	234, -	–	275, -	352, -	275, -	–	–	–	–	–
▲	0,25		1LA7 073-6AA ..	262, -	–	303, -	379, -	303, -	–	–	–	–	–
▲	0,37	80 M	1LA7 080-6AA ..	285, -	–	330, -	418, -	330, -	–	–	–	–	–
▲	0,55		1LA7 083-6AA ..	330, -	–	376, -	463, -	376, -	–	–	–	–	–
▲	0,75	90 S	1LA7 090-6AA ..	384, -	–	438, -	525, -	438, -	–	–	–	–	–
	1,1	90 L	1LA7 096-6AA ..	476, -	–	529, -	616, -	529, -	–	–	–	–	–
	1,5	100 L	1LA7 106-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1AC4.-....	563, -	–	629, -	727, -	629, -	–	–	–	–	–
	2,2	112 M	1LA7 113-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1BC2.-....	705, -	–	787, -	886, -	787, -	–	–	–	–	–
	3	132 S	1LA7 130-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1CC0.-....	891, -	–	998, -	1.140, -	–	891, -	1.040, -	998, -	–	–
	4	132 M	1LA7 133-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1CC2.-....	1.110, -	–	1.220, -	–	–	1.110, -	1.260, -	1.220, -	1.370, -	–
	5,5	132 M	1LA7 134-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1CC3.-....	1.400, -	–	–	–	–	1.400, -	1.560, -	1.510, -	1.660, -	–
	7,5	160 M	1LA7 163-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1DC2.-....	–	–	–	–	–	1.830, -	1.980, -	1.970, -	2.120, -	–
	11	160 L	1LA7 166-6AA ..	–	–	–	–	–	–	–	–	–	–
			1LE1 002-1DC4.-....	–	–	–	–	–	2.530, -	2.680, -	2.670, -	2.820, -	–
	15	180 L	1LG4 186-6AA ..	–	–	–	–	–	3.330, -	3.530, -	–	–	–
	18,5	200 L	1LG4 206-6AA ..	–	–	–	–	–	4.080, -	4.290, -	–	–	–
	22		1LG4 207-6AA ..	–	–	–	–	–	4.800, -	4.990, -	–	–	–
	30	225 M	1LG4 223-6AA ..	–	–	–	–	–	6.590, -	6.870, -	–	–	–
	37	250 M	1LG4 253-6AA ..	–	–	–	–	–	7.990, -	8.270, -	–	–	–
	45	280 S	1LG4 280-6AA ..	–	–	–	–	–	9.820, -	10.200, -	–	–	–
	55	280 M	1LG4 283-6AA ..	–	–	–	–	–	11.800, -	12.200, -	–	–	–

1500/ 3000 rpm 4/2-pole pole-changing for driving fans with a winding in a Dahlander circuit · degree of protection IP 55 · 50/60 Hz · Temp. class 155 (F)	Rated output 1500 rpm	Rated output 3000 rpm	Frame size	Order No.	Price plus MS for 400 V, IM B 3 with 3 embbeded PTC thermistors for tripping Order Code A11
CCC	kW	kW			EUR
▲	0,25	0,95	80 M	1LA7 083-0BA60-Z A11	575, -
▲	0,33	1,4	90 S	1LA7 090-0BA60-Z A11	688, -
▲	0,5	2	90 L	1LA7 096-0BA60-Z A11	809, -
▲	0,65	2,5	100 L	1LA7 106-0BA60-Z A11	881, -
▲	0,8	3,1		1LA7 107-0BA60-Z A11	1.030, -
▲	1,1	4,4	112 M	1LA7 113-0BA60-Z A11	1.260, -

1000/ 1500 rpm 6/4-pole pole-changing for driving fans with two windings · degree of protection IP 55 · 50/60 Hz · Temp. class 155 (F)	Rated output 1000 rpm	Rated output 1500 rpm	Frame size	Order No.	Price plus MS for 400 V, IM B 3 with 6 embedded PTC thermistors for tripping Order Code A11
CCC	kW	kW			EUR
▲	0,12	0,4	80 M	1LA7 080-1BD60-Z A11	589, -
▲	0,18	0,55		1LA7 083-1BD60-Z A11	638, -
▲	0,29	0,8	90 S	1LA7 090-1BD60-Z A11	746, -
▲	0,38	1,1	90 L	1LA7 096-1BD60-Z A11	850, -
▲	0,6	1,7	100 L	1LA7 106-1BD60-Z A11	1.000, -
▲	0,75	2,1		1LA7 107-1BD60-Z A11	1.100, -
	0,9	3	112 M	1LA7 113-1BD60-Z A11	1.250, -
	1,2	3,9	132 S	1LA7 130-1BD60-Z A11	1.570, -
	1,7	5,4	132 M	1LA7 133-1BD60-Z A11	1.870, -
	2,5	7,2	160 M	1LA7 163-1BD60-Z A11	2.650, -
	3,7	12	160 L	1LA7 166-1BD60-Z A11	3.740, -

750/ 1500 rpm 8/4-pole pole-changing for driving fans with a winding in a Dahlander circuit · degree of protection IP 55 · 50/60 Hz · Temp. class 155 (F)	Rated output 750 rpm	Rated output 1500 rpm	Frame size	Order No.	Price plus MS for 400 V, IM B 3 with 3 embedded PTC thermistors for tripping Order Code A11
CCC	kW	kW			EUR
▲	0,1	0,5	80 M	1LA7 080-0BB60-Z A11	459, -
▲	0,15	0,7		1LA7 083-0BB60-Z A11	513, -
▲	0,22	1	90 S	1LA7 090-0BB60-Z A11	542, -
▲	0,33	1,5	90 L	1LA7 096-0BB60-Z A11	619, -
▲	0,5	2	100 L	1LA7 106-0BB60-Z A11	757, -
	0,65	2,5		1LA7 107-0BB60-Z A11	859, -
	0,9	3,6	112 M	1LA7 113-0BB60-Z A11	978, -
	1,1	4,7	132 S	1LA7 130-0BB60-Z A11	1.390, -
	1,4	6,4	132 M	1LA7 133-0BB60-Z A11	1.750, -
	2,2	9,5	160 M	1LA7 163-0BB60-Z A11	2.340, -
	3,3	14	160 L	1LA7 166-0BB60-Z A11	3.400, -

The prices specified in Part 0 for motors supplied from stock are preferential prices and only apply to the technical versions listed.".

▲ **With "CCC" (China Compulsory Certification) for the export to China**

* IM V1 without protective cover

Orientation

Selection and ordering data

These "recommendations for drive selection" guide you step-by-step through this catalog to the required motor.

Step 1	**Technical requirements for the motor**		
Determine the required product profile, the following are required:	Rated frequency and rated voltage	3 AC 50/60 Hz, 400, 500 or 690 V	
	Duty	Standard duty (continuous duty S1 according to DIN EN 60034-1)	
	Degree of protection or type of explosion protection required	IP..	
	Rated speed (No. of poles)	n =..... rpm	
	Rated output	P =..... kW	
	Rated torque	$M = P \cdot 9550/n$ =..... Nm	
	Type of construction	IM..	
Step 2	**Environmental requirements for the motor**		
Determine the installation conditions	Ambient temperature	≤40 °C	>40 °C
	Site altitude	≤1000 m	>1000 m
	Factors for derating	None	Determine the factor for derating (for derating factor, see "Technical information" – "Coolant temperature and site altitude", Catalog D 81.1)
Step 3	**For preliminary selection of the motor, ⇒ see subsequent pages and the corresponding "Preliminary selection of the motor", Pages 1/2 and 1/3.**		
Determine the range of possible motors	Select the frame size and therefore the possible motors on the basis of the following parameters: cooling method, degree of protection, rated output, rated speed and rated torque range. Note: The standard temperature range of the motors is from –20 to +40 °C.		
Step 4	**Detailed selection of the motor**		
Determine the basic Order No. of the motor	Determine the motor Order No. according to the following parameters: rated output, rated speed, rated torque and rated current from the "Selection and ordering data" for the motors that have already been identified as possibilities.		
Step 5	**Selection of the special versions (see under "Special versions")**		
Complete the motor Order No.	Determine special versions and the associated Order codes (e. g. special voltages and types of construction, motor protection and degrees of protection, windings and insulation, colors and paint finish, mountings and mounting technology, etc.) .		
Step 6			
Selection of the frequency converter, if required	For Order No. of the converter as well as its selection, see Catalogs D 11, D 11.1 , DA 51.2 and DA 51.3.		

Selection and ordering data (continued)

Order Number code digits

The order number consists of a combination of figures and letters and is divided into three blocks linked with hyphens for a better overview, e.g.
1LE1001-1DB20-1AA5-Z
H00

The first block (Positions 1 to 7) identifies the motor type; the second block (Positions 8 to 12) defines the motor frame size and length, the number of poles and in some cases the frequency/output; and in the third block (Positions 13 to 16), the frequency/output, type of construction and other design features are encoded.

For deviations in the second and third block from the catalog codes, either **-Z** or **9** should be used as appropriate.

Ordering data:

- Complete Order No. and order code(s) or plain text.
- If a quotation has been requested, please specify the quotation number in addition to the Order No.
- When ordering a complete motor as a spare part, please specify the works serial No. for the previously supplied motor as well as the Order No.

Structure of the Order No.:	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	13	14	15	16	
IEC squirrel-cage motors, surface-cooled																				
Positions 1 to 4: Digit, letter, letter, digit	**New generation** Design or version (motor type) • Standard: Self-ventilated by fan mounted on and driven by rotor • Expansion option (F90): Forced-air cooled by air flow from the fan to be driven	1	L	E	1															
	• Special: Self-cooled without external fan and fan cover	1	P	C	1															
Positions 5 to 7: 3 digits	• Motors with high efficiency (High Efficiency, EFF1), aluminum housing					0	0	1												
	• Motors with improved efficiency (Improved Efficiency, EFF2), aluminum housing					0	0	2												
Positions 8, 9 and 11: Digit, letter, digit	**Motor frame size** (frame size as a combination of shaft height and overall length, encoded)									1	A ... D		0 ... 6							
Position 10: Letter	**Number of poles** A ... D = 2-, 4-, 6-, 8-pole											A ... D								
Positions 12 and 13: 2 digits	**Voltage, circuit and frequency**													0 ... 9		0 ... 8				
Position 14: Letter	**Type of construction** (A – V)																A ... V			
Position 15: Letter	**Motor protection** (A – Z; special versions encoded)																	A ... Z		
Position 16: Digit	**Mechanical design (motor version and connection box position)** • **General Line motors with shorter delivery times, limited options Selection and ordering data, see chapter 0 "Ex-stock motors"** (connection box on top, cast feet, only basic versions possible, non-drive-end (NDE) cannot be modified) • **All options are possible or can be modified** - Connection box on top - Connection box on RHS (viewed from DE) - Connection box on LHS (viewed from DE) - Connection box below																		0 4 5 6 7	
	Special order versions: encoded – additional order code required not encoded – additional plain text required																			- Z

Ordering example

Selection criteria	Requirement	Structure of the Order No.
Motor type	New generation Standard motor with high efficiency EFF1, IP55 degree of protection, aluminum version	1LE1001-❑❑❑❑❑-❑❑❑❑
Motor frame size/No. of poles/speed	4-pole/1500 rpm	1LE1001-1DB2❑-❑❑❑❑
Rated output	11 kW	
Voltage and frequency	230 VΔ/400 VY, 50 Hz	1LE1001-1DB22-2❑❑❑
Type of construction	IM V5 with protective cover [1]	1LE1001-1DB22-2C❑❑-Z H00
(Special versions)	3 PTC thermistors (motor protection with 3 embedded temperature sensors for tripping) [2]	1LE1001-1DB22-2CB❑-Z H00
Mechanical design (motor version)	Connection box on RHS (viewed from DE)	1LE1001-1DB22-2CB5-Z H00
	Mounted separately driven fan	1LE1001-1DB22-2CB5-Z H00 F70

[1] Standard without protective cover – the protective cover is defined with Option **H00** and this option must be ordered in addition.

[2] No additional option must be specified in the order.

Orientation

1

Selection and ordering data (continued)

Determine the motor type according to cooling method, degree of protection and frame design
(for further selection according to speed or number of poles, rated output, rated torque, rated speed and rated current, see the relevant "Preselection of the motor" tables

Applications for surface-cooled motor types	Cooling method	Standard designation for degree of protection to DIN EN 60034 Part 5	Frame design	Motor type (Positions 1 to 3 of the Order No.) + type series (Position 4 of the Order No.) Rated output at 50 Hz Motor frame sizes (shaft heights) 56 63 71 80 90 100 112 132 160 180 200 225 250 280 315 355 400 450
General Line motors with shorter delivery time	Self-ventilated	IP55	Aluminum	**1LE1 1.5 ... 18.5 kW**
Energy-saving motors with improved efficiency (Improved Efficiency EFF2)	Self-ventilated	IP55	Aluminum	**1LE1 0.75 ... 18.5 kW**
Energy-saving motors with high efficiency (High Efficiency EFF1)	Self-ventilated	IP55	Aluminum	**1LE1 0.75 ... 18.5 kW**
Motors with increased output and improved efficiency	Self-ventilated	IP55	Aluminum	**1LE1 2.2 ... 22 kW**
Motors with increased output and high efficiency	Self-ventilated	IP55	Aluminum	**1LE1 2.2 ... 22 kW**
Motors without external fan and fan cover with improved efficiency	Forced-air-cooled	IP55	Aluminum	**1LE1 0.75 ... 18.5 kW**
Motors without external fan and fan cover with high efficiency	Forced-air-cooled	IP55	Aluminum	**1LE1 0.75 ... 18.5 kW**
Motors without external fan and fan cover with improved efficiency	Self-cooled	IP55	Aluminum	**1PC1 0.3 ... 7.4 kW**
Motors without external fan and fan cover with high efficiency	Self-cooled	IP55	Aluminum	**1PC1 0.37 ... 9 kW**

Preliminary selection of the motor according to motor type/series, speed or number of poles, frame size, rated output, rated torque, rated speed and rated current

General Line motors with shorter delivery time

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors with external fan)						
3000, 2-pole	**100 L ... 160 L**	3 ... 18.5	2835 ... 2935	10 ... 60	6 ... 34	**0/0**
1500, 4-pole	**100 L ... 160 L**	2.2 ... 15	1425 ... 1460	14.8 ... 98	4.85 ... 29.5	**0/0**
1000, 6-pole	**100 L ... 160 L**	1.5 ... 11	930 ... 970	15.3 ... 110	3.95 ... 23.5	**0/1**

Self-ventilated energy-saving motors with improved efficiency (Improved Efficiency EFF2)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors with external fan)						
3000, 2-pole	**100 L ... 160 L**	3 ... 18.5	2835 ... 2935	10 ... 60	6 ... 34	**1/4 ... 1/5**
1500, 4-pole	**100 L ... 160 L**	2.2 ... 15	1425 ... 1460	14.8 ... 98	4.85 ... 29.5	**1/4 ... 1/5**
1000, 6-pole	**100 L ... 160 L**	1.5 ... 11	930 ... 970	15.3 ... 110	3.95 ... 23.5	**1/4 ... 1/5**
750, 8-pole	**100 L ... 160 L**	0.75 ... 7.5	700 ... 720	10.4 ... 100	2.65 ... 18.6	**1/4 ... 1/5**

Self-ventilated energy-saving motors with high efficiency (High Efficiency EFF1)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors with external fan)						
For the use to CEMEP						
3000, 2-pole	**100 L ... 160 L**	3 ... 18.5	2905 ... 2955	9.9 ... 60	5.9 ... 33	**1/8 ... 1/9**
1500, 4-pole	**100 L ... 160 L**	2.2 ... 15	1455 ... 1475	14 ... 97	4.55 ... 27.5	**1/8 ... 1/9**
1000, 6-pole	**100 L ... 160 L**	1.5 ... 11	965 ... 975	15 ... 108	3.5 ... 22	**1/8 ... 1/9**
750, 8-pole	**100 L ... 160 L**	0.75 ... 7.5	720 ... 735	9.9 ... 98	2.75 ... 17.4	**1/8 ... 1/9**
For use in the North American market according to EPACT						
3000, 2-pole	**100 L ... 160 L**	4 ... 25	3520 ... 3565	8.1 ... 50	5.2 ... 29	**1/12 ... 1/13**
1500, 4-pole	**100 L ... 160 L**	3 ... 20	1760 ... 1780	12 ... 80	4.05 ... 24.5	**1/12 ... 1/13**
1000, 6-pole	**100 L ... 160 L**	2 ... 15	1170 ... 1180	12 ... 89	3.15 ... 19.6	**1/12 ... 1/13**

Self-ventilated motors with increased output and improved efficiency (Improved Efficiency EFF2)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors with external fan)						
3000, 2-pole	**100 L ... 160 L**	4 ... 22	2850 ... 2930	13.3 ... 72	7.9 ... 39.5	**1/16 ... 1/17**
1500, 4-pole	**100 L ... 160 L**	4 ... 18.5	1430 ... 1460	26.8 ... 121	8.5 ... 35	**1/16 ... 1/17**
1000, 6-pole	**100 L ... 160 L**	2.2 ... 15	930 ... 965	22.5 ... 148	5.3 ... 33	**1/16 ... 1/17**

Self-ventilated motors with increased output and high efficiency (High Efficiency EFF1)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors with external fan)						
3000, 2-pole	**100 L ... 160 L**	4 ... 22	2905 ... 2955	13 ... 71	7.6 ... 38.5	**1/20 ... 1/21**
1500, 4-pole	**100 L ... 160 L**	4 ... 18.5	1460 ... 1475	26 ... 120	8.2 ... 34	**1/20 ... 1/21**
1000, 6-pole	**100 L ... 160 L**	2.2 ... 15	960 ... 975	22 ... 147	4.95 ... 29.5	**1/20 ... 1/21**

Forced-air cooled motors without external fan and fan cover with improved efficiency (Improved Efficiency EFF2)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors without external fan and fan cover)						
3000, 2-pole	**100 L ... 160 L**	3 ... 18.5	2835 ... 2935	10 ... 60	6 ... 34	**1/24 ... 1/25**
1500, 4-pole	**100 L ... 160 L**	2.2 ... 15	1425 ... 1460	14.8 ... 98	4.85 ... 29.5	**1/24 ... 1/25**
1000, 6-pole	**100 L ... 160 L**	1.5 ... 11	930 ... 970	15.3 ... 110	3.95 ... 23.5	**1/24 ... 1/25**
750, 8-pole	**100 L ... 160 L**	0.75 ... 7.5	700 ... 720	10.4 ... 100	2.65 ... 18.6	**1/24 ... 1/25**

Forced-air cooled motors without external fan and fan cover with high efficiency (High Efficiency EFF1)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1LE1 (motors without external fan and fan cover)						
3000, 2-pole	**100 L ... 160 L**	3 ... 18.5	2905 ... 2955	9.9 ... 60	5.9 ... 33	**1/28 ... 1/29**
1500, 4-pole	**100 L ... 160 L**	2.2 ... 15	1455 ... 1475	14 ... 97	4.55 ... 27.5	**1/28 ... 1/29**
1000, 6-pole	**100 L ... 160 L**	1.5 ... 11	965 ... 975	15 ... 108	3.5 ... 22	**1/28 ... 1/29**
750, 8-pole	**100 L ... 160 L**	0.75 ... 7.5	720 ... 735	9.9 ... 98	2.75 ... 17.4	**1/28 ... 1/29**

Self-cooled motors without external fan and fan cover with improved efficiency

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1PC1 (motors without external fan and fan cover)						
3000, 2-pole	**100 L ... 160 L**	1.2 ... 7.4	2830 ... 2935	4.05 ... 24	2.3 ... 12.9	**1/32 ... 1/33**
1500, 4-pole	**100 L ... 160 L**	0.88 ... 6	1420 ... 1460	5.92 ... 39	1.8... 10.9	**1/32 ... 1/33**
1000, 6-pole	**100 L ... 160 L**	0.6 .. 4.4	930 ... 970	6.12 ... 43	1.4 ... 8.9	**1/32 ... 1/33**
750, 8-pole	**100 L ... 160 L**	0.3 ... 3	695 ... 730	4.05 ... 24	0.97 ... 6.8	**1/32 ... 1/33**

Self-cooled motors without external fan and fan cover with high efficiency

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminum series 1PC1 (motors without external fan and fan cover)						
3000, 2-pole	**100 L ... 160 L**	1.4 ... 9	2920 ... 2960	4.6 ... 29	2.6 ... 15.2	**1/36 ... 1/37**
1500, 4-pole	**100 L ... 160 L**	1.1 ... 6.2	1460 ... 1480	7.2 ... 40	2.2 ... 11.4	**1/36 ... 1/37**
1000, 6-pole	**100 L ... 160 L**	0.85 ... 6.5	960 ... 975	8.5 ... 64	1.92 ... 13.2	**1/36 ... 1/37**
750, 8-pole	**100 L ... 160 L**	0.37 ... 4.6	720 ... 730	4.8 ... 60	1.28 ... 10.8	**1/36 ... 1/37**

New Generation 1LE1/1PC1

Self-ventilated energy-saving motors with improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

Rated output at		Frame size	Operating values at rated output							Order No.	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/6.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm	EFF2	η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	**1LE1002-1AA4❑-❑❑❑❑**	**620,–**	20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	**1LE1002-1BA2❑-❑❑❑❑**	**764,–**	25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	**1LE1002-1CA0❑-❑❑❑❑**	**984,–**	35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	**1LE1002-1CA1❑-❑❑❑❑**	**1.260,–**	40
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	**1LE1002-1DA2❑-❑❑❑❑**	**1.750,–**	60
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	**1LE1002-1DA3❑-❑❑❑❑**	**2.290,–**	68
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	**1LE1002-1DA4❑-❑❑❑❑**	**2.730,–**	78
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	**1LE1002-1AB4❑-❑❑❑❑**	**545,–**	18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	**1LE1002-1AB5❑-❑❑❑❑**	**627,–**	22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	**1LE1002-1BB2❑-❑❑❑❑**	**798,–**	27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	**1LE1002-1CB0❑-❑❑❑❑**	**1.020,–**	38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	**1LE1002-1CB2❑-❑❑❑❑**	**1.310,–**	44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	**1LE1002-1DB2❑-❑❑❑❑**	**1.790,–**	62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	**1LE1002-1DB4❑-❑❑❑❑**	**2.320,–**	73
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	**1LE1002-1AC4❑-❑❑❑❑**	**580,–**	19
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	**1LE1002-1BC2❑-❑❑❑❑**	**727,–**	25
3	3.45	132 S	955	30		80	79.4	0.74	7.3	**1LE1002-1CC0❑-❑❑❑❑**	**918,–**	34
4	4.6	132 M	950	40		83	83.4	0.76	9.2	**1LE1002-1CC2❑-❑❑❑❑**	**1.140,–**	39
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	**1LE1002-1CC3❑-❑❑❑❑**	**1.450,–**	48
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	**1LE1002-1DC2❑-❑❑❑❑**	**1.880,–**	72
11	12.6	160 L	965	110		87.6	87.9	0.77	23.5	**1LE1002-1DC4❑-❑❑❑❑**	**2.600,–**	92
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz												
0.75	0.86	100 L	705	10.4		65.4	60.2	0.62	2.65	**1LE1002-1AD4❑-❑❑❑❑**	**603,–**	17
1.1	1.3	100 L	705	15.1		68.3	67.6	0.63	3.7	**1LE1002-1AD5❑-❑❑❑❑**	**764,–**	22
1.5	1.75	112 M	700	20		75.9	72.8	0.68	4.2	**1LE1002-1BD2❑-❑❑❑❑**	**906,–**	25
2.2	2.55	132 S	715	29		81	80.4	0.66	5.9	**1LE1002-1CD0❑-❑❑❑❑**	**1.170,–**	37
3	3.45	132 M	710	40		81.6	81.4	0.68	7.8	**1LE1002-1CD2❑-❑❑❑❑**	**1.430,–**	44
4	4.6	160 M	720	53		80	78.7	0.69	10.4	**1LE1002-1DD2❑-❑❑❑❑**	**1.750,–**	60
5.5	6.3	160 M	720	73		83.5	83.9	0.70	13.6	**1LE1002-1DD3❑-❑❑❑❑**	**2.180,–**	72
7.5	8.6	160 L	715	100		83.5	84.7	0.70	18.6	**1LE1002-1DD4❑-❑❑❑❑**	**2.690,–**	91

Note:
The 2-, 4-, and 6-pole motors listed above can also be delivered ex stock with a shorter delivery time and at a preferential price. These motors can be selected in defined versions (voltages, types of construction, motor protection and connection box position) in part 0 “Motors ex stock” under General Line on Pages 0/0 and 0/1.

Order No. supplements, see from Page 1/6.

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No.	Locked-rotor torque with direct starting torque T_{LR}/T_{rated}	Locked-rotor current as multiple of rated current I_{LR}/I_{rated}	Breakdown torque T_B/T_{rated}	Torque class CL	Moment of inertia J kgm^2	Noise at rated output: Measuring-surface sound pressure level at 50 Hz L_{pfA} dB(A)	Noise at rated output: Sound pressure level at 50 Hz L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1LE1002-1AA4❑-❑❑❑❑	3.2	6.2	2.9	16	0.0034	67	79
1LE1002-1BA2❑-❑❑❑❑	2.7	7.3	3.7	16	0.0067	69	81
1LE1002-1CA0❑-❑❑❑❑	2	5.6	2.6	16	0.01267	68	80
1LE1002-1CA1❑-❑❑❑❑	2.2	6.4	3	16	0.01601	68	80
1LE1002-1DA2❑-❑❑❑❑	2.1	6.1	2.7	16	0.02971	70	82
1LE1002-1DA3❑-❑❑❑❑	2.5	6.1	3.2	16	0.03619	70	82
1LE1002-1DA4❑-❑❑❑❑	2.5	7	3.2	16	0.04395	70	82
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1LE1002-1AB4❑-❑❑❑❑	2.3	5.1	2.7	16	0.0059	60	72
1LE1002-1AB5❑-❑❑❑❑	2.4	5.4	2.6	16	0.0078	60	72
1LE1002-1BB2❑-❑❑❑❑	2.2	5.3	2.6	16	0.0102	58	70
1LE1002-1CB0❑-❑❑❑❑	2.3	6.2	2.7	16	0.0186	64	76
1LE1002-1CB2❑-❑❑❑❑	2.5	6.6	2.9	16	0.02371	64	76
1LE1002-1DB2❑-❑❑❑❑	2.3	6.4	3.1	16	0.04395	65	77
1LE1002-1DB4❑-❑❑❑❑	2.5	7	3.4	16	0.05616	65	77
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1LE1002-1AC4❑-❑❑❑❑	2	4	2.2	16	0.0065	61	73
1LE1002-1BC2❑-❑❑❑❑	2.3	4.1	2.5	16	0.0092	68	80
1LE1002-1CC0❑-❑❑❑❑	2	4.6	2.6	16	0.0167	63	75
1LE1002-1CC2❑-❑❑❑❑	2.1	4.7	2.5	16	0.02116	63	75
1LE1002-1CC3❑-❑❑❑❑	2.5	5.2	2.8	16	0.02734	63	75
1LE1002-1DC2❑-❑❑❑❑	2.1	5.5	2.9	16	0.04993	68	80
1LE1002-1DC4❑-❑❑❑❑	1.9	5.9	2.7	16	0.0678	68	80
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz							
1LE1002-1AD4❑-❑❑❑❑	1.9	3	2.2	16	0.0056	60	72
1LE1002-1AD5❑-❑❑❑❑	2	3.2	2.3	16	0.0078	60	72
1LE1002-1BD2❑-❑❑❑❑	1.9	3.4	2.1	16	0.0094	63	75
1LE1002-1CD0❑-❑❑❑❑	1.7	3.9	2.4	13	0.0186	63	75
1LE1002-1CD2❑-❑❑❑❑	1.8	3.9	2.2	13	0.02372	63	75
1LE1002-1DD2❑-❑❑❑❑	1.7	3.8	2.3	13	0.0439	63	75
1LE1002-1DD3❑-❑❑❑❑	1.6	4	2.2	13	0.0562	63	75
1LE1002-1DD4❑-❑❑❑❑	1.7	3.8	2.2	13	0.0772	63	75

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

1

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see "Selection and ordering data" for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1LE1002-1A..❑-❑...	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1LE1002-1B..❑-❑...	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1LE1002-1C..❑-❑...	**132 S/M**	○	○	○	○	70,30	70,30	70,30	70,30
1LE1002-1D..❑-❑...	**160 M/L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		Without flange							**With flange (acc. to DIN EN 50347)**					
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	IM V5 with protective cover [3] [4] [5]	Flange size	IM B5 [3] [6]	IM V1 without protective cover [3]	IM V1 with protective cover [3] [4] [5]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**	**C**		**F**	**G**	**G**	**H**	**J**
Order No. supplement **-Z** with order code		–	–	–	–	–	–	**-Z H00**		–	–	**-Z H00**	–	–
1LE1002-1A...-❑..	**100 L**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	68,30	68,30	137,40	68,30	84,80
1LE1002-1B...-❑..	**112 M**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	84,80	84,80	153,90	84,80	111,–
1LE1002-1C...-❑..	**132 S/M**	❑	❑	❑	❑	❑	❑	121,–	**FF 265**	110,–	110,–	231,–	110,–	139,–
1LE1002-1D...-❑..	**160 M/L**	❑	❑	❑	❑	❑	❑	121,–	**FF 300**	143,–	143,–	264,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		With standard flange (acc. to DIN EN 590347)							**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34
			K	**L**	**M**	**M**	**N**			**K**	**L**	**M**	**M**	**N**
Order No. supplement **-Z** with order code			–	–	–	**-Z H00**	–			**-Z P01**	**-Z P01**	**-Z P01**	**-Z H00 P01**	**-Z P01**
1LE1002-1A...-❑..	**100 L**	**FT 130**	68,30	68,30	68,30	137,40	84,80		**FT 165**	111,50	111,50	111,50	180,60	128,–
1LE1002-1B...-❑..	**112 M**	**FT 130**	84,80	84,80	84,80	153,90	111,–		**FT 165**	128,–	128,–	128,–	197,10	154,20
1LE1002-1C...-❑..	**132 S/M**	**FT 165**	110,–	110,–	110,–	231,–	139,–		**FT 215**	164,–	164,–	164,–	285,–	193,–
1LE1002-1D...-❑..	**160 M/L**	**FT 215**	143,–	143,–	143,–	264,–	201,–		–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) Option second shaft end (Order code) **L05** not possible.

5) In combination with an encoder, it is not necessary to order the protective cover (order code **H00**), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).

6) The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

7) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z**	**Z**
							Q2A	**Q3A**
1LE1002-1A...-..❑.	**100 L**	◻	101,–	172,–	101,–	202,–	112,–	
1LE1002-1B...-..❑.	**112 M**	◻	101,–	172,–	101,–	202,–	112,–	
1LE1002-1C...-..❑.	**132 S/M**	◻	150,–	230,–	150,–	300,–	164,–	
1LE1002-1D...-..❑.	**160 M/L**	◻	150,–	230,–	150,–	300,–	164,–	

◻ Standard version

Motortyp	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1LE1002-1A...-...❑	**100 L**	◻	87,70	87,70	87,70
1LE1002-1B...-...❑	**112 M**	◻	95,50	95,50	95,50
1LE1002-1C...-...❑	**132 S/M**	◻	103,–	103,–	103,–
1LE1002-1D...-...❑	**160 M/L**	◻	110,–	110,–	110,–

◻ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

Self-ventilated energy-saving motors with high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Rated output at		Frame size	Operating values at rated output							Order No.	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class accord-ing to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of con-struction, motor protection and connection box, see table from Page 1/10.	IM B3 type of construc-tion	IM B3 type of construc-tion approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm	EFF1	η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)												
For implementation according to CEMEP												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
3	3.45	100 L	2905	9.9	EFF1	86.7	87.5	0.84	5.9	**1LE1001-1AA4❑-❑❑❑❑**	**899,–**	21
4	4.6	112 M	2950	13	EFF1	88	88.5	0.86	7.4	**1LE1001-1BA2❑-❑❑❑❑**	**1.070,–**	27
5.5	6.3	132 S	2950	18	EFF1	89.5	90.6	0.87	10.2	**1LE1001-1CA0❑-❑❑❑❑**	**1.350,–**	39
7.5	8.6	132 S	2950	24	EFF1	90	91	0.87	13.8	**1LE1001-1CA1❑-❑❑❑❑**	**1.700,–**	43
11	12.6	160 M	2955	36	EFF1	90.8	91	0.87	20	**1LE1001-1DA2❑-❑❑❑❑**	**2.360,–**	67
15	17.3	160 M	2955	48	EFF1	91.4	91.5	0.88	27	**1LE1001-1DA3❑-❑❑❑❑**	**3.090,–**	75
18.5	21.3	160 L	2955	60	EFF1	92	92.5	0.88	33	**1LE1001-1DA4❑-❑❑❑❑**	**3.690,–**	84
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
2.2	2.55	100 L	1455	14	EFF1	86.4	87	0.81	4.55	**1LE1001-1AB4❑-❑❑❑❑**	**818,–**	21
3	3.45	100 L	1455	20	EFF1	87.4	88	0.82	6	**1LE1001-1AB5❑-❑❑❑❑**	**940,–**	25
4	4.6	112 M	1460	26	EFF1	88.3	88.5	0.81	8.1	**1LE1001-1BB2❑-❑❑❑❑**	**1.160,–**	29
5.5	6.3	132 S	1465	36	EFF1	89.2	89.5	0.80	11.2	**1LE1001-1CB0❑-❑❑❑❑**	**1.440,–**	42
7.5	8.6	132 M	1465	49	EFF1	90.1	91	0.83	14.4	**1LE1001-1CB2❑-❑❑❑❑**	**1.830,–**	49
11	12.6	160 M	1470	71	EFF1	91.2	91.8	0.85	20.5	**1LE1001-1DB2❑-❑❑❑❑**	**2.420,–**	71
15	17.3	160 L	1475	97	EFF1	92	92.4	0.85	27.5	**1LE1001-1DB4❑-❑❑❑❑**	**3.130,–**	83
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
1.5	1.75	100 L	970	15		84.5	84.5	0.73	3.5	**1LE1001-1AC4❑-❑❑❑❑**	**812,–**	25
2.2	2.55	112 M	965	22		85	85	0.75	5	**1LE1001-1BC2❑-❑❑❑❑**	**1.020,–**	29
3	3.45	132 S	970	30		85	85	0.74	6.9	**1LE1001-1CC0❑-❑❑❑❑**	**1.290,–**	38
4	4.6	132 M	970	39		86	86	0.78	8.6	**1LE1001-1CC2❑-❑❑❑❑**	**1.600,–**	43
5.5	6.3	132 M	970	54		88	88	0.77	11.8	**1LE1001-1CC3❑-❑❑❑❑**	**2.000,–**	52
7.5	8.6	160 M	975	73		89	89	0.77	15.8	**1LE1001-1DC2❑-❑❑❑❑**	**2.540,–**	77
11	12.6	160 L	975	108		89.5	89	0.80	22	**1LE1001-1DC4❑-❑❑❑❑**	**3.510,–**	93
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz												
0.75	0.86	100 L	725	9.9		68	65	0.58	2.75	**1LE1001-1AD4❑-❑❑❑❑**	**844,–**	21
1.1	1.3	100 L	725	14		68	64.5	0.58	4.05	**1LE1001-1AD5❑-❑❑❑❑**	**1.070,–**	25
1.5	1.75	112 M	720	20		77	75.5	0.67	4.2	**1LE1001-1BD2❑-❑❑❑❑**	**1.270,–**	29
2.2	2.55	132 S	725	29		77.5	76.7	0.63	6.5	**1LE1001-1CD0❑-❑❑❑❑**	**1.640,–**	41
3	3.45	132 M	720	40		84	82	0.65	7.9	**1LE1001-1CD2❑-❑❑❑❑**	**2.000,–**	49
4	4.6	160 M	730	52		87	88	0.69	9.6	**1LE1001-1DD2❑-❑❑❑❑**	**2.450,–**	69
5.5	6.3	160 M	735	72		87.5	89	0.69	13.2	**1LE1001-1DD3❑-❑❑❑❑**	**3.010,–**	82
7.5	8.6	160 L	730	98		88	89	0.72	17	**1LE1001-1DD4❑-❑❑❑❑**	**3.630,–**	94

Order No. supplements, see from Page 1/10.

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated output	
	with direct starting as multiple of rated					Measuring-surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz
	torque	current	torque				
	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}	CL	J kgm^2	L_{pfA} dB(A)	L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)							
For implementation according to CEMEP							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1LE1001-1AA4❑-❑❑❑❑	2.3	7	3.3	16	0.0044	67	79
1LE1001-1BA2❑-❑❑❑❑	2.4	7.4	3.3	16	0.0092	69	81
1LE1001-1CA0❑-❑❑❑❑	1.8	6.7	2.9	16	0.02012	68	80
1LE1001-1CA1❑-❑❑❑❑	2.2	7.5	3.1	16	0.02353	68	80
1LE1001-1DA2❑-❑❑❑❑	2.1	7.4	3.2	16	0.04471	70	82
1LE1001-1DA3❑-❑❑❑❑	2.4	7.6	3.4	16	0.05277	70	82
1LE1001-1DA4❑-❑❑❑❑	2.9	7.9	3.6	16	0.06085	70	82
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1LE1001-1AB4❑-❑❑❑❑	2.1	6.9	3.3	16	0.0086	60	72
1LE1001-1AB5❑-❑❑❑❑	2	6.9	3.1	16	0.0109	60	72
1LE1001-1BB2❑-❑❑❑❑	2.5	7.1	3.2	16	0.014	58	70
1LE1001-1CB0❑-❑❑❑❑	2.3	6.9	2.9	16	0.02698	64	76
1LE1001-1CB2❑-❑❑❑❑	2.3	6.9	2.9	16	0.03353	64	76
1LE1001-1DB2❑-❑❑❑❑	2.2	6.7	2.8	16	0.06495	65	77
1LE1001-1DB4❑-❑❑❑❑	2.5	7.3	3	16	0.08281	65	77
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1LE1001-1AC4❑-❑❑❑❑	2	6.2	2.9	16	0.0113	59	71
1LE1001-1BC2❑-❑❑❑❑	2.1	6	3.1	16	0.0139	57	69
1LE1001-1CC0❑-❑❑❑❑	1.6	5.6	2.6	13	0.02371	63	75
1LE1001-1CC2❑-❑❑❑❑	1.6	5.6	2.5	13	0.02918	63	75
1LE1001-1CC3❑-❑❑❑❑	1.9	6.1	2.8	16	0.03673	63	75
1LE1001-1DC2❑-❑❑❑❑	1.8	6.3	2.8	16	0.0754	67	79
1LE1001-1DC4❑-❑❑❑❑	1.7	6.2	2.7	16	0.0975	67	79
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz							
1LE1001-1AD4❑-❑❑❑❑	1.6	4	2.8	13	0.0086	60	72
1LE1001-1AD5❑-❑❑❑❑	1.8	4	2.8	13	0.0109	60	72
1LE1001-1BD2❑-❑❑❑❑	1.4	4.2	2.4	13	0.014	63	75
1LE1001-1CD0❑-❑❑❑❑	1.4	3.6	1.8	10	0.02698	63	75
1LE1001-1CD2❑-❑❑❑❑	1.4	5	2.4	10	0.03463	63	75
1LE1001-1DD2❑-❑❑❑❑	1.8	4.3	2	13	0.0649	63	75
1LE1001-1DD3❑-❑❑❑❑	2.1	4.4	2.1	13	0.0828	63	75
1LE1001-1DD4❑-❑❑❑❑	1.9	4.5	2.1	13	0.0982	63	75

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see "Selection and ordering data" for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1LE1001-1A..❑-❑...	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1LE1001-1B..❑-❑...	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1LE1001-1C..❑-❑...	**132 S/M**	○	○	○	○	70,30	70,30	70,30	70,30
1LE1001-1D..❑-❑...	**160 M/L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		Without flange							**With flange (acc. to DIN EN 50347)**					
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	IM V5 with protective cover [3] [4] [5]	Flange size	IM B5 [3] [6]	IM V1 without protective cover [3]	IM V1 with protective cover [3] [4] [5]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**	**C**		**F**	**G**	**G**	**H**	**J**
Order No. supplement **-Z** with order code		–	–	–	–	–	–	**-Z H00**		–	–	**-Z H00**	–	–
1LE1001-1A...-❑..	**100 L**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	68,30	68,30	137,40	68,30	84,80
1LE1001-1B...-❑..	**112 M**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	84,80	84,80	153,90	84,80	111,–
1LE1001-1C...-❑..	**132 S/M**	❑	❑	❑	❑	❑	❑	121,–	**FF 265**	110,–	110,–	231,–	110,–	139,–
1LE1001-1D...-❑..	**160 M/L**	❑	❑	❑	❑	❑	❑	121,–	**FF 300**	143,–	143,–	264,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		With standard flange (acc. to DIN EN 590347)							**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34
			K	**L**	**M**	**M**	**N**			**K**	**L**	**M**	**M**	**N**
Order No. supplement **-Z** with order code			–	–	–	**-Z H00**	–			**-Z P01**	**-Z P01**	**-Z P01**	**-Z H00 P01**	**-Z P01**
1LE1001-1A...-❑..	**100 L**	**FT 130**	68,30	68,30	68,30	137,40	84,80		**FT 165**	111,50	111,50	111,50	180,60	128,–
1LE1001-1B...-❑..	**112 M**	**FT 130**	84,80	84,80	84,80	153,90	111,–		**FT 165**	128,–	128,–	128,–	197,10	154,20
1LE1001-1C...-❑..	**132 S/M**	**FT 165**	110,–	110,–	110,–	231,–	139,–		**FT 215**	164,–	164,–	164,–	285,–	193,–
1LE1001-1D...-❑..	**160 M/L**	**FT 215**	143,–	143,–	143,–	264,–	201,–		–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) Option second shaft end (Order code) **L05** not possible.

5) In combination with an encoder, it is not necessary to order the protective cover (order code **H00**), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).

6) The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

7) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Selection and ordering data (continued)

Motor type	Frame size	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
		Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
		A	**B**	**C**	**F**	**Z**	**Z**
	Order code					**Q2A**	**Q3A**
1LE1001-1A...-..❑.	**100 L**	□	101,–	172,–	101,–	202,–	112,–
1LE1001-1B...-..❑.	**112 M**	□	101,–	172,–	101,–	202,–	112,–
1LE1001-1C...-..❑.	**132 S/M**	□	150,–	230,–	150,–	300,–	164,–
1LE1001-1D...-..❑.	**160 M/L**	□	150,–	230,–	150,–	300,–	164,–

□ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1LE1001-1A...-...❑	**100 L**	□	87,70	87,70	87,70
1LE1001-1B...-...❑	**112 M**	□	95,50	95,50	95,50
1LE1001-1C...-...❑	**132 S/M**	□	103,–	103,–	103,–
1LE1001-1D...-...❑	**160 M/L**	□	110,–	110,–	110,–

□ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

Self-ventilated energy-saving motors with high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Rated output at		Frame size	Operating values at rated output						Order No.	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 60 Hz	Rated torque at 60 Hz	EPACT with CC-Nr. CCxxx	Nominal efficiency at 60 Hz	Power factor at 60 Hz 4/4-load	Rated current at 460 V, 60 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/14.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	M_{rated} Nm		η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)											
For implementation according the north American market EPACT											
2-pole – 3600 rpm at 60 Hz											
3	4	100 L	3520	8,1	a.s.	86,5	0,83	5,2	**1LE1001-1AA4❑-❑❑❑❑**	**899,–**	21
4	5	112 M	3565	9,9	a.s.	87,5	0,84	6,3	**1LE1001-1BA2❑-❑❑❑❑**	**1.070,–**	27
5,5	7,5	132 S	3560	15	a.s.	89,5	0,86	9	**1LE1001-1CA0❑-❑❑❑❑**	**1.350,–**	39
7,5	10	132 S	3560	20	a.s.	90,2	0,87	12	**1LE1001-1CA1❑-❑❑❑❑**	**1.700,–**	43
11	15	160 M	3560	30	a.s.	90,2	0,86	17,8	**1LE1001-1DA2❑-❑❑❑❑**	**2.360,–**	67
15	20	160 M	3565	40	a.s.	91	0,87	24	**1LE1001-1DA3❑-❑❑❑❑**	**3.090,–**	75
18,5	25	160 L	3565	50	a.s.	91,7	0,87	29	**1LE1001-1DA4❑-❑❑❑❑**	**3.690,–**	84
4-pole – 1800 rpm at 60 Hz											
2,2	3	100 L	1760	12	a.s.	87,5	0,78	4.05	**1LE1001-1AB4❑-❑❑❑❑**	**818,–**	21
3	4	100 L	1765	16	a.s.	87,5	0,79	5,4	**1LE1001-1AB5❑-❑❑❑❑**	**940,–**	25
4	5	112 M	1770	20	a.s.	88,5	0,77	6,8	**1LE1001-1BB2❑-❑❑❑❑**	**1.160,–**	29
5,5	7,5	132 S	1770	30	a.s.	89,5	0,78	9,9	**1LE1001-1CB0❑-❑❑❑❑**	**1.440,–**	42
7,5	10	132 M	1770	40	a.s.	89,5	0,82	12,8	**1LE1001-1CB2❑-❑❑❑❑**	**1.830,–**	49
11	15	160 M	1775	59	a.s.	91	0,84	18,1	**1LE1001-1DB2❑-❑❑❑❑**	**2.420,–**	71
15	20	160 L	1780	80	a.s.	91,7	0,84	24,5	**1LE1001-1DB4❑-❑❑❑❑**	**3.130,–**	83
6-pole – 1200 rpm at 60 Hz											
1,5	2	100 L	1175	12	a.s.	86,5	0,69	3,15	**1LE1001-1AC4❑-❑❑❑❑**	**812,–**	25
2,2	3	112 M	1170	18	a.s.	87,5	0,73	4,3	**1LE1001-1BC2❑-❑❑❑❑**	**1.020,–**	29
3	4	132 S	1175	24	a.s.	87,5	0,7	6,1	**1LE1001-1CC0❑-❑❑❑❑**	**1.290,–**	38
4	5	132 M	1180	30	a.s.	87,5	0,73	7,3	**1LE1001-1CC2❑-❑❑❑❑**	**1.600,–**	43
5,5	7,5	132 M	1175	45	a.s.	89,5	0,74	10,4	**1LE1001-1CC3❑-❑❑❑❑**	**2.000,–**	52
7,5	10	160 M	1180	61	a.s.	89,5	0,74	14,2	**1LE1001-1DC2❑-❑❑❑❑**	**2.540,–**	77
11	15	160 L	1180	89	a.s.	90,2	0,78	19,6	**1LE1001-1DC4❑-❑❑❑❑**	**3.510,–**	93

a.s. available soon

Order No. supplements, see from Page 1/14.

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No.	Locked-rotor torque with direct starting torque T_{LR}/T_{rated}	Locked-rotor current as multiple of rated current I_{LR}/I_{rated}	Breakdown torque T_B/T_{rated}	Torque class CL	Moment of inertia J kgm^2	Noise at rated output: Measuring-surface sound pressure level at 60 Hz L_{pfA} dB(A)	Noise at rated output: Sound pressure level at 60 Hz L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, with increased output, used acc. to temperature class 130 (B)							
For implementation according the north American market EPACT							
2-pole – 3600 rpm at 60 Hz							
1LE1001-1AA4❑-❑❑❑❑	2.56	7.3	3.83	16	0.0044	71	83
1LE1001-1BA2❑-❑❑❑❑	2.9	7.8	4	16	0.0092	73	85
1LE1001-1CA0❑-❑❑❑❑	2.04	6.9	3.3	16	0.02012	72	84
1LE1001-1CA1❑-❑❑❑❑	2.3	7.4	3.56	16	0.02353	72	84
1LE1001-1DA2❑-❑❑❑❑	2.38	7.4	3.63	16	0.04471	77	89
1LE1001-1DA3❑-❑❑❑❑	2.76	7.6	3.91	16	0.05277	77	89
1LE1001-1DA4❑-❑❑❑❑	3.31	7.9	4.1	16	0.06085	77	89
4-pole – 1800 rpm at 60 Hz							
1LE1001-1AB4❑-❑❑❑❑	2.45	7.3	3.85	16	0.0086	62	74
1LE1001-1AB5❑-❑❑❑❑	2.38	7.5	3.68	16	0.0109	62	74
1LE1001-1BB2❑-❑❑❑❑	3	7.5	4	16	0.014	62	74
1LE1001-1CB0❑-❑❑❑❑	2.61	7.3	3.29	16	0.02698	68	80
1LE1001-1CB2❑-❑❑❑❑	2.7	7.1	3.407	16	0.03353	68	80
1LE1001-1DB2❑-❑❑❑❑	2.65	7	3.22	16	0.06495	69	81
1LE1001-1DB4❑-❑❑❑❑	2.79	7.7	3.37	16	0.08281	69	81
6-pole – 1200 rpm at 60 Hz							
1LE1001-1AC4❑-❑❑❑❑	2.33	6.4	3.38	16	0.0113	62	74
1LE1001-1BC2❑-❑❑❑❑	2.3	6.5	3.4	16	0.0139	60	72
1LE1001-1CC0❑-❑❑❑❑	1.75	5.8	3.03	13	0.02371	67	79
1LE1001-1CC2❑-❑❑❑❑	2.08	5.8	3.166	13	0.02918	67	79
1LE1001-1CC3❑-❑❑❑❑	2.04	6.3	3.17	16	0.03673	67	79
1LE1001-1DC2❑-❑❑❑❑	1.95	6.3	3.213	16	0.0754	70	82
1LE1001-1DC4❑-❑❑❑❑	1.834	6.2	2.98	16	0.0975	70	82

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**	
		Standard voltages	
		60 Hz	
		460 VY	460 VΔ
		see "Selection and ordering data" for outputs at 60 Hz	
		22	**34**
1LE1002-1A..❑-❑...	**100 L**	○	○
1LE1002-1B..❑-❑...	**112 M**	○	○
1LE1002-1C..❑-❑...	**132 M**	○	○
1LE1002-1D..❑-❑...	**160 L**	○	○

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		Without flange							**With flange (acc. to DIN EN 50347)**					
		IM B3 1) 2)	IM B6 2)	IM B7 2)	IM B8 2)	IM V6 2)	IM V5 without protective cover 2)	IM V5 with protective cover 2) 3) 4)	Flange size	IM B5 3) 6)	IM V1 without protective cover 2)	IM V1 with protective cover 2) 3) 4)	IM V3 3)	IM B35
		A	**T**	**U**	**V**	**D**	**C**	**C**		**F**	**G**	**G**	**H**	**J**
	Order No. supplement **-Z** with order code	**–**	**–**	**–**	**–**	**–**	**–**	**-Z H00**		**–**	**–**	**-Z H00**	**–**	**–**
1LE1002-1A...-❑..	**100 L**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	68,30	68,30	137,40	68,30	84,80
1LE1002-1B...-❑..	**112 M**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	84,80	84,80	153,90	84,80	111,–
1LE1002-1C...-❑..	**132 M**	❑	❑	❑	❑	❑	❑	121,–	**FF 265**	110,–	110,–	231,–	110,–	139,–
1LE1002-1D...-❑..	**160 L**	❑	❑	❑	❑	❑	❑	121,–	**FF 300**	143,–	143,–	264,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		With standard flange (acc. to DIN EN 590347)							**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 2) 6)	IM V19 2)	IM V18 without protective cover 2)	IM V18 with protective cover 2) 3) 4)	IM B34		Flange size	IM B14 2) 6)	IM V19 2)	IM V18 without protective cover 2)	IM V18 with protective coverh 2) 3) 4)	IM B34
			K	**L**	**M**	**M**	**N**			**K**	**L**	**M**	**M**	**N**
	Order No. supplement **-Z** with order code		**–**	**–**	**–**	**-Z H00**	**–**			**-Z P01**	**-Z P01**	**-Z P01**	**-Z H00 P01**	**-Z P01**
1LE1001-1A...-❑..	**100 L**	**FT 130**	68,30	68,30	68,30	137,40	84,80		**FT 165**	111,50	111,50	111,50	180,60	128,–
1LE1001-1B...-❑..	**112 M**	**FT 130**	84,80	84,80	84,80	153,90	111,–		**FT 165**	128,–	128,–	128,–	197,10	154,20
1LE1001-1C...-❑..	**132 S/M**	**FT 165**	110,–	110,–	110,–	231,–	139,–		**FT 215**	164,–	164,–	164,–	285,–	193,–
1LE1001-1D...-❑..	**160 M/L**	**FT 215**	143,–	143,–	143,–	264,–	201,–		–	–	–	–	–	–

❑ Standard version

1) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

2) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

3) Option second shaft end (Order code) **L05** not possible.

4) In combination with an encoder, it is not necessary to order the protective cover (order code **H00**), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).

5) The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

6) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS **EUR**					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z**	**Z**
							Q2A	**Q3A**
1LE1001-1A...-..❑.	**100 L**		☐	101,–	172,–	101,–	202,–	112,–
1LE1001-1B...-..❑.	**112 M**		☐	101,–	172,–	101,–	202,–	112,–
1LE1001-1C...-..❑.	**132 S/M**		☐	150,–	230,–	150,–	300,–	164,–
1LE1001-1D...-..❑.	**160 M/L**		☐	150,–	230,–	150,–	300,–	164,–

☐ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS **EUR**			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1LE1001-1A...-...❑	**100 L**	☐	87,70	87,70	87,70
1LE1001-1B...-...❑	**112 M**	☐	95,50	95,50	95,50
1LE1001-1C...-...❑	**132 S/M**	☐	103,–	103,–	103,–
1LE1001-1D...-...❑	**160 M/L**	☐	110,–	110,–	110,–

☐ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

Self-ventilated motors with increased output and improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

Selection and ordering data (continued)

Rated output at		Frame size	Operating values at rated output							Order No.	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/18.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm	EFF2	η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, with increased output, used acc. to temperature class 130 (B) [1]												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
4	4,6	100 L	2850	13.3	EFF2	85.6	86.7	0.85	7.9	**1LE1002-1AA6❑-❑❑❑❑**	**752,–**	25
5.5	6.3	112 M	2935	18	EFF2	87	86.8	0.86	10.6	**1LE1002-1BA6❑-❑❑❑❑**	**974,–**	31
11	12.6	132 M	2920	36	EFF2	90	90.7	0.90	19.6	**1LE1002-1CA6❑-❑❑❑❑**	**1.570,–**	53
22	24.5	160 L	2930	72	EFF2	91.6	91.4	0.88	39.5	**1LE1002-1DA6❑-❑❑❑❑**	**2.800,–**	85
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
4	4.6	100 L	1430	26.8	EFF2	84.2	85.1	0.81	8.5	**1LE1002-1AB6❑-❑❑❑❑**	**778,–**	27
5.5	6.3	112 M	1435	37	EFF2	85.7	86.5	0.84	11	**1LE1002-1BB6❑-❑❑❑❑**	**1.000,–**	33
11	12.6	132 M	1450	72	EFF2	88.8	89.3	0.84	21.5	**1LE1002-1CB6❑-❑❑❑❑**	**1.780,–**	58
18.5	21.3	160 L	1460	121	EFF2	90	90.2	0.85	35	**1LE1002-1DB6❑-❑❑❑❑**	**2.660,–**	85
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
2.2	2.55	100 L	930	22.5		76	76.7	0.79	5.3	**1LE1002-1AC6❑-❑❑❑❑**	**699,–**	24
3	3.45	112 M	945	30		79	78.2	0.72	7.6	**1LE1002-1BC6❑-❑❑❑❑**	**890,–**	32
7.5	8.6	132 M	950	75		85.5	85.7	0.74	17.2	**1LE1002-1CC6❑-❑❑❑❑**	**1.790,–**	54
15	17.3	160 L	965	148		88	88	0.75	33	**1LE1002-1DC6❑-❑❑❑❑**	**3.260,–**	109

Order No. supplements, see from Page 1/18.

1) For order No. 1LE1002-1CC6❑-❑❑❑❑ utilization is according to temperature class 155 (F).

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated output	
	with direct starting as multiple of rated					Measuring-surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz
	torque	current	torque				
	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}	CL	J kgm^2	L_{pfA} dB(A)	L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, with increased output, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1LE1002-1AA6❑-❑❑❑❑	4.5	7	4.1	16	0.0044	67	79
1LE1002-1BA6❑-❑❑❑❑	2.9	7.5	3.8	16	0.0085	69	81
1LE1002-1CA6❑-❑❑❑❑	2.8	7.5	3.7	16	0.02233	68	80
1LE1002-1DA6❑-❑❑❑❑	2.6	7.5	3.4	16	0.04913	70	82
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1LE1002-1AB6❑-❑❑❑❑	2.9	5.8	3.1	16	0.01	60	72
1LE1002-1BB6❑-❑❑❑❑	3	5.8	3.1	16	0.0124	58	70
1LE1002-1CB6❑-❑❑❑❑	2.5	7.2	3	16	0.03259	64	76
1LE1002-1DB6❑-❑❑❑❑	2.7	7.2	3.2	16	0.06843	65	77
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1LE1002-1AC6❑-❑❑❑❑	2	4	2.2	16	0.0084	59	71
1LE1002-1BC6❑-❑❑❑❑	2.9	4.6	3	16	0.0128	57	69
1LE1002-1CC6❑-❑❑❑❑	2.4	5.3	3	16	0.032	63	75
1LE1002-1DC6❑-❑❑❑❑	2.9	6	3.4	16	0.0936	67	79

New Generation 1LE1/1PC1

Self-ventilated motors with increased output and improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/360 … 400 VY) [1]	(360 … 400 VΔ/625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see "Selection and ordering data" for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1LE1002-1A..❑-❑...	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1LE1002-1B..❑-❑...	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1LE1002-1C..❑-❑...	**132 M**	○	○	○	○	70,30	70,30	70,30	70,30
1LE1002-1D..❑-❑...	**160 L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		Without flange							**With flange (acc. to DIN EN 50347)**					
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	IM V5 with protective cover [3] [4] [5]	Flange size	IM B5 [3] [6]	IM V1 without protective cover [3]	IM V1 with protective cover [3] [4] [5]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**	**C**		**F**	**G**	**G**	**H**	**J**
Order No. supplement **-Z** with order code		**–**	**–**	**–**	**–**	**–**	**–**	**-Z H00**		**–**	**–**	**-Z H00**	**–**	**–**
1LE1002-1A...-❑..	**100 L**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	68,30	68,30	137,40	68,30	84,80
1LE1002-1B...-❑..	**112 M**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	84,80	84,80	153,90	84,80	111,–
1LE1002-1C...-❑..	**132 M**	❑	❑	❑	❑	❑	❑	121,–	**FF 265**	110,–	110,–	231,–	110,–	139,–
1LE1002-1D...-❑..	**160 L**	❑	❑	❑	❑	❑	❑	121,–	**FF 300**	143,–	143,–	264,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		With standard flange (acc. to DIN EN 590347)							**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34
			K	**L**	**M**	**M**	**N**			**K**	**L**	**M**	**M**	**N**
Order No. supplement **-Z** with order code			**–**	**–**	**–**	**-Z H00**	**–**			**-Z P01**	**-Z P01**	**-Z P01**	**-Z H00 P01**	**-Z P01**
1LE1002-1A...-❑..	**100 L**	**FT 130**	68,30	68,30	68,30	137,40	84,80		**FT 165**	111,50	111,50	111,50	180,60	128,–
1LE1002-1B...-❑..	**112 M**	**FT 130**	84,80	84,80	84,80	153,90	111,–		**FT 165**	128,–	128,–	128,–	197,10	154,20
1LE1002-1C...-❑..	**132 M**	**FT 165**	110,–	110,–	110,–	231,–	139,–		**FT 215**	164,–	164,–	164,–	285,–	193,–
1LE1002-1D...-❑..	**160 L**	**FT 215**	143,–	143,–	143,–	264,–	201,–		–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) Option second shaft end (Order code) **L05** not possible.

5) In combination with an encoder, it is not necessary to order the protective cover (order code **H00**), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).

6) The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

7) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z Q2A**	**Z Q3A**
1LE1002-1A...-..❑.	**100 L**		□	101,–	172,–	101,–	202,–	112,–
1LE1002-1B...-..❑.	**112 M**		□	101,–	172,–	101,–	202,–	112,–
1LE1002-1C...-..❑.	**132 M**		□	150,–	230,–	150,–	300,–	164,–
1LE1002-1D...-..❑.	**160 L**		□	150,–	230,–	150,–	300,–	164,–

□ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [2]	Connection box on LHS [2]	Connection box bottom [2]
		4	**5**	**6**	**7**
1LE1002-1A...-...❑	**100 L**	□	87,70	87,70	87,70
1LE1002-1B...-...❑	**112 M**	□	95,50	95,50	95,50
1LE1002-1C...-...❑	**132 M**	□	103,–	103,–	103,–
1LE1002-1D...-...❑	**160 L**	□	110,–	110,–	110,–

□ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, screwed-on feet as standard.

Self-ventilated motors with increased output and high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Rated output at		Frame size	Operating values at rated output							Order No.	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/22.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm	EFF1	η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, with increased output, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
4	4.6	100 L	2905	13	EFF1	88	89	0.86	7.6	**1LE1001-1AA6❑-❑❑❑❑**	**1.050,–**	26
5.5	6.3	112 M	2950	18	EFF1	89	88.5	0.89	10	**1LE1001-1BA6❑-❑❑❑❑**	**1.330,–**	34
11	12.6	132 M	2955	36	EFF1	91.5	92.5	0.89	19.4	**1LE1001-1CA6❑-❑❑❑❑**	**2.120,–**	57
22	24.3	160 L	2955	71	EFF1	92.8	93.5	0.89	38.5	**1LE1001-1DA6❑-❑❑❑❑**	**3.780,–**	94
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
4	4.6	100 L	1460	26	EFF1	88.3	88.3	0.8	8.2	**1LE1001-1AB6❑-❑❑❑❑**	**1.130,–**	30
5.5	6.3	112 M	1460	36	EFF1	89.2	89.2	0.81	11	**1LE1001-1BB6❑-❑❑❑❑**	**1.410,–**	34
11	12.6	132 M	1465	72	EFF1	91	91.0	0.84	21	**1LE1001-1CB6❑-❑❑❑❑**	**2.400,–**	64
18.5	21.3	160 L	1475	120	EFF1	92.4	92.4	0.85	34	**1LE1001-1DB6❑-❑❑❑❑**	**3.510,–**	100
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
2.2	2.55	100 L	965	22		84.5	85.6	0.76	4.95	**1LE1001-1AC6❑-❑❑❑❑**	**979,–**	30
3	3.45	112 M	960	30		84.5	84.7	0.79	6.5	**1LE1001-1BC6❑-❑❑❑❑**	**1.250,–**	34
7.5	8.6	132 M	970	74		88.5	88.5	0.77	15.4	**1LE1001-1CC6❑-❑❑❑❑**	**2.420,–**	64
15	17.3	160 L	975	147		90.6	91	0.81	29.5	**1LE1001-1DC6❑-❑❑❑❑**	**4.400,–**	115

Order No. supplements, see from Page 1/22.

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No.	Locked-rotor torque with direct starting as multiple of rated torque T_{LR}/T_{rated}	Locked-rotor current as multiple of rated current I_{LR}/I_{rated}	Breakdown torque T_B/T_{rated}	Torque class CL	Moment of inertia J kgm^2	Noise at rated output: Measuring-surface sound pressure level at 50 Hz L_{pfA} dB(A)	Noise at rated output: Sound pressure level at 50 Hz L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, with increased output, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1LE1001-1AA6❑-❑❑❑❑	2.5	7.6	3.5	16	0.0054	67	79
1LE1001-1BA6❑-❑❑❑❑	2.2	7.7	3.3	16	0.0119	73	85
1LE1001-1CA6❑-❑❑❑❑	2.5	7.9	3.2	16	0.03143	68	80
1LE1001-1DA6❑-❑❑❑❑	3.1	8.4	3.7	16	0.06764	70	82
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1LE1001-1AB6❑-❑❑❑❑	2.2	7.5	3.5	16	0.0137	60	72
1LE1001-1BB6❑-❑❑❑❑	2.5	7.1	3.1	16	0.0166	58	70
1LE1001-1CB6❑-❑❑❑❑	2.9	7.7	3.1	16	0.04571	64	76
1LE1001-1DB6❑-❑❑❑❑	2.8	7.7	3.3	16	0.09854	65	77
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1LE1001-1AC6❑-❑❑❑❑	1.9	5.7	2.9	16	0.0137	59	71
1LE1001-1BC6❑-❑❑❑❑	2.1	6	3.1	16	0.0166	57	69
1LE1001-1CC6❑-❑❑❑❑	2.1	6.5	3	16	0.04572	63	75
1LE1001-1DC6❑-❑❑❑❑	1.9	6.5	2.9	16	0.01208	67	79

Self-ventilated motors with increased output and high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see "Selection and ordering data" for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1LE1001-1A..❑-❑...	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1LE1001-1B..❑-❑...	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1LE1001-1C..❑-❑...	**132 M**	○	○	○	○	70,30	70,30	70,30	70,30
1LE1001-1D..❑-❑...	**160 L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		Without flange							**With flange (acc. to DIN EN 50347)**					
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	IM V5 with protective cover [3] [4] [5]	Flange size	IM B5 [3] [6]	IM V1 without protective cover [3]	IM V1 with protective cover [3] [4] [5]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**	**C**		**F**	**G**	**G**	**H**	**J**
Order No. supplement **-Z** with order code		**–**	**–**	**–**	**–**	**–**	**–**	**-Z H00**		**–**	**–**	**-Z H00**	**–**	**–**
1LE1001-1A...-❑..	**100 L**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	68,30	68,30	137,40	68,30	84,80
1LE1001-1B...-❑..	**112 M**	❑	❑	❑	❑	❑	❑	69,10	**FF 215**	84,80	84,80	153,90	84,80	111,–
1LE1001-1C...-❑..	**132 M**	❑	❑	❑	❑	❑	❑	121,–	**FF 265**	110,–	110,–	231,–	110,–	139,–
1LE1001-1D...-❑..	**160 L**	❑	❑	❑	❑	❑	❑	121,–	**FF 300**	143,–	143,–	264,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**												
		With standard flange (acc. to DIN EN 590347)							**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34		Flange size	IM B14 [3] [7]	IM V19 [3]	IM V18 without protective cover [3]	IM V18 with protective cover [3] [4] [5]	IM B34
			K	**L**	**M**	**M**	**N**			**K**	**L**	**M**	**M**	**N**
Order No. supplement **-Z** with order code			**–**	**–**	**–**	**-Z H00**	**–**			**-Z P01**	**-Z P01**	**-Z P01**	**-Z H00 P01**	**-Z P01**
1LE1001-1A...-❑..	**100 L**	**FT 130**	68,30	68,30	68,30	137,40	84,80		**FT 165**	111,50	111,50	111,50	180,60	128,–
1LE1001-1B...-❑..	**112 M**	**FT 130**	84,80	84,80	84,80	153,90	111,–		**FT 165**	128,–	128,–	128,–	197,10	154,20
1LE1001-1C...-❑..	**132 M**	**FT 165**	110,–	110,–	110,–	231,–	139,–		**FT 215**	164,–	164,–	164,–	285,–	193,–
1LE1001-1D...-❑..	**160 L**	**FT 215**	143,–	143,–	143,–	264,–	201,–		–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) Option second shaft end (Order code) **L05** not possible.

5) In combination with an encoder, it is not necessary to order the protective cover (order code **H00**), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).

6) The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

7) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z Q2A**	**Z Q3A**
1LE1001-1A...-..❑.	**100 L**		□	101,–	172,–	101,–	202,–	112,–
1LE1001-1B...-..❑.	**112 M**		□	101,–	172,–	101,–	202,–	112,–
1LE1001-1C...-..❑.	**132 M**		□	150,–	230,–	150,–	300,–	164,–
1LE1001-1D...-..❑.	**160 L**		□	150,–	230,–	150,–	300,–	164,–

□ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [2]	Connection box on LHS [2]	Connection box bottom [2]
		4	**5**	**6**	**7**
1LE1001-1A...-...❑	**100 L**	□	87,70	87,70	87,70
1LE1001-1B...-...❑	**112 M**	□	95,50	95,50	95,50
1LE1001-1C...-...❑	**132 M**	□	103,–	103,–	103,–
1LE1001-1D...-...❑	**160 L**	□	110,–	110,–	110,–

□ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, screwed-on feet as standard.

New Generation 1LE1/1PC1

Forced-air cooled motors without external fan and fan cover with improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Rated output at		Frame size	Operating values at rated output							Order No. with -Z and order code	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/26.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm	EFF2	η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	**1LE1002-1AA4□-□□□□-Z F90**	**726,–**	20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	**1LE1002-1BA2□-□□□□-Z F90**	**870,–**	25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	**1LE1002-1CA0□-□□□□-Z F90**	**1.058,50**	35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	**1LE1002-1CA1□-□□□□-Z F90**	**1.334,50**	40
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	**1LE1002-1DA2□-□□□□-Z F90**	**1.792,10**	60
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	**1LE1002-1DA3□-□□□□-Z F90**	**2.332,10**	68
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	**1LE1002-1DA4□-□□□□-Z F90**	**2.772,10**	78
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	**1LE1002-1AB4□-□□□□-Z F90**	**651,–**	18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	**1LE1002-1AB5□-□□□□-Z F90**	**733,–**	22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	**1LE1002-1BB2□-□□□□-Z F90**	**904,–**	27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	**1LE1002-1CB0□-□□□□-Z F90**	**1.094,50**	38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	**1LE1002-1CB2□-□□□□-Z F90**	**1.384,50**	44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	**1LE1002-1DB2□-□□□□-Z F90**	**1.832,10**	62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	**1LE1002-1DB4□-□□□□-Z F90**	**2.362,10**	73
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	**1LE1002-1AC4□-□□□□-Z F90**	**686,–**	19
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	**1LE1002-1BC2□-□□□□-Z F90**	**833,–**	25
3	3.45	132 S	955	30		80	79.4	0.74	7.3	**1LE1002-1CC0□-□□□□-Z F90**	**992,50**	34
4	4.6	132 M	950	40		83	83.4	0.76	9.2	**1LE1002-1CC2□-□□□□-Z F90**	**1.214,50**	39
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	**1LE1002-1CC3□-□□□□-Z F90**	**1.524,50**	48
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	**1LE1002-1DC2□-□□□□-Z F90**	**1.922,10**	72
11	12.6	160 L	965	110		87.6	87.9	0.77	23.5	**1LE1002-1DC4□-□□□□-Z F90**	**2.642,10**	92
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz												
0.75	0.86	100 L	705	10.4		65.4	60.2	0.62	2.65	**1LE1002-1AD4□-□□□□-Z F90**	**709,–**	17
1.1	1.3	100 L	705	15.1		68.3	67.6	0.63	3.71	**1LE1002-1AD5□-□□□□-Z F90**	**870,–**	22
1.5	1.75	112 M	700	20		75.9	72.8	0.68	4.2	**1LE1002-1BD2□-□□□□-Z F90**	**1.012,–**	25
2.2	2.55	132 S	715	29		81	80	0.66	5.9	**1LE1002-1CD0□-□□□□-Z F90**	**1.244,50**	37
3	3.45	132 M	710	40		81.6	81	0.68	7.8	**1LE1002-1CD2□-□□□□-Z F90**	**1.504,50**	44
4	4.6	160 M	720	53		80	78.7	0.69	10.4	**1LE1002-1DD2□-□□□□-Z F90**	**1.792,10**	60
5.5	6.3	160 M	720	73		83.5	83.9	0.70	13.6	**1LE1002-1DD3□-□□□□-Z F90**	**2.222,10**	72
7.5	8.6	160 L	715	100		83.5	84.7	0.70	18.6	**1LE1002-1DD4□-□□□□-Z F90**	**2.732,10**	91

Order No. supplements, see from Page 1/26.

10 working days | 20 working days | On request

Selection and ordering data (continued)

Order No. with -Z and order code	Locked-rotor torque with direct starting as multiple of rated torque T_{LR}/T_{rated}	Locked-rotor current as multiple of rated current I_{LR}/I_{rated}	Breakdown torque as multiple of rated torque T_B/T_{rated}	Torque class CL	Moment of inertia J kgm^2	Noise at rated output: Measuring-surface sound pressure level at 50 Hz L_{pfA} dB(A)	Noise at rated output: Sound pressure level at 50 Hz L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1LE1002-1AA4❑-❑❑❑❑-Z F90	3.2	6.2	2.9	16	0.0034	67	79
1LE1002-1BA2❑-❑❑❑❑-Z F90	2.7	7.3	3.7	16	0.0067	69	81
1LE1002-1CA0❑-❑❑❑❑-Z F90	2	5.6	2.6	16	0.01267	68	80
1LE1002-1CA1❑-❑❑❑❑-Z F90	2.2	6.4	3	16	0.01601	68	80
1LE1002-1DA2❑-❑❑❑❑-Z F90	2.1	6.1	2.7	16	0.02971	70	82
1LE1002-1DA3❑-❑❑❑❑-Z F90	2.5	6.1	3.2	16	0.03619	70	82
1LE1002-1DA4❑-❑❑❑❑-Z F90	2.5	7	3.2	16	0.04395	70	82
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1LE1002-1AB4❑-❑❑❑❑-Z F90	2.3	5.1	2.7	16	0.0059	60	72
1LE1002-1AB5❑-❑❑❑❑-Z F90	2.4	5.4	2.6	16	0.0078	60	72
1LE1002-1BB2❑-❑❑❑❑-Z F90	2.2	5.3	2.6	16	0.0102	58	70
1LE1002-1CB0❑-❑❑❑❑-Z F90	2.3	6.2	2.7	16	0.0186	64	76
1LE1002-1CB2❑-❑❑❑❑-Z F90	2.5	6.6	2.9	16	0.02371	64	76
1LE1002-1DB2❑-❑❑❑❑-Z F90	2.3	6.4	3.1	16	0.04395	65	77
1LE1002-1DB4❑-❑❑❑❑-Z F90	2.5	7	3.4	16	0.05616	65	77
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1LE1002-1AC4❑-❑❑❑❑-Z F90	2	4	2.2	16	0.0065	59	71
1LE1002-1BC2❑-❑❑❑❑-Z F90	2.3	4.1	2.5	16	0.0092	57	69
1LE1002-1CC0❑-❑❑❑❑-Z F90	2	4.6	2.6	16	0.0167	63	75
1LE1002-1CC2❑-❑❑❑❑-Z F90	2.1	4.7	2.5	16	0.02116	63	75
1LE1002-1CC3❑-❑❑❑❑-Z F90	2.5	5.2	2.8	16	0.02734	63	75
1LE1002-1DC2❑-❑❑❑❑-Z F90	2.1	5.5	2.9	16	0.04993	68	80
1LE1002-1DC4❑-❑❑❑❑-Z F90	1.9	5.9	2.7	16	0.0678	68	80
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz							
1LE1002-1AD4❑-❑❑❑❑-Z F90	1.9	3	2.2	16	0.0056	60	72
1LE1002-1AD5❑-❑❑❑❑-Z F90	2	3.2	2.3	16	0.0078	60	72
1LE1002-1BD2❑-❑❑❑❑-Z F90	1.9	3.4	2.1	16	0.0094	63	75
1LE1002-1CD0❑-❑❑❑❑-Z F90	1.7	3.9	2.4	13	0.0186	63	75
1LE1002-1CD2❑-❑❑❑❑-Z F90	1.8	3.9	2.2	13	0.02372	63	75
1LE1002-1DD2❑-❑❑❑❑-Z F90	1.7	3.8	2.3	13	0.0439	63	75
1LE1002-1DD3❑-❑❑❑❑-Z F90	1.6	4	2.2	13	0.0562	63	75
1LE1002-1DD4❑-❑❑❑❑-Z F90	1.7	3.8	2.2	13	0.0772	63	75

Forced-air cooled motors without external fan and fan cover with improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

1

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see “Selection and ordering data” for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1LE1002-1A..❑-❑...-Z F90	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1LE1002-1B..❑-❑...-Z F90	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1LE1002-1C..❑-❑...-Z F90	**132 S/M**	○	○	○	○	70,30	70,30	70,30	70,30
1LE1002-1D..❑-❑...-Z F90	**160 M/L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see “Special versions” in the “Selection and ordering data” under “Voltages”, Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**										
		Without flange						**With flange (acc. to DIN EN 50347)**				
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	Flange size	IM B5 [3] [4]	IM V1 without protective cover [3]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**		**F**	**G**	**H**	**J**
	Order No. supplement **-Z** with order code	–	–	–	–	–	–		–	–	–	–
1LE1002-1A...-❑..-Z F90	**100 L**	❑	❑	❑	❑	❑	❑	**FF 215**	68,30	68,30	68,30	84,80
1LE1002-1B...-❑..-Z F90	**112 M**	❑	❑	❑	❑	❑	❑	**FF 215**	84,80	84,80	84,80	111,–
1LE1002-1C...-❑..-Z F90	**132 S/M**	❑	❑	❑	❑	❑	❑	**FF 265**	110,–	110,–	110,–	139,–
1LE1002-1D...-❑..-Z F90	**160 M/L**	❑	❑	❑	❑	❑	❑	**FF 300**	143,–	143,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**									
		With standard flange (acc. to DIN EN 590347)					**With special flange (next larger standard flange acc. to DIN EN 50347)**				
		Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34	Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34
			K	**L**	**M**	**N**		**K**	**L**	**M**	**N**
	Order No. supplement **-Z** with order code		–	–	–	–		**-Z P01**	**-Z P01**	**-Z P01**	**-Z P01**
1LE1002-1A...-❑..-Z F90	**100 L**	**FT 130**	68,30	68,30	68,30	84,80	**FT 165**	111,50	111,50	111,50	128,–
1LE1002-1B...-❑..-Z F90	**112 M**	**FT 130**	84,80	84,80	84,80	111,–	**FT 165**	128,–	128,–	128,–	154,20
1LE1002-1C...-❑..-Z F90	**132 S/M**	**FT 165**	110,–	110,–	110,–	139,–	**FT 215**	164,–	164,–	164,–	193,–
1LE1002-1D...-❑..-Z F90	**160 M/L**	**FT 215**	143,–	143,–	143,–	201,–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.

5) The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Forced-air cooled motors without external fan and fan cover with improved efficiency

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z** **Q2A**	**Z** **Q3A**
1LE1002-1A...-..❑.-Z F90	**100 L**		❑	101,–	172,–	101,–	202,–	112,–
1LE1002-1B...-..❑.-Z F90	**112 M**		❑	101,–	172,–	101,–	202,–	112,–
1LE1002-1C...-..❑.-Z F90	**132 S/M**		❑	150,–	230,–	150,–	300,–	164,–
1LE1002-1D...-..❑.-Z F90	**160 M/L**		❑	150,–	230,–	150,–	300,–	164,–

❑ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1LE1002-1A...-...❑-Z F90	**100 L**	❑	87,70	87,70	87,70
1LE1002-1B...-...❑-Z F90	**112 M**	❑	95,50	95,50	95,50
1LE1002-1C...-...❑-Z F90	**132 S/M**	❑	103,–	103,–	103,–
1LE1002-1D...-...❑-Z F90	**160 M/L**	❑	110,–	110,–	110,–

❑ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

New Generation 1LE1/1PC1

Forced-air cooled motors without external fan and fan cover with high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Rated output at		Frame size	Operating values at rated output							Order No. with -Z and order code	Price plus MS EUR	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/30.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm	EFF1	η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			*m* kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
3	3.45	100 L	2905	9.9	EFF1	86.7	87.5	0.84	5.9	**1LE1001-1AA4❑-❑❑❑❑-Z F90**	**1.005,–**	21
4	4.6	112 M	2950	13	EFF1	88	88.5	0.86	7.4	**1LE1001-1BA2❑-❑❑❑❑-Z F90**	**1.176,–**	27
5.5	6.3	132 S	2950	18	EFF1	89.5	90.6	0.87	10.2	**1LE1001-1CA0❑-❑❑❑❑-Z F90**	**1.424,50**	39
7.5	8.6	132 S	2950	24	EFF1	90	91	0.87	13.8	**1LE1001-1CA1❑-❑❑❑❑-Z F90**	**1.774,50**	43
11	12.6	160 M	2955	36	EFF1	90.8	91	0.87	20	**1LE1001-1DA2❑-❑❑❑❑-Z F90**	**2.402,10**	67
15	17.3	160 M	2955	48	EFF1	91.4	91.5	0.88	27	**1LE1001-1DA3❑-❑❑❑❑-Z F90**	**3.132,10**	75
18.5	21.3	160 L	2955	60	EFF1	92	92.5	0.88	33	**1LE1001-1DA4❑-❑❑❑❑-Z F90**	**3.732,10**	84
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
2.2	2.55	100 L	1455	14	EFF1	86.4	87	0.81	4.55	**1LE1001-1AB4❑-❑❑❑❑-Z F90**	**924,–**	21
3	3.45	100 L	1455	20	EFF1	87.4	88	0.82	6	**1LE1001-1AB5❑-❑❑❑❑-Z F90**	**1.046,–**	25
4	4.6	112 M	1460	26	EFF1	88.3	88.5	0.81	8.1	**1LE1001-1BB2❑-❑❑❑❑-Z F90**	**1.266,–**	29
5.5	6.3	132 S	1465	36	EFF1	89.2	89.5	0.80	11.2	**1LE1001-1CB0❑-❑❑❑❑-Z F90**	**1.514,50**	42
7.5	8.6	132 M	1465	49	EFF1	90.1	91	0.83	14.4	**1LE1001-1CB2❑-❑❑❑❑-Z F90**	**1.904,50**	49
11	12.6	160 M	1470	71	EFF1	91.2	91.8	0.85	20.5	**1LE1001-1DB2❑-❑❑❑❑-Z F90**	**2.462,10**	71
15	17.3	160 L	1475	97	EFF1	92	92.4	0.85	27.5	**1LE1001-1DB4❑-❑❑❑❑-Z F90**	**3.172,10**	83
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
1.5	1.75	100 L	970	15		84.5	84.5	0.73	3.5	**1LE1001-1AC4❑-❑❑❑❑-Z F90**	**918,–**	25
2.2	2.55	112 M	965	22		85	85	0.75	5	**1LE1001-1BC2❑-❑❑❑❑-Z F90**	**1.126,–**	29
3	3.45	132 S	970	30		85	85	0.74	6.9	**1LE1001-1CC0❑-❑❑❑❑-Z F90**	**1.364,50**	38
4	4.6	132 M	970	39		86	86	0.78	8.6	**1LE1001-1CC2❑-❑❑❑❑-Z F90**	**1.674,50**	43
5.5	6.3	132 M	970	54		88	88	0.77	11.8	**1LE1001-1CC3❑-❑❑❑❑-Z F90**	**2.074,50**	52
7.5	8.6	160 M	975	73		89	89	0.77	15.8	**1LE1001-1DC2❑-❑❑❑❑-Z F90**	**2.582,10**	77
11	12.6	160 L	975	108		89.5	89	0.80	22	**1LE1001-1DC4❑-❑❑❑❑-Z F90**	**3.552,10**	93
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz												
0.75	0.86	100 L	725	9.9		68	65	0.58	2.75	**1LE1001-1AD4❑-❑❑❑❑-Z F90**	**950,–**	21
1.1	1.3	110 L	725	14		68	64.5	0.58	4.05	**1LE1001-1AD5❑-❑❑❑❑-Z F90**	**1.176,–**	25
1.5	1.75	112 M	720	20		77	75.5	0.67	4.2	**1LE1001-1BD2❑-❑❑❑❑-Z F90**	**1.376,–**	29
2.2	2.55	132 S	725	29		77.5	76.7	0.63	6.5	**1LE1001-1CD0❑-❑❑❑❑-Z F90**	**1.714,50**	41
3	3.45	132 M	730	40		84	82	0.65	7.9	**1LE1001-1CD2❑-❑❑❑❑-Z F90**	**2.074,50**	49
4	4.6	160 M	730	52		87	88	0.69	9.6	**1LE1001-1DD2❑-❑❑❑❑-Z F90**	**2.492,10**	69
5.5	6.3	160 M	735	72		87.5	89	0.69	13.2	**1LE1001-1DD3❑-❑❑❑❑-Z F90**	**3.052,10**	82
7.5	8.6	160 L	730	98		88	89	0.72	17	**1LE1001-1DD4❑-❑❑❑❑-Z F90**	**3.672,10**	94

Order No. supplements, see from Page 1/30.

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No. with -Z and order code	Locked-rotor torque with direct starting as multiple of rated torque T_{LR}/T_{rated}	Locked-rotor current as multiple of rated current I_{LR}/I_{rated}	Breakdown torque as multiple of rated torque T_B/T_{rated}	Torque class CL	Moment of inertia J kgm^2	Noise at rated output: Measuring-surface sound pressure level at 50 Hz L_{pfA} dB(A)	Noise at rated output: Sound pressure level at 50 Hz L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1LE1001-1AA4❑-❑❑❑❑-Z F90	2.3	7	3.3	16	0.0044	67	79
1LE1001-1BA2❑-❑❑❑❑-Z F90	2.4	7.4	3.3	16	0.0092	69	81
1LE1001-1CA0❑-❑❑❑❑-Z F90	1.8	6.7	2.9	16	0.02012	68	80
1LE1001-1CA1❑-❑❑❑❑-Z F90	2.2	7.5	3.1	16	0.02353	68	80
1LE1001-1DA2❑-❑❑❑❑-Z F90	2.1	7.4	3.2	16	0.04471	70	82
1LE1001-1DA3❑-❑❑❑❑-Z F90	2.4	7.6	3.4	16	0.05277	70	82
1LE1001-1DA4❑-❑❑❑❑-Z F90	2.9	7.9	3.6	16	0.06085	70	82
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1LE1001-1AB4❑-❑❑❑❑-Z F90	2.1	6.9	3.3	16	0.0086	60	72
1LE1001-1AB5❑-❑❑❑❑-Z F90	2	6.9	3.1	16	0.0109	60	72
1LE1001-1BB2❑-❑❑❑❑-Z F90	2.5	7.1	3.2	16	0.014	58	70
1LE1001-1CB0❑-❑❑❑❑-Z F90	2.3	6.9	2.9	16	0.02698	64	76
1LE1001-1CB2❑-❑❑❑❑-Z F90	2.3	6.9	2.9	16	0.03353	64	76
1LE1001-1DB2❑-❑❑❑❑-Z F90	2.2	6.7	2.8	16	0.06495	65	77
1LE1001-1DB4❑-❑❑❑❑-Z F90	2.5	7.3	3	16	0.08281	65	77
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1LE1001-1AC4❑-❑❑❑❑-Z F90	2	6.2	2.9	16	0.0113	59	71
1LE1001-1BC2❑-❑❑❑❑-Z F90	2.1	6	3.1	16	0.0139	57	69
1LE1001-1CC0❑-❑❑❑❑-Z F90	1.6	5.6	2.6	13	0.02371	63	75
1LE1001-1CC2❑-❑❑❑❑-Z F90	1.6	5.6	2.5	13	0.02918	63	75
1LE1001-1CC3❑-❑❑❑❑-Z F90	1.9	6.1	2.8	16	0.03673	63	75
1LE1001-1DC2❑-❑❑❑❑-Z F90	1.8	6.3	2.8	16	0.0754	67	79
1LE1001-1DC4❑-❑❑❑❑-Z F90	1.7	6.2	2.7	16	0.0975	67	79
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz							
1LE1001-1AD4❑-❑❑❑❑-Z F90	1.6	4	2.8	13	0.0086	60	72
1LE1001-1AD5❑-❑❑❑❑-Z F90	1.8	4	2.8	13	0.0109	60	72
1LE1001-1BD2❑-❑❑❑❑-Z F90	1.4	4.2	2.4	13	0.014	63	75
1LE1001-1CD0❑-❑❑❑❑-Z F90	1.4	3.6	1.8	10	0.02698	63	75
1LE1001-1CD2❑-❑❑❑❑-Z F90	1.4	5	2.4	10	0.03463	63	75
1LE1001-1DD2❑-❑❑❑❑-Z F90	1.8	4.3	2	13	0.0649	63	75
1LE1001-1DD3❑-❑❑❑❑-Z F90	2.1	4.4	2.1	13	0.0828	63	75
1LE1001-1DD4❑-❑❑❑❑-Z F90	1.9	4.5	2.1	13	0.0982	63	75

New Generation 1LE1/1PC1

Forced-air cooled motors without external fan and fan cover with high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS EUR							
		Standard voltages				Further voltages			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see “Selection and ordering data” for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1LE1001-1A..❑-❑...-Z F90	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1LE1001-1B..❑-❑...-Z F90	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1LE1001-1C..❑-❑...-Z F90	**132 S/M**	○	○	○	○	70,30	70,30	70,30	70,30
1LE1001-1D..❑-❑...-Z F90	**160 M/L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see “Special versions” in the “Selection and ordering data” under “Voltages”, Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS EUR										
		Without flange						With flange (acc. to DIN EN 50347)				
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	Flange size	IM B5 [3] [4]	IM V1 without protective cover [3]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**		**F**	**G**	**H**	**J**
Order No. supplement **-Z** with order code		–	–	–	–	–	–		–	–	–	–
1LE1001-1A...-❑..-Z F90	**100 L**	❑	❑	❑	❑	❑	❑	**FF 215**	68,30	68,30	68,30	84,80
1LE1001-1B...-❑..-Z F90	**112 M**	❑	❑	❑	❑	❑	❑	**FF 215**	84,80	84,80	84,80	111,–
1LE1001-1C...-❑..-Z F90	**132 S/M**	❑	❑	❑	❑	❑	❑	**FF 265**	110,–	110,–	110,–	139,–
1LE1001-1D...-❑..-Z F90	**160 M/L**	❑	❑	❑	❑	❑	❑	**FF 300**	143,–	143,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS EUR										
		With standard flange (acc. to DIN EN 590347)					With special flange (next larger standard flange acc. to DIN EN 50347)					
		Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34	Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34
			K	**L**	**M**	**N**		**K**	**L**	**M**	**N**
Order No. supplement **-Z** with order code			–	–	–	–		**-Z P01**	**-Z P01**	**-Z P01**	**-Z P01**
1LE1001-1A...-❑..-Z F90	**100 L**	**FT 130**	68,30	68,30	68,30	84,80	**FT 165**	111,50	111,50	111,50	128,–
1LE1001-1B...-❑..-Z F90	**112 M**	**FT 130**	84,80	84,80	84,80	111,–	**FT 165**	128,–	128,–	128,–	154,20
1LE1001-1C...-❑..-Z F90	**132 S/M**	**FT 165**	110,–	110,–	110,–	139,–	**FT 215**	164,–	164,–	164,–	193,–
1LE1001-1D...-❑..-Z F90	**160 M/L**	**FT 215**	143,–	143,–	143,–	201,–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.

5) The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Forced-air cooled motors without external fan and fan cover with high efficiency

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z** **Q2A**	**Z** **Q3A**
1LE1001-1A...-..❑.-Z F90	**100 L**		❑	101,–	172,–	101,–	202,–	112,–
1LE1001-1B...-..❑.-Z F90	**112 M**		❑	101,–	172,–	101,–	202,–	112,–
1LE1001-1C...-..❑.-Z F90	**132 S/M**		❑	150,–	230,–	150,–	300,–	164,–
1LE1001-1D...-..❑.-Z F90	**160 M/L**		❑	150,–	230,–	150,–	300,–	164,–

❑ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1LE1001-1A ...-...❑-Z F90	**100 L**	❑	87,70	87,70	87,70
1LE1001-1B ...-...❑-Z F90	**112 M**	❑	95,50	95,50	95,50
1LE1001-1C ...-...❑-Z F90	**132 S/M**	❑	103,–	103,–	103,–
1LE1001-1D ...-...❑-Z F90	**160 M/L**	❑	110,–	110,–	110,–

❑ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

New Generation 1LE1/1PC1

Self-cooled motors without external fan and fan cover with improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

Rated output at		Frame size	Operating values at rated output							Order No. with -Z and order code	Price plus MS **EUR**	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/34.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm		η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
1.2		100 L	2830	4.05		81.4		0.92	2.3	**1PC1002-1AA4❑-❑❑❑❑**	**775,–**	20
1.6		112 M	2925	5.2		83.6		0.93	2.95	**1PC1002-1BA2❑-❑❑❑❑**	**918,–**	25
2.2		132 S	2910	7.24		84		0.94	4	**1PC1002-1CA0❑-❑❑❑❑**	**1.170,–**	35
3		132 S	2920	9.8		87		0.93	5.35	**1PC1002-1CA1❑-❑❑❑❑**	**1.440,–**	40
4.4		160 M	2830	15		89.6		0.9	7.9	**1PC1002-1DA2❑-❑❑❑❑**	**1.880,–**	60
6		160 M	2935	20		90		0.91	10.6	**1PC1002-1DA3❑-❑❑❑❑**	**2.340,–**	68
7.4		160 L	2930	24		90.6		0.92	12.9	**1PC1002-1DA4❑-❑❑❑❑**	**2.750,–**	78
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
0.88		100 L	1420	5.92		80.7		0.88	1.8	**1PC1002-1AB4❑-❑❑❑❑**	**694,–**	18
1.2		100 L	1420	8.06		83		0.89	2.35	**1PC1002-1AB5❑-❑❑❑❑**	**791,–**	22
1.6		112 M	1430	11		83.7		0.89	3.1	**1PC1002-1BB2❑-❑❑❑❑**	**960,–**	27
2.2		132 S	1450	14.53		85.8		0.89	4.15	**1PC1002-1CB0❑-❑❑❑❑**	**1.210,–**	38
3		132 M	1450	19.8		87.2		0.89	5.58	**1PC1002-1CB2❑-❑❑❑❑**	**1.470,–**	44
4.4		160 M	1460	29		88		0.88	8.2	**1PC1002-1DB2❑-❑❑❑❑**	**1.900,–**	62
6		160 L	1460	39		89.5		0.89	10.9	**1PC1002-1DB4❑-❑❑❑❑**	**2.440,–**	73
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
0.6		100 L	935	6.12		76.1		0.81	1.4	**1PC1002-1AC4❑-❑❑❑❑**	**727,–**	19
0.88		112 M	930	9		79		0.82	1.96	**1PC1002-1BC2❑-❑❑❑❑**	**877,–**	25
1.2		132 S	950	12		80.7		0.83	2.58	**1PC1002-1CC0❑-❑❑❑❑**	**1.110,–**	34
1.6		132 M	950	16		83.2		0.83	3.35	**1PC1002-1CC2❑-❑❑❑❑**	**1.340,–**	39
2.2		132 M	950	22.13		85.1		0.83	4.5	**1PC1002-1CC3❑-❑❑❑❑**	**1.650,–**	48
3		160 M	970	30		86.5		0.81	6.2	**1PC1002-1DC2❑-❑❑❑❑**	**2.030,–**	72
4.4		160 L	970	43		88		0.81	8.9	**1PC1002-1DC4❑-❑❑❑❑**	**2.610,–**	92
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz												
0.3		100 L	710	4.05		66.3		0.67	0.97	**1PC1002-1AD4❑-❑❑❑❑**	**764,–**	17
0.44		100 L	705	6		71		0.69	1.3	**1PC1002-1AD5❑-❑❑❑❑**	**918,–**	22
0.6		112 M	695	8.2		75.2		0.72	1.6	**1PC1002-1BD2❑-❑❑❑❑**	**1.080,–**	25
0.88		132 S	720	11.66		80.6		0.71	2.2	**1PC1002-1CD0❑-❑❑❑❑**	**1.370,–**	37
1.2		132 M	720	16		81.5		0.72	2.95	**1PC1002-1CD2❑-❑❑❑❑**	**1.600,–**	44
1.6		160 M	730	21		82		0.74	3.8	**1PC1002-1DD2❑-❑❑❑❑**	**1.860,–**	60
2.2		160 M	730	29		85		0.74	5.1	**1PC1002-1DD3❑-❑❑❑❑**	**2.220,–**	72
3		160 L	730	39		86		0.74	6.8	**1PC1002-1DD4❑-❑❑❑❑**	**2.660,–**	91

Order No. supplements, see from Page 1/34.

10 working days | 20 working days | On request

Selection and ordering data (continued)

Order No. with -Z and order code	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated output	
	with direct starting as multiple of rated					Measuring-surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz
	torque	current	torque				
	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}	CL	J kgm^2	L_{pfA} dB(A)	L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1PC1002-1AA4❑-❑❑❑❑	3	6	3	16	0.0034	67	79
1PC1002-1BA2❑-❑❑❑❑	2.3	7.2	3	13	0.0067	69	81
1PC1002-1CA0❑-❑❑❑❑	1.7	5.3	2.3	10	0.0127	62	74
1PC1002-1CA1❑-❑❑❑❑	2	6.3	2.8	13	0.0160	62	74
1PC1002-1DA2❑-❑❑❑❑	2.1	6.3	2.9	13	0.0297	60	72
1PC1002-1DA3❑-❑❑❑❑	2.5	7	3.1	16	0.0362	60	72
1PC1002-1DA4❑-❑❑❑❑	2.5	7	3.1	16	0.0439	60	72
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1PC1002-1AB4❑-❑❑❑❑	2	5.1	2.2	13	0.0059	60	72
1PC1002-1AB5❑-❑❑❑❑	2.2	5.4	2.4	13	0.0078	60	72
1PC1002-1BB2❑-❑❑❑❑	1.9	5.4	2.2	13	0.0102	58	70
1PC1002-1CB0❑-❑❑❑❑	2.2	5.7	2.6	13	0.0186	64	76
1PC1002-1CB2❑-❑❑❑❑	2.4	6.4	2.7	16	0.0237	64	76
1PC1002-1DB2❑-❑❑❑❑	2.1	7	2.8	13	0.0439	64	76
1PC1002-1DB4❑-❑❑❑❑	2.4	7.5	3	16	0.0562	64	76
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1PC1002-1AC4❑-❑❑❑❑	1.8	4.1	2	10	0.0065	59	71
1PC1002-1BC2❑-❑❑❑❑	2.1	4.2	2.2	13	0.0092	55	67
1PC1002-1CC0❑-❑❑❑❑	1.7	4.5	2.2	10	0.0167	63	75
1PC1002-1CC2❑-❑❑❑❑	1.9	4.6	2.2	13	0.0212	63	75
1PC1002-1CC3❑-❑❑❑❑	2.2	5	2.5	13	0.0274	63	75
1PC1002-1DC2❑-❑❑❑❑	2.1	6	2.7	13	0.0563	67	79
1PC1002-1DC4❑-❑❑❑❑	2.1	6.4	2.8	13	0.0780	67	79
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz							
1PC1002-1AD4❑-❑❑❑❑	1.8	3.3	2.2	10	0.0056	60	72
1PC1002-1AD5❑-❑❑❑❑	1.8	3.4	2.2	10	0.0078	60	72
1PC1002-1BD2❑-❑❑❑❑	1.7	3.3	1.9	10	0.0094	63	75
1PC1002-1CD0❑-❑❑❑❑	1.6	4.2	2.3	10	0.0186	63	75
1PC1002-1CD2❑-❑❑❑❑	1.7	4.2	2.3	10	0.0237	63	75
1PC1002-1DD2❑-❑❑❑❑	1.7	4.9	2.3	10	0.0439	63	75
1PC1002-1DD3❑-❑❑❑❑	1.5	5	2.3	10	0.0562	63	75
1PC1002-1DD4❑-❑❑❑❑	1.8	5.4	2.5	10	0.0772	63	75

Self-cooled motors without external fan and fan cover with improved efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see "Selection and ordering data" for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1PC1002-1A..❑-❑...	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1PC1002-1B..❑-❑...	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1PC1002-1C..❑-❑...	**132 S/M**	○	○	○	○	70,30	70,30	70,30	70,30
1PC1002-1D..❑-❑...	**160 M/L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**										
		Without flange						**With flange (acc. to DIN EN 50347)**				
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	Flange size	IM B5 [3] [4]	IM V1 without protective cover [3]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**		**F**	**G**	**H**	**J**
	Order No. supplement **-Z** with order code	–	–	–	–	–	–		–	–	–	–
1PC1002-1A...-.❑..	**100 L**	❑	❑	❑	❑	❑	❑	**FF 215**	68,30	68,30	68,30	84,80
1PC1002-1B...-.❑..	**112 M**	❑	❑	❑	❑	❑	❑	**FF 215**	84,80	84,80	84,80	111,–
1PC1002-1C...-.❑..	**132 S/M**	❑	❑	❑	❑	❑	❑	**FF 265**	110,–	110,–	110,–	139,–
1PC1002-1D...-.❑..	**160 M/L**	❑	❑	❑	❑	❑	❑	**FF 300**	143,–	143,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**										
		With standard flange (acc. to DIN EN 590347)					**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34	Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34
			K	**L**	**M**	**N**		**K**	**L**	**M**	**N**
	Order No. supplement **-Z** with order code		–	–	–	–		**-Z P01**	**-Z P01**	**-Z P01**	**-Z P01**
1PC1002-1A...-.❑..	**100 L**	**FT 130**	68,30	68,30	68,30	84,80	**FT 165**	111,50	111,50	111,50	128,–
1PC1002-1B...-.❑..	**112 M**	**FT 130**	84,80	84,80	84,80	111,–	**FT 165**	128,–	128,–	128,–	154,20
1PC1002-1C...-.❑..	**132 S/M**	**FT 165**	110,–	110,–	110,–	139,–	**FT 215**	164,–	164,–	164,–	193,–
1PC1002-1D...-.❑..	**160 M/L**	**FT 215**	143,–	143,–	143,–	201,–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.

5) The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-cooled motors without external fan and fan cover with improved efficiency

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z**	**Z**
							Q2A	**Q3A**
1PC1002-1A...-..❑.	**100 L**	❑	101,–	172,–	101,–	202,–	112,–	
1PC1002-1B...-..❑.	**112 M**	❑	101,–	172,–	101,–	202,–	112,–	
1PC1002-1C...-..❑.	**132 S/M**	❑	150,–	230,–	150,–	300,–	164,–	
1PC1002-1D...-..❑.	**160 M/L**	❑	150,–	230,–	150,–	300,–	164,–	

❑ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1PC1002-1A...-...❑	**100 L**	❑	87,70	87,70	87,70
1PC1002-1B...-...❑	**112 M**	❑	95,50	95,50	95,50
1PC1002-1C...-...❑	**132 S/M**	❑	103,–	103,–	103,–
1PC1002-1D...-...❑	**160 M/L**	❑	110,–	110,–	110,–

❑ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

New Generation 1LE1/1PC1

Self-cooled motors without external fan and fan cover with high efficiency

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

Rated output at		Frame size	Operating values at rated output							Order No. with -Z and order code	Price plus MS **EUR**	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/38.	IM B3 type of construction	IM B3 type of construction approx.
P_{rated} kW	P_{rated} kW	FS	n_{rated} rpm	T_{rated} Nm		η_{rated} %	η_{rated} %	$\cos\varphi_{rated}$	I_{rated} A			m kg
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz												
1.4		100 L	2920	4.6		87.5		0.88	2.6	**1PC1001-1AA4❑-❑❑❑❑**	**1.120,–**	21
1.6		112 M	2955	5.2		82		0.9	3.15	**1PC1001-1BA2❑-❑❑❑❑**	**1.290,–**	27
3.1		132 S	2955	10		91		0.89	5.5	**1PC1001-1CA0❑-❑❑❑❑**	**1.600,–**	39
4.3		132 S	2955	14		91.5		0.9	7.5	**1PC1001-1CA1❑-❑❑❑❑**	**1.940,–**	43
6.3		160 M	2955	20		94.5		0.89	10.8	**1PC1001-1DA2❑-❑❑❑❑**	**2.540,–**	67
6.5		160 M	2960	21		91.5		0.9	11.4	**1PC1001-1DA3❑-❑❑❑❑**	**3.160,–**	75
9		160 L	2960	29		93.5		0.91	15.2	**1PC1001-1DA4❑-❑❑❑❑**	**3.710,–**	84
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz												
1.1		100 L	1460	7.2		86		0.83	2.2	**1PC1001-1AB4❑-❑❑❑❑**	**1.040,–**	21
1.5		100 L	1460	9.8		86		0.84	3	**1PC1001-1AB5❑-❑❑❑❑**	**1.190,–**	25
2		112 M	1460	13		88.5		0.83	3.95	**1PC1001-1BB2❑-❑❑❑❑**	**1.390,–**	29
2.6		132 S	1465	17		89.5		0.83	5.1	**1PC1001-1CB0❑-❑❑❑❑**	**1.710,–**	42
4		132 M	1465	26		89.5		0.84	7.7	**1PC1001-1CB2❑-❑❑❑❑**	**2.060,–**	49
6		160 M	1470	39		91		0.87	11	**1PC1001-1DB2❑-❑❑❑❑**	**2.560,–**	71
6.2		160 L	1480	40		91.5		0.86	11.4	**1PC1001-1DB4❑-❑❑❑❑**	**3.290,–**	83
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz												
0.85		100 L	960	8.5		85		0.75	1.92	**1PC1001-1AC4❑-❑❑❑❑**	**1.020,–**	25
1.2		112 M	960	12		83.5		0.75	2.75	**1PC1001-1BC2❑-❑❑❑❑**	**1.230,–**	29
1.5		132 S	970	15		86.5		0.77	3.25	**1PC1001-1CC0❑-❑❑❑❑**	**1.550,–**	38
2.5		132 M	970	25		87		0.79	5.3	**1PC1001-1CC2❑-❑❑❑❑**	**1.880,–**	43
2.7		132 M	975	26		88		0.77	5.8	**1PC1001-1CC3❑-❑❑❑❑**	**2.280,–**	52
5		160 M	975	49		89		0.77	10.6	**1PC1001-1DC2❑-❑❑❑❑**	**2.740,–**	77
6.5		160 L	975	64		89.5		0.8	13.2	**1PC1001-1DC4❑-❑❑❑❑**	**3.520,–**	93
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz												
0.37		100 L	730	4.8		72.5		0.58	1.28	**1PC1001-1AD4❑-❑❑❑❑**	**1.070,–**	21
0.55		100 L	720	7.3		73		0.62	1.76	**1PC1001-1AD5❑-❑❑❑❑**	**1.290,–**	25
0.75		112 M	720	9.9		77.5		0.66	2.1	**1PC1001-1BD2❑-❑❑❑❑**	**1.510,–**	29
1.1		132 S	730	14		82.5		0.65	2.95	**1PC1001-1CD0❑-❑❑❑❑**	**1.920,–**	41
1.5		132 M	730	20		84		0.68	3.8	**1PC1001-1CD2❑-❑❑❑❑**	**2.240,–**	49
2.4		160 M	730	31		88.5		0.7	5.6	**1PC1001-1DD2❑-❑❑❑❑**	**2.600,–**	69
3.3		160 M	730	43		88		0.7	7.7	**1PC1001-1DD3❑-❑❑❑❑**	**3.060,–**	82
4.6		160 L	730	60		88		0.7	10.8	**1PC1001-1DD4❑-❑❑❑❑**	**3.590,–**	94

Order No. supplements, see from Page 1/38.

10 working days | 20 working days | On request

Selection and ordering data (continued)

Order No. with -Z and order code	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated output	
	with direct starting as multiple of rated					Measuring-surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz
	torque	current	torque				
	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}	CL	J kgm^2	L_{pfA} dB(A)	L_{WA} dB(A)
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)							
2-pole – 3000 rpm at 50 Hz, 3600 rpm at 60 Hz							
1PC1001-1AA4❑-❑❑❑❑	2.1	8.3	3.6	13	0.0044	67	79
1PC1001-1BA2❑-❑❑❑❑	2.5	9.5	3.5	16	0.0092	69	81
1PC1001-1CA0❑-❑❑❑❑	1.9	7.1	2.9	13	0.0201	62	74
1PC1001-1CA1❑-❑❑❑❑	1.9	7.6	2.9	13	0.0235	62	74
1PC1001-1DA2❑-❑❑❑❑	1.8	7.1	3	10	0.0447	60	72
1PC1001-1DA3❑-❑❑❑❑	2.3	8.7	3.3	13	0.0528	60	72
1PC1001-1DA4❑-❑❑❑❑	2.4	8.7	3.2	16	0.0608	60	72
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz							
1PC1001-1AB4❑-❑❑❑❑	2.1	7.6	3.3	13	0.0086	60	72
1PC1001-1AB5❑-❑❑❑❑	2.2	7.8	3.5	13	0.0109	60	72
1PC1001-1BB2❑-❑❑❑❑	2.3	7.4	3.1	13	0.0140	58	70
1PC1001-1CB0❑-❑❑❑❑	2.2	7.5	2.8	13	0.0270	64	76
1PC1001-1CB2❑-❑❑❑❑	2.1	7.3	2.9	13	0.0335	64	76
1PC1001-1DB2❑-❑❑❑❑	1.8	6	2.5	10	0.0649	64	76
1PC1001-1DB4❑-❑❑❑❑	2.6	8.6	3.5	16	0.0828	64	76
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz							
1PC1001-1AC4❑-❑❑❑❑	1.7	5.5	2.6	10	0.0113	59	71
1PC1001-1BC2❑-❑❑❑❑	1.7	5.7	2.7	10	0.0139	55	67
1PC1001-1CC0❑-❑❑❑❑	1.4	5.5	2.4	7	0.0237	63	75
1PC1001-1CC2❑-❑❑❑❑	1.4	5.4	2.3	7	0.0292	63	75
1PC1001-1CC3❑-❑❑❑❑	1.9	6.8	3	13	0.0367	63	75
1PC1001-1DC2❑-❑❑❑❑	1.6	6	2.6	10	0.0754	67	79
1PC1001-1DC4❑-❑❑❑❑	1.6	6	2.6	10	0.0975	67	79
8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz							
1PC1001-1AD4❑-❑❑❑❑	1.5	4.5	2.7	10	0.0086	60	72
1PC1001-1AD5❑-❑❑❑❑	1.6	4.4	2.5	10	0.0109	60	72
1PC1001-1BD2❑-❑❑❑❑	1.3	4.4	2.4	7	0.0140	63	75
1PC1001-1CD0❑-❑❑❑❑	1.2	4.5	2.1	7	0.0270	63	75
1PC1001-1CD2❑-❑❑❑❑	1.2	4.7	2.3	7	0.0346	63	75
1PC1001-1DD2❑-❑❑❑❑	1.6	4.4	1.8	10	0.0649	63	75
1PC1001-1DD3❑-❑❑❑❑	1.6	4.6	1.8	10	0.0828	63	75
1PC1001-1DD4❑-❑❑❑❑	1.5	4.5	1.8	10	0.0982	63	75

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 and 13: Voltages (voltage codes) – Additional charge plus MS **EUR**							
		Standard voltages				**Further voltages**			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage range			
		460 VY	460 VΔ			(210 … 230 VΔ/ 360 … 400 VY) [1]	(360 … 400 VΔ/ 625 … 695 VY) [1]	(395 … 435 VY) [1]	(395 … 435 VΔ) [1]
		see "Selection and ordering data" for outputs at 60 Hz							
		22	**34**	**27**	**40**	**21**	**33**	**23**	**35**
1PC1001-1A..❑-❑...	**100 L**	○	○	○	○	45,30	45,30	45,30	45,30
1PC1001-1B..❑-❑...	**112 M**	○	○	○	○	54,80	54,80	54,80	54,80
1PC1001-1C..❑-❑...	**132 S/M**	○	○	○	○	70,30	70,30	70,30	70,30
1PC1001-1D..❑-❑...	**160 M/L**	○	○	○	○	86,30	86,30	86,30	86,30

○ Without additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/40).

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**										
		Without flange						**With flange (acc. to DIN EN 50347)**				
		IM B3 [2] [3]	IM B6 [3]	IM B7 [3]	IM B8 [3]	IM V6 [3]	IM V5 without protective cover [3]	Flange size	IM B5 [3] [4]	IM V1 without protective cover [3]	IM V3 [3]	IM B35
		A	**T**	**U**	**V**	**D**	**C**		**F**	**G**	**H**	**J**
	Order No. supplement **-Z** with order code	–	–	–	–	–	–		–	–	–	–
1PC1001-1A...-.❑..	**100 L**	❑	❑	❑	❑	❑	❑	**FF 215**	68,30	68,30	68,30	84,80
1PC1001-1B...-.❑..	**112 M**	❑	❑	❑	❑	❑	❑	**FF 215**	84,80	84,80	84,80	111,–
1PC1001-1C...-.❑..	**132 S/M**	❑	❑	❑	❑	❑	❑	**FF 265**	110,–	110,–	110,–	139,–
1PC1001-1D...-.❑..	**160 M/L**	❑	❑	❑	❑	❑	❑	**FF 300**	143,–	143,–	143,–	201,–

Motor type	Frame size	Position 14: Types of construction (type letter) – Additional charge plus MS **EUR**										
		With standard flange (acc. to DIN EN 590347)					**With special flange (next larger standard flange acc. to DIN EN 50347)**					
		Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34	Flange size	IM B14 [3] [5]	IM V19 [3]	IM V18 without protective cover [3]	IM B34
			K	**L**	**M**	**N**		**K**	**L**	**M**	**N**
	Order No. supplement **-Z** with order code		–	–	–	–		**-Z P01**	**-Z P01**	**-Z P01**	**-Z P01**
1PC1001-1A...-.❑..	**100 L**	**FT 130**	68,30	68,30	68,30	84,80	**FT 165**	111,50	111,50	111,50	128,–
1PC1001-1B...-.❑..	**112 M**	**FT 130**	84,80	84,80	84,80	111,–	**FT 165**	128,–	128,–	128,–	154,20
1PC1001-1C...-.❑..	**132 S/M**	**FT 165**	110,–	110,–	110,–	139,–	**FT 215**	164,–	164,–	164,–	193,–
1PC1001-1D...-.❑..	**160 M/L**	**FT 215**	143,–	143,–	143,–	201,–	–	–	–	–	–

❑ Standard version

1) A rated voltage range is also specified on the rating plate.

2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.

3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

4) The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.

5) The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-cooled motors without external fan and fan cover with high efficiency

Selection and ordering data (continued)

Motor type	Frame size	Order code	Position 15: Motor protection (motor protection letter) – Additional charge plus MS EUR					
			Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	NTC thermistors for tripping	Temperature detectors for tripping [1]
			A	**B**	**C**	**F**	**Z**	**Z**
							Q2A	**Q3A**
1PC1001-1A...-..❑.	**100 L**		❑	101,–	172,–	101,–	202,–	112,–
1PC1001-1B...-..❑.	**112 M**		❑	101,–	172,–	101,–	202,–	112,–
1PC1001-1C...-..❑.	**132 S/M**		❑	150,–	230,–	150,–	300,–	164,–
1PC1001-1D...-..❑.	**160 M/L**		❑	150,–	230,–	150,–	300,–	164,–

□ Standard version

Motor type	Frame size	Position 16: Connection box (connection box code) – Additional charge plus MS EUR			
		Connection box top [2]	Connection box on RHS [3]	Connection box on LHS [3]	Connection box bottom [3]
		4	**5**	**6**	**7**
1PC1001-1A...-...❑	**100 L**	❑	87,70	87,70	87,70
1PC1001-1B...-...❑	**112 M**	❑	95,50	95,50	95,50
1PC1001-1C...-...❑	**132 S/M**	❑	103,–	103,–	103,–
1PC1001-1D...-...❑	**160 M/L**	❑	110,–	110,–	110,–

□ Standard version

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] With type of construction, cast feet as standard. Screwed-on feet are available with order code **H01**, see "Special versions".

[3] With type of construction, screwed-on feet as standard.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

Voltages

Additional order codes for other voltages or voltage codes (without **-Z** supplement)

Not possible for General Line motors with shorter delivery time.

For some non-standard voltages at 50 or 60 Hz, order codes are specified. They are ordered by specifying the code digit **9** for voltage in the 12th position and **0** in the 13th position of the Order No. and the appropriate order code.

Special versions	Voltage code 12th / 13th position of the Order No.		Additional identification code with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Self-ventilated energy-saving motors with improved efficiency **Self-ventilated energy-saving motors with high efficiency** **Self-ventilated motors with increased output and improved efficiency** **Self-ventilated motors with increased output and high efficiency** **Forced-air cooled motors without external fan and fan cover with improved efficiency** **Forced-air cooled motors without external fan and fan cover with high efficiency** **Self-cooled motors without external fan and fan cover with improved efficiency** **Self-cooled motors without external fan and fan cover with high efficiency**												
									1LE1/1PC1 (Aluminum)			
Voltage at 60 Hz												
220 VΔ/380 VY; 50 Hz output	**9**	**0**	**M2A**						45,30	54,80	70,30	86,30
220 VΔ/380 VY; 60 Hz output	**9**	**0**	**M1A**						45,30	54,80	70,30	86,30
380 VΔ/660 VY; 50 Hz output	**9**	**0**	**M2B**						45,30	54,80	70,30	86,30
380 VΔ/660 VY; 60 Hz output	**9**	**0**	**M1B**						45,30	54,80	70,30	86,30
440 VY; 50 Hz output	**9**	**0**	**M2C**						45,30	54,80	70,30	86,30
440 VY; 60 Hz output	**9**	**0**	**M1C**						45,30	54,80	70,30	86,30
440 VΔ; 50 Hz output	**9**	**0**	**M2D**						45,30	54,80	70,30	86,30
440 VΔ; 60 Hz output	**9**	**0**	**M1D**						45,30	54,80	70,30	86,30
460 VY; 50 Hz output	**9**	**0**	**M2E**						45,30	54,80	70,30	86,30
460 VY; 60 Hz output	**9**	**0**	**M1E**						○	○	○	○
460 VΔ; 50 Hz output	**9**	**0**	**M2F**						45,30	54,80	70,30	86,30
460 VΔ; 60 Hz output	**9**	**0**	**M1F**						○	○	○	○
575 VY; 50 Hz output	**9**	**0**	**M2G**						45,30	54,80	70,30	86,30
575 VY; 60 Hz output	**9**	**0**	**M1G**						45,30	54,80	70,30	86,30
575 VΔ; 50 Hz output	**9**	**0**	**M2H**						45,30	54,80	70,30	86,30
575 VΔ; 60 Hz output	**9**	**0**	**M1H**						45,30	54,80	70,30	86,30
Non-standard voltages and / or frequencies												
Non-standard winding for voltages between 200 V and 690 V (voltages outside this range are available on request) [1]	**9**	**0**	**M1Y**						90,70	110,–	140,–	174,–

○ Without additional charge

[1] Plain text must be specified in the order: voltage, frequency, circuit, required rated output in kW.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Options

Options or order codes (supplement **-Z** is required)

Not possible for General Line motors with shorter delivery time.

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Self-ventilated energy-saving motors with improved efficiency **Self-ventilated energy-saving motors with high efficiency** **Self-ventilated motors with increased output and improved efficiency** **Self-ventilated motors with increased output and high efficiency**										
							1LE1 (Aluminum)			
Motor connection and connection boxes										
One cable gland, metal	**R15**						94,–	94,–	94,–	120,–
Rotation of the connection box through 90°, entry from DE	**R10**						O	O	O	O
Rotation of the connection box through 90°, entry from NDE	**R11**						O	O	O	O
Rotation of the connection box through 180°	**R12**						O	O	O	O
Larger connection box	**R50**						242,–	242,–	281,–	313,–
Reducer for metal cable gland according to the British Standard mounts both cable entries [1]	**R30**						162,–	184,–	184,–	205,–
External earthing	**H04**						24,30	24,30	24,30	24,30
3 cables protruding, 0.5 m long [2][3]	**R20**						57,70	69,10	84,50	99,80
3 cables protruding, 1.5 m long [2][3]	**R21**						69,60	83,70	102,–	121,–
6 cables protruding, 0.5 m long [2]	**R22**						89,40	107,–	132,–	156,–
6 cables protruding, 1.5 m long [2]	**R23**						113,–	137,–	167,–	198,–
6 cables protruding, 3 m long [2]	**R24**						184,–	216,–	270,–	324,–
Connection box on NDE [4]	**H08**						101,–	124,–	160,–	217,–
Windings and insulation										
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**N01**						40,60	40,60	54,–	54,–
Temperature class 155 (F), used acc. to 155 (F), with increased output	**N02**						40,60	40,60	54,–	54,–
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**N03**						40,60	40,60	54,–	54,–
Wärmeklasse 180 (H) bei Bemessungsleistung und max. KT 60 °C [5]	**N11**						177,–	227,–	287,–	356,–
Erhöhte Luftfeuchte/ Temperatur mit 30 bis 60 g Wasser pro m^3 Luft	**N20**						125,–	125,–	125,–	189,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**N05**						40,60	40,60	54,–	54,–

For legend and footnotes, see Page 1/45.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

1

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Self-ventilated energy-saving motors with improved efficiency **Self-ventilated energy-saving motors with high efficiency** **Self-ventilated motors with increased output and improved efficiency** **Self-ventilated motors with increased output and high efficiency**										
							1LE1 (Aluminum)			
Windings and insulation (continued)										
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**N06**						40,60	40,60	54,–	54,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**N07**						90,70	110,–	140,–	174,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**N08**						90,70	110,–	140,–	174,–
Erhöhte Luftfeuchte/ Temperatur mit 60 bis 100 g Wasser pro m^3 Luft	**N21**						243,–	272,–	294,–	391,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and identification code						40,60	40,60	54,–	54,–
Colors and paint finish										
Special finish in RAL 7030 stone gray							□	□	□	□
Special finish in other standard RAL colors : RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL….						86,70	86,70	113,–	113,–
Special finish in special RAL colors: for RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL….						657,–	657,–	657,–	694,–
Sea-air proof special finish	**S03**						O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**S00**						○	○	○	○
Unpainted, only primed	**S01**						23,30	23,30	37,20	37,20
Modular technology – basic versions [6]										
Mounting of separately driven fan	**F70**						616,–	733,–	846,–	982,–
Mounting of brake [7]	**F01**						563,–	684,–	882,–	1.740,–
Mounting of 1XP8012-10 (HTL) rotary pulse encoder [8]	**G01**						632,–	632,–	684,–	684,–
Mounting of 1XP8012-20 (TTL) rotary pulse encoder [8]	**G02**						876,–	876,–	928,–	928,–
Modular technology – additional versions										
Brake supply voltage 24 V DC	**F10**						45,30	45,30	45,30	45,30
Brake supply voltage 230 V AC, 50/60 Hz	**F11**						○	○	○	○
Brake supply voltage 400 V AC, 50/60 Hz	**F12**						45,30	45,30	45,30	45,30
Mechanical manual brake release with lever (no locking)	**F50**						226,–	226,–	252,–	365,–

For legend and footnotes, see Page 1/45.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Self-ventilated energy-saving motors with improved efficiency **Self-ventilated energy-saving motors with high efficiency** **Self-ventilated motors with increased output and improved efficiency** **Self-ventilated motors with increased output and high efficiency**										
							1LE1 (Aluminum)			
Special technology [6]										
Mounting of LL 861 900 220 rotary pulse encoder [8]	**G04**						2.620,–	2.620,–	2.680,–	2.680,–
Mounting of HOG 9 D 1024 I rotary pulse encoder [8]	**G05**						2.970,–	2.970,–	3.020,–	3.020,–
Mounting of HOG 10 D 1024 I rotary pulse encoder [8]	**G06**						3.840,–	3.840,–	3.910,–	3.910,–
Mechanical design and degrees of protection										
Protective cover, as well as mechanical protection for the encoder [8]	**H00**						69,10	69,10	121,–	121,–
Screwed-on feet (instead of cast)	**H01**						87,70	95,50	103,–	110,–
Radialdichtring auf DE (AS) bei flange-mounting motors, oil resistant to 0.1 bar [9]	**H23**						48,30	52,90	64,50	94,50
Low-noise version for 2-pole motors with clockwise direction of rotation	**F77**						–	–	525,–	525,–
Low-noise versionfor 2-pole motors with anticlockwise direction of rotation	**F78**						–	–	525,–	525,–
IP65 degree of protection [10]	**H20**						126,–	126,–	126,–	189,–
IP56 degree of protection (non-heavy-sea) [11]	**H22**						139,–	139,–	139,–	208,–
Vibration-proof version	**H02**						159,–	175,–	190,–	207,–
Condensation drainage holes [12]	**H03**						69,40	75,70	82,10	88,30
Non-rusting screws (externally)	**H07**						130,–	130,–	151,–	151,–
Prepared for mountings, only centre hole [13]	**G40**						60,10	60,10	79,60	91,30
Prepared for mountings with D12 shaft [13]	**G41**						120,–	120,–	159,–	183,–
Prepared for mountings with D16 shaft [13]	**G42**						120,–	120,–	159,–	183,–
Protective cover for encoders (loose- only for mountings according to G40, G41 and G42 order codes)	**G43**						69,10	69,10	121,–	121,–
Coolant temperature and site altitude										
Coolant temperature –40 to +40 °C [14]	**D03**						324,–	410,–	475,–	545,–
Coolant temperature –30 to +40 °C [14]	**D04**						59,40	59,40	71,30	71,30
Designs in accordance with standards and specifications										
Electrical according to NEMA MG1-12 [15]	**D30**						34,–	34,–	34,–	34,–
Design according to UL with "Recognition Mark" [16]	**D31**						84,80	101,–	129,–	157,–
Canadian regulations (CSA) [17]	**D40**						84,80	101,–	129,–	157,–
PSE Marking Japan [18]	**D46**						34,–	34,–	34,–	–

For legend and footnotes, see Page 1/45.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Self-ventilated energy-saving motors with improved efficiency **Self-ventilated energy-saving motors with high efficiency** **Self-ventilated motors with increased output and improved efficiency** **Self-ventilated motors with increased output and high efficiency**										
							1LE1 (Aluminum)			
Bearings and lubrication										
Measuring nipple for SPM shock pulse measurement for bearing inspection [19]	**Q01**						216,–	242,–	267,–	293,–
Bearing design for increased cantilever forces	**L22**						84,60	98,60	111,–	148,–
Special bearing for DE and NDE, bearing size 63	**L25**						170,–	198,–	222,–	296,–
Regreasing device [19]	**L23**						267,–	273,–	281,–	305,–
Located bearing at DE	**L20**						61,10	72,40	89,–	122,–
Located bearing at NDE	**L21**						37,–	39,–	41,30	□
Balance and vibration quantity										
Vibration quantity level A							□	□	□	□
Vibration quantity level B	**L00**						238,–	275,–	351,–	435,–
Half-key balancing (standard)							□	□	□	□
Full-key balancing	**L02**						93,20	93,20	108,–	108,–
Balancing without fitted key	**L01**						23,80	23,80	28,10	28,10
Shaft and rotor										
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors	**L08**						202,–	227,–	253,–	314,–
Second standard shaft extension	**L05**						120,–	120,–	159,–	183,–
Wellenende mit normalen Maßen ohne Passfedernut	**L04**						441,–	464,–	487,–	512,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L07**						225,–	225,–	342,–	342,–
Standard shaft made of non-rusting steel	**L06**						808,–	808,–	936,–	1.160,–
Non-standard cylindrical shaft extension [20]	**Y55** • and identification code						441,–	464,–	487,–	512,–
Heating and ventilation										
Fan cover for textile industry	**F75**						266,–	379,–	481,–	568,–
Metal external fan [21]	**F76**						159,–	189,–	220,–	253,–
Anti-condensation heaters for 230 V	**Q02**						362,–	386,–	435,–	484,–
Anti-condensation heaters for 115 V	**Q03**						362,–	386,–	435,–	484,–
Sheet metal fan cover	**F74**						57,–	61,90	66,60	71,30
Rating plate and extra rating plate										
Second rating plate, loose	**M10**						17,70	17,70	17,70	17,70
Nirosta rating plate	**M11**						35,40	35,40	35,40	35,40
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code						90,70	110,–	140,–	174,–
Extra rating plate with identification codes	**Y82** • and identification code						34,90	34,90	34,90	34,90
Additional information on rating plate and on package label (max. of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90

For legend and footnotes, see Page 1/45.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Self-ventilated energy-saving motors with improved efficiency **Self-ventilated energy-saving motors with high efficiency** **Self-ventilated motors with increased output and improved efficiency** **Self-ventilated motors with increased output and high efficiency**										
							1LE1 (Aluminum)			
Packaging, safety notes, documentation and test certificates										
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**						○	○	○	○
With one safety and start-up guide per box pallet	**B01**						○	○	○	○
Acceptance test certificate 3.1 in accordance with EN 10204	**B02**						24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B04**						54,–	54,–	54,–	54,–
Type test with heat run for vertical motors, with acceptance	**B83**						5.350,–	5.700,–	6.190,–	6.540,–
Wire-lattice pallet	**B99**						○	○	○	○
Connected in star for dispatch	**M01**						24,30	24,30	24,30	24,30
Connected in delta for dispatch	**M02**						24,30	24,30	24,30	24,30

□ Standard version
○ Without additional charge
• This order code only determines the price of the version – Additional plain text is required.
O. R. On request

1) This is not possible in combination with order code **K15** "A metal cable gland".

2) In conjunction with motor protection (the 15th position of the Order No.) or with anti-condensation heater option, please inquire before ordering.

3) Not possible in combination with voltage code **22** or **34**.

4) Not possible in combination with following order codes: **N01, N02, N03, N05, N06, N07, N08, N11**.
It is only possible use in class 155 (F).

5) Cannot be used for motors in UL version (order code **D31**). The grease lifetime specified in the Chapter 0 "Introduction" of this catalog refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

6) A second shaft extension is not possible. Please inquire for mounted brakes.

7) When quoting or ordering, it is necessary to provide the brake supply voltage for order codes **F10**, **F11** and **F12**.

8) All encoders are supplied with a protective cover as standard. The protective cover is not supplied with the combination rotary pulse encoder with separately driven fan, as, in this case, the roatry pulse encoder is installed under the fan cover.

9) Not possible for IM V3 type of construction.

10) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **G05**) and/or brake 2LM8 (order code **F01**).

11) Not possible in combination with brake 2LM8 - order code **F01**.

12) Supplied with the condensation drainage holes sealed at the drive end (DE) and non-drive end (NDE) (IP55, IP56, IP65). If condensation draining holes are required for motors with IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to order the motors in their respective type of construction and order code **H03**, so that the condensation drainage holes can be mounted in the correct positional arrangement.

13) Standardly, motors which are prepared for other mountings (order codes **G40, G41, G42**) are delivered without protective cover. If a protective cover is required as a covering or for the mechanical protection of the mountings provided by the customer, this can be ordered with the order code **G43**.
Not possible in combination with order code **L00**.

14) Whose technical data in combination with mountings must be observed, please inquire before ordering.

15) For 1LE1 motors in EFF1 version without additional charge (standard version).

16) Possible up to 600 V max. The rated voltage is indicated on the rating plate.

17) The rated voltage is indicated on the rating plate without voltage range.

18) "Small-Power-Motors", which are exported to Japan, must be marked by law with rated output up to 3 kW.

19) Not possible when brake is mounted.

20) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **L05**:
- Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
- Dimensions E and EA ≤ 2 x length E (normal) of the shaft extension
For an explanation of the order codes, see Catalog D 81.1 Chapter 0 "Introduction".

21) For 1LE1 motors with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version - order code **F77** or **F78**

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Options or order codes (supplement **-Z** is required)

Not possible for General Line motors with shorter delivery time.

1

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Forced-air cooled motors without external fan and fan cover with improved efficiency **Forced-air cooled motors without external fan and fan cover with high efficiency** **Self-ventilated motors without external fan and fan cover with improved efficiency** **Self-ventilated motors without external fan and fan cover with high efficiency**										
							1LE1/1PC1 (Aluminum)			
Motor connection and connection boxes										
One cable gland, metal	**R15**						94,–	94,–	94,–	120,–
Rotation of the connection box through 90°, entry from DE	**R10**						O	O	O	O
Rotation of the connection box through 90°, entry from NDE	**R11**						O	O	O	O
Rotation of the connection box through 180°	**R12**						O	O	O	O
Larger connection box	**R50**						242,–	242,–	281,–	313,–
Reducer for metal cable gland according to the British Standard mounts both cable entries [1]	**R30**						162,–	184,–	184,–	205,–
External earthing	**H04**						24,30	24,30	24,30	24,30
3 cables protruding, 0.5 m long [2][3]	**R20**						57,70	69,10	84,50	99,80
3 cables protruding, 1.5 m long [2][3]	**R21**						69,60	83,70	102,–	121,–
6 cables protruding, 0.5 m long [2]	**R22**						89,40	107,–	132,–	156,–
6 cables protruding, 1.5 m long [2]	**R23**						113,–	137,–	167,–	198,–
6 cables protruding, 3 m long [2]	**R24**						184,–	216,–	270,–	324,–
Connection box on NDE [4]	**H08**						101,–	124,–	160,–	217,–
Windings and insulation										
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**N01**						40,60	40,60	54,–	54,–
Temperature class 155 (F), used acc. to 155 (F), with increased output	**N02**						40,60	40,60	54,–	54,–
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**N03**						40,60	40,60	54,–	54,–
Wärmeklasse 180 (H) bei Bemessungsleistung und max. KT 60 °C [5]	**N11**						177,–	227,–	287,–	356,–
Erhöhte Luftfeuchte/ Temperatur mit 30 bis 60 g Wasser pro m^3 Luft	**N20**						125,–	125,–	125,–	189,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**N05**						40,60	40,60	54,–	54,–

For legend and footnotes, see Page 1/49.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Forced-air cooled motors without external fan and fan cover with improved efficiency **Forced-air cooled motors without external fan and fan cover with high efficiency** **Self-ventilated motors without external fan and fan cover with improved efficiency** **Self-ventilated motors without external fan and fan cover with high efficiency**										
							1LE1/1PC1 (Aluminum)			
Windings and insulation (continued)										
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**N06**						40,60	40,60	54,–	54,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**N07**						90,70	110,–	140,–	174,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**N08**						90,70	110,–	140,–	174,–
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**N21**						243,–	272,–	294,–	391,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and identification code						40,60	40,60	54,–	54,–
Colors and paint finish										
Special finish in RAL 7030 stone gray							□	□	□	□
Special finish in other standard RAL colors : RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL….						86,70	86,70	113,–	113,–
Special finish in special-RAL colors: for RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL….						657,–	657,–	657,–	694,–
Sea-air proof special finish	**S03**						O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**S00**						O	O	O	O
Unpainted, only primed	**S01**						23,30	23,30	37,20	37,20
Mechanical design and degree of protection										
Screwed-on feet (instead of cast)	**H01**						87,70	95,50	103,–	110,–
Drive-end seal for flange-mounting motors with oil resistance to 0,1 bar [6]	**H23**						48,30	52,90	64,50	94,50
IP65 degree of protection	**H20**						126,–	126,–	126,–	189,–
IP56 degree of protection (non-heavy-sea)	**H22**						139,–	139,–	139,–	208,–
Vibration-proof version	**H02**						159,–	175,–	190,–	207,–
Condensation drainage holes [7]	**H03**						69,40	75,70	82,10	88,30
Non-rusting screws (externally)	**H07**						130,–	130,–	151,–	151,–
Coolant temperature and site altitude										
Motors for coolant temperatures from –40 to +40 °C	**D03**						324,–	410,–	475,–	545,–
Motors for coolant temperatures from –30 to +40 °C	**D04**						59,40	59,40	71,30	71,30

For legend and footnotes, see Page 1/49.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Forced-air cooled motors without external fan and fan cover with improved efficiency **Forced-air cooled motors without external fan and fan cover with high efficiency** **Self-ventilated motors without external fan and fan cover with improved efficiency** **Self-ventilated motors without external fan and fan cover with high efficiency**										
							1LE1/1PC1 (Aluminum)			
Designs in accordance with standards and specifications										
Electrical according to NEMA MG1-12 [8]	**D30**						34,–	34,–	34,–	34,–
Design according to UL with "Recognition Mark" [9]	**D31**						84,80	101,–	129,–	157,–
Canadian regulations (CSA) [10]	**D40**						84,80	101,–	129,–	157,–
PSE – Marking in Japan [11]	**D46**						34,–	34,–	34,–	–
Bearings and lubrication										
Measuring nipple for SPM shock pulse measurement for bearing inspection	**Q01**						216,–	242,–	267,–	293,–
Bearing design for increased canteliver forces	**L22**						84,60	98,60	111,–	148,–
Special bearing for DE and NDE, bearing size 63	**L25**						170,–	198,–	222,–	296,–
Regreasing device	**L23**						267,–	273,–	281,–	305,–
Located bearing at DE	**L20**						61,10	72,40	89,–	122,–
Located bearing at NDE	**L21**						37,–	39,–	41,30	□
Balance and vibration quantity										
Vibration quantity level A							□	□	□	□
Vibration quantity level B	**L00**						238,–	275,–	351,–	435,–
Half-key balancing (standard)							□	□	□	□
Full-key balancing	**L02**						93,20	93,20	108,–	108,–
Balancing without fitted key	**L01**						23,80	23,80	28,10	28,10
Shaft and rotor										
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors	**L08**						202,–	227,–	253,–	314,–
Shaft extension with standard dimensions, without featherkey way	**L04**						441,–	464,–	487,–	512,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L07**						225,–	225,–	342,–	342,–
Standard shaft made of non-rusting steel	**L06**						808,–	808,–	936,–	1.160,–
Non-standard cylindrical shaft extension [12]	**Y55** • and identification code						441,–	464,–	487,–	512,–
Heating and ventillation										
Anti-condensation heaters for 230 V	**Q02**						362,–	386,–	435,–	484,–
Anti-condensation heaters for 115 V	**Q03**						362,–	386,–	435,–	484,–

For legend and footnotes, see Page 1/49.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160
Forced-air cooled motors without external fan and fan cover with improved efficiency **Forced-air cooled motors without external fan and fan cover with high efficiency** **Self-ventilated motors without external fan and fan cover with improved efficiency** **Self-ventilated motors without external fan and fan cover with high efficiency**										
							1LE1/1PC1 (Aluminum)			
Rating plate and extra rating plate										
Second rating plate, loose	**M10**						17,70	17,70	17,70	17,70
Nirosta rating plate	**M11**						35,40	35,40	35,40	35,40
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code						90,70	110,–	140,–	174,–
Extra rating plate with identification codes	**Y82** • and identification code						34,90	34,90	34,90	34,90
Additional information on rating plate and on package label (max. of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90
Packaging, safety notes, documentation and test certificates										
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**						O	O	O	O
With one safety and start-up guide per box pallet	**B01**						O	O	O	O
Acceptance test certificate 3.1 in accordance with EN 10204	**B02**						24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B04**						54,–	54,–	54,–	54,–
Type test with heat run for vertical motors, with acceptance	**B83**						5.350,–	5.700,–	6.190,–	6.540,–
Wire-lattice pallet	**B99**						O	O	O	O
Connected in star for dispatch	**M01**						24,30	24,30	24,30	24,30
Connected in delta for dispatch	**M02**						24,30	24,30	24,30	24,30

□ Standard version
O Without additional charge
• This order code only determines the price of the version – Additional plain text is required.
O. R. On request

1) This is not possible in combination with order code **K15** "A metal cable gland".

2) In conjunction with motor protection (the 15th position of the Order No.) or with anti-condensation heater option, please inquire before ordering.

3) Not possible in combination with voltage code **22** or **34**.

4) Not possible in combination with following order codes: **N01, N02, N03, N05, N06, N07, N08, N11**.
It is only possible use in class 155 (F).

5) Cannot be used for motors in UL version (order code **D31**). The grease lifetime specified in the 0 chapter "Introduction" of this catalog refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

6) Not possible for IM V3 type of construction.

7) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to order the motors with their respective type of construction and order code **H03** so that the condensation drainage holes can be mounted in the correct position.

8) For 1LE1 motors in EFF1 version without additional charge (standard version).

9) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range..

10) The rated voltage is indicated on the rating plate without voltage range.

11) "Small-Power-Motors" , which are exported to Japan , must be marked by law with rated output up to 3 kW.

12) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order code **Y55**:
- Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
- Dimensions E and EA ≤ 2 x length E (normal) of the shaft extension.
For an explanation of the order codes, see Catalog D81.1 chapter 0 "Introduction".

IEC Squirrel-Cage Motors

Standard motors up to frame size 315 L

Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7/1LA5

EFF 2 | Metal factor for metal surcharges (MS): **N - W - - -** | **10 working days** | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Efficiency-Class	Order No. ▶ Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	56 M		1LA7 050-2AA ..	204, -
	0,12			1LA7 053-2AA ..	205, -
	0,18	63 M		1LA7 060-2AA ..	211, -
	0,25			1LA7 063-2AA ..	224, -
	0,37	71 M		1LA7 070-2AA ..	230, -
	0,55			1LA7 073-2AA ..	260, -
	0,75	80 M		1LA7 080-2AA ..	294, -
	1,1		2	1LA7 083-2AA ..	337, -
	1,5	90 S	2	1LA7 090-2AA ..	401, -
	2,2	90 L	2	1LA7 096-2AA ..	516, -
	3	100 L	2	▶ 1LA7 106-2AA ..	620, -
	4	112 M	2	▶ 1LA7 113-2AA ..	764, -
	5,5	132 S	2	▶ 1LA7 130-2AA ..	984, -
	7,5		2	▶ 1LA7 131-2AA ..	1.260, -
	11	160 M	2	▶ 1LA7 163-2AA ..	1.750, -
	15	160 M	2	▶ 1LA7 164-2AA ..	2.290, -
	18,5	160 L	2	▶ 1LA7 166-2AA ..	2.730, -
	22	180 M	2	1LA5 183-2AA ..	3.220, -
	30	200 L	2	1LA5 206-2AA ..	4.170, -
	37		2	1LA5 207-2AA ..	5.450, -
	45	225 M	2	1LA5 223-2AA ..	6.620, -

1500 rpm 4-pole	Rated output kW	Frame size	Efficiency-Class	Order No. ▶ Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,06	56 M		1LA7 050-4AB ..	204, -
	0,09			1LA7 053-4AB ..	205, -
	0,12	63 M		1LA7 060-4AB ..	208, -
	0,18			1LA7 063-4AB ..	224, -
	0,25	71 M		1LA7 070-4AB ..	227, -
	0,37			1LA7 073-4AB ..	254, -
	0,55	80 M		1LA7 080-4AA ..	282, -
	0,75			1LA7 083-4AA ..	307, -
	1,1	90 S	2	1LA7 090-4AA ..	375, -
	1,5	90 L	2	1LA7 096-4AA ..	445, -
	2,2	100 L	2	▶ 1LA7 106-4AA ..	545, -
	3		2	▶ 1LA7 107-4AA ..	627, -
	4	112 M	2	▶ 1LA7 113-4AA ..	798, -
	5,5	132 S	2	▶ 1LA7 130-4AA ..	1.020, -
	7,5	132 M	2	▶ 1LA7 133-4AA ..	1.310, -
	11	160 M	2	▶ 1LA7 163-4AA ..	1.790, -
	15	160 L	2	▶ 1LA7 166-4AA ..	2.320, -
	18,5	180 M	2	1LA5 183-4AA ..	2.800, -
	22	180 L	2	1LA5 186-4AA ..	3.300, -
	30	200 L	2	1LA5 207-4AA ..	4.380, -
	37	225 S	2	1LA5 220-4AA ..	5.340, -
	45	225 M	2	1LA5 223-4AA ..	6.450, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No. ▶ Discontinued model	Price plus MZ for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	63 M	1LA7 063-6AB ..	225, -
	0,18	71 M	1LA7 070-6AA ..	242, -
	0,25		1LA7 073-6AA ..	270, -
	0,37	80 M	1LA7 080-6AA ..	294, -
	0,55		1LA7 083-6AA ..	340, -
	0,75	90 S	1LA7 090-6AA ..	396, -
	1,1	90 L	1LA7 096-6AA ..	490, -
	1,5	100 L	▶ 1LA7 106-6AA ..	580, -
	2,2	112 M	▶ 1LA7 113-6AA ..	727, -
	3	132 S	▶ 1LA7 130-6AA ..	918, -
	4	132 M	▶ 1LA7 133-6AA ..	1.140, -
	5,5	132 M	▶ 1LA7 134-6AA ..	1.450, -
	7,5	160 M	▶ 1LA7 163-6AA ..	1.880, -
	11	160 L	▶ 1LA7 166-6AA ..	2.600, -
	15	180 L	1LA5 186-6AA ..	3.380, -
	18,5	200 L	1LA5 206-6AA ..	4.150, -
	22		1LA5 207-6AA ..	4.870, -
	30	225 M	1LA5 223-6AA ..	6.700, -

750 rpm 8-pole	Rated output kW	Frame size	Order No. ▶ Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	71 M	1LA7 070-8AB ..	255, -
	0,12		1LA7 073-8AB ..	287, -
	0,18	80 M	1LA7 080-8AB ..	301, -
	0,25		1LA7 083-8AB ..	372, -
	0,37	90 S	1LA7 090-8AB ..	451, -
	0,55	90 L	1LA7 096-8AB ..	549, -
	0,75	100 L	▶ 1LA7 106-8AB ..	603, -
	1,1		▶ 1LA7 107-8AB ..	764, -
	1,5	112 M	▶ 1LA7 113-8AB ..	906, -
	2,2	132 S	▶ 1LA7 130-8AB ..	1.170, -
	3	132 M	▶ 1LA7 133-8AB ..	1.430, -
	4	160 M	▶ 1LA7 163-8AB ..	1.750, -
	5,5	160 M	▶ 1LA7 164-8AB ..	2.180, -
	7,5	160 L	▶ 1LA7 166-8AB ..	2.690, -
	11	180 L	1LA5 186-8AB ..	3.540, -
	15	200 L	1LA5 207-8AB ..	4.680, -
	18,5	225 S	1LA5 220-8AB ..	5.670, -
	22	225 M	1LA5 223-8AB ..	6.580, -

For larger outputs, please refer to Page 2/5.

▶ **The order numbers for 1LA7 motors that are marked with this symbol are discontinued models. 1LE1 motors are their successors.**

For further informations refer to part 1 "New Generation 1LE1/1PC1" below "Self-ventilated energy-saving motors with improved efficiency" on the pages 1/4 up to 1/7 and in Part 0 "Ex stock motors" under "General Line" with short delivery time and at preferential prices in fixed versions (with regard to voltage, type of construction, motor protection and connection box) on Pages 0/0 up to 0/1.

The 2- to 6-pole 1LA7 motors listed above are available as "Ex stock motors" with short delivery time and at preferential prices in fixed versions (with regard to voltage, type of construction, motor protection and connection box) on Pages 0/0 up to 0/1.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/15.							
	50 Hz				60 Hz		IM B 3	at additional charge, please refer to Page 2/15						
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY (Adm. outputs for 60 Hz please refer to catalog D81.1)	460 VΔ		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 050 to 1LA7 053	1	6	3	-	1	6	0	1	1	-	6	2	7	3
1LA7 060 to 1LA7 096	1	6	3	-	1	6	0	1	1	4	6	2	7	3
1LA7 106 to 1LA7 166	1	6	3	5	1	6	0	1	1	4	6	2	7	3
1LA5 183 to 1LA5 223	1	6	3	5	1	6	0	1	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/11.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7/1LA5

Selection and ordering data

1500/ 3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · double pole-changing · M = constant	**0,1**	**0,15**	63 M	**1LA7 060-0AA ..**	**345, -**
	0,15	**0,2**		**1LA7 063-0AA ..**	**352, -**
	0,21	**0,28**	71 M	**1LA7 070-0AA ..**	**364, -**
	0,3	**0,43**		**1LA7 073-0AA ..**	**407, -**
	0,48	**0,6**	80 M	**1LA7 080-0AA ..**	**435, -**
	0,7	**0,85**		**1LA7 083-0AA ..**	**501, -**
	1,1	**1,4**	90 S	**1LA7 090-0AA ..**	**620, -**
	1,5	**1,9**	90 L	**1LA7 096-0AA ..**	**744, -**
	2	**2,4**	100 L	**1LA7 106-0AA ..**	**807, -**
	2,6	**3,1**		**1LA7 107-0AA ..**	**960, -**
	3,7	**4,4**	112 M	**1LA7 113-0AA ..**	**1.200, -**
single Dahlander circuit winding	**4,7**	**5,9**	132 S	**1LA7 130-0AA ..**	**1.530, -**
	6,5	**8**	132 M	**1LA7 133-0AA ..**	**2.010, -**
	9,3	**11,5**	160 M	**1LA7 163-0AA ..**	**2.670, -**
	13	**17**	160 L	**1LA7 166-0AA ..**	**3.860, -**
	15	**18**	180 M	**1LA5 183-0AA ..**	**4.010, -**
	18	**21,5**	180 L	**1LA5 186-0AA ..**	**4.820, -**
	26	**31**	200 L	**1LA5 207-0AA ..**	**6.840, -**

750/ 1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · double pole-changing · M = constant	**0,35**	**0,5**	90 S	**1LA7 090-0AB ..**	**470, -**
	0,5	**0,7**	90 L	**1LA7 096-0AB ..**	**549, -**
	0,7	**1,1**	100 L	**1LA7 106-0AB ..**	**678, -**
	0,9	**1,5**		**1LA7 107-0AB ..**	**783, -**
	1,4	**1,9**	112 M	**1LA7 113-0AB ..**	**906, -**
	1,8	**3,6**	132 S	**1LA7 130-0AB ..**	**1.270, -**
	2,5	**5**	132 M	**1LA7 133-0AB ..**	**1.640, -**
	3,5	**7**	160 M	**1LA7 163-0AB ..**	**2.260, -**
	5,6	**11**	160 L	**1LA7 166-0AB ..**	**3.350, -**
	11	**18**	180 L	**1LA5 186-0AB ..**	**5.070, -**
	17	**27**	200 L	**1LA5 207-0AB ..**	**7.550, -**
single Dahlander circuit winding					

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 2/15.							
	50 Hz, direct-on-line starting				IM B 3	at additional charge, please refer to Page 2/15						
	230 V	400 V	500 V	690 V		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 060 to 1LA7 166	**1**	**6**	**5**	**0**	**0**	**1**	**1**	**4**	**6**	**2**	**7**	**3**
1LA5 183 to 1LA5 207	**1**	**6**	**5**	**0**	**0**	**1**	**1**	**4**	**6**	**-**	**-**	**-**

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/11.

Standard motors up to frame size 315 L

Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9

EFF I

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Effi-ciency-Class	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09		56 M	1LA9 050-2KA ..	275, -
	0,12			1LA9 053-2KA ..	277, -
	0,18		63 M	1LA9 060-2KA ..	285, -
	0,25			1LA9 063-2KA ..	302, -
	0,37		71 M	1LA9 070-2KA ..	310, -
	0,55			1LA9 073-2KA ..	351, -
	0,75		80 M	1LA9 080-2KA ..	397, -
	1,1	1		1LA9 083-2KA ..	455, -
	1,5	1	90 S	1LA9 090-2KA ..	541, -
	2,2	1	90 L	1LA9 096-2KA ..	697, -
	3	1	100 L	1LA9 106-2KA ..	837, -
	4	1	112 M	1LA9 113-2KA ..	993, -
	5,5	1	132 S	1LA9 130-2KA ..	1.250, -
	7,5	1		1LA9 131-2KA ..	1.580, -
	11	1	160 M	1LA9 163-2KA ..	2.190, -
	15	1	160 M	1LA9 164-2KA ..	2.860, -
	18,5	1	160 L	1LA9 166-2KA ..	3.410, -
	22	1	180 M	1LA9 183-2WA ..	4.020, -
	30	1	200 L	1LA9 206-2WA ..	5.210, -
	37	1		1LA9 207-2WA ..	6.540, -

1500 rpm 4-pole	Rated output kW	Effi-ciency-Class	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,06		56 M	1LA9 050-4KA ..	286, -
	0,09			1LA9 053-4KA ..	287, -
	0,12		63 M	1LA9 060-4KA ..	291, -
	0,18			1LA9 063-4KA ..	314, -
	0,25		71 M	1LA9 070-4KA ..	318, -
	0,37			1LA9 073-4KA ..	356, -
	0,55		80 M	1LA9 080-4KA ..	395, -
	0,75			1LA9 083-4KA ..	430, -
	1,1	1	90 S	1LA9 090-4KA ..	525, -
	1,5	1	90 L	1LA9 096-4KA ..	623, -
	2,2	1	100 L	1LA9 106-4KA ..	763, -
	3	1		1LA9 107-4KA ..	878, -
	4	1	112 M	1LA9 113-4KA ..	1.080, -
	5,5	1	132 S	1LA9 130-4KA ..	1.340, -
	7,5	1	132 M	1LA9 133-4KA ..	1.700, -
	11	1	160 M	1LA9 163-4KA ..	2.240, -
	15	1	160 L	1LA9 166-4KA ..	2.900, -
	18,5	1	180 M	1LA9 183-4WA ..	3.420, -
	22	1	180 L	1LA9 186-4WA ..	3.960, -
	30	1	200 L	1LA9 207-4WA ..	5.120, -

1000 rpm 6-pole	Rated output kW		Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,75		90 S	1LA9 090-6KA ..	515, -
	1,1		90 L	1LA9 096-6KA ..	637, -
	1,5		100 L	1LA9 106-6KA ..	754, -
	2,2		112 M	1LA9 113-6KA ..	945, -
	4		132 M	1LA9 133-6KA ..	1.480, -
	5,5			1LA9 134-6KA ..	1.860, -
	7,5		160 M	1LA9 163-6KA ..	2.350, -
	11		160 L	1LA9 166-6KA ..	3.250, -
	15		180 L	1LA9 186-6WA ..	4.220, -
	18,5		200 L	1LA9 206-6WA ..	5.190, -
	22			1LA9 207-6WA ..	5.990, -

For rated outputs, please refer to Page 2/7.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/15.							
	50 Hz				60 Hz refer to Page 2/3		IM B 3	at additional charges, please refer to Page 2/15 IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ								
1LA9 050 to 1LA9 053	1	6	3	-	1	6	0	1	1	-	-	2	7	3
1LA9 060 to 1LA9 096	1	6	3	-	1	6	0	1	1	4	6	2	7	3
1LA9 106 to 1LA9 166	1	6	3	5	1	6	0	1	1	4	6	2	7	3
1LA9 183 to 1LA9 207	1	6	3	5	1	6	0	1	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/12.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9

Selection and ordering data

3600 rpm 2-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)		0,12	56 M	1LA9 050-2KA ..	275, -
		0,16		1LA9 053-2KA ..	277, -
		0,25	63 M	1LA9 060-2KA ..	285, -
		0,33		1LA9 063-2KA ..	302, -
		0,5	71 M	1LA9 070-2KA ..	310, -
		0,75		1LA9 073-2KA ..	351, -
	●	1	80 M	1LA9 080-2KA ..	397, -
	●	1,5		1LA9 083-2KA ..	455, -
	●	2	90 S	1LA9 090-2KA ..	541, -
	●	3	90 L	1LA9 096-2KA ..	697, -
		4	100 L	1LA9 106-2KA ..	837, -
	●	5	112 M	1LA9 113-2KA ..	993, -
	●	7,5	132 S	1LA9 130-2KA ..	1.250, -
	●	10		1LA9 131-2KA ..	1.580, -
	●	15	160 M	1LA9 163-2KA ..	2.190, -
	●	20	160 M	1LA9 164-2KA ..	2.860, -
	●	25	160 L	1LA9 166-2KA ..	3.410, -
	●	30	180 M	1LA9 183-2WA ..	4.020, -
	●	40	200 L	1LA9 206-2WA ..	5.210, -
	●	50		1LA9 207-2WA ..	6.540, -

1800 rpm 4-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)		0,08	56 M	1LA9 050-4KA ..	286, -
		0,12		1LA9 053-4KA ..	287, -
		0,16	63 M	1LA9 060-4KA ..	291, -
		0,25		1LA9 063-4KA ..	314, -
		0,33	71 M	1LA9 070-4KA ..	318, -
		0,5		1LA9 073-4KA ..	356, -
		0,75	80 M	1LA9 080-4KA ..	395, -
	●	1		1LA9 083-4KA ..	430, -
	●	1,5	90 S	1LA9 090-4KA ..	525, -
	●	2	90 L	1LA9 096-4KA ..	623, -
		3	100 L	1LA9 106-4KA ..	763, -
		4		1LA9 107-4KA ..	878, -
	●	5	112 M	1LA9 113-4KA ..	1.080, -
	●	7,5	132 S	1LA9 130-4KA ..	1.340, -
	●	10	132 M	1LA9 133-4KA ..	1.700, -
	●	15	160 M	1LA9 163-4KA ..	2.240, -
	●	20	160 L	1LA9 166-4KA ..	2.900, -
	●	25	180 M	1LA9 183-4WA ..	3.420, -
	●	30	180 L	1LA9 186-4WA ..	3.960, -
	●	40	200 L	1LA9 207-4WA ..	5.120, -

1200 rpm 6-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	1	90 S	1LA9 090-6KA ..	515, -
	●	1,5	90 L	1LA9 096-6KA ..	637, -
		2	100 L	1LA9 106-6KA ..	754, -
	●	3	112 M	1LA9 113-6KA ..	945, -
	●	5	132 M	1LA9 133-6KA ..	1.480, -
	●	7,5		1LA9 134-6KA ..	1.860, -
	●	10	160 M	1LA9 163-6KA ..	2.350, -
	●	15	160 L	1LA9 166-6KA ..	3.250, -
	●	20	180 L	1LA9 186-6WA ..	4.220, -
	●	25	200 L	1LA9 206-6WA ..	5.190, -
	●	30		1LA9 207-6WA ..	5.990, -

For larger outputs, please refer to Page 2/8.

● **With "CC" number:**
EPACT prescribes that the "CC" number (Compliance Certification) has to be entered on the rating plate.
The "CC" number (CC 032A for Siemens) is assigned by the US Department of Energy (DOE).

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/15.							
	50 Hz please refer to Page 2/2				60 Hz		IM B 3	at additional charge, please refer to Page 2/15						
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA9 050 to 1LA9 053	1	6	3	-	**1**	**6**	**0**	1	1	-	-	2	7	3
1LA9 060 to 1LA9 096	1	6	3	-	**1**	**6**	**0**	1	1	4	**6**	2	7	3
1LA9 106 to 1LA9 166	1	6	3	5	**1**	**6**	**0**	1	1	4	**6**	2	7	3
1LA9 183 to 1LA9 207	1	6	3	5	**1**	**6**	**0**	1	1	4	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/12.

Standard motors up to frame size 315 L

Self-ventilated motors with increased output – Aluminium series 1LA9

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW *)	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,20	56 M	1LA9 053-2LA ..	226, -
	0,33	63 M	1LA9 060-2LA ..	230, -
	0,45		1LA9 063-2LA ..	244, -
	0,65	71 M	1LA9 070-2LA ..	275, -
	0,94		1LA9 073-2LA ..	313, -
	1,45	80 M	1LA9 080-2LA ..	386, -
	1,75		1LA9 083-2LA ..	438, -
	2,9	90 S	1LA9 090-2LA ..	599, -
	3,8	90 L	1LA9 096-2LA ..	706, -
	4,4	100 L	1LA9 106-2LA ..	798, -
	6,5	112 M	1LA9 113-2LA ..	1.100, -
	9	132 S	1LA9 130-2LA ..	1.370, -
	12		1LA9 131-2LA ..	1.650, -
	18	160 M	1LA9 163-2LA ..	2.430, -
	21	160 M	1LA9 164-2LA ..	2.710, -
	26	160 L	1LA9 166-2LA ..	3.130, -
	33	180 M	1LA9 183-2AA ..	4.450, -
	44	200 L	1LA9 206-2AA ..	6.050, -
	53		1LA9 207-2AA ..	7.350, -

1500 rpm 4-pole	Rated output kW *)	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,14	56 M	1LA9 053-4LA ..	226, -
	0,21	63 M	1LA9 060-4LA ..	230, -
	0,29		1LA9 063-4LA ..	244, -
	0,45	71 M	1LA9 070-4LA ..	275, -
	0,6		1LA9 073-4LA ..	293, -
	0,9	80 M	1LA9 080-4LA ..	332, -
	1,25		1LA9 083-4LA ..	401, -
	1,8	90 S	1LA9 090-4LA ..	486, -
	2,5	90 L	1LA9 096-4LA ..	563, -
	4	100 L	1LA9 107-4LA ..	778, -
	5,5	112 M	1LA9 113-4LA ..	1.000, -
	8,6	132 S	1LA9 130-4LA ..	1.410, -
	11	132 M	1LA9 133-4LA ..	1.780, -
	17	160 M	1LA9 163-4LA ..	2.490, -
	22	160 L	1LA9 166-4LA ..	3.180, -
	26	180 M	1LA9 183-4AA ..	3.680, -
	32	180 L	1LA9 186-4AA ..	4.340, -
	43	200 L	1LA9 207-4AA ..	5.650, -

*) Temperature class 155 (F) utilization

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/15.							
	50 Hz				60 Hz		IM B 3	at additional charge, please refer to Page 2/15						
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA9 053	1	6	3	-	1	6	0	1	1	-	-	2	7	3
1LA9 060 to 1LA9 096	1	6	3	-	1	6	0	1	1	4	6	2	7	3
1LA9 106 to 1LA9 166	1	6	3	5	1	6	0	1	1	4	6	2	7	3
1LA9 183 to 1LA9 207	1	6	3	5	1	6	0	1	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/12.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

EFF2

Self-ventilated energy-saving motors with increased efficiency – Cast-iron series 1LA6/1LG4

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No.	Price plus MS for type of constr.IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**3**	100 L	2	**1LA6 106-2AA ..**	**712, -**
	4	112 M	2	**1LA6 113-2AA ..**	**875, -**
	5,5	132 S	2	**1LA6 130-2AA ..**	**1.090, -**
	7,5		2	**1LA6 131-2AA ..**	**1.410, -**
	11	160 M	2	**1LA6 163-2AA ..**	**1.880, -**
	15	160 M	2	**1LA6 164-2AA ..**	**2.490, -**
	18,5	160 L	2	**1LA6 166-2AA ..**	**2.980, -**
	22	180 M	2	**1LG4 183-2AA ..**	**3.260, -**
	30	200 L	2	**1LG4 206-2AA ..**	**4.230, -**
	37		2	**1LG4 207-2AA ..**	**5.530, -**
	45	225 M	2	**1LG4 223-2AA ..**	**6.710, -**
	55	250 M	2	**1LG4 253-2AB ..**	**8.180, -**
	75	280 S	2	**1LG4 280-2AB ..**	**11.200, -**
	90	280 M	2	**1LG4 283-2AB ..**	**13.600, -**
	110	315 S		**1LG4 310-2AB ..**	**16.600, -**
	132	315 M		**1LG4 313-2AB ..**	**19.900, -**
	160	315 L		**1LG4 316-2AB ..**	**24.700, -**
	200	315 L		**1LG4 317-2AB ..**	**30.900, -**

1500 rpm 4-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**2,2**	100 L	2	**1LA6 106-4AA ..**	**624, -**
	3		2	**1LA6 107-4AA ..**	**719, -**
	4	112 M	2	**1LA6 113-4AA ..**	**919, -**
	5,5	132 S	2	**1LA6 130-4AA ..**	**1.140, -**
	7,5	132 M	2	**1LA6 133-4AA ..**	**1.450, -**
	11	160 M	2	**1LA6 163-4AA ..**	**1.960, -**
	15	160 L	2	**1LA6 166-4AA ..**	**2.540, -**
	18,5	180 M	2	**1LG4 183-4AA ..**	**2.840, -**
	22	180 L	2	**1LG4 186-4AA ..**	**3.350, -**
	30	200 L	2	**1LG4 207-4AA ..**	**4.450, -**
	37	225 S	2	**1LG4 220-4AA ..**	**5.410, -**
	45	225 M	2	**1LG4 223-4AA ..**	**6.540, -**
	55	250 M	2	**1LG4 253-4AA ..**	**7.940, -**
	75	280 S	2	**1LG4 280-4AA ..**	**10.900, -**
	90	280 M	2	**1LG4 283-4AA ..**	**12.800, -**
	110	315 S		**1LG4 310-4AA ..**	**15.900, -**
	132	315 M		**1LG4 313-4AA ..**	**18.800, -**
	160	315 L		**1LG4 316-4AA ..**	**23.200, -**
	200	315 L		**1LG4 317-4AA ..**	**28.900, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**1,5**	100 L	**1LA6 106-6AA ..**	**665, -**
	2,2	112 M	**1LA6 113-6AA ..**	**830, -**
	3	132 S	**1LA6 130-6AA ..**	**1.040, -**
	4	132 M	**1LA6 133-6AA ..**	**1.280, -**
	5,5	132 M	**1LA6 134-6AA ..**	**1.620, -**
	7,5	160 M	**1LA6 163-6AA ..**	**2.060, -**
	11	160 L	**1LA6 166-6AA ..**	**2.840, -**
	15	180 L	**1LG4 186-6AA ..**	**3.430, -**
	18,5	200 L	**1LG4 206-6AA ..**	**4.200, -**
	22		**1LG4 207-6AA ..**	**4.940, -**
	30	225 M	**1LG4 223-6AA ..**	**6.790, -**
	37	250 M	**1LG4 253-6AA ..**	**8.230, -**
	45	280 S	**1LG4 280-6AA ..**	**10.100, -**
	55	280 M	**1LG4 283-6AA ..**	**12.200, -**
	75	315 S	**1LG4 310-6AA ..**	**16.600, -**
	90	315 M	**1LG4 313-6AA ..**	**19.900, -**
	110	315 L	**1LG4 316-6AA ..**	**24.000, -**
	132	315 L	**1LG4 317-6AA ..**	**28.500, -**
	160	315 L	**1LG4 318-6AA ..**	**34.600, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**0,75**	100 L	**1LA6 106-8AB ..**	**689, -**
	1,1		**1LA6 107-8AB ..**	**875, -**
	1,5	112 M	**1LA6 113-8AB ..**	**1.050, -**
	2,2	132 S	**1LA6 130-8AB ..**	**1.320, -**
	3	132 M	**1LA6 133-8AB ..**	**1.590, -**
	4	160 M	**1LA6 163-8AB ..**	**1.880, -**
	5,5	160 M	**1LA6 164-8AB ..**	**2.370, -**
	7,5	160 L	**1LA6 166-8AB ..**	**2.960, -**
	11	180 L	**1LG4 186-8AB ..**	**3.590, -**
	15	200 L	**1LG4 207-8AB ..**	**4.740, -**
	18,5	225 S	**1LG4 220-8AB ..**	**5.750, -**
	22	225 M	**1LG4 223-8AB ..**	**6.670, -**
	30	250 M	**1LG4 253-8AB ..**	**8.810, -**
	37	280 S	**1LG4 280-8AB ..**	**10.600, -**
	45	280 M	**1LG4 283-8AB ..**	**12.900, -**
	55	315 S	**1LG4 310-8AB ..**	**15.700, -**
	75	315 M	**1LG4 313-8AB ..**	**21.000, -**
	90	315 L	**1LG4 316-8AB ..**	**24.900, -**
	110	315 L	**1LG4 317-8AB ..**	**30.000, -**
	132	315 L	**1LG4 318-8AB ..**	**35.900, -**

The 2- to 6-pole 1LG4 motors listed above are available as "Ex stock motors" with short delivery time and at preferential prices in fixed versions (with regard to voltage, type of construction, motor protection and connection box) on Pages 0/0 up to 0/1.

Order No. supplements

Motor type	**Penultimate place: Voltage code**						**Last place: Type of construction code** For other types of construction, please refer to Pages 2/16 and 2/17.							
	50 Hz				**60 Hz**		IM B 3	at additional charges please refer to Pages 2/16 and 2/17						
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY (outputs please refer to catalog D81.1)	460 VΔ		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA6 106 to 1LA6 166	**1**	**6**	**3**	**5**	**1**	**6**	**0**	**1**	**1**	**4**	**6**	**2**	**7**	**3**
1LG4 183 to 1LG4 223	**1**	**6**	**3**	**5**	**1**	**6**	**0**	**1**	**1**	**4**	**6**	-	-	-
1LG4 253 to 1LG4 313	**1**	**6**	**3**	**5**	**1**	**6**	**0**	**1**	**1**	**4**	**6**	-	-	-
1LG4 316 to 1LG4 318	-	**6**	-	**5**	-	**6**	**0**	-	**8**	**4** [1]	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/12.

1) For 2-pole motors; 60-Hz version on request.

IEC Squirrel-Cage Motors

Standard motors up to frame size 315 L

Self-ventilated energy-saving motors with increased output – Cast-iron series 1LG4

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temp. class 155 (F)	**30**	180 L	**1LG4 188-2AA ..**	**4.080, -**
	45	200 L	**1LG4 208-2AA ..**	**6.130, -**
	55	225 M	**1LG4 228-2AA ..**	**7.460, -**
	75	250 M	**1LG4 258-2AA ..**	**9.680, -**
	110	280 M	**1LG4 288-2AB ..**	**15.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temp. class 155 (F)	**30**	180 L	**1LG4 188-4AA ..**	**4.130, -**
	37	200 L	**1LG4 208-4AA ..**	**4.930, -**
	55	225 M	**1LG4 228-4AA ..**	**7.240, -**
	75	250 M	**1LG4 258-4AA ..**	**9.430, -**
	110	280 M	**1LG4 288-4AA ..**	**14.300, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temp. class 155 (F)	**18,5**	180 L	**1LG4 188-6AA ..**	**4.160, -**
	30	200 L	**1LG4 208-6AA ..**	**5.880, -**
	37	225 M	**1LG4 228-6AA ..**	**7.510, -**
	45	250 M	**1LG4 258-6AA ..**	**9.190, -**
	75	280 M	**1LG4 288-6AA ..**	**14.500, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temp. class 155 (F)	**15**	180 L	**1LG4 188-8AB ..**	**4.430, -**
	18,5	200 L	**1LG4 208-8AB ..**	**5.230, -**
	30	225 M	**1LG4 228-8AB ..**	**7.760, -**
	37	250 M	**1LG4 258-8AB ..**	**9.710, -**
	55	280 M	**1LG4 288-8AB ..**	**14.300, -**

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/17.							
	50 Hz				60 Hz		IM B 3	at additional charges, please refer to Page 2/17						
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LG4 188 to 1LG4 288	**1**	**6**	**3**	**5**	**1**	**6**	**0**	**1**	**1**	**4**	**6**	**-**	**-**	**-**

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/12.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

EFF I

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**22**	180 M	1	**1LG6 183-2AA ..**	**4.080, -**
	30	200 L	1	**1LG6 206-2AA ..**	**5.290, -**
	37		1	**1LG6 207-2AA ..**	**6.640, -**
	45	225 M	1	**1LG6 223-2AA ..**	**7.920, -**
	55	250 M	1	**1LG6 253-2AA ..**	**9.410, -**
	75	280 S	1	**1LG6 280-2AB ..**	**12.900, -**
	90	280 M	1	**1LG6 283-2AB ..**	**15.200, -**
	110	315 S		**1LG6 310-2AB ..**	**18.300, -**
	132	315 M		**1LG6 313-2AB ..**	**21.900, -**
	160	315 L		**1LG6 316-2AB ..**	**27.200, -**
	200	315 L		**1LG6 317-2AB ..**	**34.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**18,5**	180 M	1	**1LG6 183-4AA ..**	**3.460, -**
	22	180 L	1	**1LG6 186-4AA ..**	**4.020, -**
	30	200 L	1	**1LG6 207-4AA ..**	**5.210, -**
	37	225 S	1	**1LG6 220-4AA ..**	**6.330, -**
	45	225 M	1	**1LG6 223-4AA ..**	**7.460, -**
	55	250 M	1	**1LG6 253-4AA ..**	**9.050, -**
	75	280 S	1	**1LG6 280-4AA ..**	**12.200, -**
	90	280 M	1	**1LG6 283-4AA ..**	**14.300, -**
	110	315 S		**1LG6 310-4AA ..**	**17.800, -**
	132	315 M		**1LG6 313-4AA ..**	**21.100, -**
	160	315 L		**1LG6 316-4AA ..**	**25.500, -**
	200	315 L		**1LG6 317-4AA ..**	**31.800, -**

1000 rpm 6-pole	Rated output kW	Frame size		Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**15**	180 L		**1LG6 186-6AA ..**	**4.290, -**
	18,5	200 L		**1LG6 206-6AA ..**	**5.250, -**
	22			**1LG6 207-6AA ..**	**6.080, -**
	30	225 M		**1LG6 223-6AA ..**	**8.150, -**
	37	250 M		**1LG6 253-6AA ..**	**9.880, -**
	45	280 S		**1LG6 280-6AA ..**	**12.100, -**
	55	280 M		**1LG6 283-6AA ..**	**14.300, -**
	75	315 S		**1LG6 310-6AA ..**	**19.400, -**
	90	315 M		**1LG6 313-6AA ..**	**21.900, -**
	110	315 L		**1LG6 316-6AA ..**	**26.400, -**
	132	315 L		**1LG6 317-6AA ..**	**31.400, -**
	160	315 L		**1LG6 318-6AA ..**	**38.100, -**

750 rpm 8-pole	Rated output kW	Frame size		Order No.	Price plus MS for type of constr. IM B 3 EUR
· CEMEP · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**11**	180 L		**1LG6 186-8AB ..**	**4.490, -**
	15	200 L		**1LG6 207-8AB ..**	**5.920, -**
	18,5	225 S		**1LG6 220-8AB ..**	**7.190, -**
	22	225 M		**1LG6 223-8AB ..**	**8.200, -**
	30	250 M		**1LG6 253-8AB ..**	**10.600, -**
	37	280 S		**1LG6 280-8AB ..**	**12.700, -**
	45	280 M		**1LG6 283-8AB ..**	**15.500, -**
	55	315 S		**1LG6 310-8AB ..**	**18.400, -**
	75	315 M		**1LG6 313-8AB ..**	**24.600, -**
	90	315 L		**1LG6 316-8AB ..**	**27.400, -**
	110	315 L		**1LG6 317-8AB ..**	**33.000, -**
	132	315 L		**1LG6 318-8AB ..**	**39.500, -**

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/17.							
	50 Hz				60 Hz refer to page 2/8		IM B 3	at additional charges please refer to Page 2/17						
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LG6 183 to 1LG6 313	**1**	**6**	**3**	**5**	1	6	**0**	**1**	**1**	**4**	**6**	-	-	-
1LG6 316 to 1LG6 318	-	**6**	-	**5**	-	6	**0**	-	**8**	**4**	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/13.

IEC Squirrel-Cage Motors

Standard motors up to frame size 315 L

Self-ventilated energy-saving motors with high efficiency– Cast-iron series 1LG6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3600 rpm 2-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	30	180 M	1LG6 183-2AA ..	4.080, -
	●	40	200 L	1LG6 206-2AA ..	5.290, -
	●	50		1LG6 207-2AA ..	6.640, -
	●	60	225 M	1LG6 223-2AA ..	7.920, -
	●	75		1LG6 228-2AA ..[1]	9.410, -
		75	250 M	1LG6 253-2AA ..	9.410, -
	●	100		1LG6 258-2AA ..[1]	12.900, -
		100	280 S	1LG6 280-2AB ..	12.900, -
	●	125	280 M	1LG6 283-2AB ..	15.200, -
	●	150	280 M	1LG6 288-2AA ..[1]	18.300, -
	●	150	315 S	1LG6 310-2AB ..	18.300, -
	●	175	315 M	1LG6 313-2AB ..	21.900, -
	●	200	315 L	1LG6 316-2AB ..	27.200, -
		250	315 L	1LG6 317-2AB ..	34.000, -
		300	315 L	1LG6 318-2AA ..[1]	41.800, -

1800 rpm 4-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	25	180 M	1LG6 183-4AA ..	3.460, -
	●	30		1LG6 186-4AA ..	4.020, -
	●	40	200 L	1LG6 207-4AA ..	5.210, -
		50	225 S	1LG6 220-4AA ..	6.330, -
	●	60	225 M	1LG6 223-4AA ..	7.460, -
	●	75	225 M	1LG6 228-4AA ..[1]	9.050, -
		75	250 M	1LG6 253-4AA ..	9.050, -
	●	100		1LG6 258-4AA ..[1]	12.200, -
		100	280 S	1LG6 280-4AA ..	12.200, -
	●	125	280 M	1LG6 283-4AA ..	14.300, -
	●	150	280 M	1LG6 288-4AA ..[1]	17.800, -
	●	150	315 S	1LG6 310-4AA ..	17.800, -
	●	175	315 M	1LG6 313-4AA ..	21.100, -
	●	200	315 L	1LG6 316-4AA ..	25.500, -
		250	315 L	1LG6 317-4AA ..	31.800, -
		300	315 L	1LG6 318-4AA ..[1]	37.600, -

1200 rpm 6-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	20	180 L	1LG6 186-6AA ..	4.290, -
	●	25	200 L	1LG6 206-6AA ..	5.250, -
	●	30		1LG6 207-6AA ..	6.080, -
	●	40	225 M	1LG6 223-6AA ..	8.150, -
	●	50		1LG6 228-6AA ..[1]	9.880, -
		50	250 M	1LG6 253-6AA ..	9.880, -
	●	60		1LG6 258-6AA ..[1]	12.100, -
		60	280 S	1LG6 280-6AA ..	12.100, -
		75	280 M	1LG6 283-6AA ..	14.300, -
	●	100	280 M	1LG6 288-6AA ..[1]	19.400, -
	●	100	315 S	1LG6 310-6AA ..	19.400, -
	●	125	315 M	1LG6 313-6AA ..	21.900, -
	●	150	315 L	1LG6 316-6AA ..	26.400, -
	●	175	315 L	1LG6 317-6AA ..	31.400, -
	●	200	315 L	1LG6 318-6AA ..	38.100, -

● **With "CC" number:**
EPACT prescribes, that the "CC" number (Compliance Certification) has to be entered on the rating plate.
The "CC" number (CC 032A for Siemens) is placed from the US Department of Energy (DOE).

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/17.							
	50 Hz refer to page 2/7				60 Hz		IM B 3	at additional charges please refer to Page 2/17 IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ								
1LG6 183 to 1LG6 313	1	6	3	5	**1**	**6**	**0**	1	1	4	**6**	-	-	-
1LG6 316 to 1LG6 318	-	6	-	5	-	**6**	**0**	-	8	4	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/13.

1) Only 60 Hz data according to EPACT shown on the rating plate.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Selection and ordering data

3000 rpm 2-pole	Rated output 50 Hz kW	Rated output 60 Hz kW	Frame size	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50/60 Hz · Temperature class 155 (F)	0,12	0,14	63 M	1LP7 060-2AA ..	373, -
	0,16	0,18		1LP7 063-2AA ..	382, -
	0,19	0,22	71 M	1LP7 070-2AA ..	386, -
	0,27	0,3		1LP7 073-2AA ..	409, -
	0,35	0,4	80 M	1LP7 080-2AA ..	451, -
	0,55	0,6		1LP7 083-2AA ..	494, -
	0,82	0,95	90 S	1LP7 090-2AA ..	562, -
	1,1	1,25	90 L	1LP7 096-2AA ..	674, -
	1,3	1,5	100 L	► 1LP7 106-2AA ..	775, -
	1,8	2,1	112 M	► 1LP7 113-2AA ..	918, -
	2,5	2,9	132 S	► 1LP7 130-2AA ..	1.170, -
	3,4	3,9		► 1LP7 131-2AA ..	1.440, -
	5	5,7	160 M	► 1LP7 163-2AA ..	1.880, -
	6	6,9	160 M	► 1LP7 164-2AA ..	2.340, -
	7	8	160 L	► 1LP7 166-2AA ..	2.750, -
	10	11,5	180 M	1LP5 183-2AA ..	3.090, -
	13,5	15,5	200 L	1LP5 206-2AA ..	4.160, -
	16,5	19		1LP5 207-2AA ..	4.910, -

1500 rpm 4-pole	Rated output 50 Hz kW	Rated output 60 Hz kW	Frame size	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50/60 Hz · Temperature class 155 (F)	0,07	0,08	63 M	1LP7 060-4AB ..	370, -
	0,12	0,14		1LP7 063-4AB ..	382, -
	0,13	0,15	71 M	1LP7 070-4AB ..	377, -
	0,19	0,22		1LP7 073-4AB ..	403, -
	0,22	0,25	80 M	1LP7 080-4AA ..	444, -
	0,38	0,45		1LP7 083-4AA ..	460, -
	0,55	0,63	90 S	1LP7 090-4AA ..	526, -
	0,65	0,75	90 L	1LP7 096-4AA ..	600, -
	0,88	1	100 L	► 1LP7 106-4AA ..	694, -
	1,2	1,4		► 1LP7 107-4AA ..	791, -
	1,6	1,85	112 M	► 1LP7 113-4AA ..	960, -
	2,5	2,9	132 S	► 1LP7 130-4AA ..	1.210, -
	3,1	3,6	132 M	► 1LP7 133-4AA ..	1.470, -
	4,8	5,5	160 M	► 1LP7 163-4AA ..	1.900, -
	5,4	6,2	160 L	► 1LP7 166-4AA ..	2.440, -
	7,5	8,5	180 M	1LP5 183-4AA ..	2.540, -
	9	10,5	180 L	1LP5 186-4AA ..	2.810, -
	12	14	200 L	1LP5 207-4AA ..	3.860, -

1000 rpm 6-pole	Rated output 50 Hz kW	Rated output 60 Hz kW	Frame size	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50/60 Hz · Temperature class 155 (F)	0,045	0,05	63 M	1LP7 063-6AA ..	387, -
	0,09	0,105	71 M	1LP7 070-6AA ..	396, -
	0,13	0,15		1LP7 073-6AA ..	426, -
	0,18	0,2	80 M	1LP7 080-6AA ..	451, -
	0,27	0,3		1LP7 083-6AA ..	494, -
	0,37	0,4	90 S	1LP7 090-6AA ..	551, -
	0,5	0,57	90 L	1LP7 096-6AA ..	649, -
	0,7	0,8	100 L	► 1LP7 106-6AA ..	727, -
	1	1,15	112 M	► 1LP7 113-6AA ..	877, -
	1,7	1,9	132 S	► 1LP7 130-6AA ..	1.110, -
	2	2,3	132 M	► 1LP7 133-6AA ..	1.340, -
	2,3	2,65	132 M	► 1LP7 134-6AA ..	1.650, -
	3,3	3,8	160 M	► 1LP7 163-6AA ..	2.030, -
	4	4,6	160 L	► 1LP7 166-6AA ..	2.610, -
	6,5	7,5	180 L	1LP5 186-6AA ..	2.840, -
	8,5	10	200 L	1LP5 207-6AA ..	4.190, -

750 rpm 8-pole	Rated output 50 Hz kW	Rated output 60 Hz kW	Frame size	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50/60 Hz · Temperature class 155 (F)	0,045	0,05	71 M	1LP7 070-8AB ..	409, -
	0,06	0,07		1LP7 073-8AB ..	441, -
	0,09	0,105	80 M	1LP7 080-8AB ..	457, -
	0,13	0,15		1LP7 083-8AB ..	530, -
	0,25	0,29	90 S	1LP7 090-8AB ..	607, -
	0,35	0,4	90 L	1LP7 096-8AB ..	698, -
	0,45	0,5	100 L	► 1LP7 106-8AB ..	764, -
	0,65	0,75		► 1LP7 107-8AB ..	918, -
	0,8	0,9	112 M	► 1LP7 113-8AB ..	1.080, -
	1,2	1,4	132 S	► 1LP7 130-8AB ..	1.370, -
	1,45	1,7	132 M	► 1LP7 133-8AB ..	1.600, -
	1,8	2,1	160 M	► 1LP7 163-8AB ..	1.860, -
	2,4	2,8	160 L	► 1LP7 164-8AB ..	2.220, -
	3	3,45	160 L	► 1LP7 166-8AB ..	2.660, -
	5,5	6,5	180 L	1LP5 186-8AB ..	3.020, -
	7,5	9	200 L	1LP5 207-8AB ..	4.220, -

► **The order numbers for 1LP7 motors that are marked with this symbol are discontinued models. 1PC1 motors are their successors. For further informations refer to part 1 "New Generation 1LE1/1PC1" below "Self-cooled motors without external fan and without fan cover with improved efficiency" on the pages 1/32 up to 1/35.**

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/18.						
	50 Hz				60 Hz		IM B 3	at additional charges, please refer to Page 2/18					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY (admissible outputs for 60 Hz please refer to catalog D81.1)	460 VΔ		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LP7 060 to 1LP7 096	1	6	3	-	1	6	0	1	1	6	2	7	3
1LP7 106 to 1LP7 166	1	6	3	5	1	6	0	1	1	6	2	7	3
1LP5 183 to 1LP5 207	1	6	3	5	1	6	0	1	1	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/14.

Recommended retail prices plus metal surcharges (MS)

Standard motors up to frame size 315 L

Self-cooled motors without external fan
Cast-iron series 1LP4

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	7,3	180 M	1LP4 183-2FA ..	3.450, -
	10	200 L	1LP4 206-2FA ..	4.450, -
	12,5		1LP4 207-2FA ..	5.790, -
	15	225 M	1LP4 223-2FA ..	7.050, -
	18,5	250 M	1LP4 253-2FB ..	8.570, -
	25	280 S	1LP4 280-2FB ..	11.700, -
	30	280 M	1LP4 283-2FB ..	14.200, -
	37	315 S	1LP4 310-2FB ..	17.600, -
	44	315 M	1LP4 313-2FB ..	20.900, -
	53	315 L	1LP4 316-2FB ..	26.100, -
	67	315 L	1LP4 317-2FB ..	32.300, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	6,2	180 M	1LP4 183-4FA ..	2.990, -
	7,3	180 L	1LP4 186-4FA ..	3.500, -
	10	200 L	1LP4 207-4FA ..	4.660, -
	12,5	225 S	1LP4 220-4FA ..	5.690, -
	15	225 M	1LP4 223-4FA ..	6.880, -
	18,5	250 M	1LP4 253-4FA ..	8.340, -
	25	280 S	1LP4 280-4FA ..	11.500, -
	30	280 M	1LP4 283-4FA ..	13.500, -
	37	315 S	1LP4 310-4FA ..	16.600, -
	44	315 M	1LP4 313-4FA ..	19.900, -
	53	315 L	1LP4 316-4FA ..	24.300, -
	67	315 L	1LP4 317-4FA ..	30.400, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	5	180 L	1LP4 186-6FA ..	3.580, -
	6,2	200 L	1LP4 206-6FA ..	4.400, -
	7,3		1LP4 207-6FA ..	5.190, -
	10	225 M	1LP4 223-6FA ..	7.140, -
	12,5	250 M	1LP4 253-6FA ..	8.640, -
	15	280 S	1LP4 280-6FA ..	10.600, -
	18,5	280 M	1LP4 283-6FA ..	12.800, -
	25	315 S	1LP4 310-6FA ..	17.600, -
	30	315 M	1LP4 313-6FA ..	20.900, -
	37	315 L	1LP4 316-6FA ..	25.300, -
	44	315 L	1LP4 317-6FA ..	30.000, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Motors with derating · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	3,7	180 L	1LP4 186-8FB ..	3.790, -
	5	200 L	1LP4 207-8FB ..	4.970, -
	6,2	225 S	1LP4 220-8FB ..	6.040, -
	7,3	225 M	1LP4 223-8FB ..	7.010, -
	10	250 M	1LP4 253-8FB ..	9.250, -
	12,5	280 S	1LP4 280-8FB ..	11.200, -
	15	280 M	1LP4 283-8FB ..	13.600, -
	18,5	315 S	1LP4 310-8FB ..	16.400, -
	25	315 M	1LP4 313-8FB ..	22.000, -
	30	315 L	1LP4 316-8FB ..	26.200, -
	37	315 L	1LP4 317-8FB ..	31.400, -

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 2/18.						
	50 Hz 230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	60 Hz 460 VY (outputs please refer to catalog D81.1)	460 VΔ	IM B 3	at additional charges, please refer to Page 2/18 IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LP4 183 to 1LP4 223	1	6	3	5	1	6	0	1	1	6	-	-	-
1LP4 253 to 1LP4 313	1	6	3	5	1	6	0	1	1	6	-	-	-
1LP4 316 to 1LP4 317	-	6	-	5	-	6	0	-	8	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 2/14.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LA7 Frame size 56	63	71	80	90	100	112	132	160	1LA5 180	200	225
	V	V		11th position													
Voltage at 50 Hz	220Δ/380Y	440Y		9 [1]	L1R												
	230Δ			9 [1]	L1E ❍												
Frame size	380Δ/660Y	440Δ		9 [1]	L1L												
56 to 225	415Y			9 [1]	L1C												
	415Δ			9 [1]	L1D												
	400Y			9 [1]	L1A ❍												
	400Δ			9 [1]	L1B ❍												
	400Δ	460Δ		9 [1]	L1U ❍												
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A												
			60-Hz-Output [2]	9	L2B												
Frame size		380Δ/660Y	50-Hz-Output	9	L2C												
56 to 225			60-Hz-Output [2]	9	L2D												
		440Y	50-Hz-Output	9	L2Q	23,50	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -	181, -
			60-Hz-Output [2]	9	L2W												
		440Δ	50-Hz-Output	9	L2R												
			60-Hz-Output [2]	9	L2X												
		460Y	50-Hz-Output	9	L2S												
			60-Hz-Output [2]	9	L2E ❍												
		460Δ	50-Hz-Output	9	L2T												
			60-Hz-Output [2]	9	L2F ❍												
		575Y	50-Hz-Output	9	L2U												
			60-Hz-Output [2]	9	L2L												
		575Δ	50-Hz-Output	9	L2V												
			60-Hz-Output [2]	9	L2M												
Voltage changeover		230YY/460Y	50-Hz-Output	9 [3]	L3E	110, -	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -	–
			60-Hz-Output [2]	9 [3]	L3F	110, -	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -	–
Frame size		230ΔΔ/460Δ	50-Hz-Output	9	L3G	–	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -	–
56 to 225			60-Hz-Output [2]	9	L3H	–	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -	–
	Plain-text required (non-standard winding)			9 [4]	L1Y	46,90	46,90	55, -	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -	406, -

Pole-change motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LA7 Frame size 63	71	80	90	100	112	132	160	1LA5 180	200
	V	V		11th position											
Voltage at 60 Hz		220	50-Hz-Output	9	L4A										
			60-Hz-Output [2]	9	L4B										
Frame size		380	50-Hz-Output	9	L4C	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
63 to 200			60-Hz-Output [2]	9	L4D										
		440	50-Hz-Output	9	L4G										
			60-Hz-Output [2]	9	L4E										
		460	50-Hz-Output	9	L4J										
			60-Hz-Output [2]	9	L4H										
		575	50-Hz-Output	9	L4N										
			60-Hz-Output [2]	9	L4M										
	Plain-text required (non-standard winding)			9 [4]	L1Y	46,90	55, -	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -
	Plain-text required (non-standard winding for Y/Δ starting at low speed)			9 [4]	L3Y	–	–	–	–	137, -	165, -	213, -	261, -	340, -	417, -

❍ without additional charge

1) With order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also specified on the rating plate.
2) Output acc. to output table for 60 Hz please refer to catalog D81.1.
3) When ordering with Brake option (order code G26), only 6 motor connection terminals are possible for frame sizes 56 to 90.
4) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LA9 Frame size 56	63	71	80	90	100	112	132	160	180	200
	V	V		11th position												
Voltage at 50 Hz	220Δ/380Y	440Y		9 1)	L1R											
Frame size 56 to 200	230Δ			9 1)	L1E ❍											
	380Δ/660Y	440Δ		9 1)	L1L											
	415Y			9 1)	L1C											
	415Δ			9 1)	L1D											
	400Y			9 1)	L1A ❍											
	400Δ			9 1)	L1B ❍											
	400Δ	460Δ		9 1)	L1U ❍											
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A											
Frame size 56 to 200			60-Hz-Output	2) 9	L2B											
		380Δ/660Y	50-Hz-Output	9	L2C											
			60-Hz-Output	2) 9	L2D											
		440Y	50-Hz-Output	9	L2Q	23,50	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
			60-Hz-Output	2) 9	L2W											
		440Δ	50-Hz-Output	9	L2R											
			60-Hz-Output	2) 9	L2X											
		460Y	50-Hz-Output	9	L2S											
			60-Hz-Output	2) 9	L2E ❍											
		460Δ	50-Hz-Output	9	L2T											
			60-Hz-Output	2) 9	L2F ❍											
		575Y	50-Hz-Output	9	L2U											
			60-Hz-Output	2) 9	L2L											
		575Δ	50-Hz-Output	9	L2V											
			60-Hz-Output	2) 9	L2M											
Voltage changeover		230YY/460Y	50-Hz-Output	9	L3E	110, -	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -
			60-Hz-Output	2) 9	L3F	110, -	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -
Frame size 56 to 200		230ΔΔ/460Δ	50-Hz-Output	9	L3G	–	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -
			60-Hz-Output	2) 9	L3H	–	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -
	Plain-text required (non-standard winding)			9 3)	L1Y	46,90	46,90	55, -	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LA6 Frame size 100	112	132	160	1LG4 180	200	225	250	280	315
	V	V		11th position											
Voltage at 50 Hz	220Δ/380Y	440Y		9 1)	L1R										
Frame size 100 to 315 M	230Δ			9 1)	L1E ❍										
	380Δ/660Y	440Δ		9 1)	L1L										
	415Y			9 1)	L1C										
	415Δ			9 1)	L1D										
	400Y			9 1)	L1A ❍										
	400Δ			9 1)	L1B ❍										
	400Δ	460Δ		9 1)	L1U ❍										
Voltage at 50 Hz	380Δ/660Y			9 1)	L1L										
Frame size 315 L	415Δ			9 1)	L1D										
	400Δ			9 1)	L1B ❍										
	400Δ	460Δ		9 1)	L1U ❍										
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A										
Frame size 100 to 315 M			60-Hz-Output	2) 9	L2B										
		380Δ/660Y	50-Hz-Output	9	L2C										
			60-Hz-Output	2) 9	L2D										
		440Y	50-Hz-Output	9	L2Q	45,30	54,80	70,30	86,30	116, -	133, -	181, -	207, -	267, -	346, -
			60-Hz-Output	2) 9	L2W										
		440Δ	50-Hz-Output	9	L2R										
			60-Hz-Output	2) 9	L2X										
		460Y	50-Hz-Output	9	L2S										
			60-Hz-Output	2) 9	L2E ❍										
		460Δ	50-Hz-Output	9	L2T										
			60-Hz-Output	2) 9	L2F ❍										
		575Y	50-Hz-Output	9	L2U										
			60-Hz-Output	2) 9	L2L										
		575Δ	50-Hz-Output	9	L2V										
			60-Hz-Output	2) 9	L2M ❍										
Voltage at 60 Hz		380Δ/660Y	50-Hz-Output	9	L2C										
Frame size 315 L			60-Hz-Output	2) 9	L2D										
		440Δ	50-Hz-Output	9	L2R										
			60-Hz-Output	2) 9	L2X										
		460Δ	50-Hz-Output	9	L2T										
			60-Hz-Output	2) 9	L2F ❍										
		575Δ	50-Hz-Output	9	L2V										
			60-Hz-Output	2) 9	L2M ❍										
	Plain-text required (non-standard winding)			9 3)	L1Y	90,70	110, -	140, -	174, -	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge

1) With order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also specified on the rating plate.
2) Output acc. to output table for 60 Hz please refer to catalog D81.1.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS 1LG6 EUR					
						Frame size					
	V	V		11th position		180	200	225	250	280	315
Voltage at 50 Hz	220Δ/380Y	440Y		9 [1]	L1R						
Frame size	230Δ			9 [1]	L1E ❍						
180 to 315 M	380Δ/660Y	440Δ		9 [1]	L1L						
	415Y			9 [1]	L1C						
	415Δ			9 [1]	L1D						
	400Y			9 [1]	L1A ❍						
	400Δ			9 [1]	L1B ❍						
	400Δ	460Δ		9 [1]	L1U ❍						
Voltage at 50 Hz	380Δ/660Y			9 [1]	L1L						
Frame size 315 L	415Δ			9 [1]	L1D						
	400Δ			9 [1]	L1B ❍						
	400Δ	460Δ		9 [1]	L1U ❍						
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A						
Frame size			60-Hz-Output	[2] 9	L2B						
180 to 315 M		380Δ/660Y	50-Hz-Output	9	L2C						
			60-Hz-Output	[2] 9	L2D						
		440Y	50-Hz-Output	9	L2Q	116, -	133, -	181, -	207, -	267, -	346, -
			60-Hz-Output	[2] 9	L2W						
		440Δ	50-Hz-Output	9	L2R						
			60-Hz-Output	[2] 9	L2X						
		460Y	50-Hz-Output	9	L2S						
			60-Hz-Output	[2] 9	L2E ❍						
		460Δ	50-Hz-Output	9	L2T						
			60-Hz-Output	[2] 9	L2F ❍						
		575Y	50-Hz-Output	9	L2U						
			60-Hz-Output	[2] 9	L2L						
		575Δ	50-Hz-Output	9	L2V						
			60-Hz-Output	[2] 9	L2M ❍						
Voltage at 60 Hz		380Δ/660Y	50-Hz-Output	9	L2C						
Frame size 315 L			60-Hz-Output	[2] 9	L2D						
		440Δ	50-Hz-Output	9	L2R						
			60-Hz-Output	[2] 9	L2X						
		460Δ	50-Hz-Output	9	L2T						
			60-Hz-Output	[2] 9	L2F ❍						
		575Δ	50-Hz-Output	9	L2V						
			60-Hz-Output	[2] 9	L2M ❍						
	Plain-text required (non-standard winding)			9 [3]	L1Y	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge

1) With order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also specified on the rating plate.
2) Output acc. to output table for 60 Hz please refer to catalog D81.1.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LP7 Frame size 63	71	80	90	100	112	132	160	1LP5 180	200
	V	V		11th position											
Voltage at 50 Hz	220Δ/380Y	440Y		9 [1]	L1R										
Frame size 63 to 200	230Δ			9 [1]	L1E ❍										
	380Δ/660Y	440Δ		9 [1]	L1L										
	415Y			9 [1]	L1C										
	415Δ			9 [1]	L1D										
	400Y			9 [1]	L1B ❍										
	400Δ			9 [1]	L1U ❍										
	400Δ	460Δ		9 [1]	L1U ❍										
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A										
Frame size 63 to 200			60-Hz-Output [2]	9	L2B										
		380Δ/660Y	50-Hz-Output	9	L2C										
			60-Hz-Output [2]	9	L2D										
		440Y	50-Hz-Output	9	L2Q	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
			60-Hz-Output [2]	9	L2W										
		440Δ	50-Hz-Output	9	L2R										
			60-Hz-Output [2]	9	L2X										
		460Y	50-Hz-Output	9	L2S										
			60-Hz-Output [2]	9	L2E ❍										
		460Δ	50-Hz-Output	9	L2T										
			60-Hz-Output [2]	9	L2F ❍										
		575Y	50-Hz-Output	9	L2U										
			60-Hz-Output [2]	9	L2L										
		575Δ	50-Hz-Output	9	L2V										
			60-Hz-Output [2]	9	L2M										
Voltage changeover		230YY/460Y	50-Hz-Output	9	L3E	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -
Frame size 63 to 200			60-Hz-Output [2]	9	L3F	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -
		230ΔΔ/460Δ	50-Hz-Output	9	L3G	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -
			60-Hz-Output [2]	9	L3H	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -
	Plain-text required (non-standard winding)			9 [3]	L1Y	46,90	55, -	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LP4 Frame size 180	200	225	250	280	315
	V	V		11th position							
Voltage at 50 Hz	220Δ/380Y	440Y		9 [1]	L1R						
Frame size 180 to 315 M	230Δ			9 [1]	L1E ❍						
	380Δ/660Y	440Δ		9 [1]	L1L						
	415Y			9 [1]	L1C						
	415Δ			9 [1]	L1D						
	400Y			9 [1]	L1A ❍						
	400Δ			9 [1]	L1B ❍						
	400Δ	460Δ		9 [1]	L1U ❍						
Voltage at 50 Hz	220Δ/380Y			9 [1]	L1R						
Frame size 315 L	380Δ/660Y			9 [1]	L1L						
	415Y			9 [1]	L1C						
	415Δ			9 [1]	L1D						
	400Y			9 [1]	L1A ❍						
	400Δ			9 [1]	L1B ❍						
	400Δ	460Δ		9 [1]	L1U ❍						
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A						
Frame size 180 to 315 L			60-Hz-Output [2]	9	L2B						
		380Δ/660Y	50-Hz-Output	9	L2C						
			60-Hz-Output [2]	9	L2D						
		440Y	50-Hz-Output	9	L2Q	116, -	133, -	181, -	207, -	267, -	346, -
			60-Hz-Output [2]	9	L2W						
		440Δ	50-Hz-Output	9	L2R						
			60-Hz-Output [2]	9	L2X						
		460Y	50-Hz-Output	9	L2S						
			60-Hz-Output [2]	9	L2E ❍						
		460Δ	50-Hz-Output	9	L2T						
			60-Hz-Output [2]	9	L2F ❍						
		575Y	50-Hz-Output	9	L2U						
			60-Hz-Output [2]	9	L2L						
		575Δ	50-Hz-Output	9	L2V						
			60-Hz-Output [2]	9	L2M ❍						
	Plain-text required (non-standard winding)			9 [3]	L1Y	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge

1) With order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also specified on the rating plate.
2) Output acc. to output table for 60 Hz please refer to catalog D81.1.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA7 Frame size 56	63	71	80	90	100	112	132	160	1LA5 180	200	225
Without flange:														
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	0	-	■	■	■	■	■	■	■	■	■	■	■	■
IM V 5 with cover	9 1)	M1F	–	36,20	40,30	48,20	56,40	59,50	69,10	88,20	121, -	161, -	243, -	321, -
With flange:	acc. to DIN EN 50347 / acc. to DIN 42 948		FF100 A 120	FF115 A 140	FF130 A 160	FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400	FF400 A 450
IM B 5, IM V 1 without cover	1 2)	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -	354, -
IM V 1 with cover	4 1) 2)	-	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	386, -	515, -	677, -
IM V 3	1 2)	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
	9 2)	M1G	–	–	–	–	–	–	–	–	–	226, -	274, -	354, -
IM B 35	6	-	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -	592, -
With standard flange:	acc. to DIN EN 50347 / acc. to DIN 42 948		FT65 C 80	FT75 C 90	FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250			
IM B 14, IM V 18 without cover, IM V 19	2	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM V 18 with cover	9 1)	M2A	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–	–
IM B 34	7	-	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–
With special flange:	acc. to DIN EN 50347 / acc. to DIN 42 948		FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300			
IM B 14, IM V 18 without cover, IM V 19	3	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM V 18 with cover	9 1)	M2B	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–	–
IM B 34	9	M2C	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA9 Frame size 56	63	71	80	90	100	112	132	160	180	200
Without flange:													
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	0	-	■	■	■	■	■	■	■	■	■	■	■
IM V 5 with cover	9 1)	M1F	–	36,20	40,30	48,20	56,40	59,50	69,10	88,20	121, -	161, -	243, -
With flange:	acc. to DIN EN 50347 / acc. to DIN 42 948		FF100 A 120	FF115 A 140	FF130 A 160	FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400
IM B 5, IM V 1 without cover	1	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -
IM V 1 with cover	4 1)	-	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	386, -	515, -
IM V 3	1	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
	9	M1G	–	–	–	–	–	–	–	–	–	226, -	274, -
IM B 35	6	-	–	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -
With standard flange:	acc. to DIN EN 50347 / acc. to DIN 42 948		FT65 C 80	FT75 C 90	FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250		
IM B 14, IM V 18 without cover, IM V 19	2	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	9 1)	M2A	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	7	-	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–
With special flange:	acc. to DIN EN 50347 / acc. to DIN 42 948		FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300		
IM B 14, IM V 18 without cover, IM V 19	3	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	9 1)	M2B	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	9	M2C	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–

■ Standard design

The type of construction supplement '9' must be stated in the order code.

When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) The 'second shaft extension' option (order code K16) is not possible.

2) For frame sizes 180 M to 225 M, the motors can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS 1LA6 EUR Frame size 100	112	132	160
Without flange:						
IM B 3	**0**	**-**	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	**0**	**-**	■	■	■	■
IM V 5 with cover	**9** [1]	**M1F**	59,50	69,10	88,20	121, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**
IM B 5, IM V 1 without cover	**1**	**-**	68,30	84,80	110, -	143, -
IM V 1 with cover	**4** [1]	**-**	129, -	154, -	199, -	268, -
IM V 3	**1**	**-**	68,30	84,80	110, -	143, -
IM B 35	**6**	**-**	84,80	111, -	139, -	201, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**
IM B 14, IM V 18 without cover, IM V 19	**2**	**-**	68,30	84,80	110, -	143, -
IM V 18 with cover	**9** [1]	**M2A**	129, -	154, -	199, -	268, -
IM B 34	**7**	**-**	84,80	111, -	139, -	201, -
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**
IM B 14, IM V 18 without cover, IM V 19	**3**	**-**	68,30	84,80	110, -	143, -
IM V 18 with cover	**9** [1]	**M2B**	129, -	154, -	199, -	268, -
IM B 34	**9**	**M2C**	84,80	111, -	139, -	201, -

■ Standard design

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) The 'second shaft extension' option (order code K16) is not possible.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LG4 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■
IM V 5 without cover*	0 9	- M1D	■ –	■ –	■ –	■ –	■ –	■ –	– 387, - 1) ❍ 2)
IM V 6 *	0 9	- M1E	■ –	■ –	■ –	■ –	■ –	■ –	– 387, - 1) ❍ 2)
IM V 5 * with cover	9 3)	M1F	161, -	243, -	321, -	401, -	482, -	643, -	1.030, - 1) 643, - 2)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A660**
IM B 5, IM V 1 without cover	1 4)	-	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	8 4)	-	–	–	–	–	–	–	1.270, - 1) 882, - 2)
IM V 1 with cover	4 3) 4)	-	386, -	515, -	677, -	835, -	1.100, -	1.530, -	1.900, - 1) 1.530, - 2)
IM V 3	9 4)	M1G	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LG6 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■
IM V 5 without cover*	0 9	- M1D	■ –	■ –	■ –	■ –	■ –	■ –	– 387, - 1) ❍ 2)
IM V 6 *	0 9	- M1E	■ –	■ –	■ –	■ –	■ –	■ –	– 387, - 1) ❍ 2)
IM V 5 * with cover	9 3)	M1F	161, -	243, -	321, -	401, -	482, -	643, -	1.030, - 1) 643, - 2)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A660**
IM B 5, IM V 1 without cover	1 4)	-	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	8 4)	-	–	–	–	–	–	–	1.270, - 1) 882, - 2)
IM V 1 with cover	4 3) 4)	-	386, -	515, -	677, -	835, -	1.100, -	1.530, -	1.900, - 1) 1.530, - 2)
IM V 3	9 4)	M1G	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) For 2-pole motors; 60-Hz design on request.

2) For 4- to 8-pole motors.

3) The 'second shaft extension' option (order code K16) is not possible.

4) Motors frame size 225 up to frame size 315 L are supplied with two bolted eyebolts according to IM B 5; one of these can be repositioned according to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LP7 Frame size 63	71	80	90	100	112	132	160	1LP5 180	200
Without flange:												
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	0	-	■	■	■	■	■	■	■	■	■	■
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF115 A 140**	**FF130 A 160**	**FF165 A 200**	**FF165 A 200**	**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**	**FF300 A 350**	**FF350 A 400**
IM B 5, IM V 1 without cover	1 [1]	-	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -
IM V 3	1 [1]	-	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
	9 [1]	M1G	–	–	–	–	–	–	–	–	226, -	274, -
IM B 35	6	-	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT75 C 90**	**FT85 C 105**	**FT100 C 120**	**FT115 C 140**	**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**		
IM B 14, IM V 18 without cover, IM V 19	2	-	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM B 34	7	-	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT100 C 120**	**FT115 C 140**	**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**		
IM B 14, IM V 18 without cover, IM V 19	3	-	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM B 34	9	M2C	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LP4 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■
IM V 5 without cover*	0	-	■	■	■	■	■	■	–
	9	M1D	–	–	–	–	–	–	387, - [2] ❍ [3]
IM V 6 *	0	-	■	■	■	■	■	■	–
	9	M1E	–	–	–	–	–	–	387, - [2] ❍ [3]
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A660**
IM B 5, IM V 1 without cover	1 [4]	-	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	8 [4]	-	–	–	–	–	–	–	1.270, - [2] 882, - [3]
IM V 3	9 [4]	M1G	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.

When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) For frame sizes 180 M to 225 M, the motors can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.

2) For 2-pole motors; 60-Hz design on request.

3) For 4- to 8-pole motors.

4) Motors frame size 225 up to frame size 315 L are supplied with two bolted eyebolts according to IM B 5; one of these can be repositioned according to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)									**1LA5 (aluminum)**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–	273,–			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**	129,–	129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–	459,–			
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–	389,–			
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**	151,–	151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–	634,–			
Temperature detectors for tripping [1]	**A31**	84,70	84,70	84,70	99,40	99,40	112,–	112,–	164,–	164,–	227,–	227,–	307,–			
Installation of 3 PT 100 resistance thermometers [1]	**A60**	–	–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–			
Motor connection and connection boxes																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY [2]	**G55**	80,80	80,80	80,80	80,80	80,80	80,80	80,80	87,50	–	–	–	–			
ECOFAST motor plug EMC Han-Drive 10e for 230 VΔ/400 VY [3]	**G56**	185,–	185,–	185,–	185,–	185,–	201,–	201,–	227,–	–	–	–	–			
Connection box on RHS	**K09**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–	217,–			
Connection box on LHS	**K10**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–	217,–			
One cable gland, metal	**K54**	50,20	50,20	50,20	50,20	50,20	94,–	94,–	94,–	120,–	120,–	138,–	138,–			
Cable gland, maximum configuration	**K55**	71,80	71,80	71,80	71,80	71,80	133,–	133,–	133,–	175,–	175,–	202,–	202,–			
Rotation of the connection box through 90°, entry from DE	**K83**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–	60,50			
Rotation of the connection box through 90°, entry from NDE	**K84**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–	60,50			
Rotation of connection box through 180°	**K85**	13,70	13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–	60,50			
Next larger connection box	**L00**	–	–	–	–	–	–	–	–	–	1.080,–	1.080,–	1.080,–			
External earthing	**L13**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,10	31,10	31,10			
3 cables protruding, 0.5 m long [4][5]	**L44**	48,20	48,20	48,20	48,20	48,20	57,70	69,10	84,50	99,80	O. R.	O. R.	O. R.			
3 cables protruding, 1.5 m long [4][5]	**L45**	58,20	58,20	58,20	58,20	58,20	69,60	83,70	102,–	121,–	O. R.	O. R.	O. R.			
6 cables protruding, 0.5 m long [4]	**L47**	74,60	74,60	74,60	74,60	74,60	89,40	107,–	132,–	156,–	O. R.	O. R.	O. R.			
6 cables protruding, 1.5 m long [4]	**L48**	95,–	95,–	95,–	95,–	95,–	113,–	137,–	167,–	198,–	238,–	281,–	335,–			
6 cables protruding, 3 m long [4]	**L49**	151,–	151,–	151,–	151,–	151,–	184,–	216,–	270,–	324,–	378,–	454,–	540,–			
Connection box on NDE	**M64**	–	53,–	60,60	68,30	78,20	101,–	124,–	160,–	217,–	244,–	261,–	273,–			
Terminal strip for main and auxiliary terminals	**M69**	–	74,–	74,–	74,–	74,–	–	–	–	–	–	–	–			

For legend, see Page 2/23, for footnotes, see Page 2/24.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)									**1LA5 (aluminum)**					
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 155 (F), with increased output	**C12**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 180 (H) at rated output and max. CT 60 °C [6]	**C18**	126,–	126,–	126,–	126,–	126,–	177,–	227,–	287,–	356,–	440,–	567,–	662,–			
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**	–	125,–	125,–	125,–	125,–	125,–	125,–	125,–	189,–	254,–	314,–	379,–			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [7]	**C22**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [7]	**C23**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [7]	**C24**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**	–	228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–	685,–			
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level	70,20	70,20	82,40	93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–	609,–			
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Colors and paint finish																
Special finish in RAL 7030 stone gray		□	□	□	□	□	□	□	□	□	□	□	□			
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….	51,40	51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–	294,–			
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….	485,–	485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–	694,–			
Sea-air proof special finish	**M94**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			

For legend, see Page 2/23, for footnotes, see Page 2/24.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)									**1LA5 (aluminum)**					
Colors and paint finish (continued)																
Unpainted (only cast iron parts primed)	**K23**	O	O	O	O	O	O	O	O	O	O	O	O			
Unpainted, only primed	**K24**	17,50	17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90	69,90			
Modular technology - Basic versions [8]																
Mounting of separately driven fan	**G17**	–	–	–	–	–	616,–	733,–	846,–	982,–	1.170,–	1.830,–	2.510,–			
Mounting of brake [9]	**G26**	–	401,–	401,–	401,–	482,–	563,–	684,–	882,–	1.740,–	2.010,–	2.810,–	3.220,–			
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**	–	–	644,–	619,–	619,–	563,–	563,–	563,–	563,–	563,–	563,–	1.290,–			
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**	–	–	933,–	883,–	883,–	807,–	807,–	807,–	807,–	807,–	807,–	1.760,–			
Modular technology - Combinations of basic versions [8]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**	–	–	–	–	–	1.170,–	1.310,–	1.410,–	1.540,–	1.750,–	2.400,–	3.790,–			
Mounting of brake and 1XP8 001-1 rotary pulse encoder [9]	**H62**	–	–	–	–	–	1.120,–	1.240,–	1.440,–	2.290,–	2.570,–	3.380,–	3.740,–			
Mounting of brake and separately driven fan [9]	**H63**	–	–	–	–	–	1.170,–	1.380,–	1.670,–	2.700,–	3.180,–	4.650,–	5.960,–			
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [9]	**H64**	–	–	–	–	–	1.750,–	1.910,–	2.240,–	3.280,–	3.760,–	5.220,–	6.570,–			
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**	–	–	–	–	–	1.430,–	1.540,–	1.650,–	1.790,–	1.990,–	2.650,–	4.260,–			
Mounting of brake and 1XP8 001-2 rotary pulse encoder [9]	**H98**	–	–	–	–	–	1.370,–	1.470,–	1.700,–	2.530,–	2.810,–	3.620,–	3.960,–			
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [9]	**H99**	–	–	–	–	–	1.990,–	2.160,–	2.470,–	3.500,–	3.990,–	5.460,–	6.830,–			
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**	–	29,40	30,20	30,20	30,20	45,30	45,30	45,30	45,30	60,50	60,50	60,50			
Brake supply voltage 400 V AC	**C01**	–	29,40	30,20	30,20	30,20	45,30	45,30	45,30	45,30	60,50	60,50	60,50			
Brake supply voltage 180 V DC, for operation on MICROMASTER 411-ECOFAST [10]	**C02**	–	29,40	30,20	30,20	30,20	45,30	45,30	45,30	–	–	–	–			
Mechanical manual brake release with lever (no locking)	**K82**	–	202,–	202,–	214,–	214,–	226,–	226,–	252,–	365,–	530,–	619,–	619,–			
Special technology [8]																
Prepared for mounting MMI [11]	**H15**	O. R.	O. R.	401,–	401,–	401,–	422,–	422,–	456,–	–	–	–	–			
Mounting of LL 861 900 220 rotary pulse encoder	**H70**	–	–	–	–	–	2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	4.170,–			
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**	–	–	–	–	–	2.910,–	2.910,–	2.910,–	2.910,–	3.230,–	3.230,–	4.240,–			
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**	–	–	–	–	–	3.780,–	3.780,–	3.780,–	3.780,–	3.860,–	3.860,–	5.040,–			
Prepared for mounting LL 861 900 220	**H78**	–	–	–	–	–	512,–	512,–	512,–	512,–	591,–	591,–	591,–			
Prepared for mounting HOG 9 D 1024 I	**H79**	–	–	–	–	–	512,–	512,–	512,–	512,–	591,–	591,–	591,–			
Prepared for mounting HOG 10 D 1024 I	**H80**	–	–	–	–	–	512,–	512,–	512,–	512,–	591,–	591,–	591,–			

For legend, see Page 2/23, for footnotes, see Page 2/24.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)									**1LA5 (aluminum)**					
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors, oil resistant to 0.1 bar [12]	**K17**	34,80	36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–	200,–			
With two additional eyebolts for IM V1/IM V3	**K32**	–	–	–	–	–	–	–	–	–	100,–	100,–	100,–			
Low-noise version for 2-pole motors with clockwise direction of rotation [10]	**K37**	–	–	–	–	–	–	–	525,–	525,–	700,–	700,–	1.120,–			
Low-noise version for 2-pole motors with anti-clockwise direction of rotation [10]	**K38**	–	–	–	–	–	–	–	525,–	525,–	700,–	700,–	1.120,–			
IP65 degree of protection [13]	**K50**	126,–	126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–	379,–			
IP56 degree of protection (non-heavy-sea) [14]	**K52**	139,–	139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–	417,–			
Vibration-proof version	**L03**	75,70	92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–	257,–			
Condensation drainage holes [15]	**L12**	37,90	44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–	107,–			
Non-rusting screws (externally)	**M27**	47,30	47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–	143,–			
Mechanical protection for encoder [16]	**M68**	–	–	–	469,–	469,–	491,–	491,–	568,–	568,–	568,–	568,–	568,–			
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C	**D03**	194,–	194,–	194,–	216,–	270,–	324,–	410,–	475,–	545,–	605,–	702,–	896,–			
Coolant temperature -30 to +40 °C	**D04**	35,80	35,80	35,80	47,60	47,60	59,40	59,40	71,30	71,30	95,20	119,–	119,–			
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [17]	**D01**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–	–	–			
Electrical according to NEMA MG1-12	**D30**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	56,70	56,70	56,70			
Design according to UL with "Recognition Mark" [18]	**D31**	56,30	60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–	354,–			
Canadian regulations (CSA) [19]	**D40**	56,40	60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–	354,–			
PSE marking in Japan [20]	**D46**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–	–			
VIK version (includes zone 2 for mains-fed operation, without Ex nA II on rating plate) [21]	**K30**	–	111,–	127,–	144,–	162,–	184,–	212,–	271,–	343,–	–	–	–			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection [22]	**G50**	–	–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–	368,–			
Bearing design for increased cantilever forces	**K20**	–	–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–	246,–			
Regreasing device [22]	**K40**	–	–	–	–	–	267,–	273,–	281,–	305,–	321,–	362,–	401,–			
Located bearing DE	**K94**	33,40	33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–	501,–			
Located bearing NDE	**L04**	29,10	30,–	32,–	33,40	35,40	37,–	39,–	41,30	□	□	□	□			
Balance and vibration quantity																
Vibration quantity level A		□	□	□	□	□	□	□	□	□	□	□	□			
Vibration quantity level B	**K02**	177,–	186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–	620,–			
Full key balancing	**L68**	80,70	80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–	175,–			
Balancing without key	**M37**	18,40	18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70	49,70			

For legend, see Page 2/23, for footnotes, see Page 2/24.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)									**1LA5 (aluminum)**					
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [23]	**K04**	75,70	101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–	505,–			
Second standard shaft extension	**K16**	71,10	71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–	322,–			
Shaft extension with standard dimensions without featherkey way	**K42**	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–	713,–			
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**	205,–	205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–	237,–			
Standard shaft made of non-rusting steel	**M65**	–	–	–	704,–	704,–	808,–	808,–	936,–	1.160,–	2.080,–	2.400,–	2.590,–			
Non-standard cylindrical shaft extension [24]	**Y55** • and identification code	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–	713,–			
Heating and ventilation																
Fan cover for textile industry	**H17**	–	–	–	101,–	164,–	266,–	379,–	481,–	568,–	568,–	795,–	795,–			
Metal external fan [25]	**K35**	–	126,–	126,–	126,–	126,–	159,–	189,–	220,–	253,–	284,–	314,–	347,–			
Anti-condensation heaters for 230 V	**K45**	309,–	309,–	348,–	348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–	740,–			
Anti-condensation heaters for 115 V	**K46**	309,–	309,–	348,–	348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–	740,–			
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**	–	–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Second rating plate, loose	**K31**	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Extra rating plate with identification codes	**Y82** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Packaging, safety notes and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**	○	○	○	○	○	○	○	○	○	○	○	○			
With one safety and startup guide per box pallet	**B01**	○	○	○	○	○	○	○	○	○	○	–	–			
Acceptance test certificate 3.1 according to EN 10204	**B02**	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10			
Operating instructions German/English enclosed in print	**B23**	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–			
Type test with heat run for vertical motors, with acceptance	**F83**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Wire-lattice pallet	**L99**	○	○	○	○	○	○	○	○	○	○	–	–			
Connected in star for dispatch	**M32**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80	31,80			
Connected in delta for dispatch	**M33**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80	31,80			

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 2/24.

Special versions

10 working days | 20 working days | On request

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) Not possible for pole-changing motors. Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55**: **A12, C02, C18, D31, D40, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.**

3) Not possible for pole-changing motors. Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G56**: **A12, A23, A31, C00, C18, D31, D40, G50, H15, H17, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.** The following order codes can only be used in combination with the ECOFAST plugs, order code **G56** only with order code **C01** (400 V AC) or **C02** (180 V DC): **G26, H62, H63, H64, H98, H99.**

4) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

5) Not possible for pole-changing motors and/or for voltage codes **1** or **6**.

6) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor series 1LA5 frame size 180 to 225. The grease lifetime specified in the "Introduction" section of this catalog, chapter 0 refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

7) No derating in combination with the following order codes: **L2A**, **L2C**, **L2Q**, **L2R**, **L2S**, **L2T**, **L2U**, **L2V**, **L3E** and **L3G**.)

8) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology
– Basic versions of "Modular technology"
– Combination of special versions "Special technology"

9) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00**, **C01** and **C02**.

10) Not possible in motors in a pole-changing version.

11) Converter mounting is possible, if the MICROMASTER type is specified for 230 VΔ/400 VY, see Catalog DA 51.3.

12) Not possible for type of construction IM V3.

13) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

14) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

15) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

16) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cowl.

17) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW
The order code **D01** is only valid for pole-changing motors 1LA7 for frame sizes 100 and 112.

18) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.

19) The rated voltage is indicated on the rating plate without voltage range.

20) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

21) Not possible for pole-changing motors.

22) Not possible when brake is mounted.

23) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.

24) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

25) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – Order code **K37** or **K38**.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Aluminum series 1LA9																
		1LA9 (aluminum)														
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–				
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**	129,–	129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–				
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**	151,–	151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–				
Temperature detectors for tripping [1]	**A31**	84,70	84,70	84,70	99,40	99,40	112,–	112,–	164,–	164,–	227,–	227,–				
Installation of 3 PT 100 resistance thermometers [1]	**A60**	–	–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–				
Motor connection and connection boxes																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY [2]	**G55**	80,80	80,80	80,80	80,80	80,80	80,80	80,80	87,50	–	–	–				
ECOFAST motor plug EMC Han-Drive 10e for 230 VΔ/400VY [3]	**G56**	185,–	185,–	185,–	185,–	185,–	201,–	201,–	227,–	–	–	–				
Connection box on RHS	**K09**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
Connection box on LHS	**K10**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
One cable gland, metal	**K54**	–	–	–	–	–	94,–	94,–	94,–	120,–	–	–				
Cable gland, maximum configuration	**K55**	71,80	71,80	71,80	71,80	71,80	133,–	133,–	133,–	175,–	175,–	202,–				
Rotation of the connection box through 90°, entry from DE	**K83**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of the connection box through 90°, entry from NDE	**K84**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of connection box through 180°	**K85**	13,70	13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–				
Next larger connection box	**L00**	–	–	–	–	–	–	–	–	–	1.080,–	1.080,–				
External earthing	**L13**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	26,20	26,20				
3 cables protruding, 0.5 m long [4][5]	**L44**	48,20	48,20	48,20	48,20	48,20	57,70	69,10	84,50	99,80	O. R.	O. R.				
3 cables protruding, 1.5 m long [4][5]	**L45**	58,20	58,20	58,20	58,20	58,20	69,60	83,70	102,–	121,–	O. R.	O. R.				
6 cables protruding, 0.5 m long [4]	**L47**	74,60	74,60	74,60	74,60	74,60	89,40	107,–	132,–	156,–	O. R.	O. R.				
6 cables protruding, 1.5 m long [4]	**L48**	95,–	95,–	95,–	95,–	95,–	113,–	137,–	167,–	198,–	238,–	281,–				
6 cables protruding, 3 m long [4]	**L49**	151,–	151,–	151,–	151,–	151,–	184,–	216,–	270,–	324,–	376,–	454,–				
Connection box on NDE	**M64**	–	53,–	60,60	68,30	78,20	101,–	124,–	160,–	217,–	244,–	261,–				
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 155 (F), with increased output	**C12**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**	–	125,–	126,–	126,–	126,–	125,–	125,–	125,–	189,–	254,–	314,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [6]	**C22**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				

For legend and footnotes, see Page 2/28.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Aluminum series 1LA9																
		1LA9 (aluminum)														
Windings and insulation (continued)																
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [6]	**C23**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [6]	**C24**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**	–	228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–				
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level	70,20	70,20	82,40	93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–				
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Colors and paint finish																
Special finish in RAL 7030 stone gray		□	□	□	□	□	□	□	□	□	□	□				
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL	51,40	51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–				
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL	485,–	485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–				
Sea-air proof special finish	**M94**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	**K23**	○	○	○	○	○	○	○	○	○	○	○				
Unpainted, only primed	**K24**	17,50	17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90				
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors, oil-resistant to 0.1 bar Not possible for IM V3 type of construction.	**K17**	34,80	36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–				
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	–	–	–	–	–	–	–	–	–	700,–	700,–				
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	–	–	–	–	–	–	–	–	–	700,–	700,–				
IP65 degree of protection	**K50**	126,–	126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–				
IP56 degree of protection (non-heavy-sea)	**K52**	139,–	139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–				
Vibration-proof version	**L03**	75,70	92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–				
Condensation drainage holes [7]	**L12**	37,90	44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–				
Non-rusting screws (externally)	**M27**	47,30	47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–				

For legend and footnotes, see Page 2/28.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Aluminum series 1LA9																
		1LA9 (aluminum)														
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C	**D03**	–	–	–	216,–	270,–	324,–	410,–	475,–	545,–	–	–				
Coolant temperature -30 to +40 °C	**D04**	35,80	35,80	35,80	47,60	47,60	59,40	59,40	71,30	71,30	95,20	119,–				
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [8]	**D01**	34,–	34,–	34,–	34,–	34,–	–	–	–	–	–	–				
Electrical according to NEMA MG1-12 [9]	**D30**	□	□	□	□	□	□	□	□	□	□	□				
Design according to UL with "Recognition Mark" [10]	**D31**	56,30	60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
For Korea certified in accordance with KS C4202 [11]	**D33**	–	–	–	34,50	34,50	34,50	34,50	34,50	34,50	34,50	34,50				
Canadian regulations (CSA) [12]	**D40**	56,40	60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
PSE marking in Japan [13]	**D46**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–				
VIK version (includes zone 2 for mains-fed operation, without Ex nA II on rating plate)	**K30**	–	111,–	127,–	144,–	162,–	184,–	212,–	271,–	343,–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	–	–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–				
Bearing design for increased cantilever forces	**K20**	–	–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–				
Regreasing device	**K40**	–	–	–	–	–	267,–	273,–	281,– [14]	305,–	321,–	362,–				
Located bearing DE	**K94**	33,40	33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–				
Located bearing NDE	**L04**	29,10	30,–	32,–	33,40	35,40	37,–	39,–	41,30	□	□	□				
Balance and vibration quantity																
Vibration quantity level A		□	□	□	□	□	□	□	□	□	□	□				
Vibration quantity level B	**K02**	177,–	186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–				
Full key balancing	**L68**	80,70	80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–				
Balancing without key	**M37**	18,40	18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70				
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [15]	**K04**	75,70	101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–				
Second standard shaft extension	**K16**	71,10	71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–				
Shaft extension with normal dimensions without featherkey way	**K42**	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**	205,–	205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–				
Non-standard cylindrical shaft extension [16]	**Y55** • and identification code	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Heating and ventilation																
Fan cover for textile industry	**H17**	–	–	–	–	–	–	379,–	481,–	–	–	–				
Metal external fan [17]	**K35**	–	126,–	126,–	126,–	126,–	159,–	189,–	220,–	253,–	284,–	314,–				
Anti-condensation heaters for 230 V	**K45**	309,–	309,–	348,–	348,–	348,–	362,–	362,–	435,–	484,–	536,–	616,–				
Anti-condensation heaters for 115 V	**K46**	309,–	309,–	348,–	348,–	348,–	362,–	362,–	435,–	484,–	536,–	616,–				
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**	–	–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80				
Second rating plate, loose	**K31**	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80				
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Extra rating plate with identification codes	**Y82** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				

For legend and footnotes, see Page 2/28.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Aluminum series 1LA9																
		1LA9 (aluminum)														
Packaging, safety notes, documentation and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**	○	○	○	○	○	○	○	○	○	○	○				
With one safety and startup guide per box pallet	**B01**	○	○	○	○	○	○	○	○	○	○	–				
Acceptance test certificate 3.1 according to EN 10204	**B02**	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10				
Operating instructions German/English enclosed in print	**B23**	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–				
Type test with heat run for vertical motors, with acceptance	**F83**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Acceptance test certificate 3.1 according to EN 10204	**B02**	○	○	○	○	○	○	○	○	○	○	–				
Wire-lattice pallet	**L99**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in star for dispatch	**M32**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in delta for dispatch	**M33**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55**: **A12, C02, C18, D31, D40, G26, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52**.

3) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order codes **G56**: **A12**, **A23**, **A31**, **D31**, **D40**, **G50**, **H17**, **K04**, **K15**, **K16**, **K34**, **K35**, **K40**, **K45**, **K46**, **K52**, **K54**, **L03**, **L44**, **L45**, **L47**, **L48**, **L49**, **L51**, **L52**.

4) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

5) Not possible for voltage code **1** or **6**.

6) No derating in combination with the following order codes: **L2A**, **L2C**, **L2Q**, **L2R**, **L2S**, **L2T**, **L2U**, **L2V**, **L3E** and **L3G**.

7) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

8) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

9) Possible up to 600 V max. For EPACT version or UL standard version (no order code necessary). The rated voltage is indicated on the rating plate without voltage range.

10) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.

11) For Korea are certified:
– 2-pole motors ≤0.75 kW
– 4-pole motors ≤0.75 kW
– 6-pole motors ≤0.75 kW

12) The rated voltage is indicated on the rating plate without voltage range.

13) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

14) Not possible for 1LA9 134-6..❑❑.

15) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.

16) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

17) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is already included (standard version) in combination with the low-noise version.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Aluminum series 1LA9																
		1LA9 (aluminum)														
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–				
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**	129,–	129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–				
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**	151,–	151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–				
Temperature detectors for tripping [1]	**A31**	84,70	84,70	84,70	99,40	99,40	112,–	112,–	164,–	164,–	227,–	227,–				
Installation of 3 PT 100 resistance thermometers [1]	**A60**	–	–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–				
Motor connection and connection boxes																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY [2]	**G55**	80,80	80,80	80,80	80,80	80,80	80,80	80,80	–	–	–	–				
Connection box on RHS	**K09**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
Connection box on LHS	**K10**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
One cable gland, metal	**K54**	–	–	–	–	–	94,–	94,–	94,–	120,–	–	–				
Cable gland, maximum configuration	**K55**	71,80	71,80	71,80	71,80	71,80	133,–	133,–	133,–	175,–	175,–	202,–				
Rotation of the connection box through 90°, entry from DE	**K83**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of the connection box through 90°, entry from NDE	**K84**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of connection box through 180°	**K85**	13,70	13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–				
Next larger connection box	**L00**	–	–	–	–	–	–	–	–	–	1.080,–	1.080,–				
External earthing	**L13**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	26,20	26,20				
3 cables protruding, 0.5 m long [3][4]	**L44**	48,20	48,20	48,20	48,20	48,20	57,70	69,10	84,50	99,80	O. R.	O. R.				
3 cables protruding, 1.5 m long [3][4]	**L45**	58,20	58,20	58,20	58,20	58,20	69,60	83,70	102,–	121,–	O. R.	O. R.				
6 cables protruding, 0.5 m long [3]	**L47**	74,60	74,60	74,60	74,60	74,60	89,40	107,–	132,–	156,–	O. R.	O. R.				
6 cables protruding, 1.5 m long [3]	**L48**	95,–	95,–	95,–	95,–	95,–	113,–	137,–	167,–	198,–	238,–	281,–				
6 cables protruding, 3 m long [3]	**L49**	151,–	151,–	151,–	151,–	151,–	184,–	216,–	270,–	324,–	376,–	454,–				
Connection box on NDE	**M64**	–	53,–	60,60	68,30	78,20	101,–	124,–	160,–	217,–	244,–	261,–				
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**	–	125,–	126,–	126,–	126,–	125,–	125,–	125,–	189,–	254,–	314,–				
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**	–	228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–				

For legend, see Page 2/31, for footnotes, see Page 2/32.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Aluminum series 1LA9																
		1LA9 (aluminum)														
Colors and paint finish																
Special finish in RAL 7030 stone gray		□	□	□	□	□	□	□	□	□	□	□				
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….	51,40	51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–				
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….	485,–	485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–				
Sea-air proof special finish	**M94**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	**K23**	○	○	○	○	○	○	○	○	○	○	○				
Unpainted, only primed	**K24**	17,50	17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90				
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction.	**K17**	34,80	36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–				
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	–	–	–	–	–	–	–	–	–	700,–	700,–				
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	–	–	–	–	–	–	–	–	–	700,–	700,–				
IP65 degree of protection	**K50**	126,–	126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–				
IP56 degree of protection (non-heavy-sea)	**K52**	139,–	139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–				
Vibration-proof version	**L03**	75,70	92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–				
Condensation drainage holes	**L12**	37,90	44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–				
Non-rusting screws (externally)	**M27**	47,30	47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–				
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C	**D03**	–	–	–	216,–	270,–	324,–	410,–	475,–	545,–	–	–				
Coolant temperature -30 to +40 °C	**D04**	35,80	35,80	35,80	47,60	47,60	59,40	59,40	71,30	71,30	95,20	119,–				
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [5]	**D01**	34,–	34,–	34,–	34,–	34,–	–	–	–	–	–	–				
Electrical according to NEMA MG1-12 [6]	**D30**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	56,70	56,70				
Design according to UL with "Recognition Mark" [7]	**D31**	56,30	60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
Canadian regulations (CSA) [8]	**D40**	56,40	60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
PSE marking in Japan [9]	**D46**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	–	–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–				
Bearing design for increased cantilever forces	**K20**	–	–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–				
Regreasing device	**K40**	–	–	–	–	–	267,–	273,–	281,–	305,–	321,–	362,–				
Located bearing DE	**K94**	33,40	33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–				
Located bearing NDE	**L04**	29,10	30,–	32,–	33,40	35,40	37,–	39,–	41,30	□	□	□				
Balance and vibration quantity																
Vibration quantity level A		□	□	□	□	□	□	□	□	□	□	□				
Full key balancing	**L68**	80,70	80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–				
Balancing without key	**M37**	18,40	18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70				

For legend, see Page 2/31, for footnotes, see Page 2/32.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Aluminum series 1LA9																
		1LA9 (aluminum)														
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [10]	**K04**	75,70	101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–				
Second standard shaft extension	**K16**	71,10	71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–				
Shaft extension with normal dimensions without featherkey way	**K42**	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**	205,–	205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–				
Non-standard cylindrical shaft extension [11]	**Y55** • and identification code	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Heating and ventilation																
Fan cover for textile industry	**H17**	–	–	–	–	–	–	379,–	481,–	–	–	–				
Metal external fan [12]	**K35**	–	126,–	126,–	126,–	126,–	159,–	189,–	220,–	253,–	284,–	314,–				
Anti-condensation heaters for 230 V	**K45**	309,–	309,–	348,–	348,–	348,–	362,–	362,–	435,–	484,–	536,–	616,–				
Anti-condensation heaters for 115 V	**K46**	309,–	309,–	348,–	348,–	348,–	362,–	362,–	435,–	484,–	536,–	616,–				
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**	–	–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80				
Second rating plate, loose	**K31**	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80				
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Extra rating plate with identification codes	**Y82** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Packaging, safety notes, documentation and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**	○	○	○	○	○	○	○	○	○	○	○				
With one safety and startup guide per box pallet	**B01**	○	○	○	○	○	○	○	○	○	○	–				
Acceptance test certificate 3.1 according to EN 10204	**B02**	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10				
Operating instructions German/English enclosed in print	**B23**	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–				
Type test with heat run for vertical motors, with acceptance	**F83**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Wire-lattice pallet	**L99**	○	○	○	○	○	○	○	○	○	○	–				
Connected in star for dispatch	**M32**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in delta for dispatch	**M33**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 2/32.

Special versions

10 working days	20 working days	On request

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55**: **A12, C02, C18, D31, D40, G26, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52**.

3) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

4) Not possible for voltage codes **1** or **6**.

5) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

6) Possible up to 600 V max. For EPACT version or UL standard version (no order code necessary).

7) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.

8) The rated voltage is indicated on the rating plate without voltage range.

9) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

10) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.

11) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

12) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**						101,–	101,–	150,–	150,–	200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**						172,–	172,–	230,–	230,–	353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**						101,–	101,–	150,–	150,–	284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**						202,–	202,–	302,–	302,–	461,–	461,–	634,–	859,–	859,–	1.260,–
Temperature detectors for tripping [1]	**A31**						112,–	112,–	164,–	164,–	227,–	227,–	307,–	307,–	380,–	380,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**						1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**						–	–	–	–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**						–	–	–	–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**						–	–	–	–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**						–	–	–	–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**						–	–	–	–	–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**						102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**						102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**						–	–	–	–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**						□	□	□	□	330,–	438,–	645,–	□	□	□
One cable gland, metal	**K54**						94,–	94,–	94,–	120,–	120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**						133,–	133,–	133,–	175,–	175,–	202,–	202,–	350,–	350,–	350,–
Rotation of the connection box through 90°, entry from DE	**K83**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**						–	–	–	–	1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
External earthing	**L13**						24,30	24,30	24,30	24,30	□	□	□	□	□	□

For legend, see Page 2/38, for footnotes, see Page 2/39.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Cast-iron series 1LA6 and 1LG4							**1LA6 (cast-iron)**				**1LG4 (cast-iron)**					
Motor connection and connection boxes (continued)																
Undrilled entry plate	**L01**						–	–	–	–	O	O	O	O	O	O
6 cables protruding, 1.5 m long [2]	**L48**						–	–	–	–	864,–	1.190,–	1.620,–	O. R.	O. R.	O. R.
6 cables protruding, 3 m long [2]	**L49**						–	–	–	–	1.380,–	1.900,–	2.590,–	O. R.	O. R.	O. R.
Protruding cable ends - right side [3]	**L51**						–	–	–	–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - left side [3]	**L52**						–	–	–	–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	**L97**						–	–	–	–	186,–	186,–	450,–	450,–	450,–	450,–
Stud terminal for cable connection, accessories pack (3 items)	**M46**						–	–	–	–	–	–	–	126,–	126,–	159,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**						–	–	–	–	–	–	–	443,–	443,–	522,–
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased output	**C12**						40,60	40,60	54,–	54,–	68,80 [4]	68,80 [4]	78,10 [4]	78,10 [4]	91,80 [4]	91,80 [4]
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 180 (H) at rated output and max. CT 60 °C [5]	**C18**						177,–	227,–	287,–	356,–	440,–	567,–	662,–	756,–	890,–	1.220,–
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**						125,–	125,–	125,–	189,–	832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**						40,60	40,60	54,–	54,–	68,80 [4]	68,80 [4]	78,10 [4]	78,10 [4]	91,80 [4]	91,80 [4]
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**						40,60	40,60	54,–	54,–	68,80 [4]	68,80 [4]	78,10 [4]	78,10 [4]	91,80 [4]	91,80 [4]
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**						90,70	110,–	140,–	174,–	225,– [4]	274,– [4]	406,– [4]	511,– [4]	654,– [4]	850,– [4]
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**						90,70	110,–	140,–	174,–	225,– [4]	274,– [4]	406,– [4]	511,– [4]	654,– [4]	850,– [4]
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**						243,–	272,–	294,–	391,–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level						136,–	164,–	211,–	260,–	337,–	413,–	609,–	766,–	981,–	1.270,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80

For legend, see Page 2/38, for footnotes, see Page 2/39.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Cast-iron series 1LA6 and 1LG4							**1LA6 (cast-iron)**				**1LG4 (cast-iron)**					
Colors and paint finish																
Standard finish in RAL 7030 stone gray							–	–	–	–	□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….						–	–	–	–	69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray [6]	**K26**						□	□	□	□	159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….						86,70	86,70	113,–	113,–	159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see “Special finish in special RAL colors”, Catalog D 81.1	**Y51** • and special finish RAL ….						657,–	657,–	657,–	657,–	694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**						○	○	○	○	○	○	○	○	○	○
Unpainted, only primed	**K24**						23,30	23,30	37,20	37,20	69,90	69,90	69,90	69,90	69,90	69,90
Modular technology - Basic versions [7]																
Mounting of separately driven fan [8]	**G17**						616,–	733,–	846,–	982,–	1.170,–	1.830,–	2.510,–	3.090,–	3.660,–	4.100,–
Mounting of brake [8] [9]	**G26**						–	–	–	–	3.870,–	5.400,–	6.860,–	22.000,–	27.000,–	32.500,–
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**						563,–	563,–	563,–	563,–	563,–	563,–	1.290,–	1.290,–	1.290,–	1.290,–
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**						807,–	807,–	807,–	807,–	807,–	807,–	1.760,–	1.760,–	1.760,–	1.760,–
Modular technology - Combinations of basic versions [7]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**						1.170,–	1.310,–	1.410,–	1.540,–	1.750,–	2.400,–	3.790,–	4.380,–	4.950,–	5.390,–
Mounting of brake and 1XP8 001-1 rotary pulse encoder [9]	**H62**						–	–	–	–	4.440,–	5.970,–	9.020,–	23.300,–	28.400,–	33.700,–
Mounting of brake and separately driven fan [8] [9]	**H63**						–	–	–	–	5.050,–	7.250,–	10.300,–	25.600,–	29.600,–	35.000,–
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [9]	**H64**						–	–	–	–	5.620,–	7.790,–	11.600,–	26.800,–	30.900,–	36.300,–
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**						1.430,–	1.540,–	1.650,–	1.790,–	1.990,–	2.650,–	4.260,–	4.850,–	5.410,–	5.850,–
Mounting of brake and 1XP8 001-2 rotary pulse encoder [9]	**H98**						–	–	–	–	4.680,–	6.200,–	9.450,–	23.800,–	29.100,–	34.100,–
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [9]	**H99**						–	–	–	–	5.840,–	8.040,–	12.000,–	27.200,–	31.300,–	36.900,–

For legend, see Page 2/38, for footnotes, see Page 2/39.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**						–	–	–	–	60,50	60,50	60,50	60,50	60,50	60,50
Brake supply voltage 400 V AC	**C01**						–	–	–	–	60,50	60,50	60,50	60,50	60,50	60,50
Mechanical manual brake release with lever (no locking)	**K82**						–	–	–	–	530,–	619,–	787,–	895,–	995,–	1.260,–
Special technology [7]																
Mounting of LL 861 900 220 rotary pulse encoder	**H70**						2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	4.170,–	4.170,–	4.170,–	4.170,–
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**						2.910,–	2.910,–	2.910,–	2.910,–	3.230,–	3.230,–	4.240,–	4.240,–	4.240,–	4.240,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**						3.780,–	3.780,–	3.780,–	3.780,–	3.860,–	3.860,–	5.040,–	5.040,–	5.040,–	5.040,–
Prepared for mounting LL 861 900 220	**H78**						512,–	512,–	512,–	512,–	591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 9 D 1024 I	**H79**						512,–	512,–	512,–	512,–	591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 10 D 1024 I	**H80**						512,–	512,–	512,–	512,–	591,–	591,–	591,–	591,–	591,–	591,–
Mounting of the HOG 10 DN 1024 I rotary pulse encoder, connection box humidity protection	**J15**						4.690,–	4.720,–	4.750,–	4.780,–	4.820,–	4.840,–	4.870,–	4.900,–	4.940,–	4.980,–
Mounting of the HOG 10 DN 1024 I rotary pulse encoder, connection box dust protection	**J16**						4.690,–	4.720,–	4.750,–	4.780,–	4.820,–	4.840,–	4.870,–	4.900,–	4.940,–	4.980,–
Mounting of the HOG 10 DN 1024 I + FSL rotary pulse encoder (speed ... rpm) connection box humidity protection	**Y74** • and specified speed .... rpm						–	–	–	–	7.400,–	7.420,–	7.450,–	7.480,–	7.520,–	7.560,–
Mounting of the HOG 10 DN 1024 I + FSL rotary pulse encoder (speed ... rpm) connection box dust protection	**Y76** • and specified speed .... rpm						–	–	–	–	7.400,–	7.420,–	7.450,–	7.480,–	7.520,–	7.560,–
Mounting of the HOG 10 DN 1024 I + ESL 93 rotary pulse encoder (speed ... rpm) connection box dust protection	**Y79** • and specified speed (max 3) .... rpm						–	–	–	–	12.600,–	12.700,–	12.900,–	13.000,–	13.100,–	13.200,–
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction [10]	**K17**						48,30	52,90	64,50	94,50	122,–	150,–	200,–	267,–	334,–	401,–
Low-noise version for 2-pole motors with clockwise direction of rotation [11]	**K37**						–	–	525,–	525,–	700,–	700,–	1.120,–	1.290,–	1.530,–	2.010,–
Low-noise version for 2-pole motors with anticlockwise direction of rotation [11]	**K38**						–	–	525,–	525,–	700,–	700,–	1.120,–	1.290,–	1.530,–	2.010,–
IP65 degree of protection [12]	**K50**						126,–	126,–	126,–	189,–	253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea) [13]	**K52**						139,–	139,–	139,–	208,–	276,–	347,–	417,–	486,–	556,–	624,–
Vibration-proof version	**L03**						159,–	175,–	190,–	207,–	–	–	–	–	–	–
Condensation drainage holes [14]	**L12**						69,40	75,70	82,10	88,30	□	□	□	□	□	□
Non-rusting screws (externally)	**M27**						69,40	69,40	82,10	82,10	94,80	107,–	143,–	170,–	177,–	235,–
Earth brushes for converter-fed operation	**M44**						–	–	–	–	–	–	–	–	O. R.	O. R.
Mechanical protection for encoder [15]	**M68**						491,–	491,–	568,–	568,–	178,–	178,–	178,–	178,–	178,–	178,–

For legend, see Page 2/38, for footnotes, see Page 2/39.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Cast-iron series 1LA6 and 1LG4							**1LA6 (cast-iron)**				**1LG4 (cast-iron)**					
Coolant temperature and site altitude																
Coolant temperature -50 to +40 °C	**D02**						–	–	–	–	2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	5.370,–
Coolant temperature -40 to +40 °C	**D03**						324,–	410,–	475,–	545,–	605,–	702,–	896,–	1.110,–	1.590,–	2.050,–
Coolant temperature -30 to +40 °C	**D04**						59,40	59,40	71,30	71,30	95,20	119,–	119,–	1.110,–	1.590,–	2.050,–
Designs in accordance with standards and specifications																
Electrical according to NEMA MG1-12	**D30**						34,–	34,–	34,–	34,–	58,20	58,20	58,20	72,70	72,70	87,20
Design according to UL with "Recognition Mark" [16]	**D31**						84,80	101,–	129,–	157,–	251,–	345,–	434,–	512,–	634,–	828,–
Canadian regulations (CSA) [17]	**D40**						84,80	101,–	129,–	157,–	212,–	283,–	354,–	426,–	567,–	703,–
PSE marking in Japan [18]	**D46**						34,–	34,–	34,–	–	–	–	–	–	–	–
VIK version (includes zone 2 for mains-fed operation, without Ex nA II on rating plate)	**K30**						184,–	212,–	271,–	343,–	490,–	615,–	742,–	957,–	1.290,–	1.710,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						216,–	242,–	267,–	293,–	316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [19]	**K20**						84,60	98,60	111,–	148,–	233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for DE and NDE, bearing size	**K36**						–	–	–	–	393,–	484,–	688,–	949,–	1700,– [20]	1700,– [20]
Regreasing device	**K40**						267,–	273,–	281,–	305,–	321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**						61,10	72,40	89,–	122,–	256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**						37,–	39,–	41,30	□	□	□	□	□	□	□
Insulated bearing cartridge	**L27**						–	–	–	–	–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A							□	□	□	□	□	□	□	□	□	□
Vibration quantity level B	**K02**						238,–	275,–	351,–	435,–	497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**						93,20	93,20	108,–	108,–	136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**						23,80	23,80	28,10	28,10	36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [21]	**K04**						202,–	227,–	253,–	314,–	379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [22]	**K16**						120,–	120,–	159,–	183,–	276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with normal dimensions without featherkey way	**K42**						441,–	464,–	487,–	512,–	594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**						225,–	225,–	342,–	342,–	177,–	199,–	237,–	310,–	310,–	474,–
Standard shaft made of non-rusting steel	**M65**						808,–	808,–	936,–	1.160,–	–	–	–	–	–	–
Non-standard cylindrical shaft extension [23]	**Y55** • and identification code						441,–	464,–	487,–	512,–	594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Fan cover for textile industry	**H17**						266,–	379,–	481,–	568,–	–	–	–	–	–	–
Metal external fan [24]	**K35**						159,–	189,–	220,–	253,–	284,–	314,–	347,–	379,–	410,–	443,–
Anti-condensation heaters for 230 V	**K45**						362,–	386,–	435,–	484,–	536,–	616,–	740,–	764,–	764,–	795,–
Anti-condensation heaters for 115 V	**K46**						362,–	386,–	435,–	484,–	536,–	616,–	740,–	764,–	764,–	795,–
Sheet metal fan cover	**L36**						–	–	–	–	71,30	87,50	98,30	140,–	180,–	197,–
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code						–	–	–	–	–	–	2.000,–	2.000,–	2.000,–	2.140,–

For legend, see Page 2/38, for footnotes, see Page 2/39.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code						90,70	110,–	140,–	174,–	225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification codes	**Y82** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**						○	○	○	○	–	–	–	–	–	–
With one safety and startup guide per box pallet	**B01**						○	○	○	○	–	–	–	–	–	–
Acceptance test certificate 3.1 according to EN 10204	**B02**						24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**						54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–
Type test with heat run for vertical motors, with acceptance	**F83**						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Wire-lattice pallet	**L99**						○	○	○	○	–	–	–	–	–	–
Connected in star for dispatch	**M32**						24,30	24,30	24,30	24,30	31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**						24,30	24,30	24,30	24,30	31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 2/39.

10 working days | **20 working days** | **On request**

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Possible in combination with order code **L44** to **L49** or length specification in plain text.

4) Only the 50 Hz data are indicated on the rating plate.

5) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor serie 1LG4. The grease lifetime specified in the "Introduction" section of this catalog, chapter 0 refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

6) For frame sizes 100 to 160, do not specify an order code. Order code is only necessary for frame sizes 180 to 315.

7) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology
– Basic versions of "Modular technology"
– Combination of special versions "Special technology"

8) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.

9) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.

10) Not possible for motor series 1LG4 for 2-pole motors.

11) For 1LG4 motors in low-noise version a second shaft extension and/or mounting of an encoder are not possible.

12) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

13) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

14) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

15) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cowl.

16) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

17) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

18) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

19) Not possible for 2-pole 1LG4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level A available on request for 1LG4 motors. Not possible for 1LG4 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

20) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

21) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.

22) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

23) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

24) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Cast-iron series 1LG4																
											1LG4 (cast-iron)					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**										200,–	200,–	273,–	273,–	340,–	
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**										353,–	353,–	459,–	459,–	570,–	
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**										284,–	284,–	389,–	505,–	505,–	
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**										461,–	461,–	634,–	859,–	859,–	
Temperature detectors for tripping [1]	**A31**										227,–	227,–	307,–	307,–	380,–	
Installation of 3 PT 100 resistance thermometers [1]	**A60**										1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**										2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	
Connection box in cast-iron version	**K15**										330,–	438,–	645,–	□	□	
One cable gland, metal	**K54**										120,–	138,–	138,–	197,–	197,–	
Cable gland, maximum configuration	**K55**										175,–	202,–	202,–	350,–	350,–	
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	
Undrilled entry plate	**L01**										○	○	○	○	○	
External earthing	**L13**										□	□	□	□	□	
6 cables protruding, 1.5 m long [2]	**L48**										864,–	1.190,–	1.620,–	O. R.	O. R.	
6 cables protruding, 3 m long [2]	**L49**										1.380,–	1.900,–	2.590,–	O. R.	O. R.	
Protruding cable ends - right side [3]	**L51**										O. R.	O. R.	O. R.	O. R.	O. R.	
Protruding cable ends - left side [3]	**L52**										O. R.	O. R.	O. R.	O. R.	O. R.	
Auxiliary connection box 1XB3 020	**L97**										186,–	186,–	450,–	450,–	450,–	

For legend, see Page 2/44, for footnotes, see Page 2/45.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Cast-iron series 1LG4																
											1LG4 (cast-iron)					
Motor connection and connection boxes (continued)																
Stud terminal for cable connection, accessories pack (3 items)	**M46**										–	–	–	126,–	126,–	
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,–	443,–	
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**										68,80	68,80	78,10	78,10	91,80	
Temperature class 155 (F), used acc. to 155 (F), with increased output [4]	**C12**										68,80	68,80	78,10	78,10	91,80	
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**										68,80	68,80	78,10	78,10	91,80	
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**										832,–	1.060,–	1.290,–	1.580,–	1.920,–	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [4]	**C22**										68,80	68,80	78,10	78,10	91,80	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [4]	**C23**										68,80	68,80	78,10	78,10	91,80	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [4]	**C24**										225,–	274,–	406,–	511,–	654,–	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % [4]	**C25**										225,–	274,–	406,–	511,–	654,–	
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**										O. R.	O. R.	O. R.	O. R.	O. R.	
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level										337,–	413,–	609,–	766,–	981,–	
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL										69,90	69,90	69,90	79,60	107,–	
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL										159,–	198,–	294,–	356,–	438,–	

For legend, see Page 2/44, for footnotes, see Page 2/45.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Cast-iron series 1LG4																
											1LG4 (cast-iron)					
Colors and paint finish (continued)																
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL										694,–	694,–	694,–	748,–	748,–	
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	
Unpainted (only cast iron parts primed)	**K23**										O	O	O	O	O	
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	
Modular technology - Basic versions [5]																
Mounting of separately driven fan [6]	**G17**										1.170,–	1.830,–	2.510,–	3.090,–	3.660,–	
Mounting of brake [6] [7]	**G26**										3.870,–	5.400,–	6.860,–	22.000,–	27.000,–	
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**										563,–	563,–	1.290,–	1.290,–	1.290,–	
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**										807,–	807,–	1.760,–	1.760,–	1.760,–	
Modular technology - Combinations of basic versions [5]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**										1.750,–	2.400,–	3.790,–	4.380,–	4.950,–	
Mounting of brake and 1XP8 001-1 rotary pulse encoder [7]	**H62**										4.440,–	5.970,–	9.020,–	23.300,–	28.400,–	
Mounting of brake and separately driven fan [6] [7]	**H63**										5.050,–	7.250,–	10.300,–	25.600,–	29.600,–	
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [7]	**H64**										5.620,–	7.790,–	11.600,–	26.800,–	30.900,–	
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**										1.990,–	2.650,–	4.260,–	4.850,–	5.410,–	
Mounting of brake and 1XP8 001-2 rotary pulse encoder [7]	**H98**										4.680,–	6.200,–	9.450,–	23.800,–	29.100,–	
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [7]	**H99**										5.840,–	8.040,–	12.000,–	27.200,–	31.300,–	
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**										60,50	60,50	60,50	60,50	60,50	
Brake supply voltage 400 V AC	**C01**										60,50	60,50	60,50	60,50	60,50	
Mechanical manual brake release with lever (no locking)	**K82**										530,–	619,–	787,–	895,–	995,–	
Special technology [5]																
Mounting of LL 861 900 220 rotary pulse encoder	**H70**										2.560,–	2.560,–	4.170,–	4.170,–	4.170,–	
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**										3.230,–	3.230,–	4.240,–	4.240,–	4.240,–	
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**										3.860,–	3.860,–	5.040,–	5.040,–	5.040,–	
Prepared for mounting LL 861 900 220	**H78**										591,–	591,–	591,–	591,–	591,–	
Prepared for mounting HOG 9 D 1024 I	**H79**										591,–	591,–	591,–	591,–	591,–	
Prepared for mounting HOG 10 D 1024 I	**H80**										591,–	591,–	591,–	591,–	591,–	
Mounting of the HOG 10 DN 1024 I rotary pulse encoder, connection box humidity protection	**J15**										4.820,–	4.840,–	4.870,–	4.900,–	4.940,–	
Mounting of the HOG 10 DN 1024 I rotary pulse encoder, connection box dust protection	**J16**										4.820,–	4.840,–	4.870,–	4.900,–	4.940,–	

For legend, see Page 2/44, for footnotes, see Page 2/45.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Cast-iron series 1LG4																
											1LG4 (cast-iron)					
Special technology [5] (continued)																
Mounting of the HOG 10 DN 1024 I + FSL rotary pulse encoder (speed ... rpm) connection box humidity protection	**Y74** • and specified speed .... rpm										7.400,–	7.420,–	7.450,–	7.480,–	7.520,–	
Mounting of the HOG 10 DN 1024 I + FSL rotary pulse encoder (speed ... rpm) connection box dust protection	**Y76** • and specified speed .... rpm										7.400,–	7.420,–	7.450,–	7.480,–	7.520,–	
Mounting of the HOG 10 DN 1024 I + ESL 93 rotary pulse encoder (speed ... rpm) connection box dust protection	**Y79** • and specified speed (max 3) .... rpm										12.600,–	12.700,–	12.900,–	13.000,–	13.100,–	
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction [8]	**K17**										122,–	150,–	200,–	267,–	334,–	
Low-noise version for 2-pole motors with clockwise direction of rotation [9]	**K37**										700,–	700,–	1.120,–	1.290,–	1.530,–	
Low-noise version for 2-pole motors with anticlockwise direction of rotation [9]	**K38**										700,–	700,–	1.120,–	1.290,–	1.530,–	
IP65 degree of protection [10]	**K50**										253,–	314,–	379,–	443,–	505,–	
IP56 degree of protection (non-heavy-sea) [11]	**K52**										276,–	347,–	417,–	486,–	556,–	
Condensation drainage holes [12]	**L12**										□	□	□	□	□	
Non-rusting screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	
Earth brushes for converter-fed operation	**M44**										–	–	–	–	O. R.	
Mechanical protection for encoder [13]	**M68**										178,–	178,–	178,–	178,–	178,–	
Coolant temperature and site altitude																
Coolant temperature -50 to +40 °C	**D02**										2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	
Coolant temperature -40 to +40 °C	**D03**										605,–	702,–	896,–	1.110,–	1.590,–	
Coolant temperature -30 to +40 °C	**D04**										95,20	119,–	119,–	1.110,–	1.590,–	
Designs in accordance with standards and specifications																
Electrical according to NEMA MG1-12	**D30**										58,20	58,20	58,20	72,70	72,70	
Design according to UL with "Recognition Mark" [14]	**D31**										251,–	345,–	434,–	512,–	634,–	
Canadian regulations (CSA) [15]	**D40**										212,–	283,–	354,–	426,–	567,–	
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	342,–	368,–	393,–	418,–	
Bearing design for increased cantilever forces [16]	**K20**										233,–	270,–	305,–	352,–	395,–	
Special bearing for DE and NDE, bearing size	**K36**										393,–	484,–	688,–	949,–	1700,– [17]	
Regreasing device	**K40**										321,–	362,–	401,–	482,–	□	
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	
Located bearing NDE	**L04**										□	□	□	□	□	
Insulated bearing cartridge	**L27**										–	–	1.490,–	1.590,–	1.640,–	
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	
Vibration quantity level B	**K02**										497,–	558,–	755,–	960,–	1.120,–	
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	

For legend, see Page 2/44, for footnotes, see Page 2/45.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output - Cast-iron series 1LG4																
											1LG4 (cast-iron)					
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [18]	**K04**										379,–	443,–	505,–	568,–	632,–	
Second standard shaft extension [19]	**K16**										276,–	306,–	322,–	336,–	397,–	
Shaft extension with normal dimensions without featherkey way	**K42**										594,–	654,–	713,–	773,–	832,–	
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	
Non-standard cylindrical shaft extension [20]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	
Heating and ventilation																
Metal external fan [21]	**K35**										284,–	314,–	347,–	379,–	410,–	
Anti-condensation heaters for 230 V	**K45**										536,–	616,–	740,–	764,–	764,–	
Anti-condensation heaters for 115 V	**K46**										536,–	616,–	740,–	764,–	764,–	
Sheet metal fan cover	**L36**										71,30	87,50	98,30	140,–	180,–	
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code										–	–	2.000,–	2.000,–	2.000,–	
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code										225,–	274,–	406,–	511,–	654,–	
Extra rating plate with identification codes	**Y82** • and identification code										58,20	58,20	58,20	72,70	72,70	
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code										58,20	58,20	58,20	72,70	72,70	
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	
Operating instructions German/English enclosed in print	**B23**										54,–	54,–	54,–	54,–	54,–	
Type test with heat run for vertical motors, with acceptance	**F83**										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 2/45.

10 working days | **20 working days** | **On request**

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Possible in combination with order code **L44** to **L49** or length specification in plain text.

4) Only the 50 Hz data are indicated on the rating plate.

5) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology
– Basic versions of "Modular technology"
– Combination of special versions "Special technology"

6) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.

7) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.

8) Not possible for motor series 1LG4 for 2-pole motors.

9) For 1LG4 motors in low-noise version a second shaft extension and/or mounting of an encoder are not possible.

10) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

11) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

12) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

13) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cowl.

14) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

15) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

16) Not possible for 2-pole 1LG4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level A available on request for 1LG4 motors. Not possible for 1LG4 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

17) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

18) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.

19) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

20) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

21) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**										200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**										353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**										284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**										461,–	461,–	634,–	859,–	859,–	1.260,–
Temperature detectors for tripping [1]	**A31**										227,–	227,–	307,–	307,–	380,–	380,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**										1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**										2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**										330,–	438,–	645,–	□	□	□
One cable gland, metal	**K54**										120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**										175,–	202,–	202,–	350,–	350,–	350,–
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
Undrilled entry plate	**L01**										○	○	○	○	○	○
External earthing	**L13**										□	□	□	□	□	□

For legend, see Page 2/51, for footnotes, see Page 2/52.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Motor connection and connection boxes (continued)																
6 cables protruding, 1.5 m long [2]	**L48**										864,–	1.190,–	1.620,–	O. R.	O. R.	O. R.
6 cables protruding, 3 m long [2]	**L49**										1.380,–	1.900,–	2.590,–	O. R.	O. R.	O. R.
Protruding cable ends - right side [3]	**L51**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - left side [3]	**L52**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	**L97**										186,–	186,–	450,–	450,–	450,–	450,–
Stud terminal for cable connection, accessories pack (3 items)	**M46**										–	–	–	126,–	126,–	159,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,–	443,–	522,–
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased output [5]	**C12**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**										68,80	68,80	78,10	78,10	91,80	91,80
Increased air humidity/ temperature with 30 to 60 g water per m^3 of air	**C19**										832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [4]	**C22**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [4]	**C23**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [4]	**C24**										225,–	274,–	406,–	511,–	654,–	850,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % [4]	**C25**										225,–	274,–	406,–	511,–	654,–	850,–
Increased air humidity/ temperature with 60 to 100 g water per m^3 of air	**C26**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level										337,–	413,–	609,–	766,–	981,–	1.270,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level										68,80	68,80	78,10	78,10	91,80	91,80

For legend, see Page 2/51, for footnotes, see Page 2/52.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….										69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….										694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**										O	O	O	O	O	O
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	69,90
Modular technology - Basic versions [5]																
Mounting of separately driven fan [6]	**G17**										1.170,–	1.830,–	2.510,–	3.090,–	3.660,–	4.100,–
Mounting of brake [6] [7]	**G26**										3.870,–	5.400,–	6.860,–	22.000,–	27.000,–	32.500,–
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**										563,–	563,–	1.290,–	1.290,–	1.290,–	1.290,–
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**										807,–	807,–	1.760,–	1.760,–	1.760,–	1.760,–
Modular technology - Combinations of basic versions [5]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**										1.750,–	2.400,–	3.790,–	4.690,–	5.140,–	6.520,–
Mounting of brake and 1XP8 001-1 rotary pulse encoder [7]	**H62**										4.440,–	5.970,–	9.020,–	23.300,–	28.400,–	33.700,–
Mounting of brake and separately driven fan [6] [7]	**H63**										5.050,–	7.250,–	10.300,–	25.600,–	29.600,–	35.000,–
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [7]	**H64**										5.620,–	7.790,–	11.600,–	26.800,–	30.900,–	36.300,–
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**										1.990,–	2.650,–	4.260,–	4.850,–	5.410,–	5.850,–
Mounting of brake and 1XP8 001-2 rotary pulse encoder [7]	**H98**										4.680,–	6.200,–	9.450,–	23.800,–	29.100,–	34.100,–
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [7]	**H99**										5.840,–	8.040,–	12.000,–	27.200,–	31.300,–	36.900,–

For legend, see Page 2/51, for footnotes, see Page 2/52.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**										60,50	60,50	60,50	60,50	60,50	60,50
Brake supply voltage 400 V AC	**C01**										60,50	60,50	60,50	60,50	60,50	60,50
Mechanical manual brake release with lever (no locking)	**K82**										530,–	619,–	787,–	895,–	995,–	1.260,–
Special technology [5]																
Mounting of LL 861 900 220 rotary pulse encoder	**H70**										2.560,–	2.560,–	4.170,–	4.170,–	4.170,–	4.170,–
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**										3.230,–	3.230,–	4.240,–	4.240,–	4.240,–	4.240,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**										3.860,–	3.860,–	5.040,–	5.040,–	5.040,–	5.040,–
Prepared for mounting LL 861 900 220	**H78**										591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 9 D 1024 I	**H79**										591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 10 D 1024 I	**H80**										591,–	591,–	591,–	591,–	591,–	591,–
Mounting of the HOG 10 DN 1024 I rotary pulse encoder, connection box humidity protection	**J15**										4.820,–	4.840,–	4.870,–	4.900,–	4.940,–	4.980,–
Mounting of the HOG 10 DN 1024 I rotary pulse encoder, connection box dust protection	**J16**										4.820,–	4.840,–	4.870,–	4.900,–	4.940,–	4.980,–
Mounting of the HOG 10 DN 1024 I + FSL rotary pulse encoder (speed ... rpm) connection box humidity protection	**Y74** • and specified speed .... rpm										7.400,–	7.420,–	7.450,–	7.480,–	7.520,–	7.560,–
Mounting of the HOG 10 DN 1024 I + FSL rotary pulse encoder (speed ... rpm) connection box dust protection	**Y76** • and specified speed .... rpm										7.400,–	7.420,–	7.450,–	7.480,–	7.520,–	7.560,–
Mounting of the HOG 10 DN 1024 I + ESL 93 rotary pulse encoder (speed ... rpm) connection box dust protection	**Y79** • and specified speed (max 3) .... rpm										12.600,–	12.700,–	12.900,–	13.000,–	13.100,–	13.200,–
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction and 2-pole motors [8]	**K17**										122,–	150,–	200,–	267,–	334,–	401,–
Low-noise version for 2-pole motors with clockwise direction of rotation [9]	**K37**										–	–	–	–	–	–
Low-noise version for 2-pole motors with clockwise direction of rotation [9]	**K38**										–	–	–	–	–	–
IP65 degree of protection [10]	**K50**										253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea) [11]	**K52**										276,–	347,–	417,–	486,–	556,–	624,–
Condensation drainage holes [12]	**L12**										□	□	□	□	□	□
Non-rusting screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	235,–
Earth brushes for converter-fed operation	**M44**										–	–	–	–	O. R.	O. R.
Mechanical protection for encoder [13]	**M68**										178,–	178,–	178,–	178,–	178,–	178,–

For legend, see Page 2/51, for footnotes, see Page 2/52.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Coolant temperature and site altitude																
Coolant temperature -50 to +40 °C	**D02**										2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	5.370,–
Coolant temperature -40 to +40 °C	**D03**										605,–	702,–	896,–	1.110,–	1.590,–	2.050,–
Coolant temperature -30 to +40 °C	**D04**										95,20	119,–	119,–	1.110,–	1.590,–	2.050,–
Designs in accordance with standards and specifications																
Electrical according to NEMA MG1-12 [14]	**D30**										□	□	□	□	□	□
Design according to UL with "Recognition Mark" [15]	**D31**										251,–	345,–	434,–	512,–	634,–	828,–
For Korea certified in accordance with KS C4202 [16]	**D33**										34,50	34,50	34,50	34,50	34,50	34,50
Canadian regulations (CSA) [17]	**D40**										212,–	283,–	354,–	426,–	567,–	703,–
VIK version (includes zone 2 for mains-fed operation, without Ex nA II on rating plate)	**K30**										490,–	615,–	742,–	957,–	1.290,–	1.710,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [18]	**K20**										233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for drive-end and non-drive-end, bearing size 63	**K36**										393,–	484,–	688,–	949,–	1700,– [19]	1700– [19]
Regreasing device	**K40**										321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**										□	□	□	□	□	□
Insulated bearing cartridge	**L27**										–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	□
Vibration quantity level B	**K02**										497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [20]	**K04**										379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [21]	**K16**										276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with normal dimensions without featherkey way	**K42**										594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [22]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Metal external fan [23]	**K35**										284,–	314,–	347,–	379,–	410,–	443,–
Anti-condensation heaters for 230 V	**K45**										536,–	616,–	740,–	764,–	764,–	795,–
Anti-condensation heaters for 115 V	**K46**										536,–	616,–	740,–	764,–	764,–	795,–
Sheet metal fan cover	**L36**										71,30	87,50	98,30	140,–	180,–	197,–
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code										–	–	2.000,–	2.000,–	2.000,–	2.140,–

For legend, see Page 2/51, for footnotes, see Page 2/52.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification codes										225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification codes	**Y82** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**										54,–	54,–	54,–	54,–	54,–	54,–
Type test with heat run for vertical motors, with acceptance	**F83**										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 2/52.

Special versions

10 working days	20 working days	On request

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Possible in combination with order code **L44** to **L49** or length specification in plain text.

4) Only the 50 Hz data are indicated on the rating plate.

5) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology
– Basic versions of "Modular technology"
– Combination of special versions
Exception: For frame size 225 and above, the options for mounting a brake (order code G26), separately driven fan (order code **G17**) or brake and separately driven fan (order code **H63**) can be combined with the options or rotary pulse encoders of the "Special technology" range.

6) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.

7) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.

8) Not possible for motor series 1LG6 for 2-pole motors.

9) Not necessary for 1LG6 motors because these motors are already noise optimized.

10) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

11) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

12) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

13) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cowl.

14) For the EPACT standard version (no order code required).

15) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

16) For Korea are certified:
– 2-pole motors ≤0.75 kW
– 4-pole motors ≤0.75 kW
– 6-pole motors ≤0.75 kW

17) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

18) Not possible for 2-pole 1LG6 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LG6 motors. Not possible for 1LG6 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

19) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

20) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.

21) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

22) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

23) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Aluminum series 1LP7 and 1LP5																
			1LP7 (aluminum)								**1LP5 (aluminum)**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**		75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–				
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**		129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–				
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**		75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**		151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–				
Temperature detectors for tripping [1]	**A31**		84,70	84,70	99,40	99,40	112,–	112,–	164,–	164,–	227,–	227,–				
Installation of 3 PT 100 resistance thermometers [1]	**A60**		–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–				
Motor connection and connection boxes																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY [2]	**G55**		80,80	80,80	80,80	80,80	80,80	80,80	87,50	–	–	–				
ECOFAST motor plug EMC Han-Drive 10e for 230 VΔ/400 VY [3]	**G56**		185,–	185,–	185,–	185,–	201,–	201,–	227,–	–	–	–				
Connection box on RHS	**K09**		–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
Connection box on LHS	**K10**		–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
One cable gland, metal	**K54**		50,20	50,20	50,20	50,20	94,–	94,–	94,–	120,–	120,–	138,–				
Cable gland, maximum configuration	**K55**		71,80	71,80	71,80	71,80	133,–	133,–	133,–	175,–	175,–	202,–				
Rotation of the connection box through 90°, entry from DE	**K83**		13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of the connection box through 90°, entry from NDE	**K84**		13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of connection box through 180°	**K85**		13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–				
Next larger connection box	**L00**		–	–	–	–	–	–	–	–	1.080,–	1.080,–				
External earthing	**L13**		20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,10	31,10				
3 cables protruding, 0.5 m long [4]	**L44**		48,20	48,20	48,20	48,20	57,70	69,10	84,50	99,80	O. R.	O. R.				
3 cables protruding, 1.5 m long [4]	**L45**		58,20	58,20	58,20	58,20	69,60	83,70	102,–	121,–	O. R.	O. R.				
6 cables protruding, 0.5 m long [4]	**L47**		74,60	74,60	74,60	74,60	89,40	107,–	132,–	156,–	O. R.	O. R.				
6 cables protruding, 1.5 m long [4]	**L48**		95,–	95,–	95,–	95,–	113,–	137,–	167,–	198,–	238,–	281,–				
6 cables protruding, 3 m long [4]	**L49**		–	–	–	–	–	–	–	–	–	–				
Connection box on NDE	**M64**		26,60	30,40	34,10	39,20	50,70	61,90	79,60	109,–	123,–	132,–				
Terminal strip for main and auxiliary terminals	**M69**		74,–	74,–	74,–	74,–	–	–	–	–	–	–				
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**		125,–	125,–	125,–	125,–	125,–	125,–	125,–	189,–	254,–	314,–				
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**		228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–				

For legend, see Page 2/55, for footnotes, see Page 2/56.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Aluminum series 1LP7 and 1LP5																
			1LP7 (aluminum)								**1LP5 (aluminum)**					
Colors and paint finish																
Special finish in RAL 7030 stone gray			□	□	□	□	□	□	□	□	□	□				
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….		51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–				
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….		485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–				
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….		–	–	–	–	–	–	–	–	–	–				
Sea-air proof special finish	**M94**		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	**K23**		O	O	O	O	O	O	O	O	O	O				
Unpainted, only primed	**K24**		17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	72,–	72,–				
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar [5]	**K17**		36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–				
With two additional eyebolts for IM V1/IM V3	**K32**		–	–	–	–	–	–	–	–	100,–	100,–				
IP65 degree of protection	**K50**		126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–				
IP56 degree of protection (non-heavy-sea)	**K52**		139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–				
Vibration-proof version	**L03**		92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–				
Condensation drainage holes [6]	**L12**		44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–				
Non-rusting screws (externally)	**M27**		47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–				
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C	**D03**		194,–	194,–	216,–	270,–	324,–	410,–	475,–	545,–	605,–	702,–				
Coolant temperature -30 to +40 °C	**D04**		35,80	35,80	47,60	47,60	59,40	59,40	71,30	71,30	95,20	119,–				
Designs in accordance with standards and specifications																
Design according to UL with "Recognition Mark" [7]	**D31**		60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
Canadian regulations (CSA) [8]	**D40**		60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
PSE marking in Japan [9]	**D46**		34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**		–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–				
Bearing design for increased cantilever forces	**K20**		–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–				
Regreasing device	**K40**		–	–	–	–	267,–	273,–	281,–	305,–	321,–	362,–				
Located bearing DE	**K94**		33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–				
Located bearing NDE	**L04**		30,–	32,–	33,40	35,40	37,–	39,–	41,30	□	□	□				

For legend, see Page 2/55, for footnotes, see Page 2/56.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Aluminum series 1LP7 and 1LP5																
			1LP7 (aluminum)								**1LP5 (aluminum)**					
Balance and vibration quantity																
Vibration quantity level A			□	□	□	□	□	□	□	□	□	□				
Vibration quantity level B	**K02**		186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–				
Full key balancing	**L68**		80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–				
Balancing without key	**M37**		18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70				
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [10]	**K04**		101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–				
Second standard shaft extension	**K16**		71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–				
Shaft extension with normal dimensions without featherkey way	**K42**		345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**		205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–				
Standard shaft made of non-rusting steel	**M65**		–	–	726,–	726,–	835,–	835,–	966,–	1.200,–	2.080,–	2.400,–				
Non-standard cylindrical shaft extension [11]	**Y55** • and identification code		345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**		309,–	348,–	348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–				
Anti-condensation heaters for 115 V	**K46**		309,–	348,–	348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–				
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**		–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80				
Second rating plate, loose	**K31**		17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80				
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code		46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Extra rating plate with identification codes	**Y82** • and identification code		34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code		34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Packaging, safety notes and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**		–	○	○	○	○	○	○	○	–	–				
With one safety and startup guide per box pallet	**B01**		–	○	○	○	○	○	○	○	–	–				
Acceptance test certificate 3.1 according to EN 10204	**B02**		24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10				
Operating instructions German/English enclosed in print	**B23**		54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–				
Type test with heat run for vertical motors, with acceptance	**F83**		3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Wire-lattice pallet	**L99**		○	○	○	○	○	○	○	○	○	–				
Connected in star for dispatch	**M32**		20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in delta for dispatch	**M33**		20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 2/56.

10 working days | **20 working days** | **On request**

Special versions

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55**: **A12, C18, D31, D40, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52**.

3) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G56**: **A12, A23, A31, C00, C18, D31, D40, G50, H15, H17, H90, H91, H92, H93, H94, H95, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.**

4) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

5) Not possible for type of construction IM V3.

6) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

7) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.

8) The rated voltage is indicated on the rating plate without voltage range.

9) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

10) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

11) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Cast-iron series 1LP4																
											1LP4 (cast-iron)					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**										200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**										353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**										284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**										461,–	461,–	634,–	859,–	859,–	1.260,–
Temperature detectors for tripping [1]	**A31**										227,–	227,–	307,–	307,–	380,–	380,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**										1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**										2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	834,–
One cable gland, metal	**K54**										120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**										175,–	202,–	202,–	350,–	350,–	350,–
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
External earthing	**L13**										□	□	□	□	□	□
6 cables protruding, 1.5 m long [2]	**L48**										864,–	1.190,–	1.620,–	O. R.	O. R.	O. R.
6 cables protruding, 3 m long [2]	**L49**										1.380,–	1.900,–	2.590,–	O. R.	O. R.	O. R.
Protruding cable ends - right side [3]	**L51**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - left side [3]	**L52**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	**L97**										186,–	186,–	450,–	450,–	450,–	450,–

For legend and footnotes, see Page 2/60.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Cast-iron series 1LP4																
											1LP4 (cast-iron)					
Motor connection and connection boxes (continued)																
Stud terminal for cable connection, accessories pack (3 items)	**M46**										–	–	–	126,–	126,–	159,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,–	443,–	522,–
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased output [4]	**C12**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**										68,80	68,80	78,10	78,10	91,80	91,80
Increased air humidity/ temperature with 30 to 60 g water per m^3 of air	**C19**										832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Increased air humidity/ temperature with 60 to 100 g water per m^3 of air	**C26**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level										337,–	413,–	609,–	766,–	981,–	1.270,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level										68,80	68,80	78,10	78,10	91,80	91,80
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….										69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….										694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**										○	○	○	○	○	○
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	69,90

For legend and footnotes, see Page 2/60.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Cast-iron series 1LP4																
											1LP4 (cast-iron)					
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction [5]	**K17**										122,–	150,–	200,–	267,–	334,–	401,–
IP65 degree of protection	**K50**										253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea)	**K52**										276,–	347,–	417,–	486,–	556,–	624,–
Condensation drainage holes [6]	**L12**										□	□	□	□	□	□
Non-rusting screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	235,–
Coolant temperature and site altitude																
Coolant temperature -50 to +40 °C	**D02**										2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	5.370,–
Coolant temperature -40 to +40 °C	**D03**										605,–	702,–	896,–	1.110,–	1.590,–	2.050,–
Coolant temperature -30 to +40 °C	**D04**										95,20	119,–	119,–	1.110,–	1.590,–	2.050,–
Designs in accordance with standards and specifications																
Design according to UL with "Recognition Mark" [7]	**D31**										251,–	345,–	434,–	512,–	634,–	828,–
Canadian regulations (CSA) [8]	**D40**										212,–	283,–	354,–	426,–	567,–	703,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	316,–	316,–	316,–	316,–	316,–
Bearing design for increased cantilever forces [9]	**K20**										233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for DE and NDE, bearing size	**K36**										393,–	484,–	688,–	949,–	1700,– [10]	1700,– [10]
Regreasing device	**K40**										321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**										□	□	□	□	□	□
Insulated bearing cartridge	**L27**										–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	□
Vibration quantity level B	**K02**										497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [11]	**K04**										379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [12]	**K16**										276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with normal dimensions without featherkey way	**K42**										594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [13]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**										536,–	616,–	740,–	764,–	764,–	795,–
Anti-condensation heaters for 115 V	**K46**										536,–	616,–	740,–	764,–	764,–	795,–

For legend and footnotes, see Page 2/60.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan - Cast-iron series 1LP4																
											1LP4 (cast-iron)					
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code										225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification codes	**Y82** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	24,10
Type test with heat run for vertical motors, with acceptance	**F83**										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Possible in combination with order code **L44** to **L49** or length specification in plain text.

4) Only the 50 Hz data are indicated on the rating plate.

5) Not possible for motor series 1LP4 for 2-pole motors.

6) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

7) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

8) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

9) Not possible for 2-pole 1LP4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LP4 motors. Not possible for 1LP4 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

10) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

11) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

12) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

13) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

Notes

IEC Squirrel-Cage Motors

Non-standard motors frame size 315 and above

Self-ventilated motors for mains-fed operation
Cast-iron series 1LA8

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size		Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**250**	315		**1LA8 315-2AC ..**	**38.300, -**
	315			**1LA8 317-2AC ..**	**48.200, -**
	355	355		**1LA8 353-2AC ..**	**54.600, -**
	400			**1LA8 355-2AC ..**	**62.300, -**
	500			**1LA8 357-2AC ..**	**81.000, -**
	560	400		**1LA8 403-2AC ..**	**87.500, -**
	630			**1LA8 405-2AC ..**	**97.800, -**
	710			**1LA8 407-2AC ..**	**111.000, -**
	800	450		**1LA8 453-2AE ..**	**129.000, -**
	900			**1LA8 455-2AE ..**	**142.000, -**
	1000			**1LA8 457-2AE ..**	**162.000, -**

1500 rpm 4-pole	Rated output kW	Frame size		Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**250**	315	▲	**1LA8 315-4AB ..**	**35.800, -**
	315	315	▲	**1LA8 317-4AB ..**	**45.200, -**
	355	355	▲	**1LA8 353-4AB ..**	**51.200, -**
	400	355	▲	**1LA8 355-4AB ..**	**57.900, -**
	500	355	▲	**1LA8 357-4AB ..**	**75.200, -**
	560	400		**1LA8 403-4AB ..**	**81.600, -**
	630	400		**1LA8 405-4AB ..**	**92.300, -**
	710	400		**1LA8 407-4AB ..**	**104.000, -**
	800	450		**1LA8 453-4AC ..**	**117.000, -**
	900	450		**1LA8 455-4AC ..**	**133.000, -**
	1000	450		**1LA8 457-4AC ..**	**149.000, -**

1000 rpm 6-pole	Rated output kW	Frame size		Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**200**	315		**1LA8 315-6AB ..**	**42.400, -**
	250	315		**1LA8 317-6AB ..**	**53.200, -**
	315	355		**1LA8 355-6AB ..**	**68.700, -**
	400	355		**1LA8 357-6AB ..**	**79.500, -**
	450	400		**1LA8 403-6AB ..**	**90.300, -**
	500	400		**1LA8 405-6AB ..**	**97.800, -**
	560	400		**1LA8 407-6AB ..**	**112.000, -**
	630	450		**1LA8 453-6AB ..**	**126.000, -**
	710	450		**1LA8 455-6AB ..**	**140.000, -**
	800	450		**1LA8 457-6AB ..**	**156.000, -**

750 rpm 8-pole	Rated output kW	Frame size		Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**160**	315		**1LA8 315-8AB ..**	**42.400, -**
	200	315		**1LA8 317-8AB ..**	**52.100, -**
	250	355		**1LA8 355-8AB ..**	**67.500, -**
	315	355		**1LA8 357-8AB ..**	**82.800, -**
	355	400		**1LA8 403-8AB ..**	**90.300, -**
	400	400		**1LA8 405-8AB ..**	**98.400, -**
	450	400		**1LA8 407-8AB ..**	**117.000, -**
	500	450		**1LA8 453-8AB ..**	**132.000, -**
	560	450		**1LA8 455-8AB ..**	**146.000, -**
	630	450		**1LA8 457-8AB ..**	**167.000, -**

Available 2-pole motors

Frame size	Type of construction					
	horizontal				*vertical*	
	with foot		with flange			
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
315	o	o	-	-	o	o
355 and 400	o	o	-	-	o	-
450	o	-	-	-	o	-

▲ **Standardline for 1LA8 motors:**

It is a standard offer for certain designs and can be ordered with Order Code B20.
Compared to the basic version 1LA8, Standardline has a shorter delivery time.

Scope of supply for Standardline:
- 4-pole design
- Types:
  1LA8 315-4AB . .
  1LA8 317-4AB . .
  1LA8 353-4AB . .
  1LA8 355-4AB . .
  1LA8 357-4AB . .
- Type of construction code 0 (IM B3)
- For mains-fed operation:
  Voltage code 6 (400 VΔ/690 VY) or 5 (500 VΔ)
- For converter-fed operation: Voltage code 4 (400 VΔ), 8 (400 VΔ/690 VY) or 5 (500 VΔ)
- Available for operation with converter, but not in 690 V design

Available order codes: A23, A61, A72, G50, H70, H73, K09, K10, K45, K46, K57, K83, K84, K85, L00, L97, M58 (only frame size 315), M88 and Y53

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code			
	50 Hz			60 Hz	IM B 3	at additional charge, please refer to Page 3/9		
	400 VΔ 690 VY	500 VΔ	690 VΔ	460 VΔ (outputs please refer to catalog D81.1)		IM V 1 without protective cover [1]	IM V 1 with protective cover	IM B 35
1LA8 315 to 1LA8 405	**6**	**5**	**- [2]**	**9 L2F**	**0**	**8 [3]**	**4 [3]**	**6**
1LA8 407 to 1LA8 457	**6 [4]**	**5**	**0 [5]**	**9 L2F [6]**	**0**	**8 [3]**	**4 [3]**	**6 [7]**

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 3/8.

1) For explosion-proof motors, the type of construction IM V1 without protective cover is not possible.
2) As special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).
3) For 2-pole motors 60 Hz version, not possible for 1LA8 353 to 1LA8 405.
4) Not possible for 2- and 4-pole motors from 1LA8 407 and 6-pole motors from 1LA8 455.
5) For 6-pole motors 1LA8 407 up to 1LA8 453 and 8-pole motors from 1LA8 407 only possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency). For 6-pole motors from 1LA8 455 standard design.
6) For 2- and 6-pole motors from 1LA8 407 and 6-pole motors 1LA8 455 up to 457 on request.
7) For 2-pole motors 60 Hz version, not possible for 1LA8 453 to 1LA8 457.

Non-standard motors frame size 315 and above

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated motors for converter-fed operation
Cast-iron series 1LA8

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	**250**	315	**1LA8 315-2PC ..**	**42.000, -**
	315		**1LA8 317-2PC ..**	**51.800, -**
	355	355	**1LA8 353-2PC ..**	**58.300, -**
	400		**1LA8 355-2PC ..**	**65.800, -**
	500		**1LA8 357-2PC ..**	**83.900, -**
	560	400	**1LA8 403-2PC ..**	**90.800, -**
	630		**1LA8 405-2PC ..**	**101.000, -**
	710		**1LA8 407-2PC ..**	**114.000, -**
	800	450	**1LA8 453-2PE ..**	**132.000, -**
	900		**1LA8 455-2PE ..**	**143.000, -**
	1000		**1LA8 457-2PE ..**	**166.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	**250**	315 ▲	**1LA8 315-4PB ..**	**39.500, -**
	315	▲	**1LA8 317-4PB ..**	**48.700, -**
	355	355 ▲	**1LA8 353-4PB ..**	**55.100, -**
	400	▲	**1LA8 355-4PB ..**	**61.500, -**
	500	▲	**1LA8 357-4PB ..**	**77.000, -**
	560	400	**1LA8 403-4PB ..**	**85.700, -**
	630		**1LA8 405-4PB ..**	**95.700, -**
	710		**1LA8 407-4PB ..**	**108.000, -**
	800	450	**1LA8 453-4PC ..**	**121.000, -**
	900		**1LA8 455-4PC ..**	**138.000, -**
	1000		**1LA8 457-4PC ..**	**152.000, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	**200**	315	**1LA8 315-6PB ..**	**46.000, -**
	250		**1LA8 317-6PB ..**	**56.600, -**
	315	355	**1LA8 355-6PB ..**	**72.200, -**
	400		**1LA8 357-6PB ..**	**83.500, -**
	450	400	**1LA8 403-6PB ..**	**94.400, -**
	500		**1LA8 405-6PB ..**	**101.000, -**
	560		**1LA8 407-6PB ..**	**116.000, -**
	630	450	**1LA8 453-6PB ..**	**131.000, -**
	710		**1LA8 455-6PB ..**	**143.000, -**
	800		**1LA8 457-6PB ..**	**162.000, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	**160**	315	**1LA8 315-8PB ..**	**46.000, -**
	200		**1LA8 317-8PB ..**	**55.700, -**
	250	355	**1LA8 355-8PB ..**	**70.900, -**
	315		**1LA8 357-8PB ..**	**86.300, -**
	355	400	**1LA8 403-8PB ..**	**94.400, -**
	400		**1LA8 405-8PB ..**	**102.000, -**
	450		**1LA8 407-8PB ..**	**121.000, -**
	500	450	**1LA8 453-8PB ..**	**137.000, -**
	560		**1LA8 455-8PB ..**	**151.000, -**
	630		**1LA8 457-8PB ..**	**170.000, -**

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified (voltage codes 4, 5, 7 and 8).

The following points must be noted in connection with 1LA8 motors:
The motors are designed with a standard rotor and are suitable for both mains operation and converter-fed-operation. They are fitted with an insulated bearing at the non-drive end as standard.
At outputs from 900 kW, operation on two parallel converters without interface transformer is possible on request

▲ **Standardline for 1LA8 motors:**
It is a standard offer for 1LA8 motors with a certain scope of supply and can be ordered with Order Code B20. Compared to the basic version 1LA8, Standardline has a shorter delivery time.
Scope of supply for Standardline:
- 4-pole design
- Types:
  1LA8 315-4PB . .
  1LA8 317-4PB . .
  1LA8 353-4PB . .
  1LA8 355-4PB . .
  1LA8 357-4PB . .
- Type of construction code 0 (IM B3)
- For mains-fed operation: Voltage code 6 (400 VΔ/690 VY) or 5 (500 VΔ)
- For converter-fed operation: Voltage code 4 (400 VΔ), 8 (400 VΔ/690 VY) or 5 (500 VΔ)
- Available for operation with converter, but not in 690 V design

Available order codes: A23, A61, A72, G50, H70, H73, K09, K10, K45, K46, K57, K83, K84, K85, L00, L97,M58 (only frame size 315), M88 and Y53

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code			
	50 Hz	No rated voltage range.			IM B 3	at additional charge, please refer to page 3/9		
	400 VΔ	400 VΔ 690 VY 1)	500 VΔ	690 VΔ 1)		IM V 1 without protective cover 2)	IM V 1 with protective cover	IM B 35
1LA8 315 to 1LA8 405	**4**	**8**	**5**	**- 3)**	**0**	**8 4)**	**4 4)**	**6**
1LA8 407 to 1LA8 457	**4 5)**	**8 5)**	**5**	**7 6)**	**0**	**8 4)**	**4 4)**	**6 7)**

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 3/8.

1) Motors with standard insulation can only be operated with converter circuit (du/dt or sinusoidal filter).
2) For explosion-proof motors, the type of construction IM V1 without protective cover is not possible.
3) For 8-pole motors possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).
4) For 2-pole motors 60 Hz version, not possible for 1LA8 353 to 1LA8 457.
5) Not possible for 2- and 4-pole motors from 1LA8 407 and 6-pole motors 1LA8 455 up to 1LA8 457.
6) For 6-pole motors 1LA8 407 up to 1LA8 453 not possible. For 8-pole motors only possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).
7) For 2-pole motors 60 Hz version, not possible for 1LA8 453 to 1LA8 457.

Non-standard motors frame size 315 and above

Self-ventilated motors for converter-fed operation Cast-iron series 1LA8

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Special insulation up to 690V	**240**	315	**1LA8 315-2PM ..**	**52.100, -**
	300		**1LA8 317-2PM ..**	**62.100, -**
	345	355	**1LA8 353-2PM ..**	**72.200, -**
	390		**1LA8 355-2PM ..**	**79.500, -**
	485		**1LA8 357-2PM ..**	**97.300, -**
	545	400	**1LA8 403-2PM ..**	**108.000, -**
	610		**1LA8 405-2PM ..**	**118.000, -**
	680		**1LA8 407-2PM ..**	**132.000, -**
	775	450	**1LA8 453-2PM ..**	**143.000, -**
	875		**1LA8 455-2PM ..**	**163.000, -**
	970		**1LA8 457-2PM ..**	**180.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Termperaturel class 155 (F) · Special insulation up to 690V	**235**	315	**1LA8 315-4PM ..**	**51.700, -**
	290		**1LA8 317-4PM ..**	**60.900, -**
	340	355	**1LA8 353-4PM ..**	**71.400, -**
	385		**1LA8 355-4PM ..**	**76.800, -**
	480		**1LA8 357-4PM ..**	**93.800, -**
	545	400	**1LA8 403-4PM ..**	**98.700, -**
	615		**1LA8 405-4PM ..**	**114.000, -**
	690		**1LA8 407-4PM ..**	**121.000, -**
	785	450	**1LA8 453-4PM ..**	**138.000, -**
	880		**1LA8 455-4PM ..**	**151.000, -**
	980		**1LA8 457-4PM ..**	**169.000, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperaturel class 155 (F) · Special insulation up to 690V	**190**	315	**1LA8 315-6PM ..**	**59.000, -**
	235		**1LA8 317-6PM ..**	**69.400, -**
	300	355	**1LA8 355-6PM ..**	**89.100, -**
	380		**1LA8 357-6PM ..**	**100.000, -**
	435	400	**1LA8 403-6PM ..**	**108.000, -**
	485		**1LA8 405-6PM ..**	**116.000, -**
	545		**1LA8 407-6PM ..**	**132.000, -**
	615	450	**1LA8 453-6PM ..**	**143.000, -**
	690		**1LA8 455-6PM ..**	**152.000, -**
	780		**1LA8 457-6PM ..**	**174.000, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Special insulation up to 690V	**145**	315	**1LA8 315-8PM ..**	**56.400, -**
	180		**1LA8 317-8PM ..**	**65.800, -**
	230	355	**1LA8 355-8PM ..**	**84.900, -**
	290		**1LA8 357-8PM ..**	**99.600, -**
	335	400	**1LA8 403-8PM ..**	**106.000, -**
	375		**1LA8 405-8PM ..**	**114.000, -**
	425		**1LA8 407-8PM ..**	**134.000, -**
	485	450	**1LA8 453-8PM ..**	**151.000, -**
	545		**1LA8 455-8PM ..**	**169.000, -**
	600		**1LA8 457-8PM ..**	**181.000, -**

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified (voltage codes 7 and 8).

Order No. supplements

Motor type	Penultimate place: Voltage code		Last place: Type of construction code			
	No rated voltage range.		IM B 3	at additional charge, please refer to Page 3/9		
	690 VY	690 VΔ		IM V 1 without protective cover 1)	IM V 1 with protective cover	IM B 35
1LA8 315 to 1LA8 357	**8**	**-**	**0**	**8**	**4**	**6**
1LA8 403 to 1LA8 457	**8** 2)	**7** 3)	**0**	**8**	**4**	**6**

For voltage code '9 L1Y' for other voltages, additional charges, please refer to Page 3/8.

1) For explosion-proof motors, the type of construction IM V1 without protective cover is not possible.
2) Not possible for 2-pole motors from 1LA8 403, 4-pole motors 1LA8 407 and for 6-pole motors from 1LA8 455.
3) Only available for 2-pole motors from 1LA8 403, 4-pole motors from 1LA8 407 and for 6-pole motors from 1LA8 455.

Non-standard motors frame size 315 and above

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Forced-air cooled motors with mounted sep. driven fan for converter-fed operation – Cast-iron series 1PQ8

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	250	315	1PQ8 315-2PC ..	50.800, -
	315		1PQ8 317-2PC ..	60.800, -
	355	355	1PQ8 353-2PC ..	68.100, -
	400		1PQ8 355-2PC ..	74.900, -
	500		1PQ8 357-2PC ..	92.000, -
	560	400	1PQ8 403-2PC ..	101.000, -
	630		1PQ8 405-2PC ..	111.000, -
	710		1PQ8 407-2PC ..	125.000, -
	800	450	1PQ8 453-2PE ..	141.000, -
	900		1PQ8 455-2PE ..	156.000, -
	1000		1PQ8 457-2PE ..	173.000, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	250	315	1PQ8 315-4PB ..	48.400, -
	315		1PQ8 317-4PB ..	57.500, -
	355	355	1PQ8 353-4PB ..	65.000, -
	400		1PQ8 355-4PB ..	71.400, -
	500		1PQ8 357-4PB ..	86.400, -
	560	400	1PQ8 403-4PB ..	95.700, -
	630		1PQ8 405-4PB ..	106.000, -
	710		1PQ8 407-4PB ..	117.000, -
	800	450	1PQ8 453-4PC ..	133.000, -
	900		1PQ8 455-4PC ..	146.000, -
	1000		1PQ8 457-4PC ..	165.000, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	200	315	1PQ8 315-6PB ..	54.900, -
	250		1PQ8 317-6PB ..	65.200, -
	315	355	1PQ8 355-6PB ..	81.600, -
	400		1PQ8 357-6PB ..	92.300, -
	450	400	1PQ8 403-6PB ..	104.000, -
	500		1PQ8 405-6PB ..	111.000, -
	560		1PQ8 407-6PB ..	126.000, -
	630	450	1PQ8 453-6PB ..	140.000, -
	710		1PQ8 455-6PB ..	152.000, -
	800		1PQ8 457-6PB ..	170.000, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Standard insulation for ≤ 500V	160	315	1PQ8 315-8PB ..	55.000, -
	200		1PQ8 317-8PB ..	64.400, -
	250	355	1PQ8 355-8PB ..	81.000, -
	315		1PQ8 357-8PB ..	95.000, -
	355	400	1PQ8 403-8PB ..	104.000, -
	400		1PQ8 405-8PB ..	111.000, -
	450		1PQ8 407-8PB ..	132.000, -
	500	450	1PQ8 453-8PB ..	145.000, -
	560		1PQ8 455-8PB ..	163.000, -
	630		1PQ8 457-8PB ..	179.000, -

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified.
(voltage codes 4, 5, 7 and 8).

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code			
	50 Hz	No rated voltage range.			IM B 3	at additional charge, please refer to Page 3/8		
	400 VΔ	400 VΔ 690 VY [1]	500 VΔ	690 VΔ [1]		IM V 1 without protective cover [2]	IM V 1 with protective cover	IM B 35
1PQ8 315 to 1PQ8 405	4	8	5	- [3]	0	8	4	6
1PQ8 407 to 1PQ8 457	4 [4]	8 [4]	5	7 [5]	0	8	4	6

For voltage code '9 L1Y' for other voltages, additional charges, please refer to Page 3/8.

1) Motors with standard insulation can only be operated with converter circuit (du/dt or sinusoidal filter).
2) For explosion-proof motors, the type of construction IM V1 without protective cover is not possible.
3) For 8-pole motors possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).
4) Not possible for 2- and 4-pole motors from 1PQ8 407 and 6-pole motors 1PQ8 455 up to 1PQ8 457.
5) For 6-pole motors 1PQ8 315 up to 1PQ8 453 not possible. For 8-pole 1PQ8 315 up to 1PQ8 453 motors only possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).

Non-standard motors frame size 315 and above

Forced-air cooled motors with mounted sep. driven fan for converter-fed operation – Cast-iron series 1PQ8

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Special insulation up to 690V	**240**	315	**1PQ8 315-2PM ..**	**60.900, -**
	300		**1PQ8 317-2PM ..**	**70.900, -**
	345	355	**1PQ8 353-2PM ..**	**82.200, -**
	390		**1PQ8 355-2PM ..**	**88.100, -**
	485		**1PQ8 357-2PM ..**	**106.000, -**
	545	400	**1PQ8 403-2PM ..**	**112.000, -**
	610		**1PQ8 405-2PM ..**	**122.000, -**
	680		**1PQ8 407-2PM ..**	**139.000, -**
	775	450	**1PQ8 453-2PM ..**	**151.000, -**
	875		**1PQ8 455-2PM ..**	**169.000, -**
	970		**1PQ8 457-2PM ..**	**185.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Special insulation up to 690V	**235**	315	**1PQ8 315-4PM ..**	**58.400, -**
	290		**1PQ8 317-4PM ..**	**67.500, -**
	340	355	**1PQ8 353-4PM ..**	**78.900, -**
	385		**1PQ8 355-4PM ..**	**84.900, -**
	480		**1PQ8 357-4PM ..**	**100.000, -**
	545	400	**1PQ8 403-4PM ..**	**106.000, -**
	615		**1PQ8 405-4PM ..**	**117.000, -**
	690		**1PQ8 407-4PM ..**	**131.000, -**
	785	450	**1PQ8 453-4PM ..**	**143.000, -**
	880		**1PQ8 455-4PM ..**	**160.000, -**
	980		**1PQ8 457-4PM ..**	**174.000, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Special insulation up to 690V	**190**	315	**1PQ8 315-6PM ..**	**64.900, -**
	235		**1PQ8 317-6PM ..**	**74.900, -**
	300	355	**1PQ8 355-6PM ..**	**95.000, -**
	380		**1PQ8 357-6PM ..**	**105.000, -**
	435	400	**1PQ8 403-6PM ..**	**114.000, -**
	485		**1PQ8 405-6PM ..**	**122.000, -**
	545		**1PQ8 407-6PM ..**	**138.000, -**
	615	450	**1PQ8 453-6PM ..**	**151.000, -**
	690		**1PQ8 455-6PM ..**	**163.000, -**
	780		**1PQ8 457-6PM ..**	**182.000, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · Special insulation up to 690V	**145**	315	**1PQ8 315-8PM ..**	**64.900, -**
	180		**1PQ8 317-8PM ..**	**73.300, -**
	230	355	**1PQ8 355-8PM ..**	**93.000, -**
	290		**1PQ8 357-8PM ..**	**108.000, -**
	335	400	**1PQ8 403-8PM ..**	**114.000, -**
	375		**1PQ8 405-8PM ..**	**123.000, -**
	425		**1PQ8 407-8PM ..**	**142.000, -**
	485	450	**1PQ8 453-8PM ..**	**158.000, -**
	545		**1PQ8 455-8PM ..**	**173.000, -**
	600		**1PQ8 457-8PM ..**	**190.000, -**

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified.
(voltage codes 7 and 8).

Order No. supplements

Motor type	Penultimate place: Voltage code		Last place: Type of construction code			
	No rated voltage range.		IM B 3	at additional charge, please refer to Page 3/9		
	690 VY	690 VΔ		IM V 1 without protective cover 1)	IM V 1 with protective cover	IM B 35
1PQ8 315 to 1PQ8 357	**8**	**-**	**0**	**8**	**4**	**6**
1PQ8 403 to 1PQ8 457	**8** 2)	**7** 3)	**0**	**8**	**4**	**6**

For voltage code '9 L1Y' for other voltages, additional charge, please refer to Page 3/8.

1) For explosion-proof motors, the type of construction IM V1 without protective cover is not possible.
2) Not possible for 2-pole motors from 1PQ8 403, 4-pole motors from 1PQ8 407 and for 6-pole motors from 1PQ8 455.
3) Only available for 2-pole motors from 1PQ8 403, 4-pole motors from 1PQ8 407 and for 6-pole motors from 1PQ8 455.

Non-standard motors frame size 315 and above

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated motors with through ventilation for mains-fed operation – Cast-iron series 1LL8

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01	**315**	315	**1LL8 315-2AC ..**	**39.800, -**
	400		**1LL8 317-2AC ..**	**50.300, -**
	450	355	**1LL8 353-2AD ..**	**56.600, -**
	500		**1LL8 355-2AD ..**	**64.800, -**
	630		**1LL8 357-2AD ..**	**81.600, -**
	710	400	**1LL8 403-2AD ..**	**89.700, -**
	800		**1LL8 405-2AD ..**	**102.000, -**
	900		**1LL8 407-2AD ..**	**114.000, -**
	1000	450	**1LL8 453-2AE ..**	**133.000, -**
	1120		**1LL8 455-2AE ..**	**149.000, -**
	1250		**1LL8 457-2AE ..**	**167.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01	**315**	315	**1LL8 315-4AC ..**	**37.100, -**
	400		**1LL8 317-4AC ..**	**46.800, -**
	450	355	**1LL8 353-4AC ..**	**53.600, -**
	500		**1LL8 355-4AC ..**	**60.000, -**
	630		**1LL8 357-4AC ..**	**74.100, -**
	710	400	**1LL8 403-4AC ..**	**84.200, -**
	800		**1LL8 405-4AC ..**	**90.300, -**
	900		**1LL8 407-4AC ..**	**108.000, -**
	1000	450	**1LL8 453-4AD ..**	**121.000, -**
	1120		**1LL8 455-4AD ..**	**138.000, -**
	1250		**1LL8 457-4AD ..**	**152.000, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01	**250**	315	**1LL8 315-6AC ..**	**44.000, -**
	315		**1LL8 317-6AC ..**	**55.100, -**
	400	355	**1LL8 355-6AC ..**	**71.400, -**
	500		**1LL8 357-6AC ..**	**83.500, -**
	560	400	**1LL8 403-6AC ..**	**93.000, -**
	630		**1LL8 405-6AC ..**	**102.000, -**
	710		**1LL8 407-6AC ..**	**116.000, -**
	800	450	**1LL8 453-6AD ..**	**132.000, -**
	900		**1LL8 455-6AD ..**	**145.000, -**
	1000		**1LL8 457-6AD ..**	**165.000, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01	**200**	315	**1LL8 315-8AC ..**	**44.000, -**
	250		**1LL8 317-8AC ..**	**55.100, -**
	315	355	**1LL8 355-8AC ..**	**69.900, -**
	400		**1LL8 357-8AC ..**	**85.700, -**
	450	400	**1LL8 403-8AD ..**	**93.000, -**
	500		**1LL8 405-8AD ..**	**103.000, -**
	560		**1LL8 407-8AD ..**	**121.000, -**
	630	450	**1LL8 453-8AD ..**	**137.000, -**
	710		**1LL8 455-8AD ..**	**152.000, -**
	800		**1LL8 457-8AD ..**	**173.000, -**

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code			
	50 Hz 400 VΔ 690 VY	500 VΔ	690 VΔ	**60 Hz** 460 VΔ (outputs please refer to catalog D81.1)	IM B 3	at additional charge, please refer to Page 3/9 IM V 1 without protective cover	IM V 1 with protective cover	IM B 35
1LL8 315 to 1LL8 405	**6**	**5**	**-** 1)	**9 L2F**	**0** 2)	**8** 2)	**4** 2)	**6** 2)
1LL8 407 to 1LL8 457	**6** 3)	**5**	**0** 4)	**9 L2F** 5)	**0** 2)	**8** 2)	**4** 2)	**6** 2)

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 3/8.

1) As special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).
2) For 2-pole motors 60 Hz version for 1LL8 353 up to 1LL8 457 not possible.
3) Not possible for 2- and 4-pole motors from 1LL8 407 and for 6-pole motors from 1LL8 453 and 8-pole motors 1LL8 457.
4) For 6-pole motors 1LL8 407 and for 8-pole 1LL8 407 to 1LL8 455 motors only possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency). For 6-pole motors from 1LL8 453 and 8-pole motors 1LL8 457 standard design.
5) On request for 2- and 4-pole motors from 1LL8 407 and 6-pole motors 1LL8 453 up to 1LL8 457 and 8-pole motors 1LL8 457.

IEC Squirrel-Cage Motors

Non-standard motors frame size 315 and above

Self-ventilated motors with through-ventilation for converter-fed operation – Cast-iron series 1LL8

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Standard insulation for ≤ 500V	**315**	315	**1LL8 315-2PC ..**	**43.400, -**
	400		**1LL8 317-2PC ..**	**53.900, -**
	450	355	**1LL8 353-2PD ..**	**60.200, -**
	500		**1LL8 355-2PD ..**	**68.400, -**
	630		**1LL8 357-2PD ..**	**85.200, -**
	710	400	**1LL8 403-2PD ..**	**93.700, -**
	800		**1LL8 405-2PD ..**	**106.000, -**
	900		**1LL8 407-2PD ..**	**119.000, -**
	1000	450	**1LL8 453-2PE ..**	**138.000, -**
	1120		**1LL8 455-2PE ..**	**153.000, -**
	1250		**1LL8 457-2PE ..**	**171.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Standard insulation for ≤ 500V	**315**	315	**1LL8 315-4PC ..**	**40.600, -**
	400		**1LL8 317-4PC ..**	**50.400, -**
	450	355	**1LL8 353-4PC ..**	**57.100, -**
	500		**1LL8 355-4PC ..**	**63.400, -**
	630		**1LL8 357-4PC ..**	**77.100, -**
	710	400	**1LL8 403-4PC ..**	**88.200, -**
	800		**1LL8 405-4PC ..**	**95.700, -**
	900		**1LL8 407-4PC ..**	**112.000, -**
	1000	450	**1LL8 453-4PD ..**	**126.000, -**
	1120		**1LL8 455-4PD ..**	**142.000, -**
	1250		**1LL8 457-4PD ..**	**158.000, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Standard insulation for ≤ 500V	**250**	315	**1LL8 315-6PC ..**	**47.600, -**
	315		**1LL8 317-6PC ..**	**58.700, -**
	400	355	**1LL8 355-6PC ..**	**75.100, -**
	500		**1LL8 357-6PC ..**	**87.000, -**
	560	400	**1LL8 403-6PC ..**	**97.100, -**
	630		**1LL8 405-6PC ..**	**106.000, -**
	710		**1LL8 407-6PC ..**	**119.000, -**
	800	450	**1LL8 453-6PD ..**	**137.000, -**
	900		**1LL8 455-6PD ..**	**148.000, -**
	1000		**1LL8 457-6PD ..**	**169.000, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Standard insulation for ≤ 500V	**200**	315	**1LL8 315-8PC ..**	**47.600, -**
	250		**1LL8 317-8PC ..**	**58.700, -**
	315	355	**1LL8 355-8PC ..**	**73.500, -**
	400		**1LL8 357-8PC ..**	**89.400, -**
	450	400	**1LL8 403-8PD ..**	**97.100, -**
	500		**1LL8 405-8PD ..**	**107.000, -**
	560		**1LL8 407-8PD ..**	**125.000, -**
	630	450	**1LL8 453-8PD ..**	**141.000, -**
	710		**1LL8 455-8PD ..**	**158.000, -**
	800		**1LL8 457-8PD ..**	**177.000, -**

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified.
(voltage codes 4, 5, 7 and 8).

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code			
	50 Hz	No rated voltage range.			IM B 3	at additional charge, please refer to Page 3/9		
	400 VΔ	400 VΔ 690 VY [1]	500 VΔ	690 VΔ [1]		IM V 1 without protective cover	IM V 1 with protective cover	IM B 35
1LL8 315 to 1LL8 405	**4**	**8**	**5**	**- [2]**	**0**	**8**	**4**	**6**
1LL8 407 to 1LL8 457	**4** [3]	**8** [3]	**5**	**7** [4]	**0**	**8**	**4**	**6**

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 3/8.

1) Motors with standard insulation can only be operated with converter circuit (du/dt or sinusoidal filter).
2) For 8-pole motors possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).
3) Not possible for 2- and 4-pole motors from 1LL8 407 and 6-pole motors 1LL8 455 up to 1LL8 457 and 8-pole motors 1LL8 457.
4) For 6-pole motors 1LL8 407 up to 1LL8 453 not possible. For 8-pole motors 1LL8 315 to 1LL8 455 only possible as special version with voltage code 9 and order code L1Y (specify output, voltage and frequency).

Non-standard motors frame size 315 and above

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated motors with through-ventilation for converter-fed operation – Cast-iron series 1LL8

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Special insulation up to 690V	300	315	1LL8 315-2PM ..	54.000, -
	380		1LL8 317-2PM ..	64.600, -
	435	355	1LL8 353-2PM ..	74.700, -
	485		1LL8 355-2PM ..	82.500, -
	610		1LL8 357-2PM ..	98.700, -
	690	400	1LL8 403-2PM ..	111.000, -
	770		1LL8 405-2PM ..	123.000, -
	860		1LL8 407-2PM ..	138.000, -
	965	450	1LL8 453-2PM ..	149.000, -
	1085		1LL8 455-2PM ..	170.000, -
	1210		1LL8 457-2PM ..	186.000, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of c onstr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Special insulation up to 690V	295	315	1LL8 315-4PM ..	53.300, -
	365		1LL8 317-4PM ..	63.200, -
	430	355	1LL8 353-4PM ..	74.000, -
	480		1LL8 355-4PM ..	79.200, -
	600		1LL8 357-4PM ..	96.700, -
	690	400	1LL8 403-4PM ..	105.000, -
	780		1LL8 405-4PM ..	118.000, -
	870		1LL8 407-4PM ..	127.000, -
	980	450	1LL8 453-4PM ..	143.000, -
	1095		1LL8 455-4PM ..	155.000, -
	1225		1LL8 457-4PM ..	175.000, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Special insulation up to 690V	235	315	1LL8 315-6PM ..	61.200, -
	295		1LL8 317-6PM ..	72.100, -
	380	355	1LL8 355-6PM ..	92.700, -
	475		1LL8 357-6PM ..	105.000, -
	540	400	1LL8 403-6PM ..	111.000, -
	610		1LL8 405-6PM ..	121.000, -
	690		1LL8 407-6PM ..	137.000, -
	780	450	1LL8 453-6PM ..	149.000, -
	870		1LL8 455-6PM ..	158.000, -
	975		1LL8 457-6PM ..	183.000, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 23 · 50 Hz · Temperature class 155 (F) · Cooling IC 01 · Special insulation up to 690V	180	315	1LL8 315-8PM ..	58.400, -
	225		1LL8 317-8PM ..	69.400, -
	285	355	1LL8 355-8PM ..	88.100, -
	365		1LL8 357-8PM ..	103.000, -
	420	400	1LL8 403-8PM ..	109.000, -
	465		1LL8 405-8PM ..	121.000, -
	525		1LL8 407-8PM ..	138.000, -
	610	450	1LL8 453-8PM ..	156.000, -
	690		1LL8 455-8PM ..	176.000, -
	760		1LL8 457-8PM ..	189.000, -

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified.
(voltage codes 7 and 8).

Order No. supplements

Motor type	Penultimate place: Voltage code		Last place: Type of construction code			
	No rated voltage range.		IM B 3	at additional charge, please refer to Page 3/9		
	690 VY	690 VΔ		IM V 1 without protective cover	IM V 1 with protective cover	IM B 35
1LL8 315 to 1LL8 405	8	-	0	8	4	6
1LL8 407 to 1LL8 457	8 [1]	7 [2]	0	8	4	6

For voltage code '9 L1Y' for other voltages, additional charge, please refer to Page 3/8.

1) Not possible for 2- and 4-pole motors from 1LL8 407 and for 6-pole motors from 1LL8 455.
2) Only available for 2- and 4-pole motors from 1LL8 407 and for 6-pole motors from 1LL8 455.

Non-standard motors frame size 315 and above

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Order codes for other rated voltages

Voltage at 60 Hz V	Required output at 60 Hz		Type of voltage code 11th position	Order code	Additional charge plus MS EUR 1LA8 Frame size 315	355	400	450
380Δ/660Y [1]	50-Hz-Output		9	L2C	384, -	566, -	699, -	782, -
	60-Hz-Output	[2]	9	L2D				
440Δ [1]	50-Hz-Output		9	L2R				
	60-Hz-Output	[2]	9	L2X				
460Δ [1]	50-Hz-Output		9	L2T				
	60-Hz-Output	[2]	9	L2F				
575Δ [1]	50-Hz-Output		9	L2V				
	60-Hz-Output	[2]	9	L2M				
Plain-text required (standard winding)		[3]	9	L8Y ◆	289, -	289, -	289, -	289, -
Plain-text required (non-standard winding)		[4]	9	L1Y	2.530, -	3.130, -	3.750, -	4.410, -

Voltage at 60 Hz V	Required output at 60 Hz		Type of voltage code 11th position	Order code	Additional charge plus MS EUR 1PQ8 Frame size 315	355	400	450
380Δ/660Y [1]	50-Hz-Output		9	L2C	384, -	566, -	699, -	782, -
	60-Hz-Output	[2]	9	L2D				
440Δ [1]	50-Hz-Output		9	L2R				
	60-Hz-Output	[2]	9	L2X				
460Δ [1]	50-Hz-Output		9	L2T				
	60-Hz-Output	[2]	9	L2F				
575Δ [1]	50-Hz-Output		9	L2V				
	60-Hz-Output	[2]	9	L2M				
Plain-text required (standard winding)		[3]	9	L8Y ◆	289, -	289, -	289, -	289, -
Plain-text required (non-standard winding)		[4]	9	L1Y	2.530, -	3.130, -	3.750, -	4.410, -

Voltage at 60 Hz V	Required output at 60 Hz		Type of voltage code 11th position	Order code	Additional charge plus MS EUR 1LL8 Frame size 315	355	400	450
380Δ/660Y [1]	50-Hz-Output		9	L2C	384, -	566, - [5]	699, - [5]	782, - [5]
	60-Hz-Output	[2]	9	L2D				
440Δ [1]	50-Hz-Output		9	L2R				
	60-Hz-Output	[2]	9	L2X				
460Δ [1]	50-Hz-Output		9	L2T				
	60-Hz-Output	[2]	9	L2F				
575Δ [1]	50-Hz-Output		9	L2V				
	60-Hz-Output	[2]	9	L2M				
Plain-text required (standard winding)		[3]	9	L8Y ◆	289, -	289, -	289, -	289, -
Plain-text required (non-standard winding)		[4]	9	L1Y	2.530, -	3.130, -	3.750, -	4.410, -

◆ Winding according to voltage codes 0, 4, 5, 6, 7 or 8; rating plate is stamped according to Order No. supplement.

1) Only up to rated output 630 kW practicable.
2) Output according to with table of output for 60 Hz see catalog D81.1.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.
Option Y80 not required since it is included in the price for L8Y.
4) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.
5) Not possible for 2-pole motors in 60 Hz version of frame size 355 and above.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA8 Frame size 315	355	400	450
Without flange:						
IM B 3	**0**	-	■	■	■	■
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		- **A 800**	- **A 900**	- **A 1000**	- **A 1150**
IM V 1 without cover	**8** [1] [3]	-	1.610, -	2.430, - [2]	3.360, - [2]	4.520, - [2]
IM V 1 with cover	**4** [3]	-	2.550, -	3.750, - [2]	5.050, - [2]	6.510, - [2]
IM B 35	**6**	-	2.020, -	2.800, -	3.540, -	4.410, -

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1PQ8 Frame size 315	355	400	450
Without flange:						
IM B 3	**0**	-	■	■	■	■
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		- **A 800**	- **A 900**	- **A 1000**	- **A 1150**
IM V 1 without cover	**8** [1] [3]	-	1.480, -	2.230, - [2]	3.120, - [2]	4.160, - [2]
IM V 1 with cover	**4** [3]	-	2.370, -	3.480, - [2]	4.660, - [2]	6.030, - [2]
IM B 35	**6**	-	1.840, -	2.580, -	3.270, -	4.050, -

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LL8 Frame size 315	355	400	450
Without flange:						
IM B 3	**0**	-	■	■ [4]	■ [4]	■ [4]
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		- **A 800**	- **A 900**	- **A 1000**	- **A 1150**
IM V 1 without cover	**8**	-	1.480, -	2.230, - [4]	3.120, - [4]	4.020, - [4]
IM V 1 with cover	**4** [3]	-	2.370, -	3.120, - [4]	4.660, - [4]	5.840, - [4]
IM B 35	**6**	-	O.R.	O.R. [4]	O.R. [4]	O.R. [4]

■ Standard design ❍ without additional charge O.R. On request

When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) For explosion-proof motors, the type of construction IM V1 without protective cover is not possible.
2) 60-Hz design not available up to 500 V for 2-pole motors for converter- and mains-fed operation.
3) The 'second shaft extension' option (order code K16) is not possible.
4) 60-Hz design not available for 2-pole motors for mains-fed operation.

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Order codes for special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors for mains-fed and converter-fed operation 1LA8									
		1LA8 Mains-fed operation				**1LA8** Converter-fed operation			
Standardline									
Standardline version [1]	**B20**	○	○	–	–	○	○	–	–
Motor protection									
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [2]	**A12**	□	□	□	□	□	□	□	□
Motor temperature detection with embedded temperature sensor KTY 84-130 [3]	**A23**	○	○	○	○	○	○	○	○
Installation of 6 PT 100 resistance thermometers in stator winding [3]	**A61**	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings	**A72**	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–
Motor connection and connection boxes									
Two-part plate on connection box	**K06**	1300,– [4]	1.300,–	1.300,–	1.300,–	O. R.	O. R.	O. R.	O. R.
Undrilled entry plate	**L01**	○ [4]	○	○	○	○ [4]	○	○	○
Connection box on RHS	**K09**	□	□	□	□	□	□	□	□
Connection box on LHS	**K10**	○	○	○	○	○	○	○	○
Connection box above (1XB1 634 connection box) [5]	**K11**	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–
Cable gland DIN 89280, maximum configuration	**K57**	1.350,–	2.710,–	2.710,–	2.710,–	1.350,–	2.710,–	2.710,–	2.710,–
Rotation of the connection box through 90°, entry from DE	**K83**	○	○	○	○	○	○	○	○
Rotation of the connection box through 90°, entry from NDE	**K84**	○	○	○	○	○	○	○	○
Rotation of connection box through 180°	**K85**	○	○	○	○	○	○	○	○
Larger connection box (1XB1 621 connection box)	**M58**	2.090,–	□ [6]	–	–	2.090,–	□ [6]	–	–
Larger connection box (1XB1 631 connection box)	**L00**	8.570,–	8570,– [6]	□	□	8.570,–	8570,– [6]	□	□
6 cables protruding, 1.5 m long	**L48**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
6 cables protruding, 3 m long	**L49**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB9 016 (cast-iron)	**M50**	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–
Auxiliary connection box 1XB3 020 [7]	**L97**	442,–	442,–	442,–	442,–	442,–	442,–	442,–	442,–
Auxiliary connection box 1XB9 014 (aluminum)	**M88**	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–
Connection box on NDE	**M64**	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–
Windings and insulation									
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF 1.1, from frame size 400 SF 1.05) [8]	**C11**	275,–	275,–	275,–	275,–	–	–	–	–
Temperature class 155 (F), used acc. to 155 (F), with increased output (10 %, from frame size 400 5 %) [8]	**C12**	275,–	275,–	275,–	275,–	–	–	–	–

For legend and footnotes, see Page 3/13.

Non-standard motors frame size 315 and above

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors for mains-fed and converter-fed operation 1LA8									
		1LA8 Mains-fed operation				**1LA8** Converter-fed operation			
Windings and insulation (continued)									
Temperature class 155 (F), used according to 155 (F), with increased coolant temperature (55 °C, 50 °C up to frame size 400) [8]	**C13**	275,–	275,–	275,–	275,–	–	–	–	–
Temperature class 180 (H), used acc. to 155 (F), with service factor (SF 1,1) [8]	**C14**	4.410,–	5.780,–	7.250,–	9.980,–	2.420,–	2.840,–	3.780,–	5.150,–
Colors and paint finish									
Standard finish in RAL 7030 stone gray		□	□	□	□	□	□	□	□
Standard paint finish in other colors	**Y53** • and standard finish RAL	161,–	184,–	209,–	243,–	161,–	184,–	209,–	243,–
Special finish in RAL 7030 stone gray	**K26**	722,–	881,–	1.120,–	1.430,–	722,–	881,–	1.120,–	1.430,–
Special finish in other colors	**Y54** • and special finish RAL	1.040,–	1.250,–	1.520,–	1.920,–	1.040,–	1.250,–	1.520,–	1.920,–
Unpainted (only cast iron parts primed)	**K23**	O	O	O	O	O	O	O	O
Special technology									
Mounting of brake (incl. brake of Stromag)	**H47**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Mounting of LL 861 900 220 rotary pulse encoder	**H70**	–	–	–	–	4.950,–	4.950,–	4.950,–	4.950,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**	–	–	–	–	4.950,–	4.950,–	4.950,–	4.950,–
Prepared for mounting LL 861 900 220	**H78**	–	–	–	–	3.760,–	3.760,–	3.760,–	3.760,–
Prepared for mounting HOG 10 D 1024 I	**H80**	–	–	–	–	3.760,–	3.760,–	3.760,–	3.760,–
Mounting a special type of rotary pulse encoder	**Y70** • and encoder designation	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Mechanical design and degrees of protection									
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	2.490,–	□	□	□	2.490,–	□	□	□
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	2.490,–	O	O	O	2.490,–	O	O	O
IP56 degree of protection (non-heavy-sea)	**K52**	1.080,–	1.240,–	1.670,–	2.240,–	1.080,–	1.240,–	1.670,–	2.240,–
Non-rusting screws (externally)	**M27**	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–
Coolant temperature and site altitude									
Coolant temperature -40 to +40 °C	**D03**	2.860,–	4.250,–	6.870,–	9.300,–	2.860,–	4.250,–	6.870,–	9.300,–
Coolant temperature -30 to +40 °C	**D04**	2.860,–	4.250,–	6.870,–	9.300,–	2.860,–	4.250,–	6.870,–	9.300,–
Coolant temperature 45 °C, derating 4 % [9]	**D11**	O	O	O	O	O	O	O	O
Coolant temperature 50 °C, derating 8 % [9]	**D12**	O	O	O	O	O	O	O	O
Coolant temperature 55 °C, derating 13 % [9]	**D13**	O	O	O	O	O	O	O	O
Coolant temperature 60 °C, derating 18 % [9]	**D14**	O	O	O	O	O	O	O	O
Designs in accordance with standards and specifications									
Electrical according to NEMA MG1-12	**D30**	289,–	289,–	289,–	289,–	289,–	289,–	289,–	289,–
Design according to UL with "Recognition Mark"	**D31**	989,–	1.220,–	1.520,–	1.890,–	989,–	1.220,–	1.520,–	1.890,–
Canadian regulations (CSA)	**D40**	795,–	903,–	1.010,–	1.180,–	795,–	903,–	1.010,–	1.180,–

For legend and footnotes, see Page 3/13.

Non-standard motors frame size 315 and above

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors for mains-fed and converter-fed operation 1LA8									
		1LA8 Mains-fed operation				**1LA8** Converter-fed operation			
Design for Zones 1, 2 and 22 according to ATEX [10]									
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 [11] [12] [13]	**M72**	1.110,–	1.250,–	1.420,–	1.610,–	–	–	–	–
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 [11] [12] [13] [14]	**M73**	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation [13]	**M35**	1.110,–	1.250,–	1.420,–	1.610,–	–	–	–	–
Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation [12] [13]	**M39**	–	–	–	–	1.450,–	1.660,–	1.850,–	2.100,–
VIK version [13] [15]	**K30**	5.530,–	3.660,–	–	–	O. R.	O. R.	–	–
Stamping of Ex nA II on VIK rating plate	**C27**	112,–	112,–	–	–	O. R.	O. R.	–	–
Bearings and lubrication									
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	467,–	467,–	467,–	467,–	467,–	467,–	467,–	467,–
Bearing design for increased cantilever forces [16]	**K20**	3.490,–	3.490,–	–	–	3.490,–	3.490,–	–	–
Balance and vibration quantity									
Vibration quantity level B	**K02**	3.000,–	3.550,–	3.690,–	4.370,–	3.000,–	3.550,–	3.690,–	4.370,–
Full key balancing	**L68**	214,–	322,–	494,–	709,–	214,–	322,–	494,–	709,–
Shaft and rotor									
Second standard shaft extension [17]	**K16**	723,–	974,–	1.330,–	1.490,–	723,–	974,–	1.330,–	1.490,–
Shaft extension with standard dimensions, without featherkey way	**K42**	538,–	615,–	684,–	872,–	538,–	615,–	684,–	872,–
Non-standard cylindrical shaft extension	**Y55** • and identification code	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–
Heating and ventilation									
Metal external fan	**K35**	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–
Anti-condensation heaters for 230 V	**K45**	863,–	923,–	1.040,–	1.160,–	863,–	923,–	1.040,–	1.160,–
Anti-condensation heaters for 115 V	**K46**	863,–	923,–	1.040,–	1.160,–	863,–	923,–	1.040,–	1.160,–
Rating plate and extra rating plates									
Second rating plate, loose	**K31**	169,–	169,–	169,–	169,–	169,–	169,–	169,–	169,–
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	289,–	289,–	289,–	289,–	289,–	289,–	289,–	289,–
Extra rating plate with identification code	**Y82** • and identification code	169,–	169,–	169,–	169,–	169,–	169,–	169,–	169,–
Packaging, safety notes, documentation and test certificates [18]									
Document - Electrical data sheet	**B31**	989,–	989,–	989,–	989,–	989,–	989,–	989,–	989,–
Document - Order dimension drawing	**B32**	563,–	563,–	563,–	563,–	563,–	563,–	563,–	563,–
Document - Load characteristics	**B37**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Standard test (routine test) with acceptance	**F01**	5.400,–	6.100,–	6.100,–	6.790,–	5.400,–	6.100,–	6.100,–	6.790,–
Visual acceptance and report handover with acceptance	**F03**	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–
Temperature-rise test, without acceptance	**F04**	13.700,–	15.000,–	15.000,–	17.700,–	13.700,–	15.000,–	15.000,–	17.700,–
Temperature-rise test, with acceptance	**F05**	16.400,–	17.600,–	17.600,–	20.400,–	16.400,–	17.600,–	17.600,–	20.400,–
Noise measurement in no-load operation, no noise analysis, no acceptance	**F28**	777,–	777,–	777,–	777,–	777,–	777,–	777,–	777,–

For legend and footnotes, see Page 3/13.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors for mains-fed and converter-fed operation 1LA8									
		1LA8 Mains-fed operation				**1LA8** Converter-fed operation			
Packaging, safety notes, documentation and test certificates [18] (continued)									
Noise measurement in no-load operation, no noise analysis, with acceptance	**F29**	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–
Noise measurement in no-load operation, with noise analysis, without acceptance	**F62**	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–
Noise measurement in no-load operation, with noise analysis, with acceptance	**F63**	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–
Recording of current and torque curves with torque metering shaft during starting, without acceptance	**F34**	10.300,–	10.300,–	10.300,–	10.300,–	–	–	–	–
Recording of current and torque curves with torque metering shaft during starting, with acceptance	**F35**	11.600,–	11.600,–	11.600,–	11.600,–	–	–	–	–
Measurement of locked-rotor torque and current, without acceptance	**F52**	8.490,–	8.490,–	8.490,–	8.490,–	–	–	–	–
Measurement of locked-rotor torque and current, with acceptance	**F53**	9.050,–	9.050,–	9.050,–	9.050,–	–	–	–	–
Type test with heat run for horizontal motors, without acceptance	**F82**	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–
Type test with heat run for horizontal motors, with acceptance	**F83**	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, without acceptance	**F92**	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–
Type test with heat run for vertical motors, with acceptance	**F93**	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) For 4-pole version only, type of construction IM B3, 400 VΔ/690 VY or 500 VΔ voltage (no special insulation). Only the following short codes can be ordered in combination with the *Standardline*: **A23, A61, A72, G50, H70, H73, K09, K10, K45, K46, K57, K83, K84, K85, L00, L97, M58** (only frame size 315)**, M88, Y53**.

2) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

3) The standard thermistors are omitted. If PTC thermistors are required as well as KTYs or PT100s, this must be specified in the order in plain text. A combination of **A12** and **A23** or **A12** and **A61** is available on request for a price supplement.

4) Only possible in combination with the larger connection boxes 1XB1 621 or 1XB1 631 (order codes **M58** or **L00**).

5) A combination with the order codes **M88** and **M50** is not possible. Connection box 1XP1 634 can be rotated through 4 x 90°. Cable entry is from NDE or the delivery position. Dimension drawings available on request.

6) With 1LA8 357-2 and 1LA8 357-4, connection box 1XB1 631 is supplied in the standard version.

7) VIK version is not possible.

8) Use in class 180 (H) is not possible. All the 400 V versions are only available on request. Due to the rated current, for frame size 400 (2 and 4 poles) and 450 (all the pole motors) will be generally provided a larger connection box with the type identification 1XB9 600, which is part of the Order code **C14**.

9) Site altitude up to 1000 m above sea level.

10) Explosion-protected encoders are available on request.

11) Only admissible for use in accordance with temperature class 130 (B). PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2 and 22. Derating data are available on request.

12) These motors do not have a rated voltage range stamped on the rating plate.

13) For options **K30, M35, M39, M72, M73** an additional metal external fan order code **K35** must be ordered.

14) In the order, the "Speed range and torque characteristic" must be specified in plain text. A system test is necessary for M = constant.

15) The VIK version comprises Zone 2 for mains-fed operation – without Ex nA II marking on rating plate. For 2-pole motors of frame size 315, the low-noise version is also required.
Order code **K37** or **K38** and additionally the metal external fan order code **K35**. Note the specified output and dimensions. For 1LA8 353 to 1LA8 357 motors, the connection box cannot be rotated by 4 x 90°.

16) Not possible for 2-pole motors and motors of vertical type of construction.

17) Please inquire in the case of 2-pole motors and motors in vertical type of construction.

18) Type testing is also performed for converter-fed operation.

Non-standard motors frame size 315 and above

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8					
		1PQ8 Converter-fed operation			
Standardline					
Standardline version	**B20**	–	–	–	–
Motor protection					
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	**A12**	□	□	□	□
Motor temperature detection with embedded temperature sensor KTY 84-130 [2]	**A23**	○	○	○	○
Installation of 6 PT 100 resistance thermometers in stator winding [2]	**A61**	3.310,–	3.310,–	3.310,–	3.310,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings	**A72**	4.550,–	4.550,–	4.550,–	4.550,–
Motor connection and connection boxes					
Two-part plate on connection box	**K06**	O. R.	O. R.	O. R.	O. R.
Undrilled entry plate	**L01**	○ [3]	○	○	○
Connection box on RHS	**K09**	□	□	□	□
Connection box on LHS	**K10**	○	○	○	○
Connection box above (1XB1 634 connection box) [4]	**K11**	14.100,–	14.100,–	14.100,–	14.100,–
Cable gland, maximum configuration	**K57**	1.350,–	2.710,–	2.710,–	2.710,–
Rotation of the connection box through 90°, entry from DE	**K83**	○	○	○	○
Rotation of the connection box through 90°, entry from NDE	**K84**	○	○	○	○
Rotation of connection box through 180°	**K85**	○	○	○	○
Larger connection box (1XB1 621 connection box)	**M58**	2.090,–	□ [5]	–	–
Larger connection box (1XB1 631 connection box)	**L00**	8.570,–	8570,– [5]	□	□
6 cables protruding, 1.5 m long	**L48**	O. R.	O. R.	O. R.	O. R.
6 cables protruding, 3 m long	**L49**	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB9 016 (cast-iron)	**M50**	1.710,–	1.710,–	1.710,–	1.710,–
Auxiliary connection box 1XB3 020	**L97**	442,–	442,–	442,–	442,–
Auxiliary connection box 1XB9 014 (aluminum)	**M88**	1.130,–	1.130,–	1.130,–	1.130,–
Connection box on NDE	**M64**	2.250,–	2.250,–	2.250,–	2.250,–

For legend and footnotes, see Page 3/17.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8					
		1PQ8 Converter-fed operation			
Windings and insulation					
Temperature class 180 (H), used acc. to 155 (F), with service factor (SF 1,1) [6]	**C14**	2.420,–	2.840,–	3.780,–	5.150,–
Colors and paint finish					
Standard finish in RAL 7030 stone gray		□	□	□	□
Standard paint finish in other colors	**Y53** • and standard finish RAL ….	161,–	184,–	209,–	243,–
Special finish in RAL 7030 stone gray	**K26**	722,–	881,–	1.120,–	1.430,–
Special finish in other colors	**Y54** • and special finish RAL ….	990,–	1.190,–	1.520,–	1.810,–
Unpainted (only cast-iron parts primed)	**K23**	O	O	O	O
Special technology					
Mounting of brake (incl. brake of Stromag)	**H47**	O. R.	O. R.	O. R.	O. R.
Mounting of LL 861 900 220 rotary pulse encoder	**H70**	4.950,–	4.950,–	4.950,–	4.950,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**	4.950,–	4.950,–	4.950,–	4.950,–
Prepared for mounting LL 861 900 220	**H78**	3.760,–	3.760,–	3.760,–	3.760,–
Prepared for mounting HOG 10 D 1024 I	**H80**	3.760,–	3.760,–	3.760,–	3.760,–
Mounting a special type of rotary pulse encoder	**Y70** • and encoder designation	O. R.	O. R.	O. R.	O. R.
Mechanical design and degrees of protection					
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	–	–	–	–
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	–	–	–	–
IP56 degree of protection (non-heavy-sea)	**K52**	O. R.	O. R.	O. R.	O. R.
Non-rusting screws (externally) [7]	**M27**	1.120,–	1.120,–	1.120,–	1.120,–
Coolant temperature and site altitude					
Coolant temperature -40 to +40 °C	**D03**	O. R.	O. R.	O. R.	O. R.
Coolant temperature -30 to +40 °C	**D04**	O. R.	O. R.	O. R.	O. R.
Coolant temperature 45 °C, derating 4 % [8]	**D11**	O	O	O	O
Coolant temperature 50 °C, derating 8 % [8]	**D12**	O	O	O	O
Coolant temperature 55 °C, derating 13 % [8]	**D13**	O	O	O	O
Coolant temperature 60 °C, derating 18 % [8]	**D14**	O	O	O	O

For legend and footnotes, see Page 3/17.

Non-standard motors frame size 315 and above

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8					
		1PQ8 Converter-fed operation			
Designs in accordance with standards and specifications					
Electrical according to NEMA MG1-12 [9]	**D30**	289,–	289,–	289,–	289,–
Design according to UL with "Recognition Mark"	**D31**	989,–	1.220,–	1.520,–	1.890,–
Canadian regulations (CSA)	**D40**	795,–	903,–	1.010,–	1.180,–
Design for Zones 2 and 22 according to ATEX [10]					
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15	**M72**	–	–	–	–
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 [11] [12] [13]	**M73**	O. R.	O. R.	O. R.	O. R.
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	**M35**	–	–	–	–
Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation	**M39**	–	–	–	–
VIK version	**K30**	–	–	–	–
Stamping of Ex nA II on VIK rating plate	**C27**	–	–	–	–
Bearings and lubrication					
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	467,–	467,–	467,–	467,–
Bearing design for increased cantilever forces [14]	**K20**	3.490,–	3.490,–	–	–
Balance and vibration quantity					
Vibration quantity level B	**K02**	3.000,–	3.550,–	3.690,–	4.370,–
Full key balancing	**L68**	214,–	322,–	494,–	709,–
Shaft and rotor					
Second standard shaft extension	**K16**	–	–	–	–
Shaft extension with standard dimensions, without featherkey way	**K42**	538,–	615,–	684,–	872,–
Non-standard cylindrical shaft extension	**Y55** • and identification code	4.220,–	4.220,–	4.220,–	4.220,–
Heating and ventilation					
Anti-condensation heaters for 230 V	**K45**	863,–	923,–	1.040,–	1.160,–
Anti-condensation heaters for 115 V	**K46**	863,–	923,–	1.040,–	1.160,–
Separately driven fan with non-standard voltage and/or frequency [15]	**Y81** • and identification code	4.110,–	4.870,–	5.100,–	5.740,–
Rating plate and extra rating plates					
Second rating plate, loose	**K31**	169,–	169,–	169,–	169,–
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	289,–	289,–	289,–	289,–
Extra rating plate with identification code	**Y82** • and identification code	169,–	169,–	169,–	169,–
Packaging, safety notes, documentation and test certificates [16]					
Document - Electrical data sheet	**B31**	989,–	989,–	989,–	989,–
Document - Order dimension drawing	**B32**	563,–	563,–	563,–	563,–

For legend and footnotes, see Page 3/17.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8					
		1PQ8 Converter-fed operation			
Packaging, safety notes, documentation and test certificates [16] (continued)					
Document - Load characteristics	**B37**	O. R.	O. R.	O. R.	O. R.
Normal inspection (routine inspection) with acceptance	**F01**	5.400,–	6.100,–	6.100,–	6.790,–
Visual acceptance and report handover with acceptance	**F03**	1.340,–	1.340,–	1.340,–	1.340,–
Temperature-rise test, without acceptance	**F04**	13.700,–	15.000,–	15.000,–	17.700,–
Temperature-rise test, with acceptance	**F05**	16.400,–	17.600,–	17.600,–	20.400,–
Noise measurement in no-load operation, no noise analysis, no acceptance	**F28**	777,–	777,–	777,–	777,–
Noise measurement in no-load operation, no noise analysis, with acceptance	**F29**	1.020,–	1.020,–	1.020,–	1.020,–
Noise measurement in no-load operation, with noise analysis, without acceptance	**F62**	2.300,–	2.300,–	2.300,–	2.300,–
Noise measurement in no-load operation, with noise analysis, with acceptance	**F63**	2.920,–	2.920,–	2.920,–	2.920,–
Recording of current and torque curves with torque metering shaft during starting, without acceptance	**F34**	–	–	–	–
Recording of current and torque curves with torque metering shaft during starting, with acceptance	**F35**	–	–	–	–
Measurement of locked-rotor torque and current, without acceptance	**F52**	–	–	–	–
Measurement of locked-rotor torque and current, with acceptance	**F53**	–	–	–	–
Type test with heat run for horizontal motors, without acceptance	**F82**	22.500,–	22.500,–	22.500,–	22.500,–
Type test with heat run for horizontal motors, with acceptance	**F83**	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, without acceptance	**F92**	16.300,–	16.300,–	16.300,–	16.300,–
Type test with heat run for vertical motors, with acceptance	**F93**	19.000,–	19.000,–	19.000,–	19.000,–

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) The standard thermistors are omitted. If PTC thermistors are required as well as KTYs or PT100s, this must be specified in the order in plain text. A combination of **A12** and **A23** or **A12** and **A61** is available on request at an additional price.

3) Only possible in combination with the larger connection boxes 1XB1 621 or 1XB1 631 (order codes **M58** or **L00**).

4) A combination with the order codes **M88** and **M50** is not possible. Connection box 1XP1 634 can be rotated through 4 x 90°. Cable entry is from NDE or the delivery position. Dimension drawings available on request.

5) With 1PQ8 357-2 and 1PQ8 357-4, connection box 1XB1 631 is supplied in the standard version.

6) Use in class 180 (H) is not possible. All the 400 V versions are only available on request. Due to the rated current, for frame size 400 (2 and 4 poles) and 450 (all the pole motors) will be generally provided a larger connection box with the type identification 1XB9 600, which is part of the Order code **C14**.

7) Only possible for main motor – Not possible for separately driven fan.

8) Site altitude up to 1000 m above sea level.

9) Only possible for main motor – Not possible for separately driven fan motor.

10) Explosion-protected encoders are available on request.

11) Only admissible for use in accordance with temperature class 130 (B). PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2 and 22. Derating data are available on request.

12) These motors do not have a rated voltage range stamped on the rating plate.

13) In the order, the "Speed range and torque characteristic" must be specified in plain text. A system test is necessary for M = constant.

14) Not possible for 2-pole motors and motors of vertical type of construction.

15) When ordering, specifiy in plain text: Voltage, frequency and circuit.

16) Type testing is also performed for converter-fed operation.

Non-standard motors frame size 315 and above

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors with through ventilation for mains-fed and converter-fed operation									
		1LL8 Mains-fed operation				**1LL8** Converter-fed operation			
Standardline									
Standardline version	**B20**	–	–	–	–	–	–	–	–
Motor protection									
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [1]	**A12**	□	□	□	□	□	□	□	□
Motor temperature detection with embedded temperature sensor KTY 84-130 [2]	**A23**	○	○	○	○	○	○	○	○
Installation of 6 PT 100 resistance thermometers in stator winding [2]	**A61**	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–	3.310,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings	**A72**	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–	4.550,–
Motor connection and connection boxes									
Two-part plate on connection box	**K06**	1.300,–	1.300,–	1.300,–	1.300,–	O. R.	O. R.	O. R.	O. R.
Undrilled entry plate	**L01**	○	○	○	○	○	○	○	○
Connection box on RHS	**K09**	□	□	□	□	□	□	□	□
Connection box on LHS	**K10**	○	○	○	○	○	○	○	○
Connection box above (1XB1 634 connection box) [3]	**K11**	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–	14.100,–
Cable gland, maximum configuration	**K57**	1.350,–	2.710,–	2.710,–	2.710,–	1.350,–	2.710,–	2.710,–	2.710,–
Rotation of the connection box through 90°, entry from DE	**K83**	○	○	○	○	○	○	○	○
Rotation of the connection box through 90°, entry from NDE	**K84**	○	○	○	○	○	○	○	○
Rotation of connection box through 180°	**K85**	○	○	○	○	○	○	○	○
Larger connection box (1XB1 621 connection box)	**M58**	□	–	–	–	□	–	–	–
Larger connection box (1XB1 631 connection box)	**L00**	8.310,–	□	□	□	8.310,–	□	□	□
6 cables protruding, 1.5 m long	**L48**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
6 cables protruding, 3 m long	**L49**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB9 016 (cast-iron)	**M50**	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–	1.710,–
Auxiliary connection box 1XB3 020	**L97**	442,–	442,–	442,–	442,–	442,–	442,–	442,–	442,–
Auxiliary connection box 1XB9 014 (aluminum)	**M88**	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–	1.130,–
Connection box on NDE	**M64**	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–	2.250,–
Windings and insulation									
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF 1.1, from frame size 400 SF 1.05) [4]	**C11**	275,–	275,–	275,–	275,–	–	–	–	–
Temperature class 155 (F), used acc. to 155 (F), with increased output (10 %, from frame size 400 5 %) [4]	**C12**	275,–	275,–	275,–	275,–	–	–	–	–
Temperature class 155 (F), used according to F, with increased coolant temperature (55 °C, 50 °C up to frame size 400) [4]	**C13**	275,–	275,–	275,–	275,–	–	–	–	–
Temperature class 180 (H), used acc. to 155 (F), with service factor (SF 1,1) [4]	**C14**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

For legend and footnotes, see Page 3/21.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors with through ventilation for mains-fed and converter-fed operation									
		1LL8 Mains-fed operation				**1LL8** Converter-fed operation			
Colors and paint finish									
Standard finish in RAL 7030 stone gray		◘	◘	◘	◘	◘	◘	◘	◘
Standard paint finish in other colors	**Y53** • and standard finish RAL ….	161,–	184,–	209,–	243,–	161,–	184,–	209,–	243,–
Special finish in RAL 7030 stone gray	**K26**	722,–	881,–	1.120,–	1.430,–	722,–	881,–	1.120,–	1.430,–
Special finish in other colors	**Y54** • and special finish RAL ….	1.040,–	1.250,–	1.520,–	1.920,–	1.040,–	1.250,–	1.520,–	1.920,–
Unpainted (only cast iron parts primed)	**K23**	O	O	O	O	O	O	O	O
Special technology									
Mounting of brake (incl. brake of Stromag)	**H47**	–	–	–	–	–	–	–	–
Mounting of LL 861 900 220 rotary pulse encoder	**H70**	–	–	–	–	4.950,–	4.950,–	4.950,–	4.950,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**	–	–	–	–	4.950,–	4.950,–	4.950,–	4.950,–
Prepared for mounting LL 861 900 220	**H78**	–	–	–	–	3.760,–	3.760,–	3.760,–	3.760,–
Prepared for mounting HOG 10 D 1024 I	**H80**	–	–	–	–	3.760,–	3.760,–	3.760,–	3.760,–
Mounting a special type of rotary pulse encoder	**Y70** • and encoder designation	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Mechanical design and degrees of protection									
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	2.490,–	O	O	O	2.490,–	O	O	O
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	2.490,–	O	O	O	2.490,–	O	O	O
IP56 degree of protection (non-heavy-sea)	**K52**	–	–	–	–	–	–	–	–
Non-rusting screws (externally)	**M27**	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–	1.120,–
Coolant temperature and site altitude									
Coolant temperature -50 to +40 °C	**D02**	–	–	–	–	–	–	–	–
Coolant temperature -30 to +40 °C	**D04**	–	–	–	–	–	–	–	–
Coolant temperature 45 °C, derating 4 % [5]	**D11**	O	O	O	O	O	O	O	O
Coolant temperature 50 °C, derating 8 % [5]	**D12**	O	O	O	O	O	O	O	O
Coolant temperature 55 °C, derating 13 % [5]	**D13**	O	O	O	O	O	O	O	O
Coolant temperature 60 °C, derating 18 % [5]	**D14**	O	O	O	O	O	O	O	O
Designs in accordance with standards and specifications									
Electrical according to NEMA MG1-12	**D30**	289,–	289,–	289,–	289,–	289,–	289,–	289,–	289,–
Design according to UL with "Recognition Mark"	**D31**	989,–	1.220,–	1.520,–	1.890,–	989,–	1.220,–	1.520,–	1.890,–
VIK version	**K30**	–	–	–	–	–	–	–	–
Canadian regulations (CSA)	**D40**	795,–	903,–	1.010,–	1.180,–	795,–	903,–	1.010,–	1.180,–

For legend and footnotes, see Page 3/21.

Non-standard motors frame size 315 and above

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors with through ventilation for mains-fed and converter-fed operation									
		1LL8 Mains-fed operation				**1LL8** Converter-fed operation			
Designs for Zones 2 and 22 according to ATEX									
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15	**M72**	–	–	–	–	–	–	–	–
Design for Zone 2 for converter-fed operation, derating Ex nA II T3 to IEC/EN 60079-15	**M73**	–	–	–	–	–	–	–	–
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	**M35**	–	–	–	–	–	–	–	–
Designs for Zone 22 for non-conducting dust (IP55) for converter-fed operation	**M39**	–	–	–	–	–	–	–	–
Stamping of Ex nA II on VIK rating plate	**C27**	–	–	–	–	–	–	–	–
Bearings and lubrication									
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	467,–	467,–	467,–	467,–	467,–	467,–	467,–	467,–
Bearing design for increased cantilever forces	**K20**	–	–	–	–	–	–	–	–
Balance and vibration quantity									
Vibration quantity level B	**K02**	3.000,–	3.550,–	3.690,–	4.370,–	3.000,–	3.550,–	3.690,–	4.370,–
Full key balancing	**L68**	214,–	322,–	494,–	709,–	214,–	322,–	494,–	709,–
Shaft and rotor									
Second standard shaft extension [6]	**K16**	723,–	974,–	1.330,–	1.490,–	723,–	974,–	1.330,–	1.490,–
Shaft extension with standard dimensions, without featherkey way	**K42**	538,–	615,–	684,–	872,–	538,–	615,–	684,–	872,–
Non-standard cylindrical shaft extension	**Y55** • and identification data	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–	4.220,–
Heating and ventilation									
Metal external fan	**K35**	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–	5.240,–
Anti-condensation heaters for 230 V	**K45**	863,–	923,–	1.040,–	1.160,–	863,–	923,–	1.040,–	1.160,–
Anti-condensation heaters for 115 V	**K46**	863,–	923,–	1.040,–	1.160,–	863,–	923,–	1.040,–	1.160,–
Sheet metal fan cover	**L36**	□	□	□	□	□	□	□	□
Rating plate and extra rating plates									
Second rating plate, loose	**K31**	169,–	169,–	169,–	169,–	169,–	169,–	169,–	169,–
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	289,–	289,–	289,–	289,–	289,–	289,–	289,–	289,–
Extra rating plate with identification code	**Y82** • and identification code	169,–	169,–	169,–	169,–	169,–	169,–	169,–	169,–
Packaging, safety notes, documentation and test certificates [7]									
Document - Electrical data sheet	**B31**	989,–	989,–	989,–	989,–	989,–	989,–	989,–	989,–
Document - Order dimension drawing	**B32**	563,–	563,–	563,–	563,–	563,–	563,–	563,–	563,–
Document - Load characteristics	**B37**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Standard test (routine test) with acceptance	**F01**	5.400,–	6.100,–	6.100,–	6.790,–	5.400,–	6.100,–	6.100,–	6.790,–
Visual acceptance and report handover with acceptance	**F03**	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–	1.340,–
Temperature-rise test, without acceptance	**F04**	13.700,–	15.000,–	15.000,–	17.700,–	13.700,–	15.000,–	15.000,–	17.700,–

For legend and footnotes, see Page 3/21.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450	315	355	400	450
Self-ventilated motors with through ventilation for mains-fed and converter-fed operation									
		1LL8 Mains-fed operation				**1LL8** Converter-fed operation			
Packaging, safety notes, documentation and test certificates [7] (continued)									
Temperature-rise test, with acceptance	**F05**	16.400,–	17.600,–	17.600,–	20.400,–	16.400,–	17.600,–	17.600,–	20.400,–
Noise measurement in no-load operation, no noise analysis, no acceptance	**F28**	777,–	777,–	777,–	777,–	777,–	777,–	777,–	777,–
Noise measurement in no-load operation, no noise analysis, with acceptance	**F29**	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–	1.020,–
Noise measurement in no-load operation, with noise analysis, without acceptance	**F62**	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–	2.300,–
Noise measurement in no-load operation, with noise analysis, with acceptance	**F63**	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–	2.920,–
Recording of current and torque curves with torque metering shaft during starting, without acceptance	**F34**	10.300,–	10.300,–	10.300,–	10.300,–	–	–	–	–
Recording of current and torque curves with torque metering shaft during starting, with acceptance	**F35**	11.600,–	11.600,–	11.600,–	11.600,–	–	–	–	–
Measurement of locked-rotor torque and current, without acceptance	**F52**	4.550,–	4.550,–	4.550,–	4.550,–	–	–	–	–
Measurement of locked-rotor torque and current, with acceptance	**F53**	4.550,–	4.550,–	4.550,–	4.550,–	–	–	–	–
Type test with heat run for horizontal motors, without acceptance	**F82**	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–	22.500,–
Type test with heat run for horizontal motors, with acceptance	**F83**	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, without acceptance	**F92**	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–	16.300,–
Type test with heat run for vertical motors, with acceptance	**F93**	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–	19.000,–

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

[1] Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

[2] The standard thermistors are omitted. If PTC thermistors are required as well as KTYs or PT100s, this must be specified in the order in plain text. A combination of **A12** and **A23** or **A12** and **A61** is available on request for a price supplement.

[3] A combination with the order codes **M88** and **M50** is not possible. Connection box 1XP1 634 can be rotated through 4 x 90°. Cable entry is from NDE or the delivery position. Dimension drawings available on request.

[4] Use in class 180 (H) is not possible. All the 400 V versions are only available on request. Due to the rated current, for frame size 400 (2 and 4 poles) and 450 (all the pole motors) will be generally provided a larger connection box with the type identification 1XB9 600, which is part of the Order code **C14**.

[5] Site altitude 1000 m above sea level

[6] Please inquire in the case of 2-pole motors and motors in vertical type of construction.

[7] Type testing is also performed for converter-fed operation.

Explosion-proof motors

Self-ventilated, in Zone 1 with type of protection "e" Aluminum series 1MA7

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Temperature Classes	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T3 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	**0,18**	T1-T3	63 M	**1MA7 060-2BA ..**	**296, -**
	0,25	T1-T3		**1MA7 063-2BA ..**	**307, -**
	0,37	T1-T3	71 M	**1MA7 070-2BA ..**	**322, -**
	0,55	T1-T3		**1MA7 073-2BA ..**	**361, -**
	0,75	T1-T3	80 M	**1MA7 080-2BA ..**	**386, -**
	1,1	T1-T3		**1MA7 083-2BA ..**	**442, -**
	1,3	T1-T3	90 S	**1MA7 090-2BA ..**	**488, -**
	1,85	T1-T3	90 L	**1MA7 096-2BA ..**	**614, -**
	2,5	T1-T3	100 L	**1MA7 106-2BA ..**	**745, -**
	3,3	T1-T3	112 M	**1MA7 113-2BB ..**	**909, -**
	4,6	T1-T3	132 S	**1MA7 130-2BB ..**	**1.160, -**
	5,5	T3		**1MA7 131-2BB ..**[1]	**1.480, -**
	6,5	T1-T2			**1.480, -**
	7,5	T3	160 M	**1MA7 163-2BB ..**[1]	**2.040, -**
	9,5	T1-T2			**2.040, -**
	10	T3	160 M	**1MA7 164-2BB ..**[1]	**2.660, -**
	13*	T1-T2			**2.660, -**
	12,5	T3	160 L	**1MA7 166-2BB ..**[1]	**3.170, -**
	16*	T1-T2			**3.170, -**

1500 rpm 4-pole	Rated output kW	Temperature Classes	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T3 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	**0,12**	T1-T3	63 M	**1MA7 060-4BB ..**	**288, -**
	0,18	T1-T3		**1MA7 063-4BB ..**	**304, -**
	0,25	T1-T3	71 M	**1MA7 070-4BB ..**	**309, -**
	0,37	T1-T3		**1MA7 073-4BB ..**	**343, -**
	0,55	T1-T3	80 M	**1MA7 080-4BA ..**	**371, -**
	0,75	T1-T3		**1MA7 083-4BA ..**	**414, -**
	1	T1-T3	90 S	**1MA7 090-4BA ..**	**462, -**
	1,35	T1-T3	90 L	**1MA7 096-4BA ..**	**535, -**
	2	T1-T3	100 L	**1MA7 106-4BA ..**	**650, -**
	2,5	T1-T3		**1MA7 107-4BA ..**	**764, -**
	3,6	T1-T3	112 M	**1MA7 113-4BA ..**	**964, -**
	5	T1-T3	132 S	**1MA7 130-4BA ..**	**1.210, -**
	6,8	T1-T3	132 M	**1MA7 133-4BA ..**	**1.550, -**
	10	T1-T3	160 M	**1MA7 163-4BB ..**	**2.090, -**
	13,5	T1-T3	160 L	**1MA7 166-4BB ..**	**2.690, -**

* Temperature class 155 (F) utilization

1000 rpm 6-pole	Rated output kW	Temperature Classes	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T3 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	**0,25**	T1-T3	71 M	**1MA7 073-6BA ..**	**372, -**
	0,37	T1-T3	80 M	**1MA7 080-6BA ..**	**397, -**
	0,55	T1-T3		**1MA7 083-6BA ..**	**452, -**
	0,65	T1-T3	90 S	**1MA7 090-6BA ..**	**480, -**
	0,95	T1-T3	90 L	**1MA7 096-6BA ..**	**580, -**
	1,3	T1-T3	100 L	**1MA7 106-6BA ..**	**695, -**
	1,9	T1-T3	112 M	**1MA7 113-6BB ..**	**872, -**
	2,6	T1-T3	132 S	**1MA7 130-6BB ..**	**1.130, -**
	3,5	T1-T3	132 M	**1MA7 133-6BB ..**	**1.350, -**
	4,8	T1-T3		**1MA7 134-6BB ..**	**1.720, -**
	6,6	T1-T3	160 M	**1MA7 163-6BB ..**	**2.230, -**
	9,7	T1-T3	160 L	**1MA7 166-6BB ..**	**3.050, -**

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 4/16.						
	50 Hz				IM B 3	at additional charge, please refer to Page 4/16.					
	230 VΔ 400 VY [2]	400 VΔ 690 VY [2]	500 VY	500 VΔ [2]		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1MA7 060 to 1MA7 096	**1**	**6**[3]	**3**[4]	**-**	**0**	**1**	**4**	**6**	**2**	**7**	**3**
1MA7 106 to 1MA7 166	**1**	**6**	**3**	**5**	**0**	**1**	**4**	**6**	**2**	**7**	**3**

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/11.

1) For voltage code '9' there are seperated implementations for T1, T2 and T3. At order code A11 only for one rated power possible.
2) Overload protection with a phase-failure protection device must be provided for delta connections.
3) Not possible for motors 1MA7 06. .
4) Not possible for motors 1MA7 060-4 .

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, in Zone 1 with type of protection "e" Cast-iron series 1MA6

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Temperature Classes	Frame size	Order No.	Price plus MZ for type of constr. IM B 3 EUR
· Temperature Classes T1 to T3 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	2,5	T1-T3	100 L	1MA6 106-2BA ..	852, -
	3,3	T1-T3	112 M	1MA6 113-2BB ..	1.030, -
	4,6	T1-T3	132 S	1MA6 130-2BB ..	1.280, -
	5,5	T3		1MA6 131-2BB ..[1]	1.620, -
	6,5	T1-T2			1.620, -
	7,5	T3	160 M	1MA6 163-2BB ..[1]	2.240, -
	9,5	T1-T2			2.240, -
	10	T3	160 M	1MA6 164-2BB ..[1]	2.900, -
	13*	T1-T2			2.900, -
	12,5	T3	160 L	1MA6 166-2BB ..[1]	3.450, -
	16*	T1-T2			3.450, -
	15	T3	180 M	1MA6 183-2BC ..	3.780, -
	19*	T1, T2			3.780, -
	20	T3	200 L	1MA6 206-2BC ..	4.890, -
	25*	T1, T2			4.890, -
	24	T3		1MA6 207-2BC ..	6.270, -
	31*	T1, T2			6.270, -
	28	T3	225 M	1MA6 223-2BC ..	7.740, -
	38	T1, T2		1MA6 223-2AC ..	7.740, -
	36	T3	250 M	1MA6 253-2BC ..	9.460, -
	47	T1, T2		1MA6 253-2AC ..	9.460, -
	47	T3	280 S	1MA6 280-2BD ..	12.600, -
	64	T1, T2		1MA6 280-2AD ..	12.600, -
	58	T3	280 M	1MA6 283-2BD ..	15.600, -
	76	T1, T2		1MA6 283-2AD ..	15.600, -
	68	T3	315 S	1MA6 310-2BD ..	19.000, -
	95	T1, T2		1MA6 310-2AD ..	19.000, -
	80	T3	315 M	1MA6 313-2BD ..	23.900, -
	112	T1, T2		1MA6 313-2AD ..	23.900, -
	100	T3	315 L	1MA6 316-2BD ..	28.100, -
	135	T1, T2		1MA6 316-2AD ..	28.100, -
	125	T3		1MA6 317-2BD ..[2]	34.500, -
	165	T1, T2		1MA6 317-2AD ..[2]	34.500, -

1500 rpm 4-pole	Rated output kW	Temperature Classes	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T3 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	2	T1-T3	100 L	1MA6 106-4BA ..	743, -
	2,5	T1-T3		1MA6 107-4BA ..	868, -
	3,6	T1-T3	112 M	1MA6 113-4BA ..	1.100, -
	5	T1-T3	132 S	1MA6 130-4BA ..	1.350, -
	6,8	T1-T3	132 M	1MA6 133-4BA ..	1.730, -
	10	T1-T3	160 M	1MA6 163-4BB ..	2.280, -
	13,5	T1-T3	160 L	1MA6 166-4BB ..	2.940, -
	15	T3	180 M	1MA6 183-4BC ..	3.300, -
	17*	T1, T2			3.300, -
	17,5	T3	180 L	1MA6 186-4BC ..	3.840, -
	20*	T1, T2			3.840, -
	24	T3	200 L	1MA6 207-4BC ..	5.110, -
	27	T1, T2			5.110, -
	30	T3	225 S	1MA6 220-4BC ..	6.180, -
	33	T1, T2			6.180, -
	36	T3	225 M	1MA6 223-4BC ..	7.540, -
	40	T1, T2			7.540, -
	44	T3	250 M	1MA6 253-4BC ..	8.990, -
	50	T1, T2			8.990, -
	58	T3	280 S	1MA6 280-4BC ..[2]	12.500, -
	68	T1, T2			12.500, -
	70	T3	280 M	1MA6 283-4BC ..[2]	14.800, -
	80	T1, T2			14.800, -
	84	T3	315 S	1MA6 310-4BD ..	18.000, -
	100	T1, T2			18.000, -
	100	T3	315 M	1MA6 313-4BD ..[2]	22.400, -
	120	T1, T2			22.400, -
	115	T3	315 L	1MA6 316-4BD ..[2]	24.900, -
	135	T1, T2			24.900, -
	135	T3		1MA6 317-4BD ..	30.800, -
	165	T1, T2			30.800, -

* Temperature class 155 (F) utilization

For outputs of 165 kW and above, explosion-proof motors of the DN series are available under the order numbers 1PS4 (Ex de IIB) and 1PS5 (Ex de IIC).
Please inquire to Loher (a Siemens company), Hans-Loher-Straße 32, D-94099 Ruhstorf/Rott, www.loher.com.

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Pages 4/16 and 4/17.						
	50 Hz				IM B 3	at additional charge, please refer to Pages 4/16 and 4/17					
	230 VΔ 400 VY [3]	400 VΔ 690 VY [3]	500 VY	500 VΔ [3]		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1MA6 106 to 1MA6 166	1	6	3	5	0	1	4	6	2	7	3
1MA6 183 to 1MA6 283	1	6	3	5	0	1	4	6	-	-	-
1MA6 310 to 1MA6 313	1	6	3	5	0	1	4	6	-	-	-
1MA6 316 to 1MA6 317	-	6	3	5	0	-	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/11.

1) For voltage code '9' there are seperated implementations for T1, T2 and T3.
At order code A11 only for one rated power possible.
2) Technical data and dimensions are available for VIK version (order code K30) on request (additional price).
3) Overload protection with a phase-failure protection device must be provided for delta connections.

Explosion-proof motors

Self-ventilated, in Zone 1 with type of protection "e" Cast-iron series 1MA6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

1000 rpm 6-pole	Rated output kW	Temperature Classes	Frame size	Order No.	Price plus MZ for type of constr. IM B 3 EUR
· Temperature Classes T1 to T3 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	**1,3**	T1-T3	100 L	**1MA6 106-6BA ..**	**799, -**
	1,9	T1-T3	112 M	**1MA6 113-6BB ..**	**1.010, -**
	2,6	T1-T3	132 S	**1MA6 130-6BB ..**	**1.250, -**
	3,5	T1-T3	132 M	**1MA6 133-6BB ..**	**1.500, -**
	4,8	T1-T3	132 M	**1MA6 134-6BB ..**	**1.930, -**
	6,6	T1-T3	160 M	**1MA6 163-6BB ..**	**2.420, -**
	9,7	T1-T3	160 L	**1MA6 166-6BB ..**	**3.310, -**
	13,2	T1-T3	180 L	**1MA6 186-6BC ..**	**4.010, -**
	16,5	T1-T3	200 L	**1MA6 206-6BC ..**	**4.840, -**
	20	T1-T3	200 L	**1MA6 207-6BC ..**	**5.770, -**
	27	T1-T3	225 M	**1MA6 223-6BC ..**	**7.760, -**
	33	T1-T3	250 M	**1MA6 253-6BC ..**	**9.760, -**
	40	T1-T3	280 S	**1MA6 280-6BC ..**	**11.500, -**
	46	T3	280 M	**1MA6 283-6BC ..**	**13.900, -**
	50	T1, T2	280 M		**13.900, -**
	64	T3	315 S	**1MA6 310-6BC ..**	**19.000, -**
	68	T1, T2	315 S		**19.000, -**
	76	T3	315 M	**1MA6 313-6BC ..**	**23.700, -**
	82	T1, T2	315 M		**23.700, -**
	92	T3	315 L	**1MA6 316-6BC ..**	**28.400, -**
	98	T1, T2	315 L		**28.400, -**
	110	T3	315 L	**1MA6 317-6BC ..** [1]	**35.400, -**
	120	T1, T2	315 L		**35.400, -**
	125	T3	315 L	**1MA6 318-6BC ..** [1] [2]	**39.500, -**
	135	T1, T2	315 L		**39.500, -**

For outputs of 135 kW and above, explosion-proof motors of the DN series are available under the order numbers 1PS4 (Ex de IIB) and 1PS5 (Ex de IIC). Please inquire to Loher (a Siemens company), Hans-Loher-Straße 32, D-94099 Ruhstorf/Rott, www.loher.com.

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Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Pages 4/16 and 4/17.						
	50 Hz				IM B 3	at additional charge, please refer to Pages 4/16 and 4/17					
	230 VΔ 400 VY [3]	400 VΔ 690 VY [3]	500 VY	500 VΔ [3]		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1MA6 106 to 1MA6 166	**1**	**6**	**3**	**5**	**0**	**1**	**4**	**6**	**2**	**7**	**3**
1MA6 186 to 1MA6 283	**1**	**6**	**3**	**5**	**0**	**1**	**4**	**6**	-	-	-
1MA6 310 to 1MA6 313	**1**	**6**	**3**	**5**	**0**	**1**	**4**	**6**	-	-	-
1MA6 316 to 1MA6 318	-	**6**	**3**	**5**	**0**	-	**4**	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/11.

1) Technical data and dimensions are available for VIK version (order code K30) on request (additional price).
2) Only certified for rated voltage of 400 V.
3) Overload protection with a phase-failure protection device must be provided for delta connections.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - V - - -**

Self-ventilated, in Zone 1 with type of protection "d" Cast-iron series 1MJ6 and 1MJ7

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T4 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	0,37	71 M	1MJ6 070-2CA ..	897, -
	0,55		1MJ6 073-2CA ..	925, -
	0,75	80 M	1MJ6 080-2CA ..	948, -
	1,1		1MJ6 083-2CA ..	1.020, -
	1,5	90 L	1MJ6 096-2CA ..	1.110, -
	2,2		1MJ6 097-2CA ..	1.280, -
	3	100 L	1MJ6 106-2CA ..	1.590, -
	4	112 M	1MJ6 113-2CA ..	1.860, -
	5,5	132 S	1MJ6 130-2CA ..	2.280, -
	7,5		1MJ6 131-2CA ..	2.600, -
	11	160 M	1MJ6 163-2CA ..	3.540, -
	15	160 M	1MJ6 164-2CA ..	4.310, -
	18,5	160 L	1MJ6 166-2CA ..	4.910, -
	22	180 M	1MJ6 183-2CA ..	5.840, -
	30	200 L	1MJ6 206-2CA ..	7.500, -
	37		1MJ6 207-2CA ..	8.750, -
	45	225 M	1MJ7 223-2CB ..	11.200, -
	55	250 M	1MJ7 253-2CB ..	13.600, -
	75	280 S	1MJ7 280-2CC ..	18.700, -
	90	280 M	1MJ7 283-2CC ..	21.700, -
	110	315 S	1MJ7 310-2CC ..	28.500, -
	132	315 M	1MJ7 313-2CC ..	33.300, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T4 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	0,25	71 M	1MJ6 070-4CB ..	887, -
	0,37		1MJ6 073-4CB ..	919, -
	0,55	80 M	1MJ6 080-4CA ..	937, -
	0,75		1MJ6 083-4CA ..	964, -
	1,1	90 L	1MJ6 096-4CA ..	1.100, -
	1,5		1MJ6 097-4CA ..	1.190, -
	2,2	100 L	1MJ6 106-4CA ..	1.410, -
	3		1MJ6 107-4CA ..	1.610, -
	4	112 M	1MJ6 113-4CA ..	1.880, -
	5,5	132 S	1MJ6 130-4CA ..	2.330, -
	7,5	132 M	1MJ6 133-4CA ..	2.730, -
	11	160 M	1MJ6 163-4CA ..	3.550, -
	15	160 L	1MJ6 166-4CA ..	4.450, -
	18,5	180 M	1MJ6 183-4CA ..	5.490, -
	22	180 L	1MJ6 186-4CA ..	6.130, -
	30	200 L	1MJ6 207-4CA ..	7.650, -
	37	225 S	1MJ7 220-4CA ..	9.310, -
	45	225 M	1MJ7 223-4CA ..	10.700, -
	55	250 M	1MJ7 253-4CA ..	13.400, -
	75	280 S	1MJ7 280-4CA ..	18.200, -
	90	280 M	1MJ7 283-4CA ..	20.800, -
	110	315 S	1MJ7 310-4CA ..	25.600, -
	132	315 M	1MJ7 313-4CA ..	30.300, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T4 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	0,25	71 M	1MJ6 073-6CA ..	933, -
	0,37	80 M	1MJ6 080-6CA ..	948, -
	0,55		1MJ6 083-6CA ..	1.020, -
	0,75	90 L	1MJ6 096-6CA ..	1.110, -
	1,1		1MJ6 097-6CA ..	1.230, -
	1,5	100 L	1MJ6 106-6CA ..	1.420, -
	2,2	112 M	1MJ6 113-6CA ..	1.840, -
	3	132 S	1MJ6 130-6CA ..	2.260, -
	4	132 M	1MJ6 133-6CA ..	2.600, -
	5,5	132 M	1MJ6 134-6CA ..	2.880, -
	7,5	160 M	1MJ6 163-6CA ..	3.590, -
	11	160 L	1MJ6 166-6CA ..	4.690, -
	15	180 L	1MJ6 186-6CA ..	6.240, -
	18,5	200 L	1MJ6 206-6CA ..	7.500, -
	22		1MJ6 207-6CA ..	8.230, -
	30	225 M	1MJ7 223-6CA ..	11.100, -
	37	250 M	1MJ7 253-6CA ..	14.200, -
	45	280 S	1MJ7 280-6CA ..	17.700, -
	55	280 M	1MJ7 283-6CA ..	21.200, -
	75	315 S	1MJ7 310-6CA ..	27.800, -
	90	315 M	1MJ7 313-6CA ..	32.600, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Temperature Classes T1 to T4 · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · ATEX	0,37	90 L	1MJ6 096-8CB ..	1.170, -
	0,55		1MJ6 097-8CB ..	1.290, -
	0,75	100 L	1MJ6 106-8CB ..	1.450, -
	1,1		1MJ6 107-8CB ..	1.730, -
	1,5	112 M	1MJ6 113-8CB ..	2.050, -
	2,2	132 S	1MJ6 130-8CB ..	2.490, -
	3	132 M	1MJ6 133-8CB ..	2.850, -
	4	160 M	1MJ6 163-8CB ..	3.380, -
	5,5	160 M	1MJ6 164-8CB ..	4.020, -
	7,5	160 L	1MJ6 166-8CB ..	4.840, -
	11	180 L	1MJ6 186-8CB ..	6.290, -
	15	200 L	1MJ6 207-8CB ..	8.090, -
	18,5	225 S	1MJ7 220-8CB ..	9.680, -
	22	225 M	1MJ7 223-8CB ..	11.300, -
	30	250 M	1MJ7 253-8CB ..	14.300, -
	37	280 S	1MJ7 280-8CB ..	18.400, -
	45	280 M	1MJ7 283-8CB ..	21.600, -
	55	315 S	1MJ7 310-8CB ..	27.700, -
	75	315 M	1MJ7 313-8CB ..	34.800, -

The 1MJ6/1MJ7 motors can also be ordered for use in type of protection Ex d/de (Zone 1) / Dust Ex Zone 21, as well as Zone 22 with conductive dust:
Mains-fed operation – Order Code M76 or converter-fed operation with derating – Order Code M77.
See "Special versions" under the heading "Designs for Zones 1, 2, 21 and 22 according to ATEX" on Page 4/29.
For outputs of 132 kW and above, explosion-proof motors of the DN series are available under the order numbers 1PS4 (Ex de IIB) and 1PS5 (Ex de IIC).
Please inquire to Loher (a Siemens company), Hans-Loher-Straße 32, D-94099 Ruhstorf/Rott, www.loher.com.

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 4/18.						
	50 Hz				IM B 3	at additional charge, please refer to Page 4/18.					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1MJ6 070 to 1MJ6 097	1	6	3	-	0	1	4	6	2	7	3[1)]
1MJ6 106 to 1MJ6 166	1	6	3	5	0	1	4	6	-	-	-
1MJ6 183 to 1MJ6 207	1	6	3	5	0	1	4	6	-	-	-
1MJ7 220 to 1MJ7 313	1	6	3	5	0	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/12.

1) Only up to 1MJ6 083.

Explosion-proof motors

Self-ventilated, in Zones 2, 21, 22 with type of prot. "n" or prot. against dust explosions - Aluminum series 1LA7/1LA5

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	56 M	1LA7 050-2AA ..	204, -
	0,12		1LA7 053-2AA ..	205, -
	0,18	63 M	1LA7 060-2AA ..	211, -
	0,25		1LA7 063-2AA ..	224, -
	0,37	71 M	1LA7 070-2AA ..	230, -
	0,55		1LA7 073-2AA ..	260, -
	0,75	80 M	1LA7 080-2AA ..	294, -
	1,1		1LA7 083-2AA ..	337, -
	1,5	90 S	1LA7 090-2AA ..	401, -
	2,2	90 L	1LA7 096-2AA ..	516, -
	3	100 L	1LA7 106-2AA ..	620, -
	4	112 M	1LA7 113-2AA ..	764, -
	5,5	132 S	1LA7 130-2AA ..	984, -
	7,5	132 S	1LA7 131-2AA ..	1.260, -
	11	160 M	1LA7 163-2AA ..	1.750, -
	15	160 M	1LA7 164-2AA ..	2.290, -
	18,5	160 L	1LA7 166-2AA ..	2.730, -
	22	180 M	1LA5 183-2AA ..	3.220, -
	30	200 L	1LA5 206-2AA ..	4.170, -
	37		1LA5 207-2AA ..	5.450, -
	45	225 M	1LA5 223-2AA ..	6.620, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,06	56 M	1LA7 050-4AB ..	204, -
	0,09		1LA7 053-4AB ..	205, -
	0,12	63 M	1LA7 060-4AB ..	208, -
	0,18		1LA7 063-4AB ..	224, -
	0,25	71 M	1LA7 070-4AB ..	227, -
	0,37		1LA7 073-4AB ..	254, -
	0,55	80 M	1LA7 080-4AA ..	282, -
	0,75		1LA7 083-4AA ..	307, -
	1,1	90 S	1LA7 090-4AA ..	375, -
	1,5	90 L	1LA7 096-4AA ..	445, -
	2,2	100 L	1LA7 106-4AA ..	545, -
	3		1LA7 107-4AA ..	627, -
	4	112 M	1LA7 113-4AA ..	798, -
	5,5	132 S	1LA7 130-4AA ..	1.020, -
	7,5	132 M	1LA7 133-4AA ..	1.310, -
	11	160 M	1LA7 163-4AA ..	1.790, -
	15	160 L	1LA7 166-4AA ..	2.320, -
	18,5	180 M	1LA5 183-4AA ..	2.800, -
	22	180 L	1LA5 186-4AA ..	3.300, -
	30	200 L	1LA5 207-4AA ..	4.380, -
	37	225 S	1LA5 220-4AA ..	5.340, -
	45	225 M	1LA5 223-4AA ..	6.450, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	63 M	1LA7 063-6AB ..	225, -
	0,18	71 M	1LA7 070-6AA ..	242, -
	0,25		1LA7 073-6AA ..	270, -
	0,37	80 M	1LA7 080-6AA ..	294, -
	0,55		1LA7 083-6AA ..	340, -
	0,75	90 S	1LA7 090-6AA ..	396, -
	1,1	90 L	1LA7 096-6AA ..	490, -
	1,5	100 L	1LA7 106-6AA ..	580, -
	2,2	112 M	1LA7 113-6AA ..	727, -
	3	132 S	1LA7 130-6AA ..	918, -
	4	132 M	1LA7 133-6AA ..	1.140, -
	5,5	132 M	1LA7 134-6AA ..	1.450, -
	7,5	160 M	1LA7 163-6AA ..	1.880, -
	11	160 L	1LA7 166-6AA ..	2.600, -
	15	180 L	1LA5 186-6AA ..	3.380, -
	18,5	200 L	1LA5 206-6AA ..	4.150, -
	22		1LA5 207-6AA ..	4.870, -
	30	225 M	1LA5 223-6AA ..	6.700, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	71 M	1LA7 070-8AB ..	255, -
	0,12		1LA7 073-8AB ..	287, -
	0,18	80 M	1LA7 080-8AB ..	301, -
	0,25		1LA7 083-8AB ..	372, -
	0,37	90 S	1LA7 090-8AB ..	451, -
	0,55	90 L	1LA7 096-8AB ..	549, -
	0,75	100 L	1LA7 106-8AB ..	603, -
	1,1		1LA7 107-8AB ..	764, -
	1,5	112 M	1LA7 113-8AB ..	906, -
	2,2	132 S	1LA7 130-8AB ..	1.170, -
	3	132 M	1LA7 133-8AB ..	1.430, -
	4	160 M	1LA7 163-8AB ..	1.750, -
	5,5	160 M	1LA7 164-8AB ..	2.180, -
	7,5	160 L	1LA7 166-8AB ..	2.690, -
	11	180 L	1LA5 186-8AB ..	3.540, -
	15	200 L	1LA5 207-8AB ..	4.680, -
	18,5	225 S	1LA5 220-8AB ..	5.670, -
	22	225 M	1LA5 223-8AB ..	6.580, -

For larger outputs please refer to Page 4/7.

Necessary special versions according to ATEX

Zone 2 [1]				VIK (includes Zone 2) [2]				Zone 21				Zone 22 [1]			
Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	
Order code	M72	Order code	M73	Order code	K30	On request		Order code	M34	Order code	M38	Order code	M35	Order code	M39

Order as an explosion-proof motor only with additional identification code -Z.
For order codes, assignment, standard delivery times and additional prices refer to the special versions category "Designs for Zones 1, 2, 21 and 22 according to ATEX" on page 4/33.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 4/19.						
	50 Hz				60 Hz		IM B 3	at additional charge, please refer to Page 4/19.					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY (outputs for 60 Hz please refer to catalog D81.1)	460 VΔ		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 050 to 1LA7 053	1	6	3	-	1	6	0	1	-	6	2	7	3
1LA7 060 to 1LA7 096	1	6	3	-	1	6	0	1	4	6	2	7	3
1LA7 106 to 1LA7 166	1	6	3	5	1	6	0	1	4	6	2	7	3
1LA5 183 to 1LA5 223	1	6	3	5	1	6	0	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/13.

1) The motors can also be ordered in the designs (IP55) for Zones 2 and 22, for non-conductive dust:
Mains-fed operation – Order Code M74 or converter-fed operation with derating – Order Code M75.

2) If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code C27.
The VIK version is not possible in combination with Zones 21 and 22.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, in Zones 2, 21, 22 with type of prot. "n" or prot. against dust explosions - Aluminum series 1LA9

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	56 M	1LA9 050-2KA ..	275, -
	0,12		1LA9 053-2KA ..	277, -
	0,18	63 M	1LA9 060-2KA ..	285, -
	0,25		1LA9 063-2KA ..	302, -
	0,37	71 M	1LA9 070-2KA ..	310, -
	0,55		1LA9 073-2KA ..	351, -
	0,75	80 M	1LA9 080-2KA ..	397, -
	1,1		1LA9 083-2KA ..	455, -
	1,5	90 S	1LA9 090-2KA ..	541, -
	2,2	90 L	1LA9 096-2KA ..	697, -
	3	100 L	1LA9 106-2KA ..	837, -
	4	112 M	1LA9 113-2KA ..	993, -
	5,5	132 S	1LA9 130-2KA ..	1.250, -
	7,5		1LA9 131-2KA ..	1.580, -
	11	160 M	1LA9 163-2KA ..	2.190, -
	15	160 M	1LA9 164-2KA ..	2.860, -
	18,5	160 L	1LA9 166-2KA ..	3.410, -
	22	180 M	1LA9 183-2WA ..	4.020, -
	30	200 L	1LA9 206-2WA ..	5.210, -
	37		1LA9 207-2WA ..	6.540, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,06	56 M	1LA9 050-4KA ..	286, -
	0,09		1LA9 053-4KA ..	287, -
	0,12	63 M	1LA9 060-4KA ..	291, -
	0,18		1LA9 063-4KA ..	314, -
	0,25	71 M	1LA9 070-4KA ..	318, -
	0,37		1LA9 073-4KA ..	356, -
	0,55	80 M	1LA9 080-4KA ..	395, -
	0,75		1LA9 083-4KA ..	430, -
	1,1	90 S	1LA9 090-4KA ..	525, -
	1,5	90 L	1LA9 096-4KA ..	623, -
	2,2	100 L	1LA9 106-4KA ..	763, -
	3		1LA9 107-4KA ..	878, -
	4	112 M	1LA9 113-4KA ..	1.080, -
	5,5	132 S	1LA9 130-4KA ..	1.340, -
	7,5	132 M	1LA9 133-4KA ..	1.700, -
	11	160 M	1LA9 163-4KA ..	2.240, -
	15	160 L	1LA9 166-4KA ..	2.900, -
	18,5	180 M	1LA9 183-4WA ..	3.420, -
	22	180 L	1LA9 186-4WA ..	3.960, -
	30	200 L	1LA9 207-4WA ..	5.120, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,75	90 S	1LA9 090-6KA ..	515, -
	1,1	90 L	1LA9 096-6KA ..	637, -
	1,5	100 L	1LA9 106-6KA ..	754, -
	2,2	112 M	1LA9 113-6KA ..	945, -
	4	132 M	1LA9 133-6KA ..	1.480, -
	5,5		1LA9 134-6KA ..	1.860, -
	7,5	160 M	1LA9 163-6KA ..	2.350, -
	11	160 L	1LA9 166-6KA ..	3.250, -
	15	180 L	1LA9 186-6WA ..	4.220, -
	18,5	200 L	1LA9 206-6WA ..	5.190, -
	22		1LA9 207-6WA ..	5.990, -

For larger outputs please refer to Page 4/8.

Necessary special versions according to ATEX

Zone 2 [1]				VIK (includes Zone 2) [2]				Zone 21				Zone 22 [1]			
Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	
Order code	M72	Order code	M73	Order code	K30	On request		Order code	M34	Order code	M38	Order code	M35	Order code	M39

Order as an explosion-proof motor only with additional identification code -Z.
For order codes, assignment, standard delivery times and additional prices refer to the special versions category "Designs for Zones 1, 2, 21 and 22 according to ATEX" on page 4/39.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 4/19.						
	50 Hz				60 Hz refer to page 4/6		IM B 3	at additional charge, please refer to Page 4/19					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA9 050 to 1LA9 053	1	6	3	-	1	6	0	1	-	-	2	7	3
1LA9 060 to 1LA9 096	1	6	3	-	1	6	0	1	4	6	2	7	3
1LA9 106 to 1LA9 166	1	6	3	5	1	6	0	1	4	6	2	7	3
1LA9 183 to 1LA9 207	1	6	3	5	1	6	0	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, for order code and additional charges, please refer to Page 4/13.

1) The motors can also be ordered in the designs (IP55) for Zones 2 and 22, for non-conductive dust:
Mains-fed operation – Order Code M74 or converter-fed operation with derating – Order Code M75.
2) If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code C27.
The VIK version is not possible in combination with Zones 21 and 22.

Explosion-proof motors

Self-ventilated, in Zones 2, 21, 22 with type of prot. “n” or prot. against dust explosions – Aluminum series 1LA9

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3600 rpm 2-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)		0,12	56 M	1LA9 050-2KA ..	275, -
		0,16		1LA9 053-2KA ..	277, -
		0,25	63 M	1LA9 060-2KA ..	285, -
		0,33		1LA9 063-2KA ..	302, -
		0,5	71 M	1LA9 070-2KA ..	310, -
		0,75		1LA9 073-2KA ..	351, -
	●	1	80 M	1LA9 080-2KA ..	397, -
	●	1,5		1LA9 083-2KA ..	455, -
	●	2	90 S	1LA9 090-2KA ..	541, -
	●	3	90 L	1LA9 096-2KA ..	697, -
		4	100 L	1LA9 106-2KA ..	837, -
	●	5	112 M	1LA9 113-2KA ..	993, -
	●	7,5	132 S	1LA9 130-2KA ..	1.250, -
	●	10		1LA9 131-2KA ..	1.580, -
	●	15	160 M	1LA9 163-2KA ..	2.190, -
	●	20	160 M	1LA9 164-2KA ..	2.860, -
	●	25	160 L	1LA9 166-2KA ..	3.410, -
	●	30	180 M	1LA9 183-2WA ..	4.020, -
	●	40	200 L	1LA9 206-2WA ..	5.210, -
	●	50		1LA9 207-2WA ..	6.540, -

1800 rpm 4-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)		0,08	56 M	1LA9 050-4KA ..	286, -
		0,12		1LA9 053-4KA ..	287, -
		0,16	63 M	1LA9 060-4KA ..	291, -
		0,25		1LA9 063-4KA ..	314, -
		0,33	71 M	1LA9 070-4KA ..	318, -
		0,5		1LA9 073-4KA ..	356, -
		0,75	80 M	1LA9 080-4KA ..	395, -
	●	1		1LA9 083-4KA ..	430, -
	●	1,5	90 S	1LA9 090-4KA ..	525, -
	●	2	90 L	1LA9 096-4KA ..	623, -
		3	100 L	1LA9 106-4KA ..	763, -
		4		1LA9 107-4KA ..	878, -
	●	5	112 M	1LA9 113-4KA ..	1.080, -
	●	7,5	132 S	1LA9 130-4KA ..	1.340, -
	●	10	132 M	1LA9 133-4KA ..	1.700, -
	●	15	160 M	1LA9 163-4KA ..	2.240, -
	●	20	160 L	1LA9 166-4KA ..	2.900, -
	●	25	180 M	1LA9 183-4WA ..	3.420, -
	●	30	180 L	1LA9 186-4WA ..	3.960, -
	●	40	200 L	1LA9 207-4WA ..	5.120, -

1200 rpm 6-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	1	90 S	1LA9 090-6KA ..	515, -
	●	1,5	90 L	1LA9 096-6KA ..	637, -
		2	100 L	1LA9 106-6KA ..	754, -
	●	3	112 M	1LA9 113-6KA ..	945, -
	●	5	132 M	1LA9 133-6KA ..	1.480, -
	●	7,5		1LA9 134-6KA ..	1.860, -
	●	10	160 M	1LA9 163-6KA ..	2.350, -
	●	15	160 L	1LA9 166-6KA ..	3.250, -
	●	20	180 L	1LA9 186-6WA ..	4.220, -
	●	25	200 L	1LA9 206-6WA ..	5.190, -
	●	30		1LA9 207-6WA ..	5.990, -

For larger outputs please refer to Page 4/9.

● **With "CC" number:**
EPACT prescribes that the "CC" number (Compliance Certification) has to be entered on the rating plate.
The "CC" number (CC 032A for Siemens) is placed from the US Department of Energy (DOE).

Necessary special versions according to ATEX

Zone 2 [1]				VIK (includes Zone 2) [2]			Zone 21				Zone 22 [1]			
Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	
Order code	M72	Order code	M73	Order code	K30	On request	Order code	M34	Order code	M38	Order code	M35	Order code	M39

Order as an explosion-proof motor only with additional identification code -Z.
For order codes, assignment, standard delivery times and additional prices refer to the special versions category "Designs for Zones 1, 2, 21 and 22 according to ATEX" on page 4/39.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 4/19.						
	50 Hz please refer to page 4/5				60 Hz		IM B 3	at additional charge, please refer to Page 4/19.					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA9 050 to 1LA9 053	1	6	3	-	**1**	**6**	**0**	1	-	-	2	7	3
1LA9 060 to 1LA9 096	1	6	3	-	**1**	**6**	**0**	1	4	**6**	2	7	3
1LA9 106 to 1LA9 166	1	6	3	5	**1**	**6**	**0**	1	4	**6**	2	7	3
1LA9 183 to 1LA9 207	1	6	3	5	**1**	**6**	**0**	1	4	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, for order code and additional charges, please refer to Page 4/13.

1) The motors can also be ordered in the designs (IP55) for Zones 2 and 22, for non-conductive dust:
Mains-fed operation – Order Code M74 or converter-fed operation with derating – Order Code M75.
2) If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code C27.
The VIK version is not possible in combination with Zones 21 and 22.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, in Zones 2, 21, 22 with type of prot. "n" or prot. against dust explosions – Cast-iron series 1LA6/1LG4

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	3	100 L	1LA6 106-2AA ..	712, -
	4	112 M	1LA6 113-2AA ..	875, -
	5,5	132 S	1LA6 130-2AA ..	1.090, -
	7,5		1LA6 131-2AA ..	1.410, -
	11	160 M	1LA6 163-2AA ..	1.880, -
	15	160 M	1LA6 164-2AA ..	2.490, -
	18,5	160 L	1LA6 166-2AA ..	2.980, -
	22	180 M	1LG4 183-2AA ..	3.260, -
	30	200 L	1LG4 206-2AA ..	4.230, -
	37		1LG4 207-2AA ..	5.530, -
	45	225 M	1LG4 223-2AA ..	6.710, -
	55	250 M	1LG4 253-2AB ..	8.180, -
	75	280 S	1LG4 280-2AB ..	11.200, -
	90	280 M	1LG4 283-2AB ..	13.600, -
	110	315 S	1LG4 310-2AB ..	16.600, -
	132	315 M	1LG4 313-2AB ..	19.900, -
	160	315 L	1LG4 316-2AB ..	24.700, -
	200	315 L	1LG4 317-2AB ..	30.900, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	2,2	100 L	1LA6 106-4AA ..	624, -
	3		1LA6 107-4AA ..	719, -
	4	112 M	1LA6 113-4AA ..	919, -
	5,5	132 S	1LA6 130-4AA ..	1.140, -
	7,5	132 M	1LA6 133-4AA ..	1.450, -
	11	160 M	1LA6 163-4AA ..	1.960, -
	15	160 L	1LA6 166-4AA ..	2.540, -
	18,5	180 M	1LG4 183-4AA ..	2.840, -
	22	180 L	1LG4 186-4AA ..	3.350, -
	30	200 L	1LG4 207-4AA ..	4.450, -
	37	225 S	1LG4 220-4AA ..	5.410, -
	45	225 M	1LG4 223-4AA ..	6.540, -
	55	250 M	1LG4 253-4AA ..	7.940, -
	75	280 S	1LG4 280-4AA ..	10.900, -
	90	280 M	1LG4 283-4AA ..	12.800, -
	110	315 S	1LG4 310-4AA ..	15.900, -
	132	315 M	1LG4 313-4AA ..	18.800, -
	160	315 L	1LG4 316-4AA ..	23.200, -
	200	315 L	1LG4 317-4AA ..	28.900, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	1,5	100 L	1LA6 106-6AA ..	665, -
	2,2	112 M	1LA6 113-6AA ..	830, -
	3	132 S	1LA6 130-6AA ..	1.040, -
	4	132 M	1LA6 133-6AA ..	1.280, -
	5,5	132 M	1LA6 134-6AA ..	1.620, -
	7,5	160 M	1LA6 163-6AA ..	2.060, -
	11	160 L	1LA6 166-6AA ..	2.840, -
	15	180 L	1LG4 186-6AA ..	3.430, -
	18,5	200 L	1LG4 206-6AA ..	4.200, -
	22		1LG4 207-6AA ..	4.940, -
	30	225 M	1LG4 223-6AA ..	6.790, -
	37	250 M	1LG4 253-6AA ..	8.230, -
	45	280 S	1LG4 280-6AA ..	10.100, -
	55	280 M	1LG4 283-6AA ..	12.200, -
	75	315 S	1LG4 310-6AA ..	16.600, -
	90	315 M	1LG4 313-6AA ..	19.900, -
	110	315 L	1LG4 316-6AA ..	24.000, -
	132	315 L	1LG4 317-6AA ..	28.500, -
	160	315 L	1LG4 318-6AA ..	34.600, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,75	100 L	1LA6 106-8AB ..	689, -
	1,1		1LA6 107-8AB ..	875, -
	1,5	112 M	1LA6 113-8AB ..	1.050, -
	2,2	132 S	1LA6 130-8AB ..	1.320, -
	3	132 M	1LA6 133-8AB ..	1.590, -
	4	160 M	1LA6 163-8AB ..	1.880, -
	5,5	160 M	1LA6 164-8AB ..	2.370, -
	7,5	160 L	1LA6 166-8AB ..	2.960, -
	11	180 L	1LG4 186-8AB ..	3.590, -
	15	200 L	1LG4 207-8AB ..	4.740, -
	18,5	225 S	1LG4 220-8AB ..	5.750, -
	22	225 M	1LG4 223-8AB ..	6.670, -
	30	250 M	1LG4 253-8AB ..	8.810, -
	37	280 S	1LG4 280-8AB ..	10.600, -
	45	280 M	1LG4 283-8AB ..	12.900, -
	55	315 S	1LG4 310-8AB ..	15.700, -
	75	315 M	1LG4 313-8AB ..	21.000, -
	90	315 L	1LG4 316-8AB ..	24.900, -
	110	315 L	1LG4 317-8AB ..	30.000, -
	132	315 L	1LG4 318-8AB ..	35.900, -

Necessary special versions according to ATEX

Zone 2 [1]				VIK (includes Zone 2) [2]				Zone 21				Zone 22 [1]			
Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	
Order code	M72	Order code	M73	Order code	K30	On request		Order code	M34	Order code	M38	Order code	M35	Order code	M39

Order as an explosion-proof motor only with additional identification code -Z.
For order codes, assignment, standard delivery times and additional prices refer to the special versions category "Designs for Zones 1, 2, 21 and 22 according to ATEX" on page 4/44.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 4/20.						
	50 Hz				60 Hz		IM B 3	at additional charge, please refer to Page 4/20.					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY (rated outputs please refer to catalog D81.1)	460 VΔ		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA6 106 to 1LA6 166	1	6	3	5	1	6	0	1	4	6	2	7	3
1LG4 183 to 1LG4 223	1	6	3	5	1	6	0	1	4	6	-	-	-
1LG4 253 to 1LG4 313	1	6	3	5	1	6	0	1	4	6	-	-	-
1LG4 316 to 1LG4 318	-	6	-	5	-	6	0	-	4 [3]	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/14.

1) The motors can also be ordered in the designs (IP55) for Zones 2 and 22, for non-conductive dust:
Mains-fed operation – Order Code M74 or converter-fed operation with derating – Order Code M75.

2) If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code C27.
The VIK version is not possible in combination with Zones 21 and 22.

3) For 2-pole motors; 60-Hz-version on request.

Explosion-proof motors

Self-ventilated, in Zones 2, 21, 22 with type of prot. "n" or prot. against dust explosions – Cast-iron series 1LG6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**22**	180 M	**1LG6 183-2AA ..**	**4.080, -**
	30	200 L	**1LG6 206-2AA ..**	**5.290, -**
	37		**1LG6 207-2AA ..**	**6.640, -**
	45	225 M	**1LG6 223-2AA ..**	**7.920, -**
	55	250 M	**1LG6 253-2AA ..**	**9.410, -**
	75	280 S	**1LG6 280-2AB ..**	**12.900, -**
	90	280 M	**1LG6 283-2AB ..**	**15.200, -**
	110	315 S	**1LG6 310-2AB ..**	**18.300, -**
	132	315 M	**1LG6 313-2AB ..**	**21.900, -**
	160	315 L	**1LG6 316-2AB ..**	**27.200, -**
	200	315 L	**1LG6 317-2AB ..**	**34.000, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**18,5**	180 M	**1LG6 183-4AA ..**	**3.460, -**
	22	180 L	**1LG6 186-4AA ..**	**4.020, -**
	30	200 L	**1LG6 207-4AA ..**	**5.210, -**
	37	225 S	**1LG6 220-4AA ..**	**6.330, -**
	45	225 M	**1LG6 223-4AA ..**	**7.460, -**
	55	250 M	**1LG6 253-4AA ..**	**9.050, -**
	75	280 S	**1LG6 280-4AA ..**	**12.200, -**
	90	280 M	**1LG6 283-4AA ..**	**14.300, -**
	110	315 S	**1LG6 310-4AA ..**	**17.800, -**
	132	315 M	**1LG6 313-4AA ..**	**21.100, -**
	160	315 L	**1LG6 316-4AA ..**	**25.500, -**
	200	315 L	**1LG6 317-4AA ..**	**31.800, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**15**	180 L	**1LG6 186-6AA ..**	**4.290, -**
	18,5	200 L	**1LG6 206-6AA ..**	**5.250, -**
	22		**1LG6 207-6AA ..**	**6.080, -**
	30	225 M	**1LG6 223-6AA ..**	**8.150, -**
	37	250 M	**1LG6 253-6AA ..**	**9.880, -**
	45	280 S	**1LG6 280-6AA ..**	**12.100, -**
	55	280 M	**1LG6 283-6AA ..**	**14.300, -**
	75	315 S	**1LG6 310-6AA ..**	**19.400, -**
	90	315 M	**1LG6 313-6AA ..**	**21.900, -**
	110	315 L	**1LG6 316-6AA ..**	**26.400, -**
	132	315 L	**1LG6 317-6AA ..**	**31.400, -**
	160	315 L	**1LG6 318-6AA ..**	**38.100, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· "High Efficiency" · Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**11**	180 L	**1LG6 186-8AB ..**	**4.490, -**
	15	200 L	**1LG6 207-8AB ..**	**5.920, -**
	18,5	225 S	**1LG6 220-8AB ..**	**7.190, -**
	22	225 M	**1LG6 223-8AB ..**	**8.200, -**
	30	250 M	**1LG6 253-8AB ..**	**10.600, -**
	37	280 S	**1LG6 280-8AB ..**	**12.700, -**
	45	280 M	**1LG6 283-8AB ..**	**15.500, -**
	55	315 S	**1LG6 310-8AB ..**	**18.400, -**
	75	315 M	**1LG6 313-8AB ..**	**24.600, -**
	90	315 L	**1LG6 316-8AB ..**	**27.400, -**
	110	315 L	**1LG6 317-8AB ..**	**33.000, -**
	132	315 L	**1LG6 318-8AB ..**	**39.500, -**

Necessary special versions according to ATEX

Zone 2 [1]				**VIK** (includes Zone 2) [2]		Zone 21				Zone 22 [1]			
Mains-fed operation		Converter-fed operation		Mains-fed operation	Converter-fed operation	Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	
Order code	**M72**	Order code	**M73**	Order code **K30**	On request	Order code	**M34**	Order code	**M38**	Order code	**M35**	Order code	**M39**

Order as an explosion-proof motor only with additional identification code -Z.
For order codes, assignment, standard delivery times and additional prices refer to the special versions category "Designs for Zones 1, 2, 21 and 22 according to ATEX" on page 4/49.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 4/21.						
	50 Hz				60 Hz refer to page 4/9		IM B 3	at additional charge, please refer to Page 4/21. IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ							
1LG6 183 to 1LG6 313	**1**	**6**	**3**	**5**	1	6	**0**	**1**	**4**	**6**	-	-	-
1LG6 316 to 1LG6 318	-	**6**	-	**5**	-	6	**0**	-	**4**	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charge, please refer to Page 4/15.

1) The motors can also be ordered in the designs (IP55) for Zones 2 and 22, for non-conductive dust: Mains-fed operation – Order Code M74 or converter-fed operation with derating – Order Code M75.
2) If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code C27. The VIK version is not possible in combination with Zones 21 and 22.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, in Zones 2, 21, 22 with type of prot. "n" or prot. against dust explosions – Cast-iron series 1LG6

Selection and ordering data

3600 rpm 2-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	30	180 M	1LG6 183-2AA ..	4.080, -
	●	40	200 L	1LG6 206-2AA ..	5.290, -
	●	50		1LG6 207-2AA ..	6.640, -
	●	60	225 M	1LG6 223-2AA ..	7.920, -
	●	75		1LG6 228-2AA .. 1)	9.410, -
		75	250 M	1LG6 253-2AA ..	9.410, -
	●	100		1LG6 258-2AA .. 1)	12.900, -
		100	280 S	1LG6 280-2AB ..	12.900, -
	●	125	280 M	1LG6 283-2AB ..	15.200, -
	●	150	280 M	1LG6 288-2AA .. 1)	18.300, -
	●	150	315 S	1LG6 310-2AB ..	18.300, -
	●	175	315 M	1LG6 313-2AB ..	21.900, -
	●	200	315 L	1LG6 316-2AB ..	27.200, -
		250	315 L	1LG6 317-2AB ..	34.000, -
		300	315 L	1LG6 318-2AA .. 1)	41.800, -

1800 rpm 4-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	25	180 M	1LG6 183-4AA ..	3.460, -
	●	30		1LG6 186-4AA ..	4.020, -
	●	40	200 L	1LG6 207-4AA ..	5.210, -
		50	225 S	1LG6 220-4AA ..	6.330, -
	●	60	225 M	1LG6 223-4AA ..	7.460, -
	●	75	225 M	1LG6 228-4AA .. 1)	9.050, -
		75	250 M	1LG6 253-4AA ..	9.050, -
	●	100		1LG6 258-4AA .. 1)	12.200, -
		100	280 S	1LG6 280-4AA ..	12.200, -
	●	125	280 M	1LG6 283-4AA ..	14.300, -
	●	150	280 M	1LG6 288-4AA .. 1)	17.800, -
	●	150	315 S	1LG6 310-4AA ..	17.800, -
	●	175	315 M	1LG6 313-4AA ..	21.100, -
	●	200	315 L	1LG6 316-4AA ..	25.500, -
		250	315 L	1LG6 317-4AA ..	31.800, -
		300	315 L	1LG6 318-4AA .. 1)	37.600, -

1200 rpm 6-pole	CC 032A	Rated output HP	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· EPACT · Degree of protection IP 55 · 60 Hz · Temperature class 155 (F)	●	20	180 L	1LG6 186-6AA ..	4.290, -
	●	25	200 L	1LG6 206-6AA ..	5.250, -
	●	30		1LG6 207-6AA ..	6.080, -
	●	40	225 M	1LG6 223-6AA ..	8.150, -
	●	50		1LG6 228-6AA .. 1)	9.880, -
		50	250 M	1LG6 253-6AA ..	9.880, -
	●	60		1LG6 258-6AA .. 1)	12.100, -
		60	280 S	1LG6 280-6AA ..	12.100, -
		75	280 M	1LG6 283-6AA ..	14.300, -
	●	100	280 M	1LG6 288-6AA .. 1)	19.400, -
	●	100	315 S	1LG6 310-6AA ..	19.400, -
	●	125	315 M	1LG6 313-6AA ..	21.900, -
	●	150	315 L	1LG6 316-6AA ..	26.400, -
	●	175	315 L	1LG6 317-6AA ..	31.400, -
	●	200	315 L	1LG6 318-6AA ..	38.100, -

● **With "CC" number:**
EPACT prescribes that the "CC" number (Compliance Certification) has to be entered on the rating plate.
The "CC" number (CC 032A for Siemens) is placed from the US Department of Energy (DOE).

Necessary special versions according to ATEX

Zone 2 2)				VIK (includes Zone 2) 3)		Zone 21				Zone 22 2)			
Mains-fed operation		Converter-fed operation		Mains-fed operation	Converter-fed operation	Mains-fed operation		Converter-fed operation		Mains-fed operation		Converter-fed operation	
Order code	M72	Order code	M73	Order code K30	On request	Order code	M34	Order code	M38	Order code	M35	Order code	M39

Order as an explosion-proof motor only with additional identification code -Z.
For order codes, assignment, standard delivery times and additional prices refer to the special versions category "Designs for Zones 1, 2, 21 and 22 according to ATEX" on page 4/49.

Order No. supplements

Motor type	Penultimate place: Voltage code						Last place: Type of construction code For other types of construction, please refer to Page 4/21.						
	50 Hz refer to page 4/8				60 Hz		IM B 3	at additional charge, please refer to Page 4/21.					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ	460 VY	460 VΔ		IM B 5	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LG6 183 to 1LG6 313	1	6	3	5	**1**	**6**	**0**	1	4	**6**	-	-	-
1LG6 316 to 1LG6 318	-	6	-	5	-	**6**	**0**	-	4	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 4/15.

1) Only 60 Hz data according to EPACT shown on the rating plate.
2) The motors can also be ordered in the designs (IP55) for Zones 2 and 22, for non-conductive dust:
Mains-fed operation – Order Code M74 or converter-fed operation with derating – Order Code M75.
3) If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code C27.
The VIK version is not possible in combination with Zones 21 and 22.

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Self-ventilated, in Zones 2 and 22 with type of prot. "n" or prot. against dust explosions – Cast-iron series 1LA8

Selection and ordering data

The data for series 1LA8 with type of protection "n" or protection against dust explosions can be found in the selection and ordering data in the "Non-standard motors of frame size 315 and above", chapter 3. The technical specifications are identical to the specifications of the non-explosion-proof versions. They are ordered using additional order options (special versions). These special versions for voltages, construction types or options are listed in "Non-standard motors of frame size 315 and above", chapter 3.

Special versions according to ATEX

Motor type		Zone 2		VIK [1] (includes Zone 2, utilization F according to 130 (B))		Zone 21		Zone 22	
		Mains-fed operation	Converter-fed operation (FC)	Mains-fed operation	Converter-fed operation (FC)	Mains-fed operation	Converter-fed operation (FC)	Mains-fed operation	Converter-fed operation (FC)
	Frame size	Order code **M72**	Order code **M73**	Order code **K30**	On request	Order code **M34**	Order code **M38**	Order code **M35**	Order code **M39**
1LA8	315	1.110,–	O. R.	5.530,–	O. R.	–	–	1.110,–	1.450,–
	355	1.250,–	O. R.	3.660,–	O. R.	–	–	1.250,–	1.660,–
	400	1.420,–	O. R.	–	–	–	–	1.420,–	1.850,–
	450	1.610,–	O. R.	–	–	–	–	1.610,–	2.100,–

O. R. Possible on request
– Not possible

4

Forced-air cooled, in Zones 2 and 22 with type of prot. "n" or prot. against dust explosions – Cast-iron series 1PQ8

Selection and ordering data

The data for series 1PQ8 with type of protection "n" or protection against dust explosions can be found in the selection and ordering data in the "Non-standard motors of frame size 315 and above", chapter 3. The technical specifications are identical to the specifications of the non-explosion-proof versions. They are ordered using additional order options (special versions). These special versions for voltages, construction types or options are listed in "Non-standard motors of frame size 315 and above", chapter 3. Motor series 1PQ8 for converter-fed operation in Zone 2 available on request.

[1] If the marking Ex nA II is required in addition to VIK on the rating plate, this must be ordered using order code **C27**. The VIK version is not possible in combination with Zone 21 and 22.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for other rated voltages

	Voltage at 50 Hz ▼	Voltage at 60 Hz ▼	Certified outputs, please refer to catalog D81.1	Type of voltage code	Order code	Additional charge plus MS EUR 1MA7 Frame size 63	71	80	90	100	112	132	160
	V	V		11th position									
Voltage at 50 Hz	220Δ/380Y			9 [1]	L1R								
Frame size	230Δ			9 [1]	L1E ❍								
63 to 160	380Δ/660Y			9 [1] [2]	L1L								
	415Y			9 [1] [3]	L1C	24,40	28,40	32,20	37,80	47, -	56,80	72,70	89,80
	415Δ			9 [1] [2]	L1D								
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9 [4]	L2A								
Frame size		380Δ/660Y	50-Hz-Output	9 [4] [5]	L2C								
63 to 160		440Y	50-Hz-Output	9 [4]	L2Q								
		440Δ	50-Hz-Output	9 [2] [4]	L2R								
		460Y	50-Hz-Output	9 [3] [4]	L2S								
		460Δ	50-Hz-Output	9 [2] [4]	L2T								
		575Y	50-Hz-Output	9 [4] [5]	L2U								
		575Δ	50-Hz-Output	9 [2] [4]	L2V								
	Plain-text required (non-standard winding)			9 [6]	L1Y	48,50	56,90	64,60	75,60	94,20	113, -	145, -	179, -

	Voltage at 50 Hz ▼	Voltage at 60 Hz ▼	Certified outputs, please refer to catalog D81.1	Type of voltage code	Order code	Additional charge plus MS EUR 1MA6 Frame size 100	112	132	160	180	200
	V	V		11th position							
Voltage at 50 Hz	220Δ/380Y			9 [1]	L1R						
	230Δ			9 [1]	L1E ❍						
Frame size	380Δ/660Y			9 [1]	L1L	47, -	56,80	72,70	89,80	116, -	133, -
100 to 200	415Y			9 [1]	L1C						
	415Δ			9 [1]	L1D						
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9 [4]	L2A						
Frame size		380Δ/660Y	50-Hz-Output	9 [4]	L2C						
100 to 200		440Y	50-Hz-Output	9 [4]	L2Q						
		440Δ	50-Hz-Output	9 [4]	L2R						
		460Y	50-Hz-Output	9 [4]	L2S						
		460Δ	50-Hz-Output	9 [4]	L2T						
		575Y	50-Hz-Output	9 [4]	L2U						
		575Δ	50-Hz-Output	9 [4]	L2V						
	Plain-text required (non-standard winding)			9 [6]	L1Y	94,20	113, -	145, -	179, -	232, -	285, -

	Voltage at 50 Hz ▼	Voltage at 60 Hz ▼	Certified outputs, please refer to catalog D81.1	Type of voltage code	Order code	Additional charge plus MS EUR 1MA6 Frame size 225	250	280	315
	V	V		11th position					
Voltage at 50 Hz	220Δ/380Y			9 [1]	L1R				
Frame size 225 to 315 M	230Δ			9 [1]	L1E ❍				
	380Δ/660Y			9 [1]	L1L				
	415Y			9 [1]	L1C	186, -	214, -	274, -	355, -
	415Δ			9 [1]	L1D				
Voltage at 50 Hz	380Δ/660Y			9 [1]	L1L				
Frame size 315 L	415Δ			9 [1]	L1D				
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9 [4]	L2A				
Frame size 225 to 315 M		380Δ/660Y	50-Hz-Output	9 [4]	L2C				
		440Y	50-Hz-Output	9 [4]	L2Q				
		440Δ	50-Hz-Output	9 [4]	L2R				
		460Y	50-Hz-Output	9 [4]	L2S ❍				
		460Δ	50-Hz-Output	9 [4]	L2T ❍				
		575Y	50-Hz-Output	9 [4]	L2U ❍				
		575Δ	50-Hz-Output	9 [4]	L2V ❍				
Voltage at 60 Hz		380Δ/660Y	50-Hz-Output	9 [4]	L2C				
Frame size 315 L		440Δ	50-Hz-Output	9 [4]	L2R				
		460Δ	50-Hz-Output	9 [4]	L2T ❍				
		575Δ	50-Hz-Output	9 [4]	L2V ❍				
	Plain-text required (non-standard winding)			9 [6]	L1Y	421, -	530, -	680, -	883, -

❍ without additional charge

▼ For non-standard frequencies the certification fee can arise.

1) With order codes L1A, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also specified on the rating plate.
2) Not possible for frame size 63.
3) Not possible for 1MA7 060-4 motors (motor series 1MA7, frame size 63, 4-pole).
4) Special certification is required for 60 Hz.
5) Not possible for MA7 060-2, 1MA7 060-4 and 1MA7 063-4 (motor series 1MA7, frame size 63, 2- and 4-pole).
6) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions

Metal factor for metal surcharges (MS): **N - V - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

	Voltage at 50 Hz ▲	Voltage at 60 Hz ▲	Certified outputs, please refer to catalog D81.1	Type of voltage code	Order code	Additional charge plus MS 1MJ6 EUR Frame size								
	V	V		11th position		71	80	90	100	112	132	160	180	200
Voltage at 50 Hz *Frame size 71 to 200*	220Δ/380Y			9 [1]	L1R	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
	230Δ			9 [1]	L1E ❍									
	380Δ/660Y			9 [1]	L1L									
	415Y			9 [1]	L1C									
	415Δ			9 [1]	L1D									
Voltage at 60 Hz *Frame size 71 to 200*		220Δ/380Y	50-Hz-Output	9	L2A									
			60-Hz-Output	9	L2B									
		380Δ/660Y	50-Hz-Output	9	L2C									
			60-Hz-Output	9	L2D									
		440Y	50-Hz-Output	9	L2Q									
			60-Hz-Output	9	L2W									
		440Δ	50-Hz-Output	9	L2R									
			60-Hz-Output	9	L2X									
		460Y	50-Hz-Output	9	L2S									
			60-Hz-Output	9	L2E									
		460Δ	50-Hz-Output	9	L2T									
			60-Hz-Output	9	L2F									
		575Y	50-Hz-Output	9	L2U									
			60-Hz-Output	9	L2L									
		575Δ	50-Hz-Output	9	L2V									
			60-Hz-Output	9	L2M									
	Plain-text required (non-standard winding)			9 [2]	L1Y	55, -	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -

	Voltage at 50 Hz ▲	Voltage at 60 Hz ▲	Certified outputs, please refer to catalog D81.1	Type of voltage code	Order code	Additional charge plus MS 1MJ7 EUR Frame size			
	V	V		11th position		225	250	280	315
Voltage at 50 Hz *Frame size 225 to 315 M*	220Δ/380Y			9 [1]	L1R	181, -	207, -	267, -	346, -
	230Δ			9 [1]	L1E ❍				
	380Δ/660Y			9 [1]	L1L				
	415Y			9 [1]	L1C				
	415Δ			9 [1]	L1D				
Voltage at 60 Hz *Frame size 225 to 315 M*		220Δ/380Y	50-Hz-Output	9	L2A				
			60-Hz-Output	9	L2B				
		380Δ/660Y	50-Hz-Output	9	L2C				
			60-Hz-Output	9	L2D				
		440Y	50-Hz-Output	9	L2Q				
			60-Hz-Output	9	L2W				
		440Δ	50-Hz-Output	9	L2R				
			60-Hz-Output	9	L2X				
		460Y	50-Hz-Output	9	L2S				
			60-Hz-Output	9	L2E ❍				
		460Δ	50-Hz-Output	9	L2T				
			60-Hz-Output	9	L2F ❍				
		575Y	50-Hz-Output	9	L2U				
			60-Hz-Output	9	L2L				
		575Δ	50-Hz-Output	9	L2V				
			60-Hz-Output	9	L2M ❍				
	Plain-text required (non-standard winding)			9 [2]	L1Y	406, -	511, -	654, -	850, -

For 60-Hz-motors, the speed is approximately 120 % higher than of 50-Hz-motors.

❍ without additional charge
▲ For non-standard frequencies the test fee can arise.

1) For order codes L1C, L1D, L1E, L1L, L1R, L1U and L1A, a rated voltage range is also included on the rating plate, with the exception of versions in Zone 2 type of protection "n" or Ex n II T3.

2) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz ▲	Voltage at 60 Hz ▲	Required output at 60 Hz	Type of voltage code	Order code	Additional charge MS 1LA7 EUR Frame size 56 [1]	63	71	80	90	100	112	132	160	1LA5 [1] 180	200	225
	V	V		11th position													
Voltage at 50 Hz	220Δ/380Y	440Y		9 [2]	L1R												
	230Δ			9 [2]	L1E ❍												
Frame size 56 to 225	380Δ/660Y	440Δ		9 [2]	L1L												
	415Y			9 [2]	L1C												
	415Δ			9 [2]	L1D												
	400Y			9 [2]	L1A ❍												
	400Δ			9 [2]	L1B ❍												
	400Δ	460Δ		9 [2]	L1U ❍												
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A												
			60-Hz-Output	9	L2B												
Frame size 56 to 225		380Δ/660Y	50-Hz-Output	9	L2C												
			60-Hz-Output	9	L2D												
		440Y	50-Hz-Output	9	L2Q												
			60-Hz-Output	9	L2W	23,50	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -	181, -
		440Δ	50-Hz-Output	9	L2R												
			60-Hz-Output	9	L2X												
		460Y	50-Hz-Output	9	L2S												
			60-Hz-Output	9	L2E ❍												
		460Δ	50-Hz-Output	9	L2T												
			60-Hz-Output	9	L2F ❍												
		575Y	50-Hz-Output	9	L2U												
			60-Hz-Output	9	L2L												
		575Δ	50-Hz-Output	9	L2V												
			60-Hz-Output	9	L2M												
Voltage at 87 Hz *Frame size 56 to 225*	400Δ		87-Hz-Output	9 [3]	L3A ❍												
	Plain-text required (non-standard winding)			9 [4]	L1Y	46,90	46,90	55, -	62,50	73,40	90,70	110,–	140, -	174, -	225, -	274, -	406, -

Single-speed motors	Voltage at 50 Hz ▲	Voltage at 60 Hz ▲	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS 1LA9 EUR Frame size 56	63	71	80	90	100	112	132	160	180	200
	V	V		11th position												
Voltage at 50 Hz	220Δ/380Y	440Y		9 [2]	L1R											
	230Δ			9 [2]	L1E ❍											
Frame size 56 to 200	380Δ/660Y	440Δ		9 [2]	L1L											
	415Y			9 [2]	L1C											
	415Δ			9 [2]	L1D											
	400Y			9 [2]	L1A ❍											
	400Δ			9 [2]	L1B ❍											
	400Δ	460Δ		9 [2]	L1U ❍											
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A											
			60-Hz-Output	9	L2B											
Frame size 56 to 200		380Δ/660Y	50-Hz-Output	9	L2C											
			60-Hz-Output	9	L2D											
		440Y	50-Hz-Output	9	L2Q											
			60-Hz-Output	9	L2W	23,50	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
		440Δ	50-Hz-Output	9	L2R											
			60-Hz-Output	9	L2X											
		460Y	50-Hz-Output	9	L2S											
			60-Hz-Output	9	L2E ❍											
		460Δ	50-Hz-Output	9	L2T											
			60-Hz-Output	9	L2F ❍											
		575Y	50-Hz-Output	9	L2U											
			60-Hz-Output	9	L2L											
		575Δ	50-Hz-Output	9	L2V											
			60-Hz-Output	9	L2M											
Voltage at 87 Hz *Frame size 56 to 200*	400Δ		87-Hz-Output	9 [3]	L3A ❍											
	Plain-text required (non-standard winding)			9 [4]	L1Y	46,90	46,90	55, -	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -

❍ without additional charge
▲ For non-standard frequencies the test fee can arise.

1) Zone 2 is not possible for motor series 1LA5 and motor series 1LA7 for frame size 56.
2) For Zones 21 and 22, for order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also marked on the rating plate.
3) The rating data for converter-fed operation is also provided in a table on the rating plate.
4) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz ▲	Voltage at 60 Hz ▲	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1LA6 Frame size 100	112	132	160	1LG4 180	200	225	250	280	315
	V	V		11th position											
Voltage at 50 Hz	220Δ/380Y	440Y		9 1)	L1R										
Frame size	230Δ			9 1)	L1E ❍										
100 to 315 M	380Δ/660Y	440Δ		9 1)	L1L										
	415Y			9 1)	L1C										
	415Δ			9 1)	L1D										
	400Y			9 1)	L1A ❍										
	400Δ			9 1)	L1B ❍										
	400Δ	460Δ		9 1)	L1U ❍										
Voltage at 50 Hz	380Δ/660Y	440Δ		9	L1L										
Frame size 315 L	415Δ			9	L1D										
	400Δ			9	L1B ❍										
	400Δ	460Δ		9	L1U ❍										
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A										
Frame size			60-Hz-Output	9	L2B										
100 to 315 M		380Δ/660Y	50-Hz-Output	9	L2C										
			60-Hz-Output	9	L2D										
		440Y	50-Hz-Output	9	L2Q										
			60-Hz-Output	9	L2W	45,30	54,80	70,30	86,30	116, -	133, -	181, -	207, -	267, -	346, -
		440Δ	50-Hz-Output	9	L2R										
			60-Hz-Output	9	L2X										
		460Y	50-Hz-Output	9	L2S										
			60-Hz-Output	9	L2E ❍										
		460Δ	50-Hz-Output	9	L2T										
			60-Hz-Output	9	L2F ❍										
		575Y	50-Hz-Output	9	L2U										
			60-Hz-Output	9	L2L										
		575Δ	50-Hz-Output	9	L2V										
			60-Hz-Output	9	L2M ❍										
Voltage at 60 Hz		380Δ/660Y	50-Hz-Output	9	L2C										
Frame size 315 L			60-Hz-Output	9	L2D										
		440Δ	50-Hz-Output	9	L2R										
			60-Hz-Output	9	L2X										
		460Δ	50-Hz-Output	9	L2T										
			60-Hz-Output	9	L2F ❍										
		575Δ	50-Hz-Output	9	L2V										
			60-Hz-Output	9	L2M ❍										
Voltage at 87 Hz	400Δ		87-Hz-Output	9 2)	L3A	❍	❍	❍	❍	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Frame size 100 to 315 M															
	Plain-text required (non-standard winding)			9 3)	L1Y	90,70	110, -	140, -	174, -	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge
▲ For non-standard frequencies the test fee can arise.
O. R. Possible on request

1) For Zones 21 and 22, for order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U, a rated voltage range is also marked on the rating plate.
2) The rating data for converter-fed operation is also provided in a table on the rating plate.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz ▲	Voltage at 60 Hz ▲	Required output at 60 Hz	Type of voltage code		Order code	Additional charge plus MS 1LG6 EUR Frame size 180	200	225	250	280	315
	V	V		11th position								
Voltage at 50 Hz	220Δ/380Y	440Y		9	1)	L1R						
Frame size	230Δ			9	1)	L1E ❍						
180 to 315 M	380Δ/660Y	440Δ		9	1)	L1L						
	415Y			9	1)	L1C						
	415Δ			9	1)	L1D						
	400Y			9	1)	L1A ❍						
	400Δ			9	1)	L1B ❍						
	400Δ	460Δ		9	1)	L1U ❍						
Voltage at 50 Hz	380Δ/660Y	440Δ		9		L1L						
Frame size 315 L	415Δ			9		L1D						
	400Δ			9		L1B ❍						
	400Δ	460Δ		9		L1U ❍						
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9		L2A						
Frame size			60-Hz-Output	9		L2B						
180 to 315 M		380Δ/660Y	50-Hz-Output	9		L2C						
			60-Hz-Output	9		L2D						
		440Y	50-Hz-Output	9		L2Q						
			60-Hz-Output	9		L2W	116, -	133, -	181, -	207, -	267, -	346, -
		440Δ	50-Hz-Output	9		L2R						
			60-Hz-Output	9		L2X						
		460Y	50-Hz-Output	9		L2S						
			60-Hz-Output	9		L2E ❍						
		460Δ	50-Hz-Output	9		L2T						
			60-Hz-Output	9		L2F ❍						
		575Y	50-Hz-Output	9		L2U						
			60-Hz-Output	9		L2L						
		575Δ	50-Hz-Output	9		L2V						
			60-Hz-Output	9		L2M ❍						
Voltage at 60 Hz		380Δ/660Y	50-Hz-Output	9		L2C						
Frame size 315 L			60-Hz-Output	9		L2D						
		440Δ	50-Hz-Output	9		L2R						
			60-Hz-Output	9		L2X						
		460Δ	50-Hz-Output	9		L2T						
			60-Hz-Output	9		L2F ❍						
		575Δ	50-Hz-Output	9		L2V						
			60-Hz-Output	9		L2M ❍						
Voltage at 87 Hz	400Δ		87-Hz-Output	9	2)	L3A	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Frame size												
180 to 315 M												
	Plain-text required (non-standard winding)			9	3)	L1Y	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge
▲ For non-standard frequencies the test fee can arise.
O. R. Possible on request

1) For Zones 21 and 22, for order codes L1A, L1B, L1C, L1D, L1E, L1L, L1R and L1U a rated voltage range is also marked on the rating plate.
2) The rating data for converter-fed operation is also provided in a table on the rating plate.Nur für 4- bis 8-polige Motoren möglich.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

4

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1MA7 Frame size 63	71	80	90	100	112	132	160
Without flange:										
IM B 3	0	-	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6	0 1)	-	■	■	■	■	■	■	■	■
IM V 5 with cover	9 1) 2)	M1F	37,50	41,60	50, -	58,10	61,60	71,30	91,80	126, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF115 A 140	FF130 A 160	FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350
IM B 5, IM V 3	1 1)	-	37,80	41,90	47,40	57,10	70,40	87,70	114, -	147, -
IM V 1 with cover	4 1) 2)	-	75,60	82,60	96,90	114, -	133, -	160, -	207, -	276, -
IM B 35	6	-	53,20	57,10	63,70	73,40	87,70	114, -	144, -	208, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT75 C 90	FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250
IM B 14, IM V 19	2 1)	-	37,80	41,90	47,40	57,10	70,40	87,70	114, -	147, -
IM V 18 with cover	9 1) 2)	M2A	75,60	82,60	96,90	114, -	133, -	160, -	207, -	276, -
IM B 34	7	-	53,20	57,10	63,70	73,40	87,70	114, -	144, -	208, -
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300
IM B 14, IM V 19	3 1)	-	37,80	41,90	47,40	57,10	70,40	87,70	114, -	147, -
IM V 18 with cover	9 1) 2)	M2B	75,60	82,60	96,90	114, -	133, -	160, -	207, -	276, -
IM B 34	9	M2C	53,20	57,10	63,70	73,40	87,70	114, -	144, -	208, -

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1MA6 Frame size 100	112	132	160	180	200	225
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6	0 1)	-	■	■	■	■	■ 3)	■ 3)	■ 3)
IM V 5 with cover	9 1) 2)	M1F	61,60	71,30	91,80	126, -	165, - 3)	249, - 3)	334, - 3)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400	FF400 A 450
IM B 5	1	-	70,40	87,70	114, -	147, -	233, -	284, -	368, - 4)
IM V 3	1 1) 9 1)	- M1G	70,40 –	87,70 –	114, - –	147, - –	– 233, -	– 284, -	– 368, - 4)
IM V 1 with cover	4 1) 2)	-	133, -	160, -	207, -	276, -	400, -	532, -	700, - 4)
IM B 35	6	-	87,70	114, -	144, -	208, -	316, -	416, -	616, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250			
IM B 14, IM V 19	2 1)	-	70,40	87,70	114, -	147, -	–	–	–
IM V 18 with cover	9 1) 2)	M2A	133, -	160, -	207, -	276, -	–	–	–
IM B 34	7	-	87,70	114, -	144, -	208, -	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300			
IM B 14, IM V 19	3 1)	-	70,40	87,70	114, -	147, -	–	–	–
IM V 18 with cover	9 1) 2)	M2B	133, -	160, -	207, -	276, -	–	–	–
IM B 34	9	M2C	87,70	114, -	144, -	208, -	–	–	–

■ Standard design

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) The following applies for explosion-proof motors: In the case of the types of construction with shaft end down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
2) The 'second shaft extension' option (order code K16) is not possible.
3) When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.
4) Motors up to frame size 315 M are supplied with two bolted eyebolts in accordance to IM B 5, one of which can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1MA6 Frame size 250	280	315 S/M	315 L
Without flange:						
IM B 3	**0**	**-**	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	**0**	**-**	■	■	■	■
IM V 6 *	**0** 1)	**-**	■	■	■	–
	9 1)	**M1E**	–	–	–	401, - 2) ❍ 3)
IM V 5 * with cover	**9** 1) 4)	**M1F**	416, -	498, -	664, -	1.070, - 2) 664, - 3)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A 660**
IM B 5	**1** 1) 5)	**-**	440, -	643, -	918, -	–
IM V 1 with cover	**4** 1) 4) 5)	**-**	863, -	1.140, -	1.590, -	1.980, - 2) 1.590, - 3)
IM V 3	**9** 1) 5)	**M1G**	440, -	643, -	918, -	–
IM B 35	**6**	**-**	826, -	1.090, -	1.410, -	1.410, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.
1) The following applies for explosion-proof motors: In the case of the types of construction with shaft end down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
2) For 2-pole motors; in 60-Hz design on request.
3) For 4- to 8-pole motors.
4) The 'second shaft extension' option (order code K16) is not possible.
5) Motors up to frame size 315 M are supplied with two bolted eyebolts in accordance to IM B 5, one of which can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

Special versions

Metal factor for metal surcharges (MS): **N - V - - -**

10 working days | **20 working days** | **On request**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1MJ6 Frame size 71	80	90	100	112	132	160	180	200
Without flange:											
IM B 3	0	-	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6	0 1)	-	■	■	■	■	■	■	■	■ 2)	■ 2)
IM V 5 with cover	9 1) 3)	M1F	48,20	57,90	67,60	71,30	86,30	111, -	145, -	232, - 2)	307, - 2)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF130 A 160	FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400
IM B 5	1 1)	-	63,90	72,70	84,10	103, -	129, -	175, -	234, -	380, -	448, -
IM V 3	1 1)	-	63,90	72,70	84,10	103, -	129, -	175, -	234, -	–	–
	9 1)	M1G	–	–	–	–	–	–	–	380, -	448, -
IM V 1 with cover	4 1) 3)	-	112, -	132, -	149, -	175, -	214, -	283, -	382, -	616, -	755, -
IM B 35	6	-	79,80	84,10	104, -	129, -	167, -	269, -	411, -	482, -	562, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT85 C 105	FT100 C 120	FT115 C 140						
IM B 14, IM V 19	2 1)	-	63,90	72,70	84,10	–	–	–	–	–	–
IM V 18 with cover	9 1) 3)	M2A	112, -	132, -	149, -	–	–	–	–	–	–
IM B 34	7	-	79,80	84,10	104, -	–	–	–	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT115 C 140	FT130 C 160							
IM B 14, IM V 19	3 1)	-	63,90	72,70	–	–	–	–	–	–	–
IM V 18 with cover	9 1) 3)	M2B	112, -	132, -	–	–	–	–	–	–	–
IM B 34	9	M2C	79,80	84,10	–	–	–	–	–	–	–

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1MJ7 Frame size 225	250	280	315
Without flange:						
IM B 3	0	-	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■
IM V 6 *	0 1)	-	■	■	■	■
IM V 5 * with cover	9 1) 3)	M1F	386, -	482, -	579, -	770, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF400 A 450	FF500 A 550	FF500 A 550	FF600 A 660
IM B 5	1 1) 4)	-	562, -	713, -	890, -	1.170, -
IM V 1 with cover	4 1) 3) 4)	-	942, -	1.180, -	1.460, -	1.930, -
IM V 3	9 1) 4)	M1G	562, -	713, -	890, -	1.170, -
IM B 35	6	-	713, -	960, -	1.250, -	1.640, -

■ Standard design

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.
1) The following applies for explosion-proof motors: In the case of the types of construction with shaft end down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
2) When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.
3) The 'second shaft extension' option (order code K16) is not possible.
4) Motors up to frame size 315 M are supplied with two bolted eyebolts in accordance to IM B 5, one of which can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA7 Frame size 56 [1]	63	71	80	90	100	112	132	160	1LA5 [1] 180	200	225
Without flange:														
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6	0 [2]	-	■	■	■	■	■	■	■	■	■	■	■	■
IM V 5 with cover	9 [2] [3]	M1F	–	36,20	40,30	48,20	56,40	59,50	69,10	88,20	121, -	161, -	243, -	321, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF100 A 120	FF115 A 140	FF130 A 160	FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400	FF400 A 450
IM B 5	1 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -	354, -
IM V 1 with cover	4 [2] [3] [4]	-	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	386, -	515, -	677, -
IM V 3	1 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
	9 [2] [4]	M1G	–	–	–	–	–	–	–	–	–	226, -	274, -	354, -
IM B 35	6	-	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -	592, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT65 C 80	FT75 C 90	FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250			
IM B 14, IM V 19	2 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM V 18 with cover	9 [2] [3]	M2A	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–	–
IM B 34	7	-	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300			
IM B 14, IM V 19	3 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM V 18 with cover	9 [2] [3]	M2B	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–	–
IM B 34	9	M2C	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA9 Frame size 56	63	71	80	90	100	112	132	160	180	200
Without flange:													
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6	0 [2]	-	■	■	■	■	■	■	■	■	■	■	■
IM V 5 with cover	9 [2] [3]	M1F	–	36,20	40,30	48,20	56,40	59,50	69,10	88,20	121, -	161, -	243, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF100 A 120	FF115 A 140	FF130 A 160	FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400
IM B 5	1 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -
IM V 1 with cover	4 [2] [3]	-	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	386, -	515, -
IM V 3	1 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
	9 [2]	M1G	–	–	–	–	–	–	–	–	–	226, -	274, -
IM B 35	6	-	–	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT65 C 80	FT75 C 90	FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250		
IM B 14, IM V 19	2 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	9 [2] [3]	M2A	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	7	-	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT85 C 105	FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300		
IM B 14, IM V 19	3 [2]	-	36,50	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	9 [2] [3]	M2B	–	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	9	M2C	51,70	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–

■ Standard design

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) Zone 2 is not possible for motor series 1LA5 and motor series 1LA7 for frame size 56.
2) The following applies for explosion-proof motors: In the case of the types of construction with shaft end down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
3) The 'second shaft extension' option (order code K16) is not possible.
4) Motor frame sizes 180 M to 225 M can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS 1LA6 EUR Frame size 100	112	132	160
Without flange:						
IM B 3	0	-	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6	0 1)	-	■	■	■	■
IM V 5 with cover	9 1) 2)	M1F	59,50	69,10	88,20	121, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350
IM B 5	1 1)	-	68,30	84,80	110, -	143, -
IM V 1 with cover	4 1) 2)	-	129, -	154, -	199, -	268, -
IM V 3	1 1)	-	68,30	84,80	110, -	143, -
IM B 35	6	-	84,80	111, -	139, -	201, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250
IM B 14, IM V 19	2 1)	-	68,30	84,80	110, -	143, -
IM V 18 with cover	9 1) 2)	M2A	129, -	154, -	199, -	268, -
IM B 34	7	-	84,80	111, -	139, -	201, -
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300
IM B 14, IM V 19	3 1)	-	68,30	84,80	110, -	143, -
IM V 18 with cover	9 1) 2)	M2B	129, -	154, -	199, -	268, -
IM B 34	9	M2C	84,80	111, -	139, -	201, -

	Construct. code 12th pos.	Order code	Additional charge plus MS 1LG4 EUR Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0 1)	-	■	■	■	■	■	■	■
IM V 6 *	0 1)	-	■	■	■	■	■	■	–
	9 1)	M1E	–	–	–	–	–	–	387, - 3) ❍ 4)
IM V 5 * with cover	9 1) 2)	M1F	161, -	243, -	321, -	401, -	482, -	643, -	1.030, - 3) 643, - 4)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF300 A 350	FF350 A 400	FF400 A 450	FF500 A 550	FF500 A 550	FF600 A 660	- A660
IM B 5	1 1) 5)	-	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 with cover	4 1) 2) 5)	-	386, -	515, -	677, -	835, -	1.100, -	1.530, -	– 1.900, - 3) 1.530, - 4)
IM V 3	1	-	–	–	–	–	–	–	–
	9 1) 5)	M1G	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) The following applies for explosion-proof motors: In the case of the types of construction with shaft end down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.

2) For 2-pole motors; 60-Hz design on request.

3) For 4- to 8-pole motors.

4) The 'second shaft extension' option (order code K16) is not possible.

5) Motors frame size 225 up to frame size 315 L are supplied with two bolted eyebolts in accordance to IM B 5; one of there can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LG6 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	**0**	**-**	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	**0** [1]	**-**	■	■	■	■	■	■	■
IM V 6 *	**0** [1]	**-**	■	■	■	■	■	■	–
	9 [1]	**M1E**	–	–	–	–	–	–	387, - [2] ❍ [3]
IM V 5 * with cover	**9** [1] [4]	**M1F**	161, -	243, -	321, -	401, -	482, -	643, -	1.030, - [2] 643, - [3]
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A660**
IM B 5	**1** [1] [5]	**-**	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 with cover	**4** [1] [4] [5]	**-**	386, -	515, -	677, -	835, -	1.100, -	1.530, -	– 1.900, - [2] 1.530, - [3]
IM V 3	**1**	**-**	–	–	–	–	–	–	–
	9 [1] [5]	**M1G**	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	**6**	**-**	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction suffix '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) The following applies for explosion-proof motors: In the case of the types of construction with shaft end down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.

2) For 2-pole motors; 60-Hz design on request.

3) For 4- to 8-pole motors.

4) The 'second shaft extension' option (order code K16) is not possible.

5) Motors frame size 225 up to frame size 315 L are supplied with two bolted eyebolts in accordance to IM B 5; one of there can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e" - Aluminum series 1MA7																
			1MA7 (aluminum)													
Designs 1, 2, 21 and 22 according to ATEX																
T1/T2 on rating plate [1]	**C30**		–	–	–	–	–	–	○	○						
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [2]	**A11**		82,10	82,10	94,80	94,80	107,–	107,–	157,–	157,–						
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [2]	**A12**		140,–	140,–	162,–	162,–	183,–	183,–	242,–	242,–						
Motor connection and connection boxes																
Connection box on RHS	**K09**		–	–	30,20	34,–	87,70	95,50	103,–	110,–						
Connection box on LHS	**K10**		–	–	30,20	34,–	87,70	95,50	103,–	110,–						
Rotation of the connection box through 90°, entry from DE	**K83**		13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–						
Rotation of the connection box through 90°, entry from NDE	**K84**		13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–						
Rotation of connection box through 180°	**K85**		13,70	15,10	16,60	19,60	○	○	○	○						
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**		125,–	125,–	125,–	125,–	125,–	125,–	125,–	189,–						
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [3]	**C22**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–						
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [3]	**C23**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–						
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [3]	**C24**		48,50	56,90	64,60	75,60	94,20	113,–	145,–	179,–						
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % [3]	**C25**		48,50	56,90	64,60	75,60	94,20	113,–	145,–	179,–						
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**		228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–						
Colors and paint finish																
Special finish in RAL 7030 stone gray			□	□	□	□	□	□	□	□						
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….		51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–						
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….		485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–						

For legend and footnotes, see Page 4/24.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e" - Aluminum series 1MA7																
			1MA7 (aluminum)													
Colors and paint finish (continued)																
Off-shore special finish	**M91**		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.						
Unpainted (only cast iron parts primed)	**K23**		O	O	O	O	O	O	O	O						
Unpainted, only primed	**K24**		17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20						
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction	**K17**		36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50						
Low-noise version for 2-pole motors with clockwise direction of rotation [4]	**K37**		–	–	–	–	–	–	525,–	525,–						
Low-noise version for 2-pole motors with anticlockwise direction of rotation [4]	**K38**		–	–	–	–	–	–	525,–	525,–						
IP65 degree of protection	**K50**		126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–						
IP56 degree of protection (non-heavy-sea)	**K52**		219,–	219,–	219,–	219,–	240,–	240,–	240,–	240,–						
Vibration-proof version	**L03**		92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–						
Condensation drainage holes [5]	**L12**		44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30						
Rust-resistant screws (externally)	**M27**		–	–	56,80	56,80	69,40	69,40	82,10	82,10						
Coolant temperature and site altitude																
Coolant temperature –40 °C to +40 °C for ex motors [6]	**D19**		222,–	279,–	334,–	390,–	501,–	612,–	779,–	1.110,–						
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [7]	**D01**		34,–	34,–	34,–	34,–	–	–	–	–						
VIK version	**K30**		36,70	47,50	53,40	69,90	90,90	112,–	144,–	197,–						
Bearings and lubrication																
Bearing design for increased cantilever forces	**K20**		–	–	–	–	84,60	98,60	111,–	148,–						
Regreasing device	**K40**		–	–	–	–	267,–	273,–	281,–	305,–						
Located bearing DE	**K94**		33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–						
Located bearing NDE	**L04**		30,–	32,–	33,40	35,40	37,–	39,–	41,30	□						
Balance and vibration quantity																
Vibration quantity level A			□	□	□	□	□	□	□	□						
Vibration quantity level B	**K02**		186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–						
Full key balancing	**L68**		80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–						
Balancing without key	**M37**		18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10						
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [8]	**K04**		314,–	314,–	314,–	314,–	329,–	329,–	512,–	512,–						
Second standard shaft extension [9]	**K16**		71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–						
Shaft extension with standard dimensions without featherkey way	**K42**		345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–						
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**		208,–	208,–	208,–	208,–	229,–	229,–	350,–	350,–						
Non-standard cylindrical shaft extension [10]	**Y55** • and identification code		345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–						

For legend and footnotes, see Page 4/24.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e" - Aluminum series 1MA7																
			1MA7 (aluminum)													
Heating and ventilation																
Metal external fan	**K35**		–	–	–	–	159,–	189,–	220,–	253,–						
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**		–	–	–	–	17,70	17,70	17,70	17,70						
Second rating plate, loose	**K31**		17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70						
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code		46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–						
Extra rating plate with identification code	**Y82** • and identification code		34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90						
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code		34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90						
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**		24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10						
Operating instructions German/English enclosed in print	**B23**		□	□	□	□	□	□	□	□						
Wire-lattice pallet	**L99**		○	○	○	○	○	○	○	○						

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) 2-pole motors 1 MA frame sizes 132 to 160 are designed with double rating plate (T1/T2 and T3) as standard. For motor versions with order codes **A11/A12** or with voltage code "**9**" T3-output is then stamped on the rating plate as standard. Alternatively, "T1/T2-output on the rating plate" can be stamped - order code **C30**

2) Evaluation with appropriate 3RN1 tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. Motor protection by means of PTC thermistor as sole protection available on request.

3) The maximum certified output will be supplied.

4) 1MA7 motors are up to 80 mm longer than normal. A second shaft extension is not possible.

5) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

6) This cannot be supplied in combination with vibration-proof version order code **L03**.

7) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

8) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

9) Not possible for low-noise version (2-pole) for frame sizes 132 S to 160 L. Version with protective cover not possible.

10) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e" - Cast-iron series 1MA6																
							1MA6 (cast-iron)									
Designs 1, 2, 21 and 22 according to ATEX																
T1/T2 on rating plate [1]	**C30**						–	–	○	○	–	–	–	–	–	–
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [2]	**A11**						107,–	107,–	157,–	157,–	200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [2]	**A12**						183,–	183,–	242,–	242,–	353,–	353,–	459,–	459,–	570,–	570,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [2]	**A72**						–	–	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [2]	**A78**						–	–	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Motor connection and connection boxes																
Connection box on RHS	**K09**						102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**						102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**						□	□	□	□	1.140,–	1.140,–	□	□	□	□
Rotation of the connection box through 90°, entry from DE	**K83**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**						–	–	–	–	1.100,–	1.100,–	1.410,–	1.620,–	1.620,–	1.910,–
Auxiliary connection box 1XB3 020	**L97**						–	–	–	–	–	–	450,–	450,–	450,–	450,–
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**						125,–	125,–	125,–	189,–	254,–	314,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [3]	**C22**						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [3]	**C23**						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [3]	**C24**						94,20	113,–	145,–	179,–	232,–	285,–	421,–	530,–	680,–	883,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % [3]	**C25**						94,20	113,–	145,–	179,–	232,–	285,–	421,–	530,–	680,–	883,–
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**						243,–	272,–	294,–	391,–	486,–	508,–	O. R.	O. R.	O. R.	O. R.

For legend, see Page 4/27, for footnotes, see Page 4/28.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e" - Cast-iron series 1MA6																
							1MA6 (cast-iron)									
Colors and paint finish																
Standard finish in RAL 7030 stone gray							–	–	–	–	–	–	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….						–	–	–	–	–	–	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray [4]	**K26**						□	□	□	□	□	□	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….						86,70	86,70	113,–	113,–	159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….						657,–	657,–	657,–	694,–	694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**						○	○	○	○	○	○	○	○	○	○
Unpainted, only primed	**K24**						23,30	23,30	37,20	37,20	69,90	69,90	69,90	69,90	69,90	69,90
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for type of construction IM V3; with frame size 180 M and above, only possible for 4-pole to 6-pole motors	**K17**						48,30	52,90	64,50	94,50	122,–	150,–	200,–	267,–	334,–	401,–
Low-noise version for 2-pole motors with clockwise direction of rotation [5]	**K37**						–	–	525,–	525,–	700,–	700,–	1.120,–	1.290,–	1.530,–	2.010,–
Low-noise version for 2-pole motors with anticlockwise direction of rotation [5]	**K38**						–	–	525,–	525,–	700,–	700,–	1.120,–	1.290,–	1.530,–	2.010,–
IP65 degree of protection	**K50**						126,–	126,–	126,–	189,–	532,–	584,–	618,–	791,–	906,–	1.010,–
IP56 degree of protection (non-heavy-sea)	**K52**						240,–	240,–	240,–	240,–	532,–	584,–	618,–	791,–	906,–	1.010,–
Vibration-proof version	**L03**						159,–	175,–	190,–	–	–	–	–	–	–	–
Condensation drainage holes [6]	**L12**						69,40	75,70	82,10	88,30	94,80	101,–	–	–	–	–
Rust-resistant screws (externally)	**M27**						69,40	69,40	82,10	82,10	94,80	107,–	143,–	170,–	177,–	235,–
Coolant temperature and site altitude																
Coolant temperature –40 °C to +40 °C for ex motors [7]	**D19**						501,–	612,–	779,–	1.110,–	1.340,–	1.560,–	1.890,–	2.330,–	3.110,–	4.110,–
Designs in accordance with standards and specifications																
VIK version	**K30**						90,90	112,–	144,–	197,–	257,–	343,–	499,–	605,–	974,–	1.890,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						–	–	–	–	322,–	322,–	322,–	322,–	322,–	322,–
Bearing design for increased cantilever forces [8]	**K20**						84,60	98,60	111,–	148,–	213,–	246,–	276,–	321,–	360,–	401,–
Regreasing device	**K40**						267,–	273,–	281,–	305,–	321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**						61,10	72,40	89,–	122,–	256,–	356,–	–	–	–	–
Located bearing NDE	**L04**						38,10	39,–	41,30	□	–	–	–	–	–	–

For legend, see Page 4/27, for footnotes, see Page 4/28.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e" - Cast-iron series 1MA6																
							1MA6 (cast-iron)									
Balance and vibration quantity																
Vibration quantity level A							□	□	□	□	□	□	□	□	□	□
Vibration quantity level B	**K02**						238,–	275,–	351,–	435,–	497,–	558,–	755,– 9)	960,– 9)	1120,– 9)	1440,– 9)
Full key balancing	**L68**						93,20	93,20	108,–	108,–	136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**						23,80	23,80	28,10	28,10	36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors 9)	**K04**						329,–	329,–	512,–	512,–	301,–	301,–	301,–	356,–	356,–	625,–
Second standard shaft extension 10)	**K16**						120,–	120,–	159,–	183,–	276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with standard dimensions without featherkey way	**K42**						441,–	464,–	487,–	512,–	594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**						229,–	229,–	350,–	350,–	181,–	203,–	242,–	318,–	318,–	485,–
Non-standard cylindrical shaft extension 11)	**Y55** • and identification code						441,–	464,–	487,–	512,–	594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Cast-iron fan cover	**K34**						–	–	–	–	–	–	694,–	720,–	764,–	975,–
Metal external fan	**K35**						159,–	189,–	220,–	253,–	354,–	354,–	625,–	666,–	666,–	755,–
Anti-condensation heaters for 230 V	**K45**						–	–	–	–	–	–	990,–	1.070,–	1.180,–	1.180,–
Anti-condensation heaters for 115 V	**K46**						–	–	–	–	–	–	990,–	1.070,–	1.180,–	1.180,–
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code						90,70	110,–	140,–	174,–	225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**						24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**						□	□	□	□	□	□	□	□	□	□
Wire-lattice pallet	**L99**						○	○	○	○	○	○	–	–	–	–

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 4/28.

10 working days | 20 working days | On request

4

1) 2-pole motors 1MA frame sizes 132 to 160 are designed with double rating plate (T1/T2 and T3) as standard. For motor versions with order codes **A11/A12** or with voltage code "**9**" T3-output is then stamped on the rating plate as standard. Alternatively, "T1/T2-output on the rating plate" can be stamped - order code **C30**

2) Evaluation with appropriate 3RN1 tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. Motor protection with PTC thermistors is available as sole protection up to frame size 160 L on request. With frame size 180 M and above, it is not permitted as sole protection; motor protection switch is required.

3) The maximum certified output will be supplied.

4) For frame sizes 100 to 200, do not specify an order code. Order code is only necessary for frame sizes 225 to 315.

5) 1MA6 motors are up to 80 mm longer than normal. A second shaft extension is not possible.

6) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

7) This cannot be supplied in combination with vibration-proof version order code **L03**.

8) Not possible for 2-pole 1MA6 motors, frame size 315 L in vertical type of construction; bearings for increased cantilever forces for vibration quantity level B are available on request for 1MA6 motors of frame size 225 M and above. Not possible for 1MA6 motors of frame size 225 M and above in combination with concentricity of shaft extension, coaxiality and linear movement according to DIN 42955 tolerance R for flange-mounting types.

9) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

10) For motors of frame size 180 M and above in vertical type of construction in version with second shaft extension on request. Not possible for low-noise version (2-pole) for frame sizes 132 S to 160 L. Version with protective cover not possible.

11) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not applicable for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ Inner diameter of roller bearing (see tables under "Dimensions")
– Dimensions E and EA ≤2 x Length E (normal) of the shaft extension
For explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - V - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "de" - Cast-iron series 1MJ6 and 1MJ7																
				1MJ6 (cast-iron)									**1MJ7 (cast-iron)**			
Designs for Zones 1, 2, 21 and 22 according to ATEX																
Version (IP65) for Zones 1 and 21 as well as Zone 22 with conductive dust, mains-fed operation [1]	**M76**			134,–	156,–	167,–	189,–	212,–	267,–	390,–	523,–	801,–	1.110,–	1.450,–	1.780,–	2.120,–
Version (IP65) for Zones 1 and 21 as well as Zone 22 with conductive dust for converter-fed operation - reduced output [1]	**M77**			519,–	554,–	565,–	603,–	625,–	696,–	818,–	1.110,–	1.390,–	1.800,–	2.140,–	2.800,–	3.130,–
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [2] [3]	**A11**			336,–	347,–	347,–	362,–	362,–	422,–	422,–	522,–	522,–	701,–	701,–	799,–	799,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [2] [3] [4]	**A12**			569,–	589,–	589,–	619,–	619,–	683,–	683,–	865,–	865,–	1.020,–	1.020,–	1.090,–	1.090,–
Motor protection with PTC thermistors for converter-fed operation with 4 embedded temperature sensors for tripping [2] [3]	**A15**			386,–	399,–	399,–	414,–	414,–	429,–	429,–	591,–	591,–	688,–	688,–	1.020,–	1.020,–
Motor protection with PTC thermistors for converter-fed operation with 8 embedded temperature sensors for alarm and tripping [2] [3] [4]	**A16**			639,–	639,–	639,–	639,–	639,–	639,–	639,–	1.100,–	1.100,–	1.250,–	1.250,–	1.490,–	1.490,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [2]	**A72**			–	–	–	–	–	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [2]	**A78**			–	–	–	–	–	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Motor connection and connection boxes																
Connection box on RHS	**K09**			–	–	98,40	102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**			–	–	98,40	102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**			667,–	667,–	667,–	667,–	906,–	960,–	960,– [5]	1.130,–	1.130,–	1.130,–	□	□	□
Explosion-proof connection box, Ex d IIC type of protection [6]	**K53**			748,–	748,–	748,–	748,–	998,–	1.050,–	1.050,–	1.130,–	1.130,–	4.180,–	4.680,–	5.210,–	5.720,–
Rotation of the connection box through 90°, entry from DE	**K83**			25,–	27,20	33,30	43,10	54,40	72,70	83,40	91,30	101,–	111,–	123,–	136,–	148,–
Rotation of the connection box through 90°, entry from NDE	**K84**			25,–	27,20	33,30	43,10	54,40	72,70	83,40	91,30	101,–	111,–	123,–	136,–	148,–
Rotation of connection box through 180°	**K85**			O	O	O	O	O	O	O	O	O	O	O	O	O
Auxiliary connection box 1XB3020 [7]	**L97**			–	–	–	–	–	–	–	–	–	450,–	450,–	450,–	450,–
Saddle terminal for connection without cable lug, accessories pack (3 items without saddle terminals)	**M47**			–	–	–	–	–	–	–	–	–	–	259,–	259,–	313,–

For legend and footnotes, see Page 4/32.

Special versions

Metal factor for metal surcharges (MS): **N - V - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "de" - Cast-iron series 1MJ6 and 1MJ7				**1MJ6 (cast-iron)**									**1MJ7 (cast-iron)**			
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m³ of air	**C19**			498,–	498,–	498,–	542,–	570,–	590,–	840,–	981,–	1.110,–	2.200,–	2.590,–	3.070,–	3.500,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [8]	**C22**			34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [8]	**C23**			34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [8]	**C24**			56,90	64,60	75,60	94,20	113,–	145,–	174,–	225,–	285,–	421,–	530,–	680,–	883,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**			56,90	64,60	75,60	94,20	113,–	145,–	174,–	225,–	285,–	421,–	530,–	680,–	883,–
Increased air humidity/temperature with 60 to 100 g water per m³ of air	**C26**			600,–	608,–	608,–	660,–	717,–	758,–	1.040,–	1.210,–	1.310,–	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level			82,40	93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–	609,–	766,–	981,–	1.270,–
Colors and paint finish																
Standard finish in RAL 7030 stone gray				–	–	–	–	–	–	–	–	–	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL			–	–	–	–	–	–	–	–	–	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray [9]	**K26**			□	□	□	□	□	□	□	□	□	351,–	430,–	524,–	676,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL			51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–	481,–	608,–	770,–	1.020,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL			485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**			O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**			O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**			○	○	○	○	○	○	○	○	○	○	○	○	○
Unpainted, only primed	**K24**			17,50	17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90	69,90	69,90	69,90	69,90

For legend and footnotes, see Page 4/32.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - V - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "de" - Cast-iron series 1MJ6 and 1MJ7				**1MJ6 (cast-iron)**									**1MJ7 (cast-iron)**			
Special technology																
Mounting of the explosion-proof rotary pulse encoder for use on Ex d/de motors in Zone 1 [10]	**H87**			–	–	9.570,–	9.570,–	9.570,–	9.570,–	9.570,–	12.800,–	12.800,–	15.000,–	15.000,–	15.000,–	15.000,–
Mounting of the explosion-proof Ex de separately driven fan for use in Zone 1 [11]	**M98**			–	–	–	–	–	–	–	–	–	3.560,–	3.890,–	4.210,–	4.640,–
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for type of construction IM V3; with frame size 180 M and above, only possible for 4-pole to 8-pole motors	**K17**			53,40	54,50	59,–	65,70	72,40	74,50	105,–	136,–	170,–	229,–	305,–	381,–	458,–
Low-noise version for 2-pole motors with clockwise direction of rotation [12]	**K37**			–	–	–	–	–	632,–	632,–	841,–	841,–	1.540,–	1.540,–	1.840,–	2.430,–
Low-noise version for 2-pole motors with anticlockwise direction of rotation [12]	**K38**			–	–	–	–	–	632,–	632,–	841,–	841,–	1.540,–	1.540,–	1.840,–	2.430,–
IP65 degree of protection [13]	**K50**			130,–	151,–	162,–	184,–	205,–	259,–	389,–	497,–	572,–	670,–	788,–	907,–	1.030,–
IP56 degree of protection (non-heavy-sea) [14]	**K52**			219,–	219,–	219,–	240,–	240,–	240,–	240,–	532,–	584,–	618,–	791,–	906,–	1.010,–
Vibration-proof version	**L03**			109,–	125,–	141,–	159,–	175,–	190,–	207,–	–	–	–	–	–	–
Mechanical protection for encoder [15]	**M68**			–	–	–	–	–	–	–	178,–	178,–	178,–	178,–	178,–	178,–
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [16]	**D01**			34,–	34,–	34,–	–	–	–	–	–	–	–	–	–	–
VIK version	**K30**			77,30	84,–	101,–	138,–	167,–	231,–	345,–	483,–	585,–	870,–	1.130,–	1.640,–	2.990,–
Ex certification for China	**D32**			138,–	138,–	138,–	186,–	186,–	186,–	195,–	195,–	284,–	284,–	375,–	550,–	654,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**			–	–	–	–	–	–	–	316,–	316,–	316,–	316,–	316,–	316,–
Bearing design for increased cantilever forces [17]	**K20**			–	–	–	–	–	–	–	213,–	246,–	276,–	321,–	–	–
Regreasing device	**K40**			–	–	–	–	–	–	–	386,–	434,–	482,–	579,–	□	□
Insulated bearing cartridge	**L27**			–	–	–	–	–	–	–	–	–	1.780,–	1.890,–	1.980,–	2.060,–
Balance and vibration quantity																
Vibration quantity level A				□	□	□	□	□	□	□	□	□	□	□	□	□
Vibration quantity level B	**K02**			202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**			80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**			18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [18]	**K04**			–	–	–	–	–	–	–	301,–	301,–	301,–	356,–	356,–	625,–
Second standard shaft extension [19]	**K16**			71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–	322,–	336,–	397,–	435,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**			–	–	–	–	–	–	–	177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [20]	**Y55** • and identification code			–	–	–	–	–	–	–	–	–	O. R.	O. R.	O. R.	O. R.
Heating and ventilation																
Metal external fan	**K35**			–	–	–	159,–	189,–	220,–	253,–	354,–	354,–	625,–	666,–	666,–	755,–
Anti-condensation heaters for 230 V [21] [22]	**K45**			373,–	373,–	373,–	417,–	445,–	464,–	651,–	727,–	798,–	913,–	1.010,–	1.140,–	1.140,–
Anti-condensation heaters for 115 V [21] [22]	**K46**			373,–	373,–	373,–	417,–	445,–	464,–	651,–	727,–	798,–	913,–	1.010,–	1.140,–	1.140,–
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code			–	–	–	–	–	–	–	–	–	2.000,–	2.000,–	2.000,–	2.140,–

For legend and footnotes, see Page 4/32.

Special versions

Metal factor for metal surcharges (MS): **N - V - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "de" - Cast-iron series 1MJ6 and 1MJ7				**1MJ6 (cast-iron)**									**1MJ7 (cast-iron)**			
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**			–	–	–	–	–	–	–	56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**			17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code			55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82** • and identification code			34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code			34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**			24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**			□	□	□	□	□	□	□	□	□	□	□	□	□
Wire-lattice pallet	**L99**			○	○	○	○	○	○	○	○	○	–	–	–	–

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) In combination with order codes **K30** and **M98** please inquire.
Not possible in combination with order codes **D32**, **K50** and **K52**.

2) Evaluation with appropriate 3RN1 tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required.

3) For 1MJ6 motors, for a version with PTC thermistors, an anti-condensation heater (order code **K45**, **K46**) up to frame size 160 L is not possible.

4) For 1MJ6 motors frame size 180 to 200 and 1MJ7 motors, for a version with PTC thermistors, an anti-condensation heater (order code **K45**, **K46**) is not possible. Exception: 1MJ7 frame size 315.

5) For 1MJ6 motors frame size 160 L standard version.

6) Drilled holes for the cable glands are sealed with Exd plugs for 1MJ motors as standard.
On request, the Exd cable entries can be supplied for 1MJ7 motors. When ordering, the number of cables and outer diameters must be specified so that the appropriate cable glands can be supplied.

7) Not possible in combination with order code **K53**, since the auxiliary connection box has been approved only for Ex de.

8) Derating does not apply in combination with the following order codes: **L2A**, **L2C**, **L2Q**, **L2R**, **L2S**, **L2T**, **L2U** and **L2V**.

9) For frame sizes 71 to 200, do not specify an order code.
Order code is only necessary for frame sizes 225 to 315.

10) In combination with order codes **C19**, **C26**, **L27** and **M98** please inquire.
Not possible in combination with order codes **C22** to **C25** (frame sizes 90 to 160), **D19**, **K16**, **K50**, **M77**.
Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

11) In combination with order codes **C19**, **C22** to **C26**, **D19**, **H87**, **K50**, **K52**, **M76** and **M77** please inquire.
Not possible in combination with order code **K16**.

12) The motors are up to 80 mm longer than normal. A second shaft extension is not possible.

13) Order code **K50** (protective cover IP65) can be ordered only for Zone 1.
For Zone 21, IP65 degree of protection is standard.
Not possible for Zone 22, because only IP55 degree of protection is required.

14) A combination of order code **K52** degree of protection IP56 (non-heavy-sea) with **M76** or **M77** is not permissible.

15) 1MJ6 motors of frame size 90 to 160 have a rugged flanged. Ex OG9 rotary pulse encoder, which offers alone a high mechanical protection. The mechanical protection for the encoder is not necessary when a rotary pulse encoder is combined with a separately driven fan because in this case the rotary pulse encoder is installed under the fan cowl.

16) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

17) Bearings for increased cantilever forces at vibration quantity level B on request.

18) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

19) For 1MJ6/1MJ7 motors of frame size 180 M and above in vertical type of construction in version with second shaft extension on request. Not possible for low-noise version (2-pole). Version with protective cover not possible.

20) When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

21) For 1MJ6 motors, version with 3, 4 PTC thermistors (order codes **A11**, **A15**) is not possible up to frame size 160 L.

22) Not possible for version with 6, 8 PTC thermistors (order codes **A12**, **A16**). Exception: 1MJ7 frame size 315.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum) [1]									**1LA5 (aluminum) [2]**					
Designs for Zones 1, 2, 21 and 22 according to ATEX [3]																
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 [4]	**M72**	–	75,90	91,60	109,–	120,–	144,–	171,–	216,–	288,–	–	–	–			
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 [4] [5] [6]	**M73**	–	266,–	302,–	337,–	347,–	376,–	401,–	465,–	550,–	–	–	–			
Version (IP55) for Zone 2 and 22 for non-conducting dust for mains-fed operation [7]	**M74**	–	100,–	111,–	122,–	134,–	145,–	156,–	200,–	311,–	–	–	–			
Version (IP55) for Zone 2 and 22 for non-conducting dust for converter-fed operation reduced output [5] [6] [7]	**M75**	–	291,–	322,–	351,–	361,–	377,–	386,–	449,–	572,–	–	–	–			
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains-fed operation [8]	**M34**	98,30	116,–	136,–	153,–	172,–	188,–	212,–	261,–	363,–	512,–	820,–	1.130,–			
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating [4] [6] [8]	**M38**	175,–	193,–	212,–	242,–	260,–	288,–	312,–	376,–	477,–	741,–	1.050,–	1.410,–			
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	**M35**	40,40	49,70	59,10	67,40	80,80	91,50	108,–	161,–	234,–	405,–	593,–	751,–			
Design for Zone 22 for conducting dust (IP55) for converter-fed operation, derating [4] [6]	**M39**	116,–	125,–	136,–	156,–	170,–	193,–	208,–	274,–	348,–	634,–	823,–	1.020,–			
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	**K30**	–	111,–	127,–	144,–	162,–	184,–	212,–	271,–	343,–	–	–	–			
Ex nA II on VIK rating plate	**C27**	–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–			
Alternative converter (SIMOVERT MASTERDRIVES, SINAMICS G110, SINAMICS S120 or ET 200S FC)	**Y68** • and converter type	○	○	○	○	○	○	○	○	○	○	○	○			
Motor protection																
With PTC thermistors for alarm during converter-fed operation in Zones 2, 21, 22 [9]	**A10**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	–	–	–			
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [9]	**A11**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–	273,–			
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [9]	**A12**	129,–	129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–	459,–			
Motor temperature detection with embedded temperature sensor KTY 84-130 [9]	**A23**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–	389,–			
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [9]	**A25**	151,–	151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–	634,–			
Installation of 3 PT 100 resistance thermometers [9]	**A60**	–	–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–			

For legend, see Page 4/37, for footnotes, see Page 4/38.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum) [1]									**1LA5 (aluminum) [2]**					
Motor connection and connection boxes																
Connection box on RHS	**K09**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–	217,–			
Connection box on LHS	**K10**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–	217,–			
One cable gland, metal [10]	**K54**	50,20	50,20	50,20	50,20	50,20	94,–	94,–	94,–	120,–	120,–	138,–	138,–			
Cable gland, maximum configuration	**K55**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Rotation of the connection box through 90°, entry from DE	**K83**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–	60,50			
Rotation of the connection box through 90°, entry from NDE	**K84**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–	60,50			
Rotation of connection box through 180°	**K85**	13,70	13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–	60,50			
Next larger connection box	**L00**	–	–	–	–	–	–	–	–	–	1.080,–	1.080,–	1.080,–			
External earthing	**L13**	□	□	□	□	□	□	□	□	□	□	□	□			
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m³ of air	**C19**	–	125,–	125,–	125,–	125,–	125,–	125,–	125,–	189,–	254,–	314,–	379,–			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [11]	**C22**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [11]	**C23**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [11]	**C24**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Increased air humidity/temperature with 60 to 100 g water per m³ of air	**C26**	–	228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–	685,–			
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level	70,20	70,20	82,40	93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–	609,–			

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For legend, see Page 4/37, for footnotes, see Page 4/38.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum) [1]									**1LA5 (aluminum) [2]**					
Colors and paint finish																
Special finish in RAL 7030 stone gray		□	□	□	□	□	□	□	□	□	□	□	□			
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL	51,40	51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–	294,–			
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL	485,–	485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–	694,–			
Sea-air proof special finish	**M94**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Unpainted (only cast iron parts primed)	**K23**	○	○	○	○	○	○	○	○	○	○	○	○			
Unpainted, only primed	**K24**	17,50	17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90	69,90			
Special technology																
Mounting of the explosion-proof rotary pulse encoder apply to the use in Zones 2, 21,22 [12]	**H86**	–	–	–	–	–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–			
Mounting of the explosion-proof seperately driven fan II 3D apply to the use in Zones 22 [13]	**M97**	–	–	–	–	–	1.670,–	1.890,–	2.120,–	2.450,–	2.670,–	3.000,–	3.340,–			
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction	**K17**	34,80	36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–	200,–			
With two additional eyebolts for IM V1/IM V3	**K32**	–	–	–	–	–	–	–	–	–	100,–	100,–	100,–			
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	–	–	–	–	–	–	–	525,–	525,–	700,–	700,–	1.120,–			
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	–	–	–	–	–	–	–	525,–	525,–	700,–	700,–	1.120,–			
IP65 degree of protection [14]	**K50**	126,–	126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–	379,–			
IP56 degree of protection (non-heavy-sea) [15]	**K52**	139,–	139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–	417,–			
Vibration-proof version	**L03**	75,70	92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–	257,–			
Condensation drainage holes [16]	**L12**	37,90	44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–	107,–			
Rust-resistant screws (externally)	**M27**	47,30	47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–	143,–			
Mechanical protection for encoder [17]	**M68**	–	–	–	469,–	469,–	491,–	491,–	568,–	568,–	568,–	568,–	568,–			

For legend, see Page 4/37, for footnotes, see Page 4/38.

Explosion-proof motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum) [1]									**1LA5 (aluminum) [2]**					
Coolant temperature and site altitude																
Coolant temperature –40 °C to +40 °C for ex motors [18]	**D19**	189,–	222,–	279,–	334,–	390,–	501,–	612,–	779,–	1.110,–	1.340,–	1.560,–	1.890,–			
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [19]	**D01**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–	–	–			
Electrical according to NEMA MG1-12	**D30**	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	56,70	56,70	56,70			
Ex-certification for China (only valid for Zone 2)	**D32**	–	138,–	138,–	138,–	138,–	186,–	186,–	186,–	195,–	–	–	–			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	–	–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–	368,–			
Bearing design for increased cantilever forces	**K20**	–	–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–	246,–			
Regreasing device	**K40**	–	–	–	–	–	267,–	273,–	281,–	305,–	321,–	362,–	401,–			
Located bearing DE	**K94**	33,40	33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–	501,–			
Located bearing NDE	**L04**	29,10	30,–	32,–	33,40	35,40	37,–	39,–	41,30	□	□	□	□			
Balance and vibration quantity																
Vibration quantity level A		□	□	□	□	□	□	□	□	□	□	□	□			
Vibration quantity level B	**K02**	177,–	186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–	620,–			
Full key balancing	**L68**	80,70	80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–	175,–			
Balancing without key	**M37**	18,40	18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70	49,70			
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [20]	**K04**	75,70	101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–	505,–			
Second standard shaft extension	**K16**	71,10	71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–	322,–			
Shaft extension with standard dimensions without featherkey way	**K42**	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–	713,–			
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**	205,–	205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–	237,–			
Standard shaft made of rust-resistant steel	**M65**	–	–	–	704,–	704,–	808,–	808,–	936,–	1.160,–	2.080,–	2.400,–	2.590,–			
Non-standard cylindrical shaft extension [21]	**Y55** • and identification code	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–	713,–			
Heating and ventilation																
Fan cover for textile industry	**H17**	–	–	–	101,–	164,–	266,–	379,–	481,–	568,–	568,–	795,–	795,–			
Metal external fan [22]	**K35**	–	126,–	126,–	126,–	126,–	159,–	189,–	220,–	253,–	284,–	314,–	347,–			
Anti-condensation heaters, Ex. 230 V	**M15**	–	–	–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Anti-condensation heaters, Ex. 115 V	**M14**	–	–	–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			

For legend, see Page 4/37, for footnotes, see Page 4/38.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum) 1)									**1LA5 (aluminum) 2)**					
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**	–	–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Second rating plate, loose	**K31**	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Extra rating plate or rating plate with deviating rating plate data	**Y80•** and identification code	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Extra rating plate with identification code	**Y82 •** and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84 •** and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10			
Operating instructions German/English enclosed in print	**B23**	□	□	□	□	□	□	□	□	□	□	□	□			
Type test with heat run for vertical motors, with acceptance	**F83**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Wire-lattice pallet	**L99**	○	○	○	○	○	○	○	○	○	○	–	–			
Connected in star for dispatch	**M32**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80	31,80			
Connected in delta for dispatch	**M33**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80	31,80			

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 4/38.

10 working days | 20 working days | On request

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1) Zone 2 for motor series 1LA7 only frame size 63 and above.

2) Zone 2 is not possible for motor series 1LA5. For Zone 2, instead of 1LA5 motors, 1LG4 motors are used.

3) Anti-condensation heater up to frame size 71 M not possible.

4) These motors do not have a rated voltage range stamped on the rating plate.

5) According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).

6) With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. The operating data for the MICROMASTER converter series from Siemens are specified on the rating plate as standard. Derating information is available on request. For converter-fed operation only voltage codes/order codes with only one voltage are permitted, see also Catalog D81.1 Page 4/82.

7) In combination with order codes **D19**, **K30** and **M97** please inquire. Not possible in combination with order codes **D32**, **K50** and **K52**.

8) Zone 21 takes into account conducting and non-conducting dust.

9) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.

10) For 1LA7 and 1LA5 motors additional charge only applies to Zone 22. Designs for Zone 2 and 21 already have a certified cable gland metal in the standard version.

11) Derating does not apply in combination with the following order codes: **L2A**, **L2C**, **L2Q**, **L2R**, **L2S**, **L2T**, **L2U** and **L2V**.

12) In combination with order codes **C19**, **C26**, **L27** and **M97** please inquire. Not possible in combination with order code **K16**. Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

13) In combination with order codes **C19, C22, C23, C24, C25, C26, D19, H86, K50** and **K52** please inquire.
Not possible in combination with order codes **C27, K16, K30, M72, M73, M34, M38, M74** and **M75**.

14) Order code **K50** (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.

15) Order code **K52** IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

16) When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

17) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

18) Not possible in combination with order code **L03**.
The mechanical limit speed of 1LA5 2-pole motors in the design for Zones 21/22 from frame size 180 has been reduced compared to the values in chapter 5 "motors operating with frequency converters" of the catalog:

Frame size	2 pole n_{max} in rpm	f_{max} in Hz
180	3300	55
200	3100	51
225	3000	50

This is particularly important to be observed for converter-fed operation and operation on 60 Hz line supplies. Option: 1LG4 motors in the design for Zones 21/22.

19) CCC certification is required for
– 2-pole motors: ≤2.2 kW
– 4-pole motors: ≤1.1 kW
– 6-pole motors: ≤0.75 kW
– 8-pole motors: ≤0.55 kW

20) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

21) When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimension tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

22) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is standard for these motors in the version for Zone 21/22. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA9																
		1LA9 (aluminum)														
Designs for Zones 1, 2, 21 and 22 according to ATEX [1]																
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 [2]	**M72**	–	75,90	91,60	109,–	120,–	144,–	171,–	216,–	288,–	–	–				
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 [2] [3] [4]	**M73**	–	266,–	302,–	337,–	347,–	376,–	401,–	465,–	550,–	–	–				
Version (IP55) for Zone 2 and 22 for non-conducting dust for mains-fed operation [5]	**M74**	–	100,–	111,–	122,–	134,–	145,–	156,–	200,–	311,–	–	–				
Version (IP55) for Zone 2 and 22 for non-conducting dust for converter-fed operation reduced output [3] [4] [5]	**M75**	–	291,–	322,–	351,–	361,–	377,–	386,–	449,–	572,–	–	–				
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains-fed operation [6]	**M34**	98,30	116,–	136,–	153,–	172,–	188,–	212,–	261,–	363,–	512,–	820,–				
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating [2] [4] [6]	**M38**	175,–	193,–	212,–	242,–	260,–	288,–	312,–	376,–	477,–	741,–	1.050,–				
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	**M35**	40,40	49,70	59,10	67,40	80,80	91,50	108,–	161,–	234,–	405,–	593,–				
Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation, derating [2] [4]	**M39**	116,–	125,–	136,–	156,–	170,–	193,–	208,–	274,–	348,–	634,–	823,–				
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	**K30**	–	111,–	127,–	144,–	162,–	184,–	212,–	271,–	343,–	–	–				
Ex nA II on VIK rating plate	**C27**	–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–				
Alternative converter (SIMOVERT MASTERDRIVES, SINAMICS G110, SINAMICS S120 or ET 200S FC)	**Y68** • and converter type	O	O	O	O	O	O	O	O	O	O	O				
Motor protection																
With PTC thermistors for alarm during converter-fed operation in Zones 2, 21, 22 [7]	**A10**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	224,–	224,–				
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [7]	**A11**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–				
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [7]	**A12**	129,–	129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–				
Motor temperature detection with embedded temperature sensor KTY 84-130 [7]	**A23**	75,70	75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [7]	**A25**	151,–	151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–				
Installation of 3 PT 100 resistance thermometers [7]	**A60**	–	–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–				

For legend, see Page 4/42, for footnotes, see Page 4/43.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA9																
		1LA9 (aluminum)														
Motor connection and connection boxes																
Connection box on RHS	**K09**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
Connection box on LHS	**K10**	–	–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
One cable gland, metal [8]	**K54**	–	–	–	–	–	94,–	94,–	94,–	120,–	–	–				
Cable gland, maximum configuration	**K55**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Rotation of the connection box through 90°, entry from DE	**K83**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of the connection box through 90°, entry from NDE	**K84**	13,70	13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of connection box through 180°	**K85**	13,70	13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–				
Next larger connection box	**L00**	–	–	–	–	–	–	–	–	–	1.080,–	1.080,–				
External earthing	**L13**	□	□	□	□	□	□	□	□	□	□	□				
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**	–	125,–	126,–	126,–	126,–	125,–	125,–	125,–	189,–	254,–	314,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [9]	**C22**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [9]	**C23**	34,90	34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [9]	**C24**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**	–	228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–				
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level	70,20	70,20	82,40	93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–				
Colors and paint finish																
Special finish in RAL 7030 stone gray		□	□	□	□	□	□	□	□	□	□	□				
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL	51,40	51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–				
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL	485,–	485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–				
Sea-air proof special finish	**M94**	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	**K23**	O	O	O	O	O	O	O	O	O	O	O				
Unpainted, only primed	**K24**	17,50	17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90				

For legend, see Page 4/42, for footnotes, see Page 4/43.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA9																
		1LA9 (aluminum)														
Special technology																
Mounting of the explosion-proof rotary pulse encoder apply to the use in Zones 2, 21,22 [10]	**H86**	–	–	–	–	–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–				
Mounting of the explosion-proof seperately driven fan II 3D apply to the use in Zones 22 [11]	**M97**	–	–	–	–	–	1.670,–	1.890,–	2.120,–	2.450,–	2.670,–	3.000,–				
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction.	**K17**	34,80	36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–				
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**	–	–	–	–	–	–	–	–	–	700,–	700,–				
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**	–	–	–	–	–	–	–	–	–	700,–	700,–				
IP65 degree of protection [12]	**K50**	126,–	126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–				
IP56 degree of protection (non-heavy-sea) [13]	**K52**	139,–	139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–				
Vibration-proof version	**L03**	75,70	92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–				
Condensation drainage holes [14]	**L12**	37,90	44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–				
Rust-resistant screws (externally)	**M27**	47,30	47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–				
Mechanical protection for encoder [15]	**M68**	–	–	–	–	469,–	491,–	491,–	568,–	568,–	568,–	568,–				
Coolant temperature and site altitude																
Coolant temperature –40 °C to +40 °C for ex motors [16]	**D19**	189,–	222,–	279,–	334,–	390,–	501,–	612,–	779,–	1.110,–	1.340,–	1.560,–				
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [17]	**D01**	34,–	34,–	34,–	34,–	34,–	–	–	–	–	–	–				
Electrical according to NEMA MG1-12	**D30**	–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	34,–	56,70	56,70				
Ex-certification for China (only valid for Zone 2)	**D32**	–	138,–	138,–	138,–	138,–	186,–	186,–	186,–	195,–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**	–	–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–				
Bearing design for increased cantilever forces	**K20**	–	–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–				
Regreasing device	**K40**	–	–	–	–	–	267,–	273,–	281,–	305,–	321,–	362,–				
Located bearing DE	**K94**	33,40	33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–				
Located bearing NDE	**L04**	29,10	30,–	32,–	33,40	35,40	37,–	39,–	41,30	□	□	□				
Balance and vibration quantity																
Vibration quantity level A		□	□	□	□	□	□	□	□	□	□	□				
Vibration quantity level B	**K02**	177,–	186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–				
Full key balancing	**L68**	80,70	80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–				
Balancing without key	**M37**	18,40	18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70				

For legend, see Page 4/42, for footnotes, see Page 4/43.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Aluminum series 1LA9																
		1LA9 (aluminum)														
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [18]	**K04**	75,70	101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–				
Second standard shaft extension	**K16**	71,10	71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–				
Shaft extension with standard dimensions without featherkey way	**K42**	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**	205,–	205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–				
Non-standard cylindrical shaft extension [19]	**Y55** • and identification code	345,–	345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Heating and ventilation																
Fan cover for textile industry	**H17**	–	–	–	–	–	–	379,–	481,–	–	–	–				
Metal external fan [20]	**K35**	–	126,–	126,–	126,–	126,–	159,–	189,–	220,–	253,–	284,–	314,–				
Anti-condensation heaters, Ex. 230 V	**M15**	–	–	–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Anti-condensation heaters, Ex. 115 V	**M14**	–	–	–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**	–	–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80				
Second rating plate, loose	**K31**	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80				
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code	46,90	46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Extra rating plate with identification code	**Y82** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10				
Operating instructions German/English enclosed in print	**B23**	□	□	□	□	□	□	□	□	□	□	□				
Type test with heat run for vertical motors, with acceptance	**F83**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Wire-lattice pallet	**L99**	○	○	○	○	○	○	○	○	○	○	–				
Connected in star for dispatch	**M32**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in delta for dispatch	**M33**	20,10	20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 4/43.

10 working days | **20 working days** | **On request**

1) Anti-condensation heater up to frame size 71 M not possible.

2) These motors do not have a rated voltage range stamped on the rating plate.

3) According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).

4) With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. The operating data for the MICROMASTER converter series from Siemens are specified on the rating plate as standard. Derating information is available on request. For converter-fed operation only voltage codes/order codes with only one voltage are permitted, see also Catalog D81.1 Page 4/82.

5) In combination with order codes **D19**, **K30** and **M97** please inquire.
Not possible in combination with order codes **D32**, **K50** and **K52**.

6) Zone 21 takes into account conducting and non-conducting dust.

7) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.

8) For 1LA9 motors additional charge only applies to Zone 22. Designs for Zone 2 and 21 already have a certified cable gland metal in the standard version.

9) Derating does not apply in combination with the following order codes: **L2A**, **L2C**, **L2Q**, **L2R**, **L2S**, **L2T**, **L2U** and **L2V**.

10) In combination with order codes **C19**, **C26**, **L27** and **M97** please inquire. Not possible in combination with order code **K16**. Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

11) In combination with order codes **C19**, **C22**, **C23**, **C24**, **C25**, **C26**, **C27**, **D19**, **H86**, **K30**, **K50** and **K52** please inquire.
Not possible in combination with order codes **C27, K16, K30, M72, M73, M34, M38, M74** and **M75**.

12) Order code **K50** (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.

13) Order code **K52** IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

14) When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

15) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

16) Not possible in combination with order code **L03**.
The mechanical limit speed of 1LA9 2-pole motors in the design for Zones 21/22 from frame size 180 has been reduced compared to the values in chapter 5 "motors operating with frequency converters" of the catalog:

Frame size	2 pole n_{max} in rpm	f_{max} in Hz
180	3300	55
200	3100	51

This is particularly important to be observed for converter-fed operation and operation on 60 Hz line supplies. Option: 1LG6 motors in the design for Zones 21/22.

17) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

18) Can be combined with deep-groove bearings of series 60.., 62.. and 63…
Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

19) When motors which have a longer or shorter shaft extension are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

20) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is standard for these motors in the version for Zone 21/22. The external metal fan is not possible in combination with a low-noise version - Order code **K37** or **K38**.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Designs for Zones 1, 2, 21 and 22 according to ATEX [1]																
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 [2]	**M72**						144,–	171,–	216,–	288,–	393,–	511,–	616,–	745,–	877,–	1.050,–
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 [2] [3] [4]	**M73**						376,–	401,–	465,–	550,–	750,–	974,–	1.170,–	1.430,–	1.680,–	2.010,–
Version (IP55) for Zone 2 and 22 for non-conducting dust for mains-fed operation [5]	**M74**						145,–	156,–	200,–	311,–	810,–	1.020,–	1.190,–	1.350,–	1.510,–	1.620,–
Version (IP55) for Zone 2 and 22 for non-conducting dust for converter-fed operation reduced output [3] [4] [5]	**M75**						377,–	386,–	449,–	572,–	1.160,–	1.470,–	1.730,–	2.010,–	2.290,–	2.560,–
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains-fed operation [6]	**M34**						–	–	–	–	512,–	820,–	1.130,–	1.450,–	1.800,–	2.120,–
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating [2] [4] [6]	**M38**						–	–	–	–	741,–	1.050,–	1.410,–	1.720,–	2.150,–	2.450,–
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	**M35**						91,50	108,–	161,–	234,–	405,–	593,–	751,–	910,–	1.050,–	1.170,–
Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation, derating [2] [4]	**M39**						193,–	208,–	274,–	348,–	634,–	823,–	1.020,–	1.180,–	1.390,–	1.510,–
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	**K30**						184,–	212,–	271,–	343,–	490,–	615,–	742,–	957,–	1.290,–	1.710,–
Ex nA II on VIK rating plate	**C27**						34,–	34,–	34,–	34,–	58,20	58,20	58,20	72,70	72,70	87,20
Alternative converter (SIMOVERT MASTERDRIVES, SINAMICS G110, SINAMICS S120 or ET 200S FC)	**Y68** • and converter type						○	○	○	○	○	○	○	○	○	○
Motor protection																
With PTC thermistors for alarm during converter-fed operation in Zones 2, 21, 22 [7]	**A10**						101,–	101,–	150,–	150,–	224,–	224,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [7]	**A11**						101,–	101,–	150,–	150,–	200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [7]	**A12**						172,–	172,–	230,–	230,–	353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [7]	**A23**						101,–	101,–	150,–	150,–	284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [7]	**A25**						202,–	202,–	302,–	302,–	461,–	461,–	634,–	859,–	859,–	1.260,–
Installation of 3 PT 100 resistance thermometers [7]	**A60**						1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [7]	**A61**						–	–	–	–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [7]	**A72**						–	–	–	–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–

For legend and footnotes, see Page 4/48.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Motor protection (continued)																
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [7]	**A78**						–	–	–	–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [7]	**A80**						–	–	–	–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**						–	–	–	–	–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**						102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**						102,–	110,–	120,–	175,–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**						–	–	–	–	311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**						–	–	–	–	330,–	438,–	645,–	□	□	□
One cable gland, metal [8]	**K54**						94,–	94,–	94,–	120,–	120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration [8]	**K55**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Rotation of the connection box through 90°, entry from DE	**K83**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**						19,60	19,60	19,60	19,60	37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**						–	–	–	–	1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
External earthing	**L13**						□	□	□	□	□	□	□	□	□	□
Auxiliary connection box 1XB3 020	**L97**						–	–	–	–	186,–	186,–	450,–	450,–	450,–	450,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**						–	–	–	–	–	–	–	443,– [9]	443,– [9]	522,– [9]
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**						125,–	125,–	125,–	189,–	832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**						40,60	40,60	54,–	54,–	68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**						90,70	110,–	140,–	174,–	225,–	274,–	406,–	511,–	654,–	850,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**						90,70	110,–	140,–	174,–	225,–	274,–	406,–	511,–	654,–	850,–
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**						243,–	272,–	294,–	391,–	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level						136,–	164,–	211,–	260,–	337,–	413,–	609,–	766,–	981,–	1.270,–

For legend and footnotes, see Page 4/48.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Colors and paint finish																
Standard finish in RAL 7030 stone gray							–	–	–	–	□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….						–	–	–	–	69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray [10]	**K26**						□	□	□	□	159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….						86,70	86,70	113,–	113,–	159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….						657,–	657,–	657,–	657,–	694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**						O	O	O	O	O	O	O	O	O	O
Unpainted, only primed	**K24**						23,30	23,30	37,20	37,20	69,90	69,90	69,90	69,90	69,90	69,90
Special technology																
Mounting of the explosion-proof rotary pulse encoder apply to the use in Zones 2, 21,22 [11]	**H86**						8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–
Mounting of the explosion-proof Ex nA separately driven fan for use in Zone 2 [12]	**M95**						–	–	–	–	–	–	3.110,–	3.340,–	3.900,–	4.450,–
Mounting of the explosion-proof II 2D separately driven fan for use in Zone 21 [12]	**M96**						–	–	–	–	–	–	3.340,–	3.900,–	4.560,–	5.120,–
Mounting of the explosion-proof seperately driven fan II 3D apply to the use in Zones 22 [12]	**M97**						1.670,–	1.890,–	2.120,–	2.450,–	2.670,–	3.000,–	3.340,–	3.340,–	4.560,–	5.120,–
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction [13]	**K17**						48,30	52,90	64,50	94,50	122,–	150,–	200,–	267,–	334,–	401,–
Low-noise version for 2-pole motors with clockwise direction of rotation [14]	**K37**						–	–	525,–	525,–	700,–	700,–	1.120,–	1.290,–	1.530,–	2.010,–
Low-noise version for 2-pole motors with anticlockwise direction of rotation [14]	**K38**						–	–	525,–	525,–	700,–	700,–	1.120,–	1.290,–	1.530,–	2.010,–
IP65 degree of protection [15]	**K50**						126,–	126,–	126,–	189,–	253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea) [16]	**K52**						139,–	139,–	139,–	208,–	276,–	347,–	417,–	486,–	556,–	624,–
Vibration-proof version	**L03**						159,–	175,–	190,–	207,–	–	–	–	–	–	–
Condensation drainage holes [17]	**L12**						69,40	75,70	82,10	88,30	□	□	□	□	□	□
Rust-resistant screws (externally)	**M27**						69,40	69,40	82,10	82,10	94,80	107,–	143,–	170,–	177,–	235,–
Mechanical protection for encoder [18]	**M68**						491,–	491,–	568,–	568,–	178,–	178,–	178,–	178,–	178,–	178,–

For legend and footnotes, see Page 4/48.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Coolant temperature and site altitude																
Coolant temperature –40 °C to +40 °C for ex motors [19]	**D19**						501,–	612,–	779,–	1.110,–	1.340,–	1.560,–	1.890,–	2.330,–	3.110,–	4.110,–
Designs in accordance with standards and specifications																
Electrical according to NEMA MG1-12	**D30**						34,–	34,–	34,–	34,–	58,20	58,20	58,20	72,70	72,70	87,20
Ex certification for China (only valid for Zone 2)	**D32**						186,–	186,–	186,–	195,–	195,–	284,–	284,–	375,–	550,–	654,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						216,–	242,–	267,–	293,–	316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [20]	**K20**						84,60	98,60	111,–	148,–	233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for DE and NDE, bearing size	**K36**						–	–	–	–	393,–	484,–	688,–	949,–	1700,– [21]	1700,– [21]
Regreasing device	**K40**						267,–	273,–	281,–	305,–	321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**						61,10	72,40	89,–	122,–	256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**						37,–	39,–	41,30	□	□	□	□	□	□	□
Insulated bearing cartridge	**L27**						–	–	–	–	–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A							□	□	□	□	□	□	□	□	□	□
Vibration quantity level B [22]	**K02**						238,–	275,–	351,–	435,–	497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**						93,20	93,20	108,–	108,–	136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**						23,80	23,80	28,10	28,10	36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [23]	**K04**						202,–	227,–	253,–	314,–	379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [24]	**K16**						120,–	120,–	159,–	183,–	276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with standard dimensions without featherkey way	**K42**						441,–	464,–	487,–	512,–	594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**						225,–	225,–	342,–	342,–	177,–	199,–	237,–	310,–	310,–	474,–
Standard shaft made of rust-resistant steel	**M65**						808,–	808,–	936,–	1.160,–	–	–	–	–	–	–
Non-standard cylindrical shaft extension [25]	**Y55** • and identification code						441,–	464,–	487,–	512,–	594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Fan cover for textile industry	**H17**						266,–	379,–	481,–	568,–	–	–	–	–	–	–
Metal external fan [26]	**K35**						159,–	189,–	220,–	253,–	284,–	314,–	347,–	379,–	410,–	443,–
Anti-condensation heaters, Ex. 230 V	**M15**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Anti-condensation heaters, Ex. 115 V	**M14**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code						–	–	–	–	–	–	2.000,–	2.000,–	2.000,–	2.140,–
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code						90,70	110,–	140,–	174,–	225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80

For legend and footnotes, see Page 4/48.

Explosion-proof motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 2, 21, 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LA6 and 1LG4																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**						24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**						□	□	□	□	□	□	□	□	□	□
Type test with heat run for horizontal motors, with acceptance	**F83**						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Wire-lattice pallet	**L99**						○	○	○	○	–	–	–	–	–	–
Connected in star for dispatch	**M32**						24,30	24,30	24,30	24,30	31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**						24,30	24,30	24,30	24,30	31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

4

1) Only permitted for use in accordance with temperature class 130 (B).

2) These motors do not have a rated voltage range stamped on the rating plate.

3) According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).

4) With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. The operating data for the MICROMASTER converter series from Siemens are specified on the rating plate as standard. Derating information is available on request. For converter-fed operation only voltage codes/order codes with only one voltage are permitted, see also Catalog D81.1 Page 4/82.

5) In combination with order codes **D19**, **K30**, **M95**, **M96** and **M97** please inquire. Not possible in combination with order codes **D32**, **K50** and **K52**.

6) Zone 21 takes into account conducting and non-conducting dust.

7) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.

8) For 1LA6 and 1LG6 motors additional charge only applies to Zone 22. Designs for Zone 2 and 21 already have a certified cable gland metal in the standard version. Standard with designs for Zone 2, Zone 21 and VIK.

9) Standard with designs for Zone 2, Zone 21 and VIK.

10) For frame sizes 100 to 160, do not specify an order code. Order code is only necessary for frame sizes 180 to 315.

11) In combination with order codes **C19**, **C26**, **L27**, **M95**, **M96** and **M97** please inquire.
Not possible in combination with order code **K16**.
Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

12) In combination with order codes **C19**, **C22**, **C23**, **C24**, **C25**, **C26**, **C27**, **D19**, **H86**, **K30**, **K50** and **K52** please inquire.
Not possible in combination with order code **K16**.
The type of protection of the separately driven fan must correspond to the type of protection of the motor.

13) Not possible for motor series 1LG4 for 2-pole motors.

14) For 1LG4 motors a second shaft extension is not possible in the low-noise version.

15) Order code **K50** (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.

16) Order code **K52** IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

17) For 1LA6 motors: When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

18) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

19) Not possible in combination with order code **L03**.

20) Not possible for 2-pole 1LG4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LG4 motors. Not possible for 1LG4 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

21) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

22) Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

23) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

24) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

25) When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

26) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is standard for these motors in the version for Zone 21/22. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

10 working days	20 working days	On request	Metal factor for metal surcharges (MS): N - W - - -

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Designs for Zones 1, 2, 21 and 22 according to ATEX [1]																
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 [2]	**M72**										393,–	511,–	616,–	745,–	877,–	1.050,–
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 [2] [3] [4]	**M73**										750,–	974,–	1.170,–	1.430,–	1.680,–	2.010,–
Version (IP55) for Zone 2 and 22 for non-conducting dust for mains-fed operation [5]	**M74**										810,–	1.020,–	1.190,–	1.350,–	1.510,–	1.620,–
Version (IP55) for Zone 2 and 22 for non-conducting dust for converter-fed operation reduced output [4] [5]	**M75**										1.160,–	1.470,–	1.730,–	2.010,–	2.290,–	2.560,–
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains-fed operation [6]	**M34**										512,–	820,–	1.130,–	1.450,–	1.800,–	2.120,–
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating [2] [4] [6]	**M38**										741,–	1.050,–	1.410,–	1.720,–	2.150,–	2.450,–
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	**M35**										405,–	593,–	751,–	910,–	1.050,–	1.170,–
Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation, derating [2] [4]	**M39**										634,–	823,–	1.020,–	1.180,–	1.390,–	1.510,–
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	**K30**										490,–	615,–	742,–	957,–	1.290,–	1.710,–
Ex nA II on VIK rating plate	**C27**										58,20	58,20	58,20	72,70	72,70	87,20
Alternative converter (SIMOVERT MASTERDRIVES, SIMOVERT S120)	**Y68** • and converter type ….										○	○	○	○	○	○
Motor protection																
With PTC thermistors for alarm during converter-fed operation in Zones 2, 21, 22 [7]	**A10**										224,–	224,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [7]	**A11**										200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping [7]	**A12**										353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [7]	**A23**										284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [7]	**A25**										461,–	461,–	634,–	859,–	859,–	1.260,–
Installation of 3 PT 100 resistance thermometers [7]	**A60**										1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [7]	**A61**										2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [7]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [7]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (three-wire circuit) for rolling-contact bearings [7]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–

For legend, see Page 4/52, for footnotes, see Page 4/53.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**										330,–	438,–	645,–	□	□	□
One cable gland, metal [8]	**K54**										120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
Auxiliary connection box	**L97**										186,–	186,–	450,–	450,–	450,–	450,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,– [9]	443,– [9]	522,– [9]
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m³ of air	**C19**										832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**										225,–	274,–	406,–	511,–	654,–	850,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**										225,–	274,–	406,–	511,–	654,–	850,–
Increased air humidity/temperature with 60 to 100 g water per per m³ of air	**C26**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level										337,–	413,–	609,–	766,–	981,–	1.270,–
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL										69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL										694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast-iron parts primed)	**K23**										O	O	O	O	O	O
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	69,90

For legend, see Page 4/52, for footnotes, see Page 4/53.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Special technology																
Mounting of the explosion-proof rotary pulse encoder apply to the use in Zones 2, 21,22 [10]	**H86**										8.350,–	8.350,–	8.350,–	8.350,–	8.350,–	8.350,–
Mounting of the explosion-proof Ex nA separately driven fan for use in Zone 2 [11]	**M95**										–	–	3.110,–	3.340,–	3.900,–	4.450,–
Mounting of the explosion-proof II 2D separately driven fan for use in Zone 21 [11]	**M96**										–	–	3.340,–	3.900,–	4.560,–	5.120,–
Mounting of the explosion-proof seperately driven fan II 3D apply to the use in Zones 22 [11]	**M97**										2.670,–	3.000,–	3.340,–	3.340,–	4.560,–	5.120,–
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction and 2-pole motors	**K17**										122,–	150,–	200,–	267,–	334,–	401,–
Low-noise version for 2-pole motors with clockwise direction of rotation [12]	**K37**										–	–	–	–	–	–
Low-noise version for 2-pole motors with anticlockwise direction of rotation [12]	**K38**										–	–	–	–	–	–
IP65 degree of protection [13]	**K50**										253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea) [14]	**K52**										276,–	347,–	417,–	486,–	556,–	624,–
Condensation water holes [15]	**L12**										□	□	□	□	□	□
Rust-resistant screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	235,–
Mechanical protection for encoder [16]	**M68**										178,–	178,–	178,–	178,–	178,–	178,–
Coolant temperature and site altitude																
Coolant temperature –40 °C to +40 °C for ex motors [17]	**D19**										1.340,–	1.560,–	1.890,–	2.330,–	3.110,–	4.110,–
Designs in accordance with standards and specifications																
Electrical according to NEMA MG1-12 (standard version with EPACT)	**D30**										□	□	□	□	□	□
Ex certification for China (only valid for Zone 2)	**D32**										195,–	284,–	284,–	375,–	550,–	654,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [18]	**K20**										233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for DE and NDE, bearing size	**K36**										393,–	484,–	688,–	949,–	1700,– [19]	1700,– [19]
Regreasing device	**K40**										321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**										□	□	□	□	□	□
Insulated bearing cartridge	**L27**										–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	□
Vibration quantity level B [20]	**K02**										497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [21]	**K04**										379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [22]	**K16**										276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with standard dimensions without featherkey way	**K42**										594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [23]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	892,–

For legend, see Page 4/52, for footnotes, see Page 4/53.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Heating and ventilation																
Metal external fan [24)]	**K35**										284,–	314,–	347,–	379,–	410,–	443,–
Anti-condensation heaters, Ex. 230 V	**M15**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Anti-condensation heaters, Ex. 115 V	**M14**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code										–	–	2.000,–	2.000,–	2.000,–	2.140,–
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code										225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**										□	□	□	□	□	□
Type test with heat run for horizontal motors, with acceptance	**F83**										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

For footnotes, see Page 4/53.

10 working days | **20 working days** | **On request**

1) Only permitted for use in accordance with temperature class 130 (B).

2) These motors do not have a rated voltage range stamped on the rating plate.

3) According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).

4) With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. Derating information is available on request.

5) In combination with order codes **D19**, **K30**, **M95**, **M96** and **M97** please inquire. Not possible in combination with order codes **D32**, **K50** and **K52**.

6) Zone 21 takes into account conducting and non-conducting dust.

7) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.

8) For 1LG6 motors, extra charge only applies to Zone 22. Designs for Zones 2 and 21 already have a cable entry in the standard version.

9) Standard with designs for Zone 2, Zone 21 and VIK.

10) In combination with order codes **C19**, **C26**, **L27**, **M95**, **M96** and **M97** please inquire.
Not possible in combination with order code **K16**.
Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

11) In combination with order codes **C19**, **C22**, **C23**, **C24**, **C25**, **C26**, **D19**, **H86**, **K50** and **K52** please inquire.
Not possible in combination with order code **K16**.
The type of protection of the separately driven fan must correspond to the type of protection of the motor.

12) Not necessary for 1LG6 motors because these motors are already noise optimized.

13) Order code **K50** (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.

14) Order code **K52** IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

15) When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

16) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

17) Not possible in combination with order code **L03**.

18) Not possible for 2-pole 1LG6 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LG6 motors. Not possible for 1LG6 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

19) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

20) Can be combined with deep-groove bearings of series 60.., 62.. and 63… Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

21) Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

22) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

23) When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE.
The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimension tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

24) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is standard for these motors in the version for Zone 21/22. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Selection and ordering data

Standard motors up to frame size 315 L

The standard motors from Siemens are suitable for converter-fed operation at rated voltages up to 460 V. The following table shows the available motor series:

Standard motors up to frame size 315 L for converter-fed operation up to 460 V rated voltage

Motor type	Standard type of protection	Frame design	Motor series	Motor frame sizes	Output range kW
Self-ventilated motors with improved efficiency (energy-saving motors according to efficiency class EFF2 Improved Efficiency for 2-pole and 4-pole motors with outputs from 1.1 to 90 kW)	IP55	Aluminum	**1LA7**	56 M ... 160 L	0.06 ... 18. 5
			1LA5	180 M ... 225 M	11 ... 45
		Cast-iron	**1LA6**	100 L ... 160 L	0.75 ... 18.5
			1LG4	180 M ... 315 L	11 ... 200
Self-ventilated motors with high efficiency (energy-saving motors according to efficiency class EFF1 High Efficiency for 2-pole and 4-pole motors with outputs from 1.1 to 90 kW)	IP55	Aluminum	**1LA9**	56 M ... 200 L	0.06 ... 37
		Cast-iron	**1LG6**	180 M ... 315 L	11 ... 200
Self-ventilated motors with increased output	IP55	Aluminum	**1LA9**	56 M ... 200 L	0.14 ... 53
		Cast-iron	**1LG4**	180 M ... 280 M	15 ... 110
Self-cooled motors without external fan	IP55	Aluminum	**1LP7**	63 M ... 160 L	0.045 ... 7
			1LP5	180 M ... 200 L	5.5 ... 16.5
		Cast-iron	**1LP4**	180 L ... 315 L	3.7 ... 67
Pole-changing motors	IP55	Aluminum	**1LA7**	63 M ... 160 L	0.1 ... 17
			1LA5	180 M ... 200 L	11 ... 31

For selection and ordering data and special versions, see the relevant sections of “Standard motors up to frame size 315 L”, chapter 2.

5

Non-standard motors frame size 315 and above

The non-standard motors from Siemens are suitable for converter-fed operation at rated voltages up to 500 V. The following table shows the available motor series:

Non-standard motors up to frame size 315 for converter-fed operation up to 500 V rated voltage

Motor type	Standard type of protection	Frame design	Motor series	Motor frame sizes	Output range kW
Self-ventilated motors for converter-fed operation - Cast-iron series 1LA8	IP55	Cast-iron	**1LA8**	315 ... 450	145 ... 1000
Forced ventilated motors with mounted separately driven fan for converter-fed operation - Cast-iron series 1PQ8	IP55	Cast-iron	**1PQ8**	315 ... 450	145 ... 1000
Self-ventilated motors with through ventilation for converter-fed operation - Cast-iron series 1LL8	IP23	Cast-iron	**1LL8**	315 ... 450	200 ... 1250

For selection and ordering data and special versions, see the relevant sections of “Non-standard motors up to frame size 315”, chapter 3.

Fan motors

The fan motors from Siemens listed below are suitable for converter-fed operation at rated voltages up to 460 V :

Fan motors for converter-fed operation at 460 V rated voltage

Motor type	Standard type of protection	Frame design	Motor series	Motor frame sizes	Output range kW
Self-ventilated motors in pole-changing version	IP55	Aluminum	**1LA7**	80 M ... 160 L	0.15 ... 17
			1LA5	180 M ... 200 L	18 ... 31
		Cast-iron	**1LG4**	180 M ... 315 L	11 ... 200
Forced-air cooled motors without external fan, without fan cover	IP55	Aluminum	**1PP7**	63 M ... 160 L	0.09 ... 18.5
			1PP5	180 M ... 200 L	15 ... 37
		Cast-iron	**1PP4**	180 M ... 315 L	11 ... 200

For selection and ordering data and special versions, see the relevant sections of “Fan motors”, chapter 7.

Surface-cooled motors with standard insulation up to 500 V – Aluminum or cast-iron housing

Selection and ordering data (continued)

Explosion-proof motors

The explosion-proof motors from Siemens listed below up to frame size 315 L can be operated with a converter at rated voltages up to 460 V (for motor series 1LA8 and 1PQ8 up to 500 V):

Explosion-proof motors up to frame size 315 L for converter-fed operation up to 460 V (for motor series 1LA8 and 1PQ8 up to 500 V) rated voltage

Motor type	Standard type of protection	Frame design	Motor series [1]	Motor frame sizes	Output range kW
Self-ventilated motors in Zone 1 with type of protection "d" (Zone 1 Exde IIC T4)	IP55	Cast-iron	**1MJ6**	71 M ... 200 L	0.25 ... 37
			1MJ7	225 M ... 315 L	30 ... 132
Self-ventilated motors in Zone 2 with type of protection "n" or protection against dust explosions	IP55	Aluminum	**1LA7**	63 M ... 160 L	0.09 ... 18.5
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	**1LA6**	100 L ... 160 L	0.75 ... 18.5
			1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in Zone 21 with type of protection "n" or protection against dust explosions	IP55	Aluminum	**1LA7**	56 M ... 160 L	0.09 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	**1LG4/1LG6**	180 M ... 315 L	11 ... 200
Self-ventilated motors in Zone 22 with type of protection "n" or protection against dust explosions	IP55	Aluminum	**1LA7**	56 M ... 160 L	0.09 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	**1LA6**	100 L ... 160 L	0.75 ... 18.5
			1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in Zones 2 and 22 with type of protection "n" or protection against dust explosions	IP55	Cast-iron	**1LA8**	315 ... 450	145 ... 1000
Forced-air cooled motors with mounted separately driven fan for converter-fed operation in Zones 2 and 22 with type of protection "n" or protection against dust explosions	IP55	Cast-iron	**1PQ8**	315 ... 450	145 ... 1000

For selection and ordering data and special versions, see the relevant sections of "Explosion-proof motors", chapter 4.

Self-ventilated motors FS 315 a. above, w. special insulation up to 690 V - Cast-iron series 1LA8

Overview

Recommended types:

- 1LA8 in output range from 145 to 980 kW (at 50 Hz).

Selection and ordering data

The data for motor series 1LA8 with special insulation for voltages up to 690 V for converter-fed operation can be found in the "Selection and ordering data" in "Non-standard motors frame size 315 and above", chapter 3. They are ordered using additional order options (special versions). These special versions for voltages, construction types or options are listed in "Non-standard motors frame size 315 and above", chapter 3.

Forced-air cooled motors FS 315 a. above, w. fan, with special insulation up to 690 V - Cast-iron series 1PQ8

Overview

Recommended types:

- 1PQ8 in output range from 145 to 980 kW (at 50 Hz)

Selection and ordering data

The data for motor series 1PQ8 with special insulation for voltages up to 690 V for converter-fed operation can be found in the "Selection and ordering data" in "Non-standard motors frame size 315 and above", chapter 3. They are ordered using additional order options (special versions). These special versions for voltages, construction types or options are listed in "Non-standard motors frame size 315 and above", chapter 3. Please inquire about 1PQ8 motors.

[1] For converter-fed operation with frame size 225 and above, it is recommended that an "Insulated bearing cartridge" - Order code **L27** - is used. For motor series 1LA8 and 1PQ8, the insulated bearing cartridge is standard.

Motors operating with frequency converters

Self-ventilated motors with special insulation up to 690 V – Aluminum series 1LA7 and 1LA5

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**3**	100 L	**1LA7 106-2PM ..**	**930, -**
	4	112 M	**1LA7 113-2PM ..**	**1.130, -**
	5,5	132 S	**1LA7 130-2PM ..**	**1.460, -**
	7,5		**1LA7 131-2PM ..**	**1.850, -**
	11	160 M	**1LA7 163-2PM ..**	**2.540, -**
	15	160 M	**1LA7 164-2PM ..**	**3.290, -**
	18,5	160 L	**1LA7 166-2PM ..**	**3.870, -**
	22	180 M	**1LA5 183-2PM ..**	**4.500, -**
	30	200 L	**1LA5 206-2PM ..**	**5.650, -**
	37		**1LA5 207-2PM ..**	**7.150, -**
	45	225 M	**1LA5 223-2PM ..**	**8.540, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**2,2**	100 L	**1LA7 106-4PM ..**	**815, -**
	3		**1LA7 107-4PM ..**	**942, -**
	4	112 M	**1LA7 113-4PM ..**	**1.180, -**
	5,5	132 S	**1LA7 130-4PM ..**	**1.490, -**
	7,5	132 M	**1LA7 133-4PM ..**	**1.900, -**
	11	160 M	**1LA7 163-4PM ..**	**2.590, -**
	15	160 L	**1LA7 166-4PM ..**	**3.300, -**
	18,5	180 M	**1LA5 183-4PM ..**	**3.890, -**
	22	180 L	**1LA5 186-4PM ..**	**4.500, -**
	30	200 L	**1LA5 207-4PM ..**	**5.770, -**
	37	225 S	**1LA5 220-4PM ..**	**6.870, -**
	45	225 M	**1LA5 223-4PM ..**	**8.140, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**1,5**	100 L	**1LA7 106-6PM ..**	**870, -**
	2,2	112 M	**1LA7 113-6PM ..**	**1.080, -**
	3	132 S	**1LA7 130-6PM ..**	**1.370, -**
	4	132 M	**1LA7 133-6PM ..**	**1.680, -**
	5,5	132 M	**1LA7 134-6PM ..**	**2.130, -**
	7,5	160 M	**1LA7 163-6PM ..**	**2.700, -**
	11	160 L	**1LA7 166-6PM ..**	**3.630, -**
	15	180 L	**1LA5 186-6PM ..**	**4.570, -**
	18,5	200 L	**1LA5 206-6PM ..**	**5.460, -**
	22	200 L	**1LA5 207-6PM ..**	**6.220, -**
	30	225 M	**1LA5 223-6PM ..**	**8.080, -**

Rated voltage

The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified.

The following points must be noted in connection with 1LA7, 1LA5 motors:

As against the basic design the options for motor protection A10, A31, A60, A61, the options for motor connection and terminal box G55, G56, winding and isolation the options C11, C12, C13, C18, C19, C26, Y52, the options for versions for zones 2, 21,22 C27, K30, M34, M35, M38, M39, M72, M73, M74, M75, Y68, the options for special technology H15, H86, M97, the options for coolant temperature and slite altitude D19, the options for designs according to with standards and specification D31, D40 and the options for heating and ventilation M14, M15 not possible.

Order No. supplements

Motor type	Penultimate place: Voltage code			Last place: Type of construction code For other types of construction, please refer to Page 5/4.							
	50 Hz			IM B 3	IM B 5	at additional charge, please refer to Page 5/4					
	500 VY	500 VΔ	690 VY			IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
	No rated voltage range.										
1LA7 106 to 1LA7 166	**3**	**5**	**8**	**0**	**1**	**1**	**4**	**6**	**2**	**7**	**3**
1LA5 183 to 1LA5 223	**3**	**5**	**8**	**0**	**1**	**1**	**4**	**6**	**-**	**-**	**-**

For voltage code '9 L1Y' for other voltages, additional charges, please refer to Page 5/4.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated motors with special insulation up to 690 V – Cast-iron series 1LG6

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**22**	180 M	**1LG6 183-2PM ..**	**4.810, -**
	30	200 L	**1LG6 206-2PM ..**	**6.000, -**
	37		**1LG6 207-2PM ..**	**7.610, -**
	45	225 M	**1LG6 223-2PM .. 1)**	**9.100, -**
	55	250 M	**1LG6 253-2PM .. 1)**	**10.300, -**
	75	280 S	**1LG6 280-2PM .. 1)**	**14.200, -**
	90	280 M	**1LG6 283-2PM .. 1)**	**16.800, -**
	110	315 S	**1LG6 310-2PM .. 1)**	**21.100, -**
	132	315 M	**1LG6 313-2PM .. 1)**	**24.900, -**
	160	315 L	**1LG6 316-2PM .. 1)**	**31.900, -**
	200		**1LG6 317-2PM .. 1)**	**41.400, -**

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**18,5**	180 M	**1LG6 183-4PM ..**	**4.150, -**
	22	180 L	**1LG6 186-4PM ..**	**4.810, -**
	30	200 L	**1LG6 207-4PM ..**	**6.140, -**
	37	225 S	**1LG6 220-4PM .. 1)**	**7.300, -**
	45	225 M	**1LG6 223-4PM .. 1)**	**8.670, -**
	55	250 M	**1LG6 253-4PM .. 1)**	**10.200, -**
	75	280 S	**1LG6 280-4PM .. 1)**	**14.000, -**
	90	280 M	**1LG6 283-4PM .. 1)**	**17.300, -**
	110	315 S	**1LG6 310-4PM .. 1)**	**21.000, -**
	132	315 M	**1LG6 313-4PM .. 1)**	**23.700, -**
	160	315 L	**1LG6 316-4PM .. 1)**	**30.400, -**
	200		**1LG6 317-4PM .. 1)**	**36.600, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**15**	180 L	**1LG6 186-6PM ..**	**4.870, -**
	18,5	200 L	**1LG6 206-6PM ..**	**5.800, -**
	22		**1LG6 207-6PM ..**	**6.640, -**
	30	225 M	**1LG6 223-6PM .. 1)**	**8.580, -**
	37	250 M	**1LG6 253-6PM .. 1)**	**9.980, -**
	45	280 S	**1LG6 280-6PM .. 1)**	**11.800, -**
	55	280 M	**1LG6 283-6PM .. 1)**	**14.800, -**
	75	315 S	**1LG6 310-6PM .. 1)**	**21.000, -**
	90	315 M	**1LG6 313-6PM .. 1)**	**24.000, -**
	110	315 L	**1LG6 316-6PM .. 1)**	**28.500, -**
	132		**1LG6 317-6PM .. 1)**	**35.500, -**
	160		**1LG6 318-6PM .. 1)**	**42.900, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**11**	180 L	**1LG6 186-8PM ..**	**5.060, -**
	15	200 L	**1LG6 207-8PM ..**	**6.360, -**
	18,5	225 S	**1LG6 220-8PM .. 1)**	**7.450, -**
	22	225 M	**1LG6 223-8PM .. 1)**	**8.580, -**
	30	250 M	**1LG6 253-8PM .. 1)**	**11.000, -**
	37	280 S	**1LG6 280-8PM .. 1)**	**13.200, -**
	45	280 M	**1LG6 283-8PM .. 1)**	**15.800, -**
	55	315 S	**1LG6 310-8PM .. 1)**	**18.800, -**
	75	315 M	**1LG6 313-8PM .. 1)**	**25.100, -**
	90	315 L	**1LG6 316-8PM .. 1)**	**29.500, -**
	110		**1LG6 317-8PM .. 1)**	**39.000, -**
	132		**1LG6 318-8PM .. 1)**	**45.700, -**

Rated voltage
The tolerance laid down by DIN EN 60034-1 applies to all converter-fed motors; i.e. no rated voltage range is specified.

The following points must be noted in connection with 1LG6 motors:
As against the basic design the options for motor protection A10, A31, A60, A61, winding and isolation the options C11, C12, C13, C18, C19, C26, Y52, the options for versions for zones 2, 21,22 C27, K30, M34, M35, M38, M39, M72, M73, M74, M75, Y68, the options for special technology H86, M95, M96, M97, the option for coolant temperature and slite altitude D19, the options for designs according to with standards and specification D30, D31, D40 and the options for heating and ventilation M14, M15 not possible.

Order No. supplements

Motor type	Penultimate place: Voltage code			Last place: Type of construction code For other types of construction, please refer to Page 5/5.							
	50 Hz			IM B 3	IM B 5	at additional charge, please refer to Page 5/5					
	500 VY	500 VΔ	690 VY			IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
	No rated voltage range.										
1LG6 183 to 1LG6 313	**3**	**5**	**8**	**0**	**1**	**1**	**4**	**6**	**-**	**-**	**-**
1LG6 316 to 1LG6 318	**3**	**5**	**8**	**0**	**-**	**8**	**4**	**6**	**-**	**-**	**-**

For voltage code '9 L1Y' for other voltages, additional charges, please refer to Page 5/4.

1) An insulated bearing at the non-drive end is recommended (order code L27).

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

	Type of voltage code	Order code	Additional charge plus MS EUR 1LA7 Frame size				1LA5		
	11th position		100	112	132	160	180	200	225
Plain-text required (non-standard winding) 1)	9	L1Y	90,70	110, -	140, -	174, -	225, -	274, -	406, -

	Type of voltage code	Order code	Additional charge plus MS EUR 1LG6 Frame size					
	11th position		180	200	225	250	280	315
Plain-text required (non-standard winding) 1)	9	L1Y	225, -	274, -	406, -	511, -	654, -	850, - 2)

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA7 Frame size				1LA5		
			100	112	132	160	180	200	225
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	0	-	■	■	■	■	■	■	■
IM V 5 with cover	9 3)	M1F	59,50	69,10	88,20	121, -	161, -	243, -	321, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400	FF400 A 450
IM B 5, IM V 1 without cover	1 4)	-	68,30	84,80	110, -	143, -	226, -	274, -	354, -
IM V 1 with cover	4 3)4)	-	129, -	154, -	199, -	268, -	386, -	515, -	677, -
IM V 3	1 4)	-	68,30	84,80	110, -	143, -	–	–	–
	9 4)	M1G	–	–	–	–	226, -	274, -	354, -
IM B 35	6	-	84,80	111, -	139, -	201, -	305, -	401, -	592, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250			
IM B 14, IM V 18 without cover, IM V 19	2	-	68,30	84,80	110, -	143, -	–	–	–
IM V 18 with cover	9 3)	M2A	129, -	154, -	199, -	268, -	–	–	–
IM B 34	7	-	84,80	111, -	139, -	201, -	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300			
IM B 14, IM V 18 without cover, IM V 19	3	-	68,30	84,80	110, -	143, -	–	–	–
IM V 18 with cover	9 3)	M2B	129, -	154, -	199, -	268, -	–	–	–
IM B 34	9	M2C	84,80	111, -	139, -	201, -	–	–	–

■ Standard design

The type of construction supplement '9' must be stated in the order code.

When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

2) For voltages in the 200 V range, please contact your local Siemens representative.

3) The 'second shaft extension' option (order code K16) is not possible.

4) For frame sizes 180 M to 225 M, the motors can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LG6 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	**0**	**-**	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	**0**	**-**	■	■	■	■	■	■	■
IM V 5 without cover*	**0**	**-**	■	■	■	■	■	■	–
	9	**M1D**	–	–	–	–	–	–	387, - [3] ❍ [4]
IM V 6 *	**0**	**-**	■	■	■	■	■	■	–
	9	**M1E**	–	–	–	–	–	–	387, - [3] ❍ [4]
IM V 5 * with cover	**9** [1]	**M1F**	161, -	243, -	321, -	401, -	482, -	643, -	1.030, - [3] 643, - [4]
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A660**
IM B 5, IM V 1 without cover	**1** [2]	**-**	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	**8** [2]	**-**	–	–	–	–	–	–	1.270, - [3] 882, - [4]
IM V 1 with cover	**4** [1][2]	**-**	386, -	515, -	677, -	835, -	1.100, -	1.530, -	1.900, - [3] 1.530, - [4]
IM V 3	**1** [2]	**-**	–	–	–	–	–	–	–
	9 [2]	**M1G**	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	**6**	**-**	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) The 'second shaft extension' option (order code K16) is not possible.

2) Motors frame size 225 up to frame size 315 L are supplied with two bolted eyebolts according to IM B 5; one of them can be repositioned according to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

3) For 2-pole motors; 60-Hz design on request.

4) For 4- to 8-pole motors.

5

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Aluminum series 1LA7 and 1LA5																
							1LA7 (aluminum)				**1LA5 (aluminum)**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**						101,–	101,–	150,–	150,–	200,–	200,–	273,–			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**						172,–	172,–	230,–	230,–	353,–	353,–	459,–			
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**						101,–	101,–	150,–	150,–	284,–	284,–	389,–			
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**						202,–	202,–	302,–	302,–	461,–	461,–	634,–			
Motor connection and connection boxes																
Connection box on RHS	**K09**						87,70	95,50	103,–	110,–	156,–	184,–	217,–			
Connection box on LHS	**K10**						87,70	95,50	103,–	110,–	156,–	184,–	217,–			
One cable gland, metal	**K54**						120,–	94,–	94,–	120,–	120,–	138,–	138,–			
Cable gland, maximum configuration	**K55**						133,–	133,–	133,–	175,–	175,–	202,–	202,–			
Rotation of the connection box through 90°, entry from DE (AS)	**K83**						49,70	61,90	82,10	101,–	37,80	49,–	60,50			
Rotation of the connection box through 90°, entry from NDE (BS)	**K84**						49,70	61,90	82,10	101,–	37,80	49,–	60,50			
Rotation of connection box through 180°	**K85**						O	O	O	O	37,80	49,–	60,50			
Next larger connection box	**L00**						–	–	–	–	1.080,–	1.080,–	1.080,–			
External earthing	**L13**						24,30	24,30	24,30	24,30	31,10	31,10	31,10			
3 cables protruding, 0.5 m long [2]	**L44**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
3 cables protruding, 1.5 m long [2]	**L45**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
6 cables protruding, 0.5 m long [2]	**L47**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
6 cables protruding, 1.5 m long [2]	**L48**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
6 cables protruding, 3 m long [2]	**L49**						–	–	–	–	O. R.	O. R.	O. R.			
Connection box on NDE (BS)	**M64**						101,–	124,–	160,–	217,–	244,–	261,–	273,–			
Windings and insulation																
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**						40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**						40,60	40,60	54,–	54,–	68,80	68,80	78,10			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**						90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**						90,70	110,–	140,–	174,–	225,–	274,–	406,–			

For legend and footnotes, see Page 5/10.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Aluminum series 1LA7 and 1LA5																
							1LA7 (aluminum)				**1LA5 (aluminum)**					
Colors and paint finish																
Special finish in RAL 7030 stone gray							□	□	□	□	□	□	□			
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54•** and special finish RAL ….						86,70	86,70	113,–	113,–	159,–	198,–	294,–			
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51•** and special finish RAL ….						657,–	657,–	657,–	694,–	694,–	694,–	694,–			
Sea-air proof special finish	**M94**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Unpainted (only cast iron parts primed)	**K23**						○	○	○	○	○	○	○			
Unpainted, only primed	**K24**						23,30	23,30	37,20	37,20	69,90	69,90	69,90			
Modular technology - Basic versions [3]																
Mounting of separately driven fan	**G17**						616,–	733,–	846,–	982,–	1.170,–	1.830,–	2.510,–			
Mounting of brake [4]	**G26**						563,–	684,–	882,–	1.740,–	2.010,–	2.810,–	3.220,–			
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**						563,–	563,–	563,–	563,–	563,–	563,–	1.290,–			
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**						807,–	807,–	807,–	807,–	807,–	807,–	1.760,–			
Modular technology - Combinations of basic versions [3]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**						1.170,–	1.310,–	1.410,–	1.540,–	1.750,–	2.400,–	3.790,–			
Mounting of brake and 1XP8 001-1 rotary pulse encoder [4]	**H62**						1.120,–	1.240,–	1.440,–	2.290,–	2.570,–	3.380,–	3.740,–			
Mounting of brake and separately driven fan [4]	**H63**						1.170,–	1.380,–	1.670,–	2.700,–	3.180,–	4.650,–	5.960,–			
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [4]	**H64**						1.750,–	1.910,–	2.240,–	3.280,–	3.760,–	5.220,–	6.570,–			
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**						1.430,–	1.540,–	1.650,–	1.790,–	1.990,–	2.650,–	4.260,–			
Mounting of brake and 1XP8 001-2 rotary pulse encoder [4]	**H98**						1.370,–	1.470,–	1.700,–	2.530,–	2.810,–	3.620,–	3.960,–			
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [4]	**H99**						1.990,–	2.160,–	2.470,–	3.500,–	3.990,–	5.460,–	6.830,–			

For legend and footnotes, see Page 5/10.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Aluminum series 1LA7 and 1LA5																
							1LA7 (aluminum)				**1LA5 (aluminum)**					
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**						45,30	45,30	45,30	45,30	60,50	60,50	60,50			
Brake supply voltage 400 V AC	**C01**						45,30	45,30	45,30	45,30	60,50	60,50	60,50			
Brake supply voltage 180 V DC, for operation on MM411-ECOFAST	**C02**						45,30	45,30	45,30	–	–	–	–			
Mechanical manual brake release with lever (no locking)	**K82**						226,–	226,–	252,–	365,–	530,–	619,–	619,–			
Special technology [3]																
Mounting of LL 861 900 220 rotary pulse encoder	**H70**						2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	4.170,–			
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**						2.910,–	2.910,–	2.910,–	2.910,–	3.230,–	3.230,–	4.240,–			
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**						3.780,–	3.780,–	3.780,–	3.780,–	3.860,–	3.860,–	5.040,–			
Prepared for mounting LL 861 900 220	**H78**						512,–	512,–	512,–	512,–	591,–	591,–	591,–			
Prepared for mounting HOG 9 D 1024 I	**H79**						512,–	512,–	512,–	512,–	591,–	591,–	591,–			
Prepared for mounting HOG 10 D 1024 I	**H80**						512,–	512,–	512,–	512,–	591,–	591,–	591,–			
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with oil resistance up to 0.1 bar Not possible for IM V3 type of construction.	**K17**						48,30	52,90	64,50	94,50	122,–	150,–	200,–			
With two additional eyebolts for IM V1/IM V3	**K32**						–	–	–	–	100,–	100,–	100,–			
Low-noise version for 2-pole motors with clockwise direction of rotation	**K37**						–	–	525,–	525,–	700,–	700,–	1.120,–			
Low-noise version for 2-pole motors with anticlockwise direction of rotation	**K38**						–	–	525,–	525,–	700,–	700,–	1.120,–			
IP65 degree of protection [5]	**K50**						126,–	126,–	126,–	189,–	253,–	314,–	379,–			
IP56 degree of protection (non-heavy-sea) [6]	**K52**						139,–	139,–	139,–	208,–	276,–	347,–	417,–			
Vibration-proof version	**L03**						159,–	175,–	190,–	207,–	224,–	240,–	257,–			
Condensation drainage holes [7]	**L12**						69,40	75,70	82,10	88,30	94,80	101,–	107,–			
Non-rusting screws (externally)	**M27**						69,40	69,40	82,10	82,10	94,80	107,–	143,–			
Mechanical protection for encoder [8]	**M68**						491,–	491,–	568,–	568,–	568,–	568,–	568,–			
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C [9]	**D03**						324,–	410,–	475,–	545,–	605,–	702,–	896,–			
Coolant temperature -30 to +40 °C [9]	**D04**						59,40	59,40	71,30	71,30	95,20	119,–	119,–			

For legend and footnotes, see Page 5/10.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Aluminum series 1LA7 and 1LA5																
							1LA7 (aluminum)				**1LA5 (aluminum)**					
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [10]	**D01**						34,–	34,–	–	–	–	–	–			
Electrical according to NEMA MG1-12	**D30**						34,–	34,–	34,–	34,–	56,70	56,70	56,70			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection [11]	**G50**						216,–	242,–	267,–	293,–	316,–	342,–	368,–			
Bearing design for increased cantilever forces	**K20**						84,60	98,60	111,–	148,–	186,–	220,–	246,–			
Regreasing device [11]	**K40**						267,–	273,–	281,–	305,–	321,–	362,–	401,–			
Located bearing DE (AS)	**K94**						61,10	72,40	89,–	122,–	256,–	356,–	501,–			
Located bearing NDE (BS)	**L04**						37,–	39,–	41,30	□	□	□	□			
Balance and vibration quantity																
Vibration quantity level A							□	□	□	□	□	□	□			
Vibration quantity level B	**K02**						238,–	275,–	351,–	435,–	497,–	558,–	620,–			
Full key balancing	**L68**						93,20	93,20	108,–	108,–	136,–	136,–	175,–			
Balancing without key	**M37**						23,80	23,80	28,10	28,10	36,70	36,70	49,70			
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [12]	**K04**						202,–	227,–	253,–	314,–	379,–	443,–	505,–			
Second standard shaft extension	**K16**						120,–	120,–	159,–	183,–	276,–	306,–	322,–			
Shaft extension with normal dimensions without feather key	**K42**						441,–	464,–	487,–	512,–	594,–	654,–	713,–			
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**						225,–	225,–	342,–	342,–	177,–	199,–	237,–			
Standard shaft made of non-rusting steel	**M65**						808,–	808,–	936,–	1.160,–	2.080,–	2.400,–	2.590,–			
Non-standard cylindrical shaft extension [13]	**Y55** and identification code						441,–	464,–	487,–	512,–	594,–	654,–	713,–			
Heating and ventilation																
Fan cover for textile industry	**H17**						266,–	379,–	481,–	568,–	568,–	795,–	795,–			
Metal external fan [14]	**K35**						159,–	189,–	220,–	253,–	284,–	314,–	347,–			
Anti-condensation heaters for 230 V	**K45**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Anti-condensation heaters for 115 V	**K46**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**						17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Second rating plate, loose	**K31**						17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Extra rating plate or rating plate with deviating rating plate data	**Y80•** and identification code						90,70	110,–	140,–	174,–	225,–	274,–	406,–			
Extra rating plate with identification code	**Y82 •** and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84•** and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20			

For legend and footnotes, see Page 5/10.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Aluminum series 1LA7 and 1LA5																
							1LA7 (aluminum)				**1LA5 (aluminum)**					
Packaging, safety notes, documentation and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**						○	○	○	○	○	○	○			
With one safety and startup guide per box pallet	**B01**						○	○	○	○	○	–	–			
Acceptance test certificate 3.1 according to EN 10204	**B02**						24,10	24,10	24,10	24,10	24,10	24,10	24,10			
Operating instructions German/English enclosed in print	**B23**						54,–	54,–	54,–	54,–	54,–	54,–	54,–			
Wire-lattice pallet	**L99**						○	○	○	○	○	–	–			
Connected in star for dispatch	**M32**						24,30	24,30	24,30	24,30	31,80	31,80	31,80			
Connected in delta for dispatch	**M33**						24,30	24,30	24,30	24,30	31,80	31,80	31,80			

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O.R. Possible on request
– Not possible

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1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology - Basic versions
– Modular technology - Combination of basic versions
– Special technology

4) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00**, **C01** and **C02**.

5) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

6) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

7) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

8) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

9) Whose technical data in combination with mountings must be observed, please inquire before ordering.

10) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

11) Not possible when brake is mounted.

12) Can be combined with deep-groove bearings of series 60.., 62.. and 63.. . Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**) brake or encoder fitting.

13) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively.
Not applicable for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts.
Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
The add-on prices also apply for "Shaft extension DE without featherkey way".
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ Inner diameter of roller bearing (see tables under "Dimensions")
– Dimensions E and EA ≤2 x Length E (normal) of the shaft extension
For explanation of the order codes, see catalog D 81.1 chapter 0 "Introduction".

14) For 1LA5, 1LA6, 1LA7, 1LA9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**										200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**										353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**										284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**										461,–	461,–	634,–	859,–	859,–	1.260,–
Temperature detectors for tripping [1]	**A31**										227,–	227,–	307,–	307,–	380,–	380,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1] [2]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**										330,–	438,–	645,–	–	–	–
One cable gland, metal	**K54**										120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**										175,–	202,–	202,–	350,–	350,–	350,–
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
6 cables protruding, 1.5 m long [3]	**L48**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
6 cables protruding, 3 m long [3]	**L49**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - right side [3] [4]	**L51**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - left side [3] [4]	**L52**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	**L97**										186,–	186,–	450,–	450,–	450,–	450,–
Stud terminal for cable connection, accessories pack (3 items)	**M46**										–	–	–	126,–	126,–	159,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,–	443,–	522,–

For legend and footnotes, see Page 5/15.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Windings and insulation																
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**										225,–	274,–	406,–	511,–	654,–	850,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**										225,–	274,–	406,–	511,–	654,–	850,–
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….										69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….										694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**										O	O	O	O	O	O
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	69,90

For legend and footnotes, see Page 5/15.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Modular technology - Basic versions [5]																
Mounting of separately driven fan [6]	**G17**										1.170,–	1.830,–	2.510,–	3.090,–	3.660,–	4.100,–
Mounting of brake [6][7]	**G26**										3.870,–	5.400,–	6.860,–	22.000,–	27.000,–	32.500,–
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**										563,–	563,–	1.290,–	1.290,–	1.290,–	1.290,–
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**										807,–	807,–	1.760,–	1.760,–	1.760,–	1.760,–
Modular technology - Combinations of basic versions [5]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**										1.750,–	2.400,–	3.790,–	4.690,–	5.140,–	6.520,–
Mounting of brake and 1XP8 001-1 rotary pulse encoder [7]	**H62**										4.440,–	5.970,–	9.020,–	23.300,–	28.400,–	33.700,–
Mounting of brake and separately driven fan [7]	**H63**										5.050,–	7.250,–	10.300,–	25.600,–	29.600,–	35.000,–
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [7]	**H64**										5.620,–	7.790,–	11.600,–	26.800,–	30.900,–	36.300,–
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**										1.990,–	2.650,–	4.260,–	4.850,–	5.410,–	5.850,–
Mounting of brake and 1XP8 001-2 rotary pulse encoder [7]	**H98**										4.680,–	6.200,–	9.450,–	23.800,–	29.100,–	34.100,–
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [7]	**H99**										5.840,–	8.040,–	12.000,–	27.200,–	31.300,–	36.900,–
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**										60,50	60,50	60,50	60,50	60,50	60,50
Brake supply voltage 400 V AC	**C01**										60,50	60,50	60,50	60,50	60,50	60,50
Mechanical manual brake release with lever (no locking)	**K82**										530,–	619,–	787,–	895,–	995,–	1.260,–
Special technology [5]																
Mounting of LL 861 900 220 rotary pulse encoder	**H70**										2.560,–	2.560,–	4.170,–	4.170,–	4.170,–	4.170,–
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**										3.230,–	3.230,–	4.240,–	4.240,–	4.240,–	4.240,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**										3.860,–	3.860,–	5.040,–	5.040,–	5.040,–	5.040,–
Prepared for mounting LL 861 900 220	**H78**										591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 9 D 1024 I	**H79**										591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 10 D 1024 I	**H80**										591,–	591,–	591,–	591,–	591,–	591,–

For legend and footnotes, see Page 5/15.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with oil resistance to 0.1 bar Not possible for IM V3 type of construction and 2-pole motors.	**K17**										122,–	150,–	200,–	267,–	334,–	401,–
Low-noise version for 2-pole motors with clockwise direction of rotation [8]	**K37**										–	–	–	–	–	–
Low-noise version for 2-pole motors with anticlockwise direction of rotation [8]	**K38**										–	–	–	–	–	–
IP65 degree of protection [9]	**K50**										253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea) [10]	**K52**										276,–	347,–	417,–	486,–	556,–	624,–
Condensation water holes [11]	**L12**										□	□	□	□	□	□
Non-rusting screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	235,–
Earth brushes for converter-fed operation	**M44**										–	–	–	–	O. R.	O. R.
Mechanical protection for encoder [12]	**M68**										178,–	178,–	178,–	178,–	178,–	178,–
Coolant temperature and site altitude																
Coolant temperature –50 to +40 °C [13]	**D02**										2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	5.370,–
Coolant temperature –40 to +40 °C [13]	**D03**										605,–	702,–	896,–	1.110,–	1.590,–	2.050,–
Coolant temperature –30 to +40 °C [13]	**D04**										95,20	119,–	119,–	1.110,–	1.590,–	2.050,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [14]	**K20**										233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for drive-end and non-drive-end, bearing size 63	**K36**										393,–	484,–	688,–	949,–	1700,– [15]	1700,– [15]
Regreasing device	**K40**										321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**										□	□	□	□	□	□
Insulated bearing cartridge [16]	**L27**										–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	□
Vibration quantity level B	**K02**										497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [17]	**K04**										379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [18]	**K16**										276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with normal dimensions without feather key	**K42**										594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [19]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Metal external fan [20]	**K35**										284,–	314,–	347,–	379,–	410,–	443,–
Anti-condensation heaters for 230 V	**K45**										536,–	616,–	740,–	764,–	764,–	795,–
Anti-condensation heaters for 115 V	**K46**										536,–	616,–	740,–	764,–	764,–	795,–
Sheet metal fan cover	**L36**										71,30	87,50	98,30	140,–	180,–	197,–
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code										–	–	2.000,–	2.000,–	2.000,–	2.140,–

For legend and footnotes, see Page 5/15.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with special insulation for voltages up to 690 V - Cast-iron series 1LG6																
											1LG6 (cast-iron)					
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80•** and identification code										225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82•** and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (max. of 20 characters)	**Y84•** and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes; documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**										54,–	54,–	54,–	54,–	54,–	54,–
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O.R. Possible on request
– Not possible

5

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) This option is not possible for frame sizes 225 to 315 in combination with the option “Insulated bearing cartridge “ - Order code **L27**.

3) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

4) Possible in combination with order code **L44** to **L49** or length specification in plain text.

5) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology - Basic versions
– Modular technology - Combination of basic versions

6) For 1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with rotary pulse encoders, see the “Special technology” range.

7) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.

8) Not necessary for 1LG6 motors because these motors are already noise optimized.

9) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

10) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

11) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

12) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

13) Whose technical data in combination with mountings must be observed, please inquire before ordering.

14) Not possible for 2-pole 1LG6 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LG6 motors. Not possible for 1LG6 motors in the combination “Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors” – Order code **K04**.

15) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

16) This option is not possible for frame sizes 225 to 315 in combination with the option “Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings” - Order code **A72**.

17) Can be combined with deep-groove bearings of series 60.., 62.. and 63... . Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**) brake or encoder fitting.

18) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

19) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively.
Not applicable for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely “thin” shafts, special geometry dimensions (e.g. square journals), hollow shafts.
Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimension tables under “Dimensions”)
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1 chapter 0 “Introduction”.

20) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted. The external metal fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Pump motors

Surface-cooled motors up to frame size 315 L Aluminum and cast-iron housing

Selection and ordering data

Recommended motor types:

- Self-ventilated motors with improved efficiency according to CEMEP EFF 2 – Aluminum series 1LA7 and 1LA5 in the output range from 0.06 to 45 kW
- Self-ventilated motors with improved efficiency according to CEMEP EFF 2 – Aluminum series 1LE1 in the output range from 0.3 to 22 kW
- Self-ventilated motors with improved efficiency according to CEMEP EFF 2 – Cast-iron series 1LA6 and 1LG4 in the output range from 0.75 to 200 kW
- Self-ventilated motors with high efficiency according to CEMEP EFF 1 – Aluminum series 1LE9 in the output range from 0.06 to 37 kW
- Self-ventilated motors with high efficiency according to CEMEP EFF 1 – Aluminum series 1LE1 in the output range from 0.75 to 18.5 kW
- Self-ventilated motors with improved increased – Cast iron series 1LG4 in the output range from 15 to 110 kW
- Self-ventilated motors with improved efficiency according to CEMEP EFF 2 with increased efficiency – Aluminum series 1LE1 in the output range from 2.2 to 22 kW
- Self-ventilated motors with increased output – Aluminum series 1LA9 with outputs from 0.14 to 53 kW
- Self-ventilated motors with improved efficiency according to CEMEP EFF 1 with increased efficiency – Aluminum series 1LE1 in the output range from 2.2 to 22 kW

Recommended specifications:

Most applications require a non-variable speed, i.e. it is sufficient to feed the drive motors with a fixed, unchanging rated frequency. In an ever-increasing number of applications, it is necessary to match the pump to the overall plant accurately (based on the pump characteristic). The pumps must respond quickly to changing conditions in the plant, supplying the drive motors with a variable rated frequency (converter-fed operation) is desirable.
Pole-changing motors can also be used. In this way, coarse adaptation of the pump characteristic can be achieved (in accordance with the possible motor speeds). For information about adapting the drive motors to the requirements of the pump with reference to the type of construction (e.g. flange, feet or special) as well as for a number of other options, see “Special versions”.

For selection and ordering data and “Special versions”, see “Standard motors up to frame size 315 L”, chapter 2.

Surface-cooled motors frame size 315 and above Cast-iron housing

Selection and ordering data

Recommended motor types:

- Non-standard motors for mains-fed and converter-fed operation, cast-iron series 1LA8, with outputs from 160 to 1000 kW

For technical specifications and selection and ordering data, see “Non-standard motors frame size 315 and above”, chapter 3.

Special versions

Overview

Recommended special versions for mains-fed and converter-fed operation

- Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping – Order code **A11** for 1LE1 – Position 15 of the order number, letter **B**
- Located bearing at drive-end (DE) of motor – Order code **K94** for 1LE1 – Order code **L20**
- Insulated bearing cartridge at non-drive-end (NDE) – Order code **L27**
- Bearings for increased cantilever forces – Order code **K20** for 1LE1 – Order code **L22**
- Screwed-on feet for type of construction IM B35 frame size 112 and above in standard version or order code **K11** for 1LE1 – Position 16 of the order number, the code digit **4**

Pump version from stock – Order code X66

The pump version from stock comprises 3 embedded temperature sensors for tripping (order code **A11**), located bearing at drive-end (DE) of the motor (order code **K94**) as well as screwed-on feet (for type of construction IM B35 frame size 112 and above in standard version or order code **K11**) and is defined for the following motors:

- Self-ventilated motors with improved efficiency – Aluminum series 1LA7, 2-pole and 4-pole – Output range 0.25 to 18.5 kW
- Self-ventilated motors with improved efficiency – Cast-iron series 1LG4, 2-pole and 4-pole – Output range 18.5 to 37 kW

If other special versions are required, order codes **A11+K94+K11**, that are included in **X66**, must be specified individually in the order.

Ex stock

Metal factor for metal surcharges (MS): **N - W - - -**

Overview (continued)

Pump motors that can be supplied from stock according to CEMEP "Improved Efficiency" EFF 2, IP55 degree of protection, 50/60 Hz and temperature class 155 (F) for a service factor of 1.1 with order code X66.

Certified in accordance with	Rated output at 50 Hz	Frame size	Efficiency Class acc. to CEMEP	Pump version for Voltage: 230 VΔ / 400 VY, 50 Hz, 460 VY, 60 Hz Type: IM B5, IM V1 without protective cover IM V3			Voltage: 400 VΔ / 690 VY, 50 Hz, 460 VY, 60 Hz Type: IM B5, IM V1 without protective cover IM V3			Voltage: 400 VΔ / 690 VY, 50 Hz, 460 VY, 60 Hz Type: IM B35		
				Order No. (extra charge)	Order code	Price plus MS **EUR**	Order No. (extra charge)	Order code	Price plus MS **EUR**	Order No. (extra charge)	Order code	Price plus MS **EUR**
3000 rpm, 2-pole												
CCC	**0.75**	80 M		**1LA7 080-2AA11-Z**	**X66**	**463,–**	**–**			**–**		
CCC	**1.1**		EFF 2	**1LA7 083-2AA11-Z**	**X66**	**504,–**	**–**			**–**		
CCC	**1.5**	90 S	EFF 2	**1LA7 090-2AA11-Z**	**X66**	**577,–**	**–**			**–**		
CCC	**2.2**	90 L	EFF 2	**1LA7 096-2AA11-Z**	**X66**	**688,–**	**–**			**–**		
	3	100 L	EFF 2	**–**			**1LA7 106-2AA61-Z**	**X66**	**801,–**	**–**		
	4	112 M	EFF 2	**–**			**1LA7 113-2AA61-Z**	**X66**	**959,–**	**–**		
	5.5	132 S	EFF 2	**–**			**–**			**1LA7 130-2AA66-Z**	**X66**	**1.320,–**
	7.5		EFF 2	**–**			**–**			**1LA7 131-2AA66-Z**	**X66**	**1.600,–**
	11	160 M	EFF 2	**–**			**–**			**1LA7 163-2AA66-Z**	**X66**	**2.150,–**
	15		EFF 2	**–**			**–**			**1LA7 164-2AA66-Z**	**X66**	**2.680,–**
	18.5	160 L	EFF 2	**–**			**–**			**1LA7 166-2AA66-Z**	**X66**	**3.110,–**
	22	180 M	EFF 2	**–**			**–**			**1LG4 183-2AA66-Z**	**X66**	**4.350,–**
	30	200 L	EFF 2	**–**			**–**			**1LG4 206-2AA66-Z**	**X66**	**5.460,–**
	37		EFF 2	**–**			**–**			**1LG4 207-2AA66-Z**	**X66**	**6.720,–**
1500 rpm, 4-pole												
CCC	**0.25**	71 M		**1LA7 070-4AB11-Z**	**X66**	**395,–**	**–**			**–**		
CCC	**0.37**			**1LA7 073-4AB11-Z**	**X66**	**422,–**	**–**			**–**		
CCC	**0.55**	80 M		**1LA7 080-4AA11-Z**	**X66**	**453,–**	**–**			**–**		
CCC	**0.75**			**1LA7 083-4AA11-Z**	**X66**	**475,–**	**–**			**–**		
CCC	**1.1**	90 S	EFF 2	**1LA7 090-4AA11-Z**	**X66**	**552,–**	**–**			**–**		
	1.5	90 L	EFF 2	**1LA7 096-4AA11-Z**	**X66**	**620,–**	**–**			**–**		
	2.2	100 L	EFF 2	**1LA7 106-4AA11-Z**	**X66**	**729,–**	**–**			**–**		
	3		EFF 2	**–**			**1LA7 107-4AA61-Z**	**X66**	**809,–**	**–**		
	4	112 M	EFF 2	**–**			**1LA7 113-4AA61-Z**	**X66**	**993,–**	**–**		
	5.5	132 S	EFF 2	**–**			**–**			**1LA7 130-4AA66-Z**	**X66**	**1.350,–**
	7.5	132 M	EFF 2	**–**			**–**			**1LA7 133-4AA66-Z**	**X66**	**1.620,–**
	11	160 M	EFF 2	**–**			**–**			**1LA7 163-4AA66-Z**	**X66**	**2.190,–**
	15		EFF 2	**–**			**–**			**1LA7 166-4AA66-Z**	**X66**	**2.710,–**
	18.5	180 M	EFF 2	**–**			**–**			**1LG4 183-4AA66-Z**	**X66**	**3.930,–**
	22	180 L	EFF 2	**–**			**–**			**1LG4 186-4AA66-Z**	**X66**	**4.430,–**
	30	200 L	EFF 2	**–**			**–**			**1LG4 207-4AA66-Z**	**X66**	**5.670,–**

– Pump version (order code **X66**) not supplied from stock.

CCC (China Compulsory Certification) for export to China:

The motors supplied from stock marked with "CCC" include the order code **D01**; i.e. the "CCC" logo complete with "Factory code" is indicated on the rating plate and on the packaging.

Other special versions

For other special versions, see chapter 2 "Standard motors up to frame size 315 L" and chapter 3 "Non-standard motors frame size 315 and above".

Fan motors

Self-ventilated, in pole-changing version Aluminum series 1LA7/5

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

1500/ 3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · double pole-changing	0,15	0,7	80 M	1LA7 080-0BA ..	434, -
	0,25	0,95		1LA7 083-0BA ..	501, -
	0,33	1,4	90 S	1LA7 090-0BA ..	620, -
	0,5	2	90 L	1LA7 096-0BA ..	744, -
	0,65	2,5	100 L	1LA7 106-0BA ..	807, -
	0,8	3,1		1LA7 107-0BA ..	960, -
	1,1	4,4	112 M	1LA7 113-0BA ..	1.200, -
	1,45	5,9	132 S	1LA7 130-0BA ..	1.530, -
	2	8	132 M	1LA7 133-0BA ..	2.010, -
single Dahlander circuit winding	2,9	11,5	160 M	1LA7 163-0BA ..	2.670, -
	4,3	17	160 L	1LA7 166-0BA ..	3.860, -

1000/ 1500 rpm 6/4-pole	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · double pole-changing	0,12	0,4	80 M	1LA7 080-1BD ..	454, -
	0,18	0,55		1LA7 083-1BD ..	504, -
	0,29	0,8	90 S	1LA7 090-1BD ..	619, -
	0,38	1,1	90 L	1LA7 096-1BD ..	725, -
	0,6	1,7	100 L	1LA7 106-1BD ..	863, -
	0,75	2,1		1LA7 107-1BD ..	960, -
	0,9	3	112 M	1LA7 113-1BD ..	1.120, -
	1,2	3,9	132 S	1LA7 130-1BD ..	1.380, -
	1,7	5,4	132 M	1LA7 133-1BD ..	1.700, -
with two windings	2,5	7,2	160 M	1LA7 163-1BD ..	2.490, -
	3,7	12	160 L	1LA7 166-1BD ..	3.620, -
	5,5	16	180 M	1LA5 183-1BD ..	4.740, -
	6,5	19	180 L	1LA5 186-1BD ..	5.630, -
	9,5	26	200 L	1LA5 207-1BD ..	8.070, -

750/ 1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · double pole-changing	0,1	0,5	80 M	1LA7 080-0BB ..	382, -
	0,15	0,7		1LA7 083-0BB ..	437, -
	0,22	1	90 S	1LA7 090-0BB ..	470, -
	0,33	1,5	90 L	1LA7 096-0BB ..	549, -
	0,5	2	100 L	1LA7 106-0BB ..	678, -
	0,65	2,5		1LA7 107-0BB ..	783, -
	0,9	3,6	112 M	1LA7 113-0BB ..	906, -
	1,1	4,7	132 S	1LA7 130-0BB ..	1.270, -
	1,4	6,4	132 M	1LA7 133-0BB ..	1.640, -
single Dahlander circuit winding	2,2	9,5	160 M	1LA7 163-0BB ..	2.260, -
	3,3	14	160 L	1LA7 166-0BB ..	3.350, -
	4,5	16	180 M	1LA5 183-0BB ..	3.890, -
	5	18,5	180 L	1LA5 186-0BB ..	5.070, -
	7,5	28	200 L	1LA5 207-0BB ..	7.550, -

For larger rated outputs please refer to page 7/2.
The 1LA7 motors listed above are available as "Ex stock motors" with short delivery time and at preferential prices in fixed versions (with regard to voltage, type of construction, motor protection and connection box) on pages 0/0 up to 0/1.

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Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 7/8.							
	50 Hz, direct-on-line starting				IM B 3	at additional charge, please refer to Page 7/8						
	230 V	400 V	500 V	690 V		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 080 to 1LA7 166	1	6	5	0	0	1	1	4	6	2	7	3
1LA5 183 to 1LA5 207	1	6	5	0	0	1	1	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 7/6.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, in pole-changing version Aluminum series 1LA7/5

Selection and ordering data

750/1000/1500 rpm 8/6/4-pole	Rated output 750 rpm kW	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F) · triple pole-changing with two separate windings; 750/1500 rpm Dahlander circuit	**0,15**	**0,22**	**0,7**	90 S	**1LA7 090-1BJ ..**	**670, -**
	0,22	**0,3**	**0,95**	90 L	**1LA7 096-1BJ ..**	**774, -**
	0,37	**0,55**	**1,5**	100 L	**1LA7 106-1BJ ..**	**869, -**
	0,45	**0,7**	**1,8**	100 L	**1LA7 107-1BJ ..**	**1.160, -**
	0,6	**0,85**	**2,4**	112 M	**1LA7 113-1BJ ..**	**1.290, -**
	0,75	**1,1**	**3,1**	132 S	**1LA7 130-1BJ ..**	**1.890, -**
	1	**1,5**	**4,4**	132 M	**1LA7 133-1BJ ..**	**2.290, -**
	1,6	**2,2**	**6,6**	160 M	**1LA7 163-1BJ ..**	**2.490, -**
	2,4	**3,5**	**10**	160 L	**1LA7 166-1BJ ..**	**4.010, -**
	3	**4,5**	**13**	180 M	**1LA5 183-1BJ ..**	**6.040, -**
	3,7	**5,5**	**16**	180 L	**1LA5 186-1BJ ..**	**6.840, -**
	5	**8**	**22**	200 L	**1LA5 207-1BJ ..**	**8.970, -**

Order No. supplements

Motor type	**Penultimate place: Voltage code** 50 Hz, direct-on-line starting				**Last place: Type of construction code** For other types of construction, please refer to Page 7/8. IM B 3 at additional charges, please refer to Page 7/8							
	230 V	400 V	500 V	690 V	IM B 3	IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 090 to 1LA7 166	**1**	**6**	**5**	**0**	**0**	**1**	**1**	**4**	**6**	**2**	**7**	**3**
1LA5 183 to 1LA5 207	**1**	**6**	**5**	**0**	**0**	**1**	**1**	**4**	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 7/6.

Fan motors

Self-ventilated, in pole-changing version cast-iron series 1LG4

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

1500/ 3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55	4,8	18	180 M	1LG4 183-0BA ..	4.280, -
	5,8	21,5	180 L	1LG4 186-0BA ..	5.410, -
· 50 Hz	8,4	31	200 L	1LG4 207-0BA ..	7.220, -
· Temperature class 155 (F)	10,5	38	225 S	1LG4 220-0BA ..	8.310, -
· double pole-changing	13	45	225 M	1LG4 223-0BA ..	10.100, -
	15	55	250 M	1LG4 253-0BA ..	12.400, -
	18	67	280 S	1LG4 280-0BA ..	15.800, -
	22	80	280 M	1LG4 283-0BA ..	19.200, -
single Dahlander circuit winding	26	90	315 S	1LG4 310-0BA ..	23.200, -
	32	110	315 M	1LG4 313-0BA ..	28.700, -
	35	140	315 L	1LG4 316-0BA ..	34.600, -
	45	170	315 L	1LG4 317-0BA ..	40.200, -

1000/ 1500 rpm 6/4-pole	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55	5,5	16	180 M	1LG4 183-1BD ..	4.810, -
	6,5	19	180 L	1LG4 186-1BD ..	5.700, -
· 50 Hz	9,5	26	200 L	1LG4 207-1BD ..	8.180, -
· Temperature class 155 (F)	12	34	225 S	1LG4 220-1BD ..	10.200, -
· double pole-changing	14,5	40	225 M	1LG4 223-1BD ..	12.200, -
	18	52	250 M	1LG4 253-1BD ..	15.500, -
	25	70	280 S	1LG4 280-1BD ..	22.000, -
	30	82	280 M	1LG4 283-1BD ..	26.100, -
with two windings	33	92	315 S	1LG4 310-1BD ..	28.800, -
	45	120	315 M	1LG4 313-1BD ..	34.400, -
	50	150	315 L	1LG4 316-1BD ..	39.500, -
	55	170	315 L	1LG4 317-1BD ..	45.400, -

750/ 1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55	4,5	16	180 M	1LG4 183-0BB ..	3.940, -
	5	18,5	180 L	1LG4 186-0BB ..	5.140, -
· 50 Hz	7,5	28	200 L	1LG4 207-0BB ..	7.650, -
· Temperature class 155 (F)	9,5	35	225 S	1LG4 220-0BB ..	8.810, -
· double pole-changing	11,5	42	225 M	1LG4 223-0BB ..	10.200, -
	14,5	52	250 M	1LG4 253-0BB ..	13.000, -
	19	70	280 S	1LG4 280-0BB ..	15.200, -
	23	83	280 M	1LG4 283-0BB ..	18.800, -
single Dahlander circuit winding	26	95	315 S	1LG4 310-0BB ..	23.000, -
	30	115	315 M	1LG4 313-0BB ..	29.900, -
	35	140	315 L	1LG4 316-0BB ..	35.100, -
	45	175	315 L	1LG4 317-0BB ..	42.600, -

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 7/8.							
	50 Hz, direct-on-line starting				IM B 3	at additional charge, please refer to Page 7/8						
	230 V	400 V	500 V	690 V		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LG4 183 to 1LG4 207	1	6	5	0	0	1	1	4	6	-	-	-
1LG4 220 to 1LG4 283	1	6	5	0	0	1	1	4	6	-	-	-
1LG4 310 to 1LG4 313	1	6	5	0	0	1	1	4	6	-	-	-
1LG4 316 to 1LG4 317	-	6	5	0	0	-	8	4	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 7/6.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

EFF2

Forced-air cooled, without external fan and fan cover with improved efficiency – Aluminum series 1PP7/5

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,18	63 M		1PP7 060-2AA ..	343, -
	0,25			1PP7 063-2AA ..	353, -
	0,37	71 M		1PP7 070-2AA ..	353, -
	0,55			1PP7 073-2AA ..	377, -
	0,75	80 M		1PP7 080-2AA ..	406, -
	1,1		2	1PP7 083-2AA ..	451, -
	1,5	90 S	2	1PP7 090-2AA ..	487, -
	2,2		2	1PP7 096-2AA ..	600, -
	3	100 L	2	► 1PP7 106-2AA ..	700, -
	4	112 M	2	► 1PP7 113-2AA ..	812, -
	5,5	132 S	2	► 1PP7 130-2AA ..	1.040, -
	7,5		2	► 1PP7 131-2AA ..	1.340, -
	11	160 M	2	► 1PP7 163-2AA ..	1.760, -
	15	160 M	2	► 1PP7 164-2AA ..	2.200, -
	18,5	160 L	2	► 1PP7 166-2AA ..	2.580, -
	22	180 M	2	1PP5 183-2AA ..	3.230, -
	30	200 L	2	1PP5 206-2AA ..	4.170, -
	37		2	1PP5 207-2AA ..	5.450, -

1500 rpm 4-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,12	63 M		1PP7 060-4AB ..	340, -
	0,18			1PP7 063-4AB ..	353, -
	0,25	71 M		1PP7 070-4AB ..	351, -
	0,37			1PP7 073-4AB ..	374, -
	0,55	80 M		1PP7 080-4AA ..	397, -
	0,75		2	1PP7 083-4AA ..	423, -
	1,1	90 S	2	1PP7 090-4AA ..	455, -
	1,5	90 L	2	1PP7 096-4AA ..	526, -
	2,2	100 L	2	► 1PP7 106-4AA ..	625, -
	3		2	► 1PP7 107-4AA ..	720, -
	4	112 M	2	► 1PP7 113-4AA ..	869, -
	5,5	132 S	2	► 1PP7 130-4AA ..	1.090, -
	7,5	132 M	2	► 1PP7 133-4AA ..	1.370, -
	11	160 M	2	► 1PP7 163-4AA ..	1.790, -
	15	160 L	2	► 1PP7 166-4AA ..	2.260, -
	18,5	180 M	2	1PP5 183-4AA ..	2.800, -
	22	180 L	2	1PP5 186-4AA ..	3.300, -
	30	200 L	2	1PP5 207-4AA ..	4.370, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	63 M	1PP7 063-6AA ..	355, -
	0,18	71 M	1PP7 070-6AA ..	366, -
	0,25		1PP7 073-6AA ..	389, -
	0,37	80 M	1PP7 080-6AA ..	406, -
	0,55		1PP7 083-6AA ..	454, -
	0,75	90 S	1PP7 090-6AA ..	485, -
	1,1	90 L	1PP7 096-6AA ..	572, -
	1,5	100 L	► 1PP7 106-6AA ..	662, -
	2,2	112 M	► 1PP7 113-6AA ..	783, -
	3	132 S	► 1PP7 130-6AA ..	984, -
	4	132 M	► 1PP7 133-6AA ..	1.210, -
	5,5	132 M	► 1PP7 134-6AA ..	1.500, -
	7,5	160 M	► 1PP7 163-6AA ..	1.880, -
	11	160 L	► 1PP7 166-6AA ..	2.460, -
	15	180 L	1PP5 186-6AA ..	3.380, -
	18,5	200 L	1PP5 206-6AA ..	4.150, -
	22		1PP5 207-6AA ..	4.870, -

750 rpm 8-pole	Rated output kW	Frame size	Order No. ► Discontinued model	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	0,09	71 M	1PP7 070-8AB ..	377, -
	0,12		1PP7 073-8AB ..	407, -
	0,18	80 M	1PP7 080-8AB ..	419, -
	0,25		1PP7 083-8AB ..	491, -
	0,37	90 S	1PP7 090-8AB ..	537, -
	0,55	90 L	1PP7 096-8AB ..	629, -
	0,75	100 L	► 1PP7 106-8AB ..	689, -
	1,1		► 1PP7 107-8AB ..	863, -
	1,5	112 M	► 1PP7 113-8AB ..	975, -
	2,2	132 S	► 1PP7 130-8AB ..	1.230, -
	3	132 M	► 1PP7 133-8AB ..	1.470, -
	4	160 M	► 1PP7 163-8AB ..	1.710, -
	5,5	160 L	► 1PP7 164-8AB ..	2.070, -
	7,5	160 L	► 1PP7 166-8AB ..	2.490, -
	11	180 L	1PP5 186-8AB ..	3.550, -
	15	200 L	1PP5 207-8AB ..	4.680, -

► **The order numbers for 1PP7 motors that are marked with this symbol are discontinued models. 1LE1 motors are their successors. For further informations refer to part 1 "New Generation 1LE1/1PC1" below "Forced-air cooled motors without external fan and fan cover" on the pages 1/24 up to 1/31.**

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 7/9.						
	50 Hz				IM B 3	at additional charge, please refer to Page 7/9					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP7 060 to 1PP7 096	1	6	3	-	0	1	1	-	2	-	3
1PP7 106 to 1PP7 166	1	6	3	5	0	1	1	-	2	-	3
1PP5 183 to 1PP5 207	1	6	3	5	0	1	1	-	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 7/7.

Fan motors

Forced-air cooled, without external fan and fan cover with improved efficiency – Cast-iron series 1PP4

EFF2

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Efficiency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	22	180 M	2	1PP4 183-2FA ..	3.270, -
	30	200 L	2	1PP4 206-2FA ..	4.230, -
	37		2	1PP4 207-2FA ..	5.530, -
	45	225 M	2	1PP4 223-2FA ..	6.710, -
	55	250 M	2	1PP4 253-2FB ..	8.180, -
	75	280 S	2	1PP4 280-2FB ..	11.200, -
	90	280 M	2	1PP4 283-2FB ..	13.600, -
	110	315 S		1PP4 310-2FB ..	16.600, -
	132	315 M		1PP4 313-2FB ..	19.900, -
	160	315 L		1PP4 316-2FB ..	24.700, -
	200	315 L		1PP4 317-2FB ..	30.900, -

1500 rpm 4-pole	Rated output kW	Frame size	Efficiency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	18,5	180 M	2	1PP4 183-4FA ..	2.840, -
	22	180 L	2	1PP4 186-4FA ..	3.350, -
	30	200 L	2	1PP4 207-4FA ..	4.450, -
	37	225 S	2	1PP4 220-4FA ..	5.410, -
	45	225 M	2	1PP4 223-4FA ..	6.540, -
	55	250 M	2	1PP4 253-4FA ..	7.940, -
	75	280 S	2	1PP4 280-4FA ..	10.900, -
	90	280 M	2	1PP4 283-4FA ..	12.800, -
	110	315 S		1PP4 310-4FA ..	15.900, -
	132	315 M		1PP4 313-4FA ..	18.800, -
	160	315 L		1PP4 316-4FA ..	23.200, -
	200	315 L		1PP4 317-4FA ..	28.900, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	15	180 L	1PP4 186-6FA ..	3.430, -
	18,5	200 L	1PP4 206-6FA ..	4.200, -
	22		1PP4 207-6FA ..	4.940, -
	30	225 M	1PP4 223-6FA ..	6.790, -
	37	250 M	1PP4 253-6FA ..	8.230, -
	45	280 S	1PP4 280-6FA ..	10.100, -
	55	280 M	1PP4 283-6FA ..	12.200, -
	75	315 S	1PP4 310-6FA ..	16.600, -
	90	315 M	1PP4 313-6FA ..	19.900, -
	110	315 L	1PP4 316-6FA ..	24.000, -
	132	315 L	1PP4 317-6FA ..	28.500, -

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	11	180 L	1PP4 186-8FB ..	3.590, -
	15	200 L	1PP4 207-8FB ..	4.740, -
	18,5	225 S	1PP4 220-8FB ..	5.750, -
	22	225 M	1PP4 223-8FB ..	6.670, -
	30	250 M	1PP4 253-8FB ..	8.810, -
	37	280 S	1PP4 280-8FB ..	10.600, -
	45	280 M	1PP4 283-8FB ..	12.900, -
	55	315 S	1PP4 310-8FB ..	15.700, -
	75	315 M	1PP4 313-8FB ..	21.000, -
	90	315 L	1PP4 316-8FB ..	24.900, -
	110	315 L	1PP4 317-8FB ..	30.000, -

Force ventilated (surface cooled) motors without external fan and fan cover; the motors are in the air stream of the ventilator and are ventilated sufficiently at operation under normal conditions.

7

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 7/9.						
	50 Hz				IM B 3	at additional charge, please refer to Page 7/9					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP4 183 to 1PP4 313	1	6	3	5	0	1	1	6	-	-	-
1PP4 316 to 1PP4 317	-	6	-	5	0	1	8	6	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 7/7.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Forced-air cooled, without external fan and fan cover with increased output – Cast-iron series 1PP4

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**22**	180 M	2	**1PP4 183-2FA ..**	**3.270, -**
	30	200 L	2	**1PP4 206-2FA ..**	**4.230, -**
	37		2	**1PP4 207-2FA ..**	**5.530, -**
	45	225 M	2	**1PP4 223-2FA ..**	**6.710, -**
	55	250 M	2	**1PP4 253-2FB ..**	**8.180, -**
	75	280 S	2	**1PP4 280-2FB ..**	**11.200, -**
	90	280 M	2	**1PP4 283-2FB ..**	**13.600, -**
	110	315 S		**1PP4 310-2FB ..**	**16.600, -**
	132	315 M		**1PP4 313-2FB ..**	**19.900, -**
	160	315 L		**1PP4 316-2FB ..**	**24.700, -**
	200	315 L		**1PP4 317-2FB ..**	**30.900, -**

1500 rpm 4-pole	Rated output kW	Frame size	Effi-ciency-Class	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**18,5**	180 M	2	**1PP4 183-4FA ..**	**2.840, -**
	22	180 L	2	**1PP4 186-4FA ..**	**3.350, -**
	30	200 L	2	**1PP4 207-4FA ..**	**4.450, -**
	37	225 S	2	**1PP4 220-4FA ..**	**5.410, -**
	45	225 M	2	**1PP4 223-4FA ..**	**6.540, -**
	55	250 M	2	**1PP4 253-4FA ..**	**7.940, -**
	75	280 S	2	**1PP4 280-4FA ..**	**10.900, -**
	90	280 M	2	**1PP4 283-4FA ..**	**12.800, -**
	110	315 S		**1PP4 310-4FA ..**	**15.900, -**
	132	315 M		**1PP4 313-4FA ..**	**18.800, -**
	160	315 L		**1PP4 316-4FA ..**	**23.200, -**
	200	315 L		**1PP4 317-4FA ..**	**28.900, -**

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**15**	180 L	**1PP4 186-6FA ..**	**3.430, -**
	18,5	200 L	**1PP4 206-6FA ..**	**4.200, -**
	22		**1PP4 207-6FA ..**	**4.940, -**
	30	225 M	**1PP4 223-6FA ..**	**6.790, -**
	37	250 M	**1PP4 253-6FA ..**	**8.230, -**
	45	280 S	**1PP4 280-6FA ..**	**10.100, -**
	55	280 M	**1PP4 283-6FA ..**	**12.200, -**
	75	315 S	**1PP4 310-6FA ..**	**16.600, -**
	90	315 M	**1PP4 313-6FA ..**	**19.900, -**
	110	315 L	**1PP4 316-6FA ..**	**24.000, -**
	132	315 L	**1PP4 317-6FA ..**	**28.500, -**

750 rpm 8-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· Degree of protection IP 55 · 50 Hz · Temperature class 155 (F)	**11**	180 L	**1PP4 186-8FB ..**	**3.590, -**
	15	200 L	**1PP4 207-8FB ..**	**4.740, -**
	18,5	225 S	**1PP4 220-8FB ..**	**5.750, -**
	22	225 M	**1PP4 223-8FB ..**	**6.670, -**
	30	250 M	**1PP4 253-8FB ..**	**8.810, -**
	37	280 S	**1PP4 280-8FB ..**	**10.600, -**
	45	280 M	**1PP4 283-8FB ..**	**12.900, -**
	55	315 S	**1PP4 310-8FB ..**	**15.700, -**
	75	315 M	**1PP4 313-8FB ..**	**21.000, -**
	90	315 L	**1PP4 316-8FB ..**	**24.900, -**
	110	315 L	**1PP4 317-8FB ..**	**30.000, -**

Force ventilated (surface cooled) motors without external fan and fan cover; the motors are in the air stream of the ventilator and are ventilated sufficiently at operation under normal conditions.

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 7/9.						
	50 Hz				IM B 3	at additional charge, please refer to Page 7/9					
	230 VΔ 400 VY	400 VΔ 690 VY	500 VY	500 VΔ		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP4 183 to 1PP4 313	**1**	**6**	**3**	**5**	**0**	**1**	**1**	**6**	-	-	-
1PP4 316 to 1PP4 317	-	**6**	-	**5**	**0**	**1**	**8**	**6**	-	-	-

For voltage code '9' for other voltages and/or frequencies, order codes and additional charges, please refer to Page 7/7.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

Pole-change motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz		Type of voltage code	Order code	Additional charge plus MS EUR 1LA7 Frame size 80	90	100	112	132	160	1LA5 180	200
	V	V			11th position									
Voltage at 60 Hz		220	50-Hz-Output		9	L4A								
Frame size			60-Hz-Output	1)	9	L4B								
80 to 200		380	50-Hz-Output		9	L4C	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
			60-Hz-Output	1)	9	L4D								
		440	50-Hz-Output		9	L4G								
			60-Hz-Output	1)	9	L4E								
		460	50-Hz-Output		9	L4J								
			60-Hz-Output	1)	9	L4H								
		575	50-Hz-Output		9	L4N								
			60-Hz-Output	1)	9	L4M								
	Plain-text required (non-standard winding)				9 2)	L1Y	62,50	73,40	90,60	110, -	140, -	174, -	225, -	274, -
	Plain-text required (non-standard winding for Y/Δ starting at low speed)				9 2)	L3Y	–	–	137, -	165, -	213, -	261, -	340, -	417, -

Pole-change motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz		Type of voltage code	Order code	Additional charge plus MS EUR 1LG4 Frame size 180	200	225	250	280	315
	V	V			11th position							
Voltage at 60 Hz		220	50-Hz-Output		9	L4A						
Frame size			60-Hz-Output	1)	9	L4B						
180 to 315		380	50-Hz-Output		9	L4C	116, -	133, -	181, -	207, -	267, -	346, -
			60-Hz-Output	1)	9	L4D						
		440	50-Hz-Output		9	L4G						
			60-Hz-Output	1)	9	L4E						
		460	50-Hz-Output		9	L4J						
			60-Hz-Output	1)	9	L4H						
		575	50-Hz-Output		9	L4N						
			60-Hz-Output	1)	9	L4M						
	Plain-text required (non-standard winding)				9 2)	L1Y	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge

1) Output acc. to output table for 60 Hz please refer to catalogue D81.1.
2) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

7

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for other rated voltages

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1PP7 Frame size 63	71	80	90	100	112	132	160	1PP5 180	200
	V	V		11th position											
Voltage at 50 Hz	220Δ/380Y	440Y		9 1)	L1R										
Frame size 63 to 200	230Δ			9 1)	L1E ❍										
	380Δ/660Y	440Δ		9 1)	L1L										
	415Y			9 1)	L1C										
	415Δ			9 1)	L1D										
	400Y			9 1)	L1A ❍										
	400Δ			9 1)	L1B ❍										
	400Δ	460Δ		9 1)	L1U ❍										
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A										
			60-Hz-Output 2)	9	L2B										
Frame size 63 to 200		380Δ/660Y	50-Hz-Output	9	L2C										
			60-Hz-Output 2)	9	L2D										
		440Y	50-Hz-Output	9	L2Q										
			60-Hz-Output 2)	9	L2W	23,50	27,50	31,10	36,50	45,30	54,80	70,30	86,30	112, -	129, -
		440Δ	50-Hz-Output	9	L2R										
			60-Hz-Output 2)	9	L2X										
		460Y	50-Hz-Output	9	L2S										
			60-Hz-Output 2)	9	L2E ❍										
		460Δ	50-Hz-Output	9	L2T										
			60-Hz-Output 2)	9	L2F ❍										
		575Y	50-Hz-Output	9	L2U										
			60-Hz-Output 2)	9	L2L										
		575Δ	50-Hz-Output	9	L2V										
			60-Hz-Output 2)	9	L2M										
Voltage changeover		230YY/460Y	50-Hz-Output	9	L3E	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -
			60-Hz-Output 2)	9	L3F	110, -	110, -	129, -	145, -	171, -	200, -	246, -	296, -	375, -	450, -
		230ΔΔ/460Δ	50-Hz-Output	9	L3G	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -
			60-Hz-Output 2)	9	L3H	–	–	–	–	253, -	284, -	318, -	349, -	532, -	653, -
	Plain-text required (non-standard winding)			9 3)	L1Y	46,90	55, -	62,50	73,40	90,60	110, -	140, -	174, -	225, -	274, -

Single-speed motors	Voltage at 50 Hz	Voltage at 60 Hz	Required output at 60 Hz	Type of voltage code	Order code	Additional charge plus MS EUR 1PP4 Frame size 180	200	225	250	280	315
	V	V		11th position							
Voltage at 50 Hz	220Δ/380Y			9 1)	L1R						
Frame size 180 to 315 M	230Δ			9 1)	L1E ❍						
	380Δ/660Y			9 1)	L1L						
	415Y			9 1)	L1C						
	415Δ			9 1)	L1D						
	400Y			9 1)	L1A ❍						
	400Δ			9 1)	L1B ❍						
	400Δ	460Δ		9 1)	L1U ❍						
Voltage at 50 Hz	380Δ/660Y			9 1)	L1L						
Frame size 315 L	415Δ			9 1)	L1D						
	400Δ			9 1)	L1B ❍						
	400Δ	460Δ		9 1)	L1U ❍						
Voltage at 60 Hz		220Δ/380Y	50-Hz-Output	9	L2A						
Frame sizes 180 to 315 M			60-Hz-Output 2)	9	L2B						
		380Δ/660Y	50-Hz-Output	9	L2C						
			60-Hz-Output 2	9	L2D						
		440Y	50-Hz-Output	9	L2Q						
			60-Hz-Output 2)	9	L2W	116, -	133, -	181, -	207, -	267, -	346, -
		440Δ	50-Hz-Output	9	L2R						
			60-Hz-Output 2)	9	L2X						
		460Y	50-Hz-Output	9	L2S						
			60-Hz-Output 2)	9	L2E ❍						
		460Δ	50-Hz-Output	9	L2T						
			60-Hz-Output 2)	9	L2F ❍						
		575Y	50-Hz-Output	9	L2U						
			60-Hz-Output 2)	9	L2L						
		575Δ	50-Hz-Output	9	L2V						
			60-Hz-Output 2)	9	L2M ❍						
Voltage at 60 Hz		380Δ/660Y	50-Hz-Output	9	L2C						
Frame size 315 L			60-Hz-Output 2)	9	L2D						
		440Δ	50-Hz-Output	9	L2R						
			60-Hz-Output 2)	9	L2X						
		460Δ	50-Hz-Output	9	L2T						
			60-Hz-Output 2)	9	L2F ❍						
		575Δ	50-Hz-Output	9	L2V						
			60-Hz-Output 2)	9	L2M ❍						
	Plain-text required (non-standard winding)			9 3)	L1Y	225, -	274, -	406, -	511, -	654, -	850, -

❍ without additional charge

1) With order codes L1A, L1C, L1D, L1L, L1R and L1U, a rated voltage range is also specified on the rating plate.
2) Output acc. to output table for 60 Hz please refer to catalogue D81.1.
3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LA7 Frame size 80	90	100	112	132	160	1LA5 180	200
Without flange:										
IM B 3	0	-	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	0	-	■	■	■	■	■	■	■	■
IM V 5 with cover	9 1)	M1F	48,20	56,40	59,50	69,10	88,20	121, -	161, -	243, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF165 A 200	FF165 A 200	FF215 A 250	FF215 A 250	FF265 A 300	FF300 A 350	FF300 A 350	FF350 A 400
IM B 5, IM V 1 without cover	1 2)	-	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -
IM V 1 with cover	4 1)2)	-	93,20	111, -	129, -	154, -	199, -	268, -	386, -	515, -
IM V 3	1 2)	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–
	9 2)	M1G	–	–	–	–	–	–	226, -	274, -
IM B 35	6	-	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT100 C 120	FT115 C 140	FT130 C 160	FT130 C 160	FT165 C 200	FT215 C 250		
IM B 14, IM V 18 without cover, IM V 19	2	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	9 1)	M2A	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	7	-	61,60	70,50	84,80	111, -	139, -	201, -	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FT130 C 160	FT130 C 160	FT165 C 200	FT165 C 200	FT215 C 250	FT265 C 300		
IM B 14, IM V 18 without cover, IM V 19	3	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	9 1)	M2B	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	9	M2C	61,60	70,50	84,80	111, -	139, -	201, -	–	–

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1LG4 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	0	-	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■
IM V 5 without cover*	0	-	■	■	■	■	■	■	–
	9	M1D	–	–	–	–	–	–	❍
IM V 6 *	0	-	■	■	■	■	■	■	–
	9	M1E	–	–	–	–	–	–	❍
IM V 5 * with cover	9 1)	M1F	161, -	243, -	321, -	401, -	482, -	643, -	643, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		FF300 A 350	FF350 A 400	FF400 A 450	FF500 A 550	FF500 A 550	FF600 A 660	- A660
IM B 5, IM V 1 without cover	1 3)	-	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	8 3)	-	–	–	–	–	–	–	882, -
IM V 1 with cover	4 1) 3)	-	386, -	515, -	677, -	834, -	1.100, -	1.530, -	1.530, -
IM V 3	9 3)	M1G	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.

When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) The 'second shaft extension' option (order code K16) is not possible.

2) Motor frame sizes 180 M to 225 M can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.

3) Motors frame size from 225 up to 315 M are supplied with two bolted eyebolts in accordance to IM B 5; one of there can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1PP7 Frame size 63	71	80	90	100	112	132	160	1PP5 180	200
Without flange:												
IM B 3	**0**	**-**	■	■	■	■	■	■	■	■	■	■
IM B 6, IM B 7, IM B 8, IM V 6, IM V 5 without cover	**0**	**-**	■	■	■	■	■	■	■	■	■	■
IM V 5 with cover	**9** [1]	**M1F**	36,20	40,30	48,20	56,40	59,50	69,10	88,20	121, -	161, -	243, -
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF115 A 140**	**FF130 A 160**	**FF165 A 200**	**FF165 A 200**	**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**	**FF300 A 350**	**FF350 A 400**
IM B 5, IM V 1 without cover	**1** [2]	**-**	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -
IM V 3	**1** [2] **9** [2]	**-** **M1G**	36,50 –	40,50 –	45,90 –	55,10 –	68,30 –	84,80 –	110, - –	143, - –	– 226, -	– 274, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT75 C 90**	**FT85 C 105**	**FT100 C 120**	**FT115 C 140**	**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**		
IM B 14, IM V 18 without cover, IM V 19	**2**	**-**	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	**9** [1]	**M2A**	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT100 C 120**	**FT115 C 140**	**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**		
IM B 14, IM V 18 without cover, IM V 19	**3**	**-**	36,50	40,50	45,90	55,10	68,30	84,80	110, -	143, -	–	–
IM V 18 with cover	**9** [1]	**M2B**	72,70	80,70	93,20	111, -	129, -	154, -	199, -	268, -	–	–
IM B 34	**9**	**M2C**	51,70	55,10	61,60	70,50	84,80	111, -	139, -	201, -	–	–

	Construct. code 12th pos.	Order code	Additional charge plus MS EUR 1PP4 Frame size 180	200	225	250	280	315 S/M	315 L
Without flange:									
IM B 3	**0**	**-**	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	**0**	**-**	■	■	■	■	■	■	■
IM V 5 without cover*	**0** **9**	**-** **M1D**	■ –	■ –	■ –	■ –	■ –	■ –	– 387, - [4] ❍ [5]
IM V 6 *	**0** **9**	**-** **M1E**	■ –	■ –	■ –	■ –	■ –	■ –	– 387, - [4] ❍ [5]
IM V 5 * with cover	**9** [1]	**M1F**	161, -	243, -	321, -	401, -	482, -	643, -	1.030, - [4] 643, - [5]
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A660**
IM B 5, IM V 1 without cover	**1** [3]	**-**	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	**8** [3]	**-**	–	–	–	–	–	–	1.270, - [4] 882, - [5]
IM V 3	**1** [3] **9** [3]	**-** **M1G**	– 226, -	– 274, -	– 354, -	– 426, -	– 620, -	– 882, -	– –
IM B 35	**6**	**-**	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -

■ Standard design ❍ without additional charge

The type of construction supplement '9' must be stated in the order code.

When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) The 'second shaft extension' option (order code K16) is not possible.

2) Motor frame sizes 180 M to 225 M can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.

3) Motors frame size from 225 up to 315 M are supplied with two bolted eyebolts in accordance to IM B 5; one of there can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

4) For 2-pole motors; 60-Hz design on request.

5) For 4- to 8-pole motors.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**				88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–				
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**				149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–				
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**				88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**				177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–				
Temperature detectors for tripping [1]	**A31**				99,40	99,40	112,–	112,–	164,–	164,–	227,–	227,–				
Installation of 3 PT 100 resistance thermometers [1]	**A60**				–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–				
Motor connection and connection box																
Connection box on RHS	**K09**				30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
Connection box on LHS	**K10**				30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
One cable gland, metal	**K54**				50,20	50,20	94,–	94,–	94,–	120,–	120,–	138,–				
Cable gland, maximum configuration	**K55**				71,80	71,80	133,–	133,–	133,–	175,–	175,–	202,–				
Rotation of the connection box through 90°, entry from DE	**K83**				16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of the connection box through 90°, entry from NDE	**K84**				16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of connection box through 180°	**K85**				16,60	19,60	O	O	O	O	37,80	49,–				
Next larger connection box	**L00**				–	–	–	–	–	–	1.080,–	1.080,–				
External earthing	**L13**				20,10	20,10	24,30	24,30	24,30	24,30	31,10	31,10				
3 cables protruding, 0.5 m long [2]	**L44**				48,20	48,20	57,70	69,10	84,50	99,80	O. R.	O. R.				
3 cables protruding, 1.5 m long [2]	**L45**				58,20	58,20	69,60	83,70	102,–	121,–	O. R.	O. R.				
6 cables protruding, 0.5 m long [2]	**L47**				74,60	74,60	89,40	107,–	132,–	156,–	O. R.	O. R.				
6 cables protruding, 1.5 m long [2]	**L48**				95,–	95,–	113,–	137,–	167,–	198,–	238,–	281,–				
6 cables protruding, 3 m long [2]	**L49**				151,–	151,–	184,–	216,–	270,–	324,–	378,–	454,–				
Connection box on NDE	**M64**				68,30	78,20	101,–	124,–	160,–	217,–	244,–	261,–				
Terminal strip for main and auxiliary terminals	**M69**				74,–	74,–	–	–	–	–	–	–				
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**				34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 155 (F), with increased output	**C12**				34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**				34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 180 (H) at rated output and max. CT 60 °C [3]	**C18**				126,–	126,–	177,–	227,–	287,–	356,–	440,–	567,–				

For legend and footnotes, see Page 7/14.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Windings and insulation (continued)																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**				125,–	125,–	125,–	125,–	125,–	189,–	254,–	314,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**				34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**				34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**				62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**				62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**				235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–				
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level				93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–				
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level				34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Colors and paint finish																
Special finish in RAL 7030 stone gray					□	□	□	□	□	□	□	□				
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL				51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–				
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL				581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–				
Sea-air proof special finish	**M94**				O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	**K23**				O	O	O	O	O	O	O	O				
Unpainted, only primed	**K24**				17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90				

For legend and footnotes, see Page 7/14.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Modular technology - Basic versions [4]																
Mounting of separately driven fan	**G17**				–	–	616,–	733,–	846,–	982,–	1.170,–	1.830,–				
Mounting of brake [5]	**G26**				401,–	482,–	563,–	684,–	882,–	1.740,–	2.010,–	2.810,–				
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**				619,–	619,–	563,–	563,–	563,–	563,–	563,–	563,–				
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**				883,–	883,–	807,–	807,–	807,–	807,–	807,–	807,–				
Modular technology - Combinations of basic versions [4]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**				–	–	1.170,–	1.310,–	1.410,–	1.540,–	1.750,–	2.400,–				
Mounting of brake and 1XP8 001-1 rotary pulse encoder [5]	**H62**				–	–	1.120,–	1.240,–	1.440,–	2.290,–	2.570,–	3.380,–				
Mounting of brake and separately driven fan	**H63**				–	–	1.170,–	1.380,–	1.670,–	2.700,–	3.180,–	4.650,–				
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [5]	**H64**				–	–	1.750,–	1.910,–	2.240,–	3.280,–	3.760,–	5.220,–				
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**				–	–	1.430,–	1.540,–	1.650,–	1.790,–	1.990,–	2.650,–				
Mounting of brake and 1XP8 001-2 rotary pulse encoder [5]	**H98**				–	–	1.370,–	1.470,–	1.700,–	2.530,–	2.810,–	3.620,–				
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [5]	**H99**				–	–	1.990,–	2.160,–	2.470,–	3.500,–	3.990,–	5.460,–				
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**				30,20	30,20	45,30	45,30	45,30	45,30	60,50	60,50				
Brake supply voltage 400 V AC	**C01**				30,20	30,20	45,30	45,30	45,30	45,30	60,50	60,50				
Mechanical manual release of the brake with operating lever	**K82**				214,–	214,–	226,–	226,–	252,–	365,–	530,–	619,–				
Special technology [4]																
Prepared for mounting MMI [6]	**H15**				401,–	401,–	422,–	422,–	456,–	–	–	–				
Mounting of LL 861 900 220 rotary pulse encoder	**H70**				–	–	2.560,–	2.560,–	2.560,–	2.560,–	2.560,–	2.560,–				
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**				–	–	2.910,–	2.910,–	2.910,–	2.910,–	3.230,–	3.230,–				
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**				–	–	3.780,–	3.780,–	3.780,–	3.780,–	3.860,–	3.860,–				
Prepared for mounting LL 861 900 220	**H78**				–	–	512,–	512,–	512,–	512,–	591,–	591,–				
Prepared for mounting HOG 9 D 1024 I	**H79**				–	–	512,–	512,–	512,–	512,–	591,–	591,–				
Prepared for mounting HOG 10 D 1024 I	**H80**				–	–	512,–	512,–	512,–	512,–	591,–	591,–				
Mechanical design and degrees of protection																
Drive-end (DE) seal for flange-mounting motors with oil resistance to 0.1 bar Not possible for IM V3 type of construction	**K17**				40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–				
With two additional eyebolts for IM V1/IM V3	**K32**				–	–	–	–	–	–	100,–	100,–				
IP65 degree of protection [7]	**K50**				126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–				
IP56 degree of protection (non-heavy-sea) [8]	**K52**				139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–				
Vibration-proof version	**L03**				125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–				
Condensation drainage holes [9]	**L12**				56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–				
Non-rusting screws (externally)	**M27**				56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–				
Mechanical protection for encoder [10]	**M68**				469,–	469,–	491,–	491,–	568,–	568,–	568,–	568,–				

For legend and footnotes, see Page 7/14.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C	**D03**				216,–	270,–	324,–	410,–	475,–	545,–	605,–	702,–				
Coolant temperature -30 to +40 °C	**D04**				47,60	47,60	59,40	59,40	71,30	71,30	95,20	119,–				
Designs in accordance with standards and specifications																
CCC China Compulsory Certification [11]	**D01**				34,–	34,–	34,–	34,–	–	–	–	–				
Electrical according to NEMA MG1-12	**D30**				34,–	34,–	34,–	34,–	34,–	34,–	56,70	56,70				
Design according to UL with "Recognition Mark" [12]	**D31**				68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
Canadian regulations (CSA) [13]	**D40**				68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
PSE marking in Japan [14]	**D46**				34,–	34,–	34,–	34,–	34,–	–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection [15]	**G50**				–	–	216,–	242,–	267,–	293,–	316,–	342,–				
Bearing design for increased cantilever forces	**K20**				–	–	84,60	98,60	111,–	148,–	186,–	220,–				
Regreasing device [15]	**K40**				–	–	267,–	273,–	281,–	305,–	321,–	362,–				
Located bearing DE	**K94**				33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–				
Located bearing NDE	**L04**				33,40	35,40	37,–	39,–	41,30	□	□	□				
Balance and vibration quantity																
Vibration quantity level A					□	□	□	□	□	□	□	□				
Vibration quantity level B	**K02**				214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–				
Full key balancing	**L68**				80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–				
Balancing without key	**M37**				18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70				
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [16]	**K04**				150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–				
Second standard shaft extension	**K16**				82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–				
Shaft extension with normal dimensions without featherkey way	**K42**				393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**				205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–				
Standard shaft made of non-rusting steel	**M65**				704,–	704,–	808,–	808,–	936,–	1.160,–	2.080,–	2.400,–				
Non-standard cylindrical shaft extension [17]	**Y55** • and identification code				393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Heating and ventilation																
Fan cover for textile industry	**H17**				101,–	164,–	266,–	379,–	481,–	568,–	568,–	795,–				
Metal external fan [18]	**K35**				126,–	126,–	159,–	189,–	220,–	253,–	284,–	314,–				
Anti-condensation heaters for 230 V	**K45**				348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–				
Anti-condensation heaters for 115 V	**K46**				348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–				
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**				–	–	17,70	17,70	17,70	17,70	56,80	56,80				
Second rating plate, loose	**K31**				17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80				
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code				62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Extra rating plate with identification code	**Y82** • and identification code				34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code				34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				

For legend and footnotes, see Page 7/14.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Packaging, safety notes, documentation and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**				○	○	○	○	○	○	○	○				
With one safety and startup guide per box pallet	**B01**				○	○	○	○	○	○	○	–				
Acceptance test certificate 3.1 according to EN 10204	**B02**				24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10				
Operating instructions German/English enclosed in print	**B23**				54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–				
Type test with heat run for horizontal motors, with acceptance	**F83**				4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Wire-lattice pallet	**L99**				○	○	○	○	○	○	○	–				
Connected in star for dispatch	**M32**				20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in delta for dispatch	**M33**				20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

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1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. For pole-changing motors with separate windings, the number of temperature sensors must be doubled (order code **A11**, price of **A12** or order code **A12**, price available on request).

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor series 1LA5 frame size 180 to 200. The grease lifetime specified in chapter 0 "Introduction" of the Catalog D 81.1 refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

4) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology
– Basic versions of "Modular technology"
– Combination of special versions "Special technology"

5) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.

6) Converter mounting is possible for 230 VΔ/400 VY, please also specify Order No. of the MICROMASTER 411 according to Catalog DA 51.3.

7) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and / or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

8) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

9) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

10) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

11) CCC certification is required for
– 2-pole motors ≤2.2 kW
– 4-pole motors ≤1.1 kW
– 6-pole motors ≤0.75 kW
– 8-pole motors ≤0.55 kW

12) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

13) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

14) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

15) Not possible when brake is mounted.

16) Can be combined with deep-groove bearings of series 60.., 62.. and 63.. . Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake or encoder mounting.

17) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimension tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

18) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
											1LG4 (cast-iron)					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**										200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**										353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**										284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**										461,–	461,–	634,–	859,–	859,–	1.260,–
Temperature detectors for tripping [1]	**A31**										227,–	227,–	307,–	307,–	380,–	380,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**										1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**										2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box in cast-iron version	**K15**										330,–	438,–	645,–	□	□	□
One cable gland, metal	**K54**										120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**										175,–	202,–	202,–	350,–	350,–	350,–
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
Undrilled entry plate	**L01**										○	○	○	○	○	○
External earthing	**L13**										□	□	□	□	□	□
6 cables protruding, 1.5 m long [3]	**L48**										864,–	1.190,–	1.620,–	O. R.	O. R.	O. R.
6 cables protruding, 3 m long [3]	**L49**										1.380,–	1.900,–	2.590,–	O. R.	O. R.	O. R.
Protruding cable ends - right side [3] [4]	**L51**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - left side [3] [4]	**L52**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	**L97**										186,–	186,–	450,–	450,–	450,–	450,–

For legend and footnotes, see Page 7/19.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
											1LG4 (cast-iron)					
Motor connection and connection boxes (continued)																
Stud terminal for cable connection, accessories pack (3 items)	**M46**										–	–	–	126,–	126,–	159,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,–	443,–	522,–
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased output [5]	**C12**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 180 (H) at rated output and max. CT 60 °C [6]	**C18**										440,–	567,–	662,–	756,–	890,–	1.220,–
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**										832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % [5]	**C22**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % [5]	**C23**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % [5]	**C24**										225,–	274,–	406,–	511,–	654,–	850,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % [5]	**C25**										225,–	274,–	406,–	511,–	654,–	850,–
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level										337,–	413,–	609,–	766,–	981,–	1.270,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level										68,80	68,80	78,10	78,10	91,80	91,80
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL ….										69,90	69,90	69,90	79,60	107,–	171,–
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	563,–

For legend and footnotes, see Page 7/19.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
											1LG4 (cast-iron)					
Colors and paint finish (continued)																
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….										694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**										O	O	O	O	O	O
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	69,90
Modular technology - Basic versions [7]																
Mounting of separately driven fan [8]	**G17**										1.170,–	1.830,–	2.510,–	3.090,–	3.660,–	4.100,–
Mounting of brake [8] [9]	**G26**										3.870,–	5.400,–	6.860,–	22.000,–	27.000,–	32.500,–
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	**H57**										563,–	563,–	1.290,–	1.290,–	1.290,–	1.290,–
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	**H58**										807,–	807,–	1.760,–	1.760,–	1.760,–	1.760,–
Modular technology - Combinations of basic versions [7]																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	**H61**										1.750,–	2.400,–	3.790,–	4.380,–	4.950,–	5.390,–
Mounting of brake and 1XP8 001-1 rotary pulse encoder [9]	**H62**										4.440,–	5.970,–	9.020,–	23.300,–	28.400,–	33.700,–
Mounting of brake and separately driven fan [8] [9]	**H63**										5.050,–	7.250,–	10.300,–	25.600,–	29.600,–	35.000,–
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder [9]	**H64**										5.620,–	7.790,–	11.600,–	26.800,–	30.900,–	36.300,–
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	**H97**										1.990,–	2.650,–	4.260,–	4.850,–	5.410,–	5.850,–
Mounting of brake and 1XP8 001-2 rotary pulse encoder	**H98**										4.680,–	6.200,–	9.450,–	23.800,–	29.100,–	34.100,–
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder [9]	**H99**										5.840,–	8.040,–	12.000,–	27.200,–	31.300,–	36.900,–
Modular technology - Additional versions																
Brake supply voltage 24 V DC	**C00**										60,50	60,50	60,50	60,50	60,50	60,50
Brake supply voltage 400 V AC	**C01**										60,50	60,50	60,50	60,50	60,50	60,50
Mechanical manual relase of the brake with operating lever	**K82**										530,–	619,–	787,–	895,–	995,–	1.260,–
Special technology [7]																
Mounting of LL 861 900 220 rotary pulse encoder	**H70**										2.560,–	2.560,–	4.170,–	4.170,–	4.170,–	4.170,–
Mounting of HOG 9 D 1024 I rotary pulse encoder	**H72**										3.230,–	3.230,–	4.240,–	4.240,–	4.240,–	4.240,–
Mounting of HOG 10 D 1024 I rotary pulse encoder	**H73**										3.860,–	3.860,–	5.040,–	5.040,–	5.040,–	5.040,–
Prepared for mounting LL 861 900 220	**H78**										591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 9 D 1024 I	**H79**										591,–	591,–	591,–	591,–	591,–	591,–
Prepared for mounting HOG 10 D 1024 I	**H80**										591,–	591,–	591,–	591,–	591,–	591,–

For legend and footnotes, see Page 7/19.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
											1LG4 (cast-iron)					
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with oil resistance to 0.1 bar (not possible for IM V3 type of construction)	**K17**										122,–	150,–	200,–	267,–	334,–	401,–
IP65 degree of protection [10]	**K50**										253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea) [11]	**K52**										276,–	347,–	417,–	486,–	556,–	624,–
Condensation water holes [12]	**L12**										□	□	□	□	□	□
Non-rusting screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	235,–
Earth brushes for converter-fed operation	**M44**										–	–	–	–	O. R.	O. R.
Mechanical protection for encoder [13]	**M68**										178,–	178,–	178,–	178,–	178,–	178,–
Coolant temperature and site altitude																
Coolant temperature -50 to +40 °C	**D02**										2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	5.370,–
Coolant temperature -40 to +40 °C	**D03**										605,–	702,–	896,–	1.110,–	1.590,–	2.050,–
Coolant temperature -30 to +40 °C	**D04**										95,20	119,–	119,–	1.110,–	1.590,–	2.050,–
Designs in accordance with standards and specifications																
Electrical according to NEMA MG1-12	**D30**										58,20	58,20	58,20	72,70	72,70	87,20
Design according to UL with "Recognition Mark" [14]	**D31**										251,–	345,–	434,–	512,–	634,–	828,–
Canadian regulations (CSA) [15]	**D40**										212,–	283,–	354,–	426,–	567,–	703,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [16]	**K20**										233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for drive-end and non-drive-end, bearing size 63	**K36**										393,–	484,–	688,–	949,–	□	□
Regreasing device	**K40**										321,–	362,–	401,–	482,–	□	□
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**										□	□	□	□	□	□
Insulated bearing cartridge	**L27**										–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	□
Vibration quantity level B	**K02**										497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [17]	**K04**										379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension	**K16**										276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with standard dimensions without featherkey way	**K42**										594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [18]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	892,–
Heating and ventilation																
Metal external fan [19]	**K35**										284,–	314,–	347,–	379,–	410,–	443,–
Anti-condensation heaters for 230 V	**K45**										536,–	616,–	740,–	764,–	764,–	795,–
Anti-condensation heaters for 115 V	**K46**										536,–	616,–	740,–	764,–	764,–	795,–
Sheet metal fan cover	**L36**										71,30	87,50	98,30	140,–	180,–	197,–
Separately driven fan with non-standard voltage and/or frequency	**Y81** • and identification code										–	–	2.000,–	2.000,–	2.000,–	2.140,–

For legend and footnotes, see Page 7/19.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
											1LG4 (cast-iron)					
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code										225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**										54,–	54,–	54,–	54,–	54,–	54,–
Type test with heat run for horizontal motors, with acceptance	**F83**										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. For pole-changing motors with separate windings, the number of temperature sensors must be doubled (order code **A11**, price of **A12** or order code **A12**, price available on request).

2) PT 100 bearing monitoring only possible at drive end (DE).

3) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

4) Only possible in combination with order code **L44** to **L49** or length specification in plain text.

5) Only the 50 Hz data are specified on the rating plate.

6) Cannot be used for motors in UL version (order code **D31**) or CSA approval (order code **D40**). The grease lifetime specified in chapter 0 "Introduction" of the Catalog D 81.1 refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

7) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various mounting technologies nor with each other within the same mounting technology system. This applies for:
– Modular technology
– Basic versions of "Modular technology"
– Combination of special versions "Special technology"

8) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.

9) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.

10) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and / or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

11) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).

12) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation

13) Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.

14) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

15) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

16) Bearings for increased cantilever forces at vibration quantity level B on request for 1LG4 motors. Not possible for 1LG4 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – Order code **K04**.

17) Can be combined with deep-groove bearings of series 60.., 62.. and 63.. . Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

18) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimension tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

19) For 1LA5/6/7/9 motors and 1LG with external metal fan, converter-fed operation is permitted.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
			1PP7 (aluminum)								**1PP5 (aluminum)**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**		75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	200,–	200,–				
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**		129,–	129,–	149,–	149,–	172,–	172,–	230,–	230,–	353,–	353,–				
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**		75,70	75,70	88,30	88,30	101,–	101,–	150,–	150,–	284,–	284,–				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**		151,–	151,–	177,–	177,–	202,–	202,–	302,–	302,–	461,–	461,–				
Temperature detectors for tripping [1]	**A31**		84,70	84,70	99,40	99,40	112,–	112,–	164,–	164,–	227,–	227,–				
Installation of 3 PT 100 resistance thermometers [1]	**A60**		–	–	–	–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–	1.270,–				
Motor connection and connection boxes																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY [2]	**G55**		80,80	80,80	80,80	80,80	80,80	80,80	87,50	–	–	–				
ECOFAST motor plug EMC Han-Drive 10e for 230 VΔ/400 VY [3]	**G56**		185,–	185,–	185,–	185,–	201,–	201,–	227,–	–	–	–				
Connection box on RHS	**K09**		–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
Connection box on LHS	**K10**		–	–	30,20	34,–	87,70	95,50	103,–	110,–	156,–	184,–				
One cable gland, metal	**K54**		50,20	50,20	50,20	50,20	94,–	94,–	94,–	120,–	120,–	138,–				
Rotation of the connection box through 90°, entry from DE	**K83**		13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of the connection box through 90°, entry from NDE	**K84**		13,70	15,10	16,60	19,60	49,70	61,90	82,10	101,–	37,80	49,–				
Rotation of connection box through 180°	**K85**		13,70	15,10	16,60	19,60	O	O	O	O	37,80	49,–				
Next larger connection box	**L00**		–	–	–	–	–	–	–	–	1.080,–	1.080,–				
External earthing	**L13**		20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,10	31,10				
3 cables protruding, 0.5 m long [4]	**L44**		48,20	48,20	48,20	48,20	57,70	69,10	84,50	99,80	O. R.	O. R.				
3 cables protruding, 1.5 m long [4]	**L45**		58,20	58,20	58,20	58,20	69,60	83,70	102,–	121,–	O. R.	O. R.				
6 cables protruding, 0.5 m long [4]	**L47**		74,60	74,60	74,60	74,60	89,40	107,–	132,–	156,–	O. R.	O. R.				
6 cables protruding, 1.5 m long [4]	**L48**		95,–	95,–	95,–	95,–	113,–	137,–	167,–	198,–	238,–	281,–				
Connection box on NDE	**M64**		26,60	30,40	34,10	39,20	50,70	61,90	79,60	109,–	123,–	132,–				
Terminal strip for main and auxiliary terminals	**M69**		74,–	74,–	74,–	74,–	–	–	–	–	–	–				
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 155 (F), with increased output	**C12**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 180 (H) at rated output and max. CT 60 °C [5]	**C18**		126,–	126,–	126,–	126,–	177,–	227,–	287,–	356,–	440,–	567,–				

For legend and footnotes, see Page 7/23.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
			1PP7 (aluminum)								**1PP5 (aluminum)**					
Windings and insulation (continued)																
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**		125,–	125,–	125,–	125,–	125,–	125,–	125,–	189,–	254,–	314,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**		46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**		46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**		228,–	228,–	235,–	235,–	243,–	272,–	294,–	391,–	486,–	508,–				
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level		70,20	82,40	93,70	110,–	136,–	164,–	211,–	260,–	337,–	413,–				
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level		34,90	34,90	34,90	34,90	40,60	40,60	54,–	54,–	68,80	68,80				
Colors and paint finish																
Special finish in RAL 7030 stone gray			□	□	□	□	□	□	□	□	□	□				
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL		51,40	51,40	51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–				
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL		485,–	485,–	581,–	581,–	657,–	657,–	657,–	694,–	694,–	694,–				
Sea-air proof special finish	**M94**		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	**K23**		O	O	O	O	O	O	O	O	O	O				
Unpainted, only primed	**K24**		17,50	17,50	17,50	23,30	23,30	23,30	37,20	37,20	72,–	72,–				
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with oil resistance to 0.1 bar Not possible for IM V3 type of construction	**K17**		36,60	38,50	40,60	43,40	48,30	52,90	64,50	94,50	122,–	150,–				
With two additional eyebolts for IM V1/IM V3	**K32**		–	–	–	–	–	–	–	–	100,–	100,–				
IP65 degree of protection	**K50**		126,–	126,–	126,–	126,–	126,–	126,–	126,–	189,–	253,–	314,–				
IP56 degree of protection (non-heavy-sea)	**K52**		139,–	139,–	139,–	139,–	139,–	139,–	139,–	208,–	276,–	347,–				
Vibration-proof version	**L03**		92,10	109,–	125,–	141,–	159,–	175,–	190,–	207,–	224,–	240,–				
Condensation drainage holes [6]	**L12**		44,30	50,70	56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–				
Non-rusting screws (externally)	**M27**		47,30	47,30	56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–				

For legend and footnotes, see Page 7/23.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
			1PP7 (aluminum)								**1PP5 (aluminum)**					
Coolant temperature and site altitude																
Coolant temperature -40 to +40 °C	**D03**		194,–	194,–	216,–	270,–	324,–	410,–	475,–	545,–	605,–	702,–				
Coolant temperature -30 to +40 °C	**D04**		35,80	35,80	47,60	47,60	59,40	59,40	71,30	71,30	95,20	119,–				
Designs in accordance with standards and specifications																
Design according to UL with "Recognition Mark" [7]	**D31**		60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
Canadian regulations (CSA) [8]	**D40**		60,40	64,30	68,50	76,40	84,80	101,–	129,–	157,–	212,–	283,–				
PSE marking in Japan [9]	**D46**		34,–	34,–	34,–	34,–	34,–	34,–	34,–	–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**		–	–	–	–	216,–	242,–	267,–	293,–	316,–	342,–				
Bearing design for increased cantilever forces	**K20**		–	–	–	–	84,60	98,60	111,–	148,–	186,–	220,–				
Regreasing device	**K40**		–	–	–	–	267,–	273,–	281,–	305,–	321,–	362,–				
Located bearing DE	**K94**		33,40	33,40	33,40	35,40	61,10	72,40	89,–	122,–	256,–	356,–				
Located bearing NDE	**L04**		30,–	32,–	33,40	35,40	37,–	39,–	41,30	–	–	–				
Balance and vibration quantity																
Vibration quantity level A			□	□	□	□	□	□	□	□	□	□				
Vibration quantity level B	**K02**		186,–	202,–	214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–				
Full key balancing	**L68**		80,70	80,70	80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–				
Balancing without key	**M37**		18,40	18,40	18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70				
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [10]	**K04**		101,–	126,–	150,–	177,–	202,–	227,–	253,–	314,–	379,–	443,–				
Second standard shaft extension	**K16**		71,10	71,10	82,10	82,10	120,–	120,–	159,–	183,–	276,–	306,–				
Shaft extension with standard dimensions without featherkey way	**K42**		345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**		205,–	205,–	205,–	205,–	225,–	225,–	342,–	342,–	177,–	199,–				
Standard shaft made of non-rusting steel	**M65**		–	–	726,–	726,–	835,–	835,–	966,–	1.200,–	2.080,–	2.400,–				
Non-standard cylindrical shaft extension [11]	**Y55** • and identification code		345,–	368,–	393,–	416,–	441,–	464,–	487,–	512,–	594,–	654,–				
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**		309,–	348,–	348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–				
Anti-condensation heaters for 115 V	**K46**		309,–	348,–	348,–	348,–	362,–	386,–	435,–	484,–	536,–	616,–				
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**		–	–	–	–	17,70	17,70	17,70	17,70	56,80	56,80				
Second rating plate, loose	**K31**		17,70	17,70	17,70	17,70	17,70	17,70	17,70	17,70	56,80	56,80				
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code		46,90	55,–	62,50	73,40	90,70	110,–	140,–	174,–	225,–	274,–				
Extra rating plate with identification code	**Y82** • and identification code		34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code		34,90	34,90	34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20				

For legend and footnotes, see Page 7/23.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
			1PP7 (aluminum)								**1PP5 (aluminum)**					
Packaging, safety notes, documentation and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	**B00**		–	○	○	○	○	○	○	○	–	–				
With one safety and startup guide per box pallet	**B01**		–	○	○	○	○	○	○	○	–	–				
Acceptance test certificate 3.1 according to EN 10204	**B02**		24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10				
Operating instructions German/English enclosed in print	**B23**		54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–				
Type test with heat run for vertical motors, with acceptance	**F83**		3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Wire-lattice pallet	**L99**		○	○	○	○	○	○	○	○	○	–				
Connected in star for dispatch	**M32**		20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				
Connected in delta for dispatch	**M33**		20,10	20,10	20,10	20,10	24,30	24,30	24,30	24,30	31,80	31,80				

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55**: **A12, C02, C18, D31, D40, G50, H15, H17, H62, H63, H64, H90, H91, H92, H93, H94, H95, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.**

3) Not possible for pole-changing motors. Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G56**: **A12, A23, A31, C00, C18, D31, D40, G50, H15, H17, H90, H91, H92, H93, H94, H95, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.**

4) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

5) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor series 1PP7 frame size 180 to 200. The grease lifetime specified in chapter 0 "Introduction" of the Catalog D 81.1 refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

6) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

7) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.

8) The rated voltage is indicated on the rating plate without voltage range.

9) "Small power motors" with a rated output up to 3 kW which are exported to Japan must be marked by law.

10) Can be combined with deep-groove bearings of series 60.., 62.. and 63.. . Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**) brake or encoder mounting.

11) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 "Introduction".

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
											1PP4 (cast-iron)					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**										200,–	200,–	273,–	273,–	340,–	340,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**										353,–	353,–	459,–	459,–	570,–	570,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**										284,–	284,–	389,–	505,–	505,–	744,–
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 [1]	**A25**										461,–	461,–	634,–	859,–	859,–	1.260,–
Temperature detectors for tripping	**A31**										227,–	227,–	307,–	307,–	380,–	380,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**										1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**										2.080,–	2.080,–	2.080,–	2.080,–	2.080,–	2.080,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**										3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**										3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A80**										4.760,–	4.760,–	4.760,–	4.760,–	4.760,–	4.760,–
Motor connection and connection boxes																
Two-part plate on connection box	**K06**										–	467,–	467,–	882,–	882,–	1.120,–
Connection box on RHS	**K09**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on LHS	**K10**										311,–	367,–	434,–	645,–	724,–	834,–
Connection box on top, feet screwed on	**K11**										311,–	367,–	434,–	645,–	724,–	834,–
One cable gland, metal	**K54**										120,–	138,–	138,–	197,–	197,–	197,–
Cable gland, maximum configuration	**K55**										175,–	202,–	202,–	350,–	350,–	350,–
Rotation of the connection box through 90°, entry from DE	**K83**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of the connection box through 90°, entry from NDE	**K84**										37,80	49,–	60,50	72,70	86,80	104,–
Rotation of connection box through 180°	**K85**										37,80	49,–	60,50	72,70	86,80	104,–
Next larger connection box	**L00**										1.080,–	1.080,–	1.390,–	1.600,–	1.600,–	1.880,–
Äußere Erdung	**L13**										□	□	□	□	□	□
6 cables protruding, 1.5 m long [2]	**L48**										864,–	1.190,–	1.620,–	O. R.	O. R.	O. R.
6 cables protruding, 3 m long [2]	**L49**										1.380,–	1.900,–	2.590,–	O. R.	O. R.	O. R.
Protruding cable ends - right side [2] [3]	**L51**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends - left side [2] [3]	**L52**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	**L97**										186,–	186,–	450,–	450,–	450,–	450,–
Stud terminal for cable connection, accessories pack (3 items)	**M46**										–	–	–	126,–	126,–	159,–
Saddle terminal for connection without cable lug, accessories pack (6 items)	**M47**										–	–	–	443,–	443,–	522,–

For legend and footnotes, see Page 7/27.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
											1PP4 (cast-iron)					
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	**C11**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased output [4]	**C12**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	**C13**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 180 (H) at rated output and max. CT 60 °C [5]	**C18**										440,–	567,–	662,–	756,–	890,–	1.220,–
Increased air humidity/temperature with 30 to 60 g water per m^3 of air	**C19**										832,–	1.060,–	1.290,–	1.580,–	1.920,–	2.350,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	**C22**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	**C23**										68,80	68,80	78,10	78,10	91,80	91,80
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	**C24**										225,–	274,–	406,–	511,–	654,–	850,–
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	**C25**										225,–	274,–	406,–	511,–	654,–	850,–
Increased air humidity/temperature with 60 to 100 g water per m^3 of air	**C26**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	**Y50** • and specified output CT .. °C or SA .... m above sea level										337,–	413,–	609,–	766,–	981,–	1.270,–
Temperature class 155 (F), used acc. to 155 (F), other requirements	**Y52** • and specified output CT .. °C or SA .... m above sea level										68,80	68,80	78,10	78,10	91,80	91,80
Colors and paint finish																
Standard finish in RAL 7030 stone gray											□	□	□	□	□	□
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y53** • and standard finish RAL										67,60	67,60	67,60	77,10	104,–	165,–
Special finish in RAL 7030 stone gray	**K26**										159,–	198,–	294,–	356,–	438,–	563,–
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL										159,–	198,–	294,–	356,–	438,–	563,–

For legend and footnotes, see Page 7/27.

Fan motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
											1PP4 (cast-iron)					
Colors and paint finish (continued)																
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors", Catalog D 81.1	**Y51** • and special finish RAL ….										694,–	694,–	694,–	748,–	748,–	748,–
Off-shore special finish	**M91**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**										○	○	○	○	○	○
Unpainted, only primed	**K24**										69,90	69,90	69,90	69,90	69,90	69,90
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with oil resistance to 0.1 bar (Not possible for type of construction IM V3) [6]	**K17**										122,–	150,–	200,–	267,–	334,–	401,–
IP65 degree of protection	**K50**										253,–	314,–	379,–	443,–	505,–	568,–
IP56 degree of protection (non-heavy-sea)	**K52**										276,–	347,–	417,–	486,–	556,–	624,–
Non-rusting screws (externally)	**M27**										94,80	107,–	143,–	170,–	177,–	235,–
Coolant temperature and site altitude																
Coolant temperature -50 to +40 °C	**D02**										2.180,–	2.320,–	3.360,–	3.740,–	4.530,–	5.370,–
Coolant temperature -40 to +40 °C	**D03**										605,–	702,–	896,–	1.110,–	1.590,–	2.050,–
Coolant temperature -30 to +40 °C	**D04**										95,20	119,–	119,–	1.110,–	1.590,–	2.050,–
Designs in accordance with standards and specifications																
Design according to UL with "Recognition Mark" [7]	**D31**										251,–	345,–	434,–	512,–	634,–	828,–
Canadian regulations (CSA) [8]	**D40**										212,–	283,–	354,–	426,–	567,–	703,–
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**										316,–	342,–	368,–	393,–	418,–	444,–
Bearing design for increased cantilever forces [9]	**K20**										233,–	270,–	305,–	352,–	395,–	441,–
Special bearing for drive-end and non-drive-end, bearing size 63	**K36**										393,–	484,–	688,–	949,–	1,700,– [10]	1,700,– [10]
Regreasing device	**K40**										321,–	362,–	401,–	482,–	–	–
Located bearing DE	**K94**										256,–	356,–	501,–	645,–	834,–	901,–
Located bearing NDE	**L04**										□	□	□	□	□	□
Insulated bearing cartridge	**L27**										–	–	1.490,–	1.590,–	1.640,–	1.720,–
Balance and vibration quantity																
Vibration quantity level A											□	□	□	□	□	□
Vibration quantity level B	**K02**										497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**										136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**										36,70	36,70	49,70	49,70	60,50	70,20
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors [11]	**K04**										379,–	443,–	505,–	568,–	632,–	694,–
Second standard shaft extension [12]	**K16**										276,–	306,–	322,–	336,–	397,–	435,–
Shaft extension with standard dimensions without featherkey way	**K42**										594,–	654,–	713,–	773,–	832,–	892,–
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	**L39**										177,–	199,–	237,–	310,–	310,–	474,–
Non-standard cylindrical shaft extension [13]	**Y55** • and identification code										594,–	654,–	713,–	773,–	832,–	892,–

For legend and footnotes, see Page 7/27.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS):
N - W - - -

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
											1PP4 (cast-iron)					
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**										536,–	616,–	740,–	764,–	764,–	795,–
Anti-condensation heaters for 115 V	**K46**										536,–	616,–	740,–	764,–	764,–	795,–
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**										56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose	**K31**										56,80	56,80	56,80	56,80	56,80	56,80
Extra rating plate or rating plate with deviating rating plate data	**Y80** • and identification code										225,–	274,–	406,–	511,–	654,–	850,–
Extra rating plate with identification code	**Y82** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code										58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes, documentation and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**										24,10	24,10	24,10	24,10	24,10	24,10
Type test with heat run for vertical motors, with acceptance	**F83**										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Connected in star for dispatch	**M32**										31,80	31,80	31,80	39,40	39,40	39,40
Connected in delta for dispatch	**M33**										31,80	31,80	□	□	□	□

□ Standard version
○ Without additional charge
• This order code only determines the price of the version - Additional plain text is required.
O. R. Possible on request
– Not possible

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1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Possible in combination with order code **L44** to **L49** or length specification in plain text.

4) Only the 50 Hz data are indicated on the rating plate.

5) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor series 1PP7 frame size 180 to 200. The grease lifetime specified in chapter 0 “Introduction” of the Catalog D 81.1 refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.

6) Not available for 2-pole motors.

7) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

8) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

9) Not possible for 2-pole 1PP4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1PP4 motors. Not possible for 1PP4 motors in the combination “Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors” – Order code **K04**.

10) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

11) Can be combined with deep-groove bearings of series 60.., 62.. and 63.. . Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).

12) Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.

13) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely “thin” shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
– Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under “Dimensions”)
– Dimensions E and EA ≤2 x length E (normal) of the shaft extension
For an explanation of the order codes, see catalog D 81.1, chapter 0 “Introduction”.

Surface-cooled motors up to frame size 315 L Aluminum and cast-iron housing

Selection and ordering data

Recommended motor types:

- Self-ventilated motors with high efficiency according to CEMEP EFF 1 – Aluminum series 1LA9 in the output range from 0.06 to 37 kW, 50 and 60 Hz
- Self-ventilated motors with high efficiency according to CEMEP EFF 1 – Caston iron series 1LG6 in the output range from 11 to 200 kW, 50 and 60 Hz
- Self-ventilated motors with high efficiency according to CEMEP EFF 1 – Aluminum series 1LE1 in the output range from 0.75 to 18.5 kW, 50 and 60 Hz
- Self-ventilated motors with increased output – aluminum series 1LA9 and cast-iron series 1LG4 in output range from 3 to 110 kW, 50 and 60 Hz.
- Self-ventilated motors with high efficiency with increased output are available on request.
- Self-ventilated motors with improved efficiency according to CEMEP EFF 2 with improved output – Aluminum series 1LE1 in the output range from 2.2 to 22 kW, 50 and 60 Hz
- Self-ventilated motors with high efficiency according to CEMEP EFF 1 with improved output – Aluminum series 1LE1 in the output range from 2.2 to 22 kW, 50 and 60 Hz

For technical specifications and selection and ordering data, see “Standard motors up to frame size 315 L”, chapter 2.

Surface-cooled motors frame size 315 and above Cast-iron housing

Selection and ordering data

Recommended motor types:

- Non-standard motor for mains-fed and converter-fed operation – cast-iron housing 1LA8

For technical specifications and selection and ordering data, see “Non-standard motors frame size 315 and above”, chapter 3.

Special versions

Overview

Recommended special versions for mains-fed and converter-fed operation

- Motor temperature sensing using built-in temperature sensor KTY 84-130 –
  order code **A23**
  for 1LE1 – Position 15 of the order number, letter **F**
- Insulated bearing cartridge at non-drive-end (NDE) –
  order code **L27**
- External earthing – order code **L13**
  for 1LE1 – Order code **H04**
- 6 protruding cable ends
  - 0.5 m long – order code **L47**
    for 1LE1 – Order code **R22**
  - 1.5 m long – order code **L48**
    for 1LE1 – Order code **R23**
  - 3.0 m long – order code **L49**
    for 1LE1 – Order code **R24**

Other special versions

For other special versions, see chapter 2 “Standard motors up to frame size 315 L” and chapter 3 “Non-standard motors frame size 315 and above”.

Notes

Smoke-extraction motors

Self-ventilated, for temperature/time classes F200, F300 – Aluminum series 1LA7/5, cast-iron series 1LG6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	0,75	80 M	1LA7 080-2TA ..	795, -
	1,1		1LA7 083-2TA ..	847, -
	1,5	90 S	1LA7 090-2TA ..	957, -
	2,2	90 L	1LA7 096-2TA ..	1.100, -
	3	100 L	1LA7 106-2TA ..	1.250, -
	4	112 M	1LA7 113-2TA ..	1.460, -
	5,5	132 S	1LA7 130-2TA ..	1.880, -
	7,5		1LA7 131-2TA ..	2.220, -
	11	160 M	1LA7 163-2TA ..	3.060, -
	15	160 M	1LA7 164-2TA ..	3.750, -
	18,5	160 L	1LA7 166-2TA ..	4.290, -
	22	180 M	1LA5 183-2TA ..	5.280, -
	30	200 L	1LA5 206-2TA ..	6.830, -
	37		1LA5 207-2TA ..	8.460, -
	45	225 M	1LA5 223-2TA ..	10.500, -
	55	250 M	1LG6 253-2TB ..	12.600, -
	75	280 S	1LG6 280-2TB ..	16.100, -
	90	280 M	1LG6 283-2TB ..	19.200, -
	110	315 S	1LG6 310-2TB ..	22.900, -
	132	315 M	1LG6 313-2TB ..	26.500, -
	160	315 L	1LG6 316-2TB ..	32.100, -
	200	315 L	1LG6 317-2TB ..	41.200, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	0,55	80 M	1LA7 080-4TA ..	780, -
	0,75		1LA7 083-4TA ..	813, -
	1,1	90 S	1LA7 090-4TA ..	901, -
	1,5	90 L	1LA7 096-4TA ..	990, -
	2,2	100 L	1LA7 106-4TA ..	1.140, -
	3		1LA7 107-4TA ..	1.290, -
	4	112 M	1LA7 113-4TA ..	1.500, -
	5,5	132 S	1LA7 130-4TA ..	1.900, -
	7,5	132 M	1LA7 133-4TA ..	2.270, -
	11	160 M	1LA7 163-4TA ..	3.090, -
	15	160 L	1LA7 166-4TA ..	3.830, -
	18,5	180 M	1LA5 183-4TA ..	4.730, -
	22	180 L	1LA5 186-4TA ..	5.360, -
	30	200 L	1LA5 207-4TA ..	7.000, -
	37	225 S	1LA5 220-4TA ..	8.700, -
	45	225 M	1LA5 223-4TA ..	10.300, -
	55	250 M	1LG6 253-4TA ..	12.600, -
	75	280 S	1LG6 280-4TA ..	15.200, -
	90	280 M	1LG6 283-4TA ..	18.200, -
	110	315 S	1LG6 310-4TA ..	21.000, -
	132	315 M	1LG6 313-4TA ..	26.300, -
	160	315 L	1LG6 316-4TA ..	32.200, -
	200	315 L	1LG6 317-4TA ..	40.200, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	0,37	80 M	1LA7 080-6TA ..	795, -
	0,55		1LA7 083-6TA ..	855, -
	0,75	90 S	1LA7 090-6TA ..	947, -
	1,1	90 L	1LA7 096-6TA ..	1.060, -
	1,5	100 L	1LA7 106-6TA ..	1.200, -
	2,2	112 M	1LA7 113-6TA ..	1.400, -
	3	132 S	1LA7 130-6TA ..	1.780, -
	4	132 M	1LA7 133-6TA ..	2.100, -
	5,5	132 M	1LA7 134-6TA ..	2.510, -
	7,5	160 M	1LA7 163-6TA ..	3.250, -
	11	160 L	1LA7 166-6TA ..	4.110, -
	15	180 L	1LA5 186-6TA ..	5.530, -
	18,5	200 L	1LA5 206-6TA ..	6.700, -
	22		1LA5 207-6TA ..	7.700, -
	30	225 M	1LA5 223-6TA ..	10.600, -
	37	250 M	1LG6 253-6TA ..	12.700, -
	45	280 S	1LG6 280-6TA ..	15.700, -
	55	280 M	1LG6 283-6TA ..	18.500, -
	75	315 S	1LG6 310-6TA ..	22.600, -
	90	315 M	1LG6 313-6TA ..	25.700, -
	110	315 L	1LG6 316-6TA ..	30.700, -
	132	315 L	1LG6 317-6TA ..	35.100, -
	160	315 L	1LG6 318-6TA ..	43.400, -

Surface ventilated motors with external fan and fan cover.

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Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 9/9.							
	50 Hz				IM B 3	at additional charge, please refer to Page 9/9.						
	230 V∆ 400 VY	400 V∆ 690 VY	500 VY	500 V∆		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 080 to 1LA7 096	1	6	3	-	0	1	1	4	6	2	7	3
1LA7 106 to 1LA7 166	1	6	3	5	0	1	1	4	6	2	7	3
1LA5 183 to 1LA5 223	1	6	3	5	0	1	1	4	6	-	-	-
1LG6 253 to 1LG6 313	1	6	3	5	0	1	1	4	6	-	-	-
1LG6 316 to 1LG6 318	-	6	-	5	0	-	8	4	6	-	-	-

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, for temperature/time classes F200, F300 – Aluminum series 1LA7/5, cast-iron series 1LG6

Selection and ordering data

1500/ 3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,14	0,63	80 M	1LA7 080-0TA ..	1.200, -	11,0
	0,23	0,86		1LA7 083-0TA ..	1.340, -	12,4
	0,3	1,26	90 S	1LA7 090-0TA ..	1.480, -	14,6
	0,45	1,8	90 L	1LA7 096-0TA ..	1.620, -	17,9
	0,59	2,25	100 L	1LA7 106-0TA ..	1.760, -	24,0
	0,72	2,8		1LA7 107-0TA ..	2.020, -	27,0
	0,99	3,95	112 M	1LA7 113-0TA ..	2.320, -	34,0
	1,3	5,3	132 S	1LA7 130-0TA ..	2.800, -	47,0
	1,8	7,2	132 M	1LA7 133-0TA ..	3.350, -	53,0
	2,6	10,4	160 M	1LA7 163-0TA ..	4.050, -	74,0
	3,85	15,3	160 L	1LA7 166-0TA ..	5.240, -	105,0

1000/ 1500 rpm 6/4-pole	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · with two windings	0,11	0,36	80 M	1LA7 080-1TD ..	1.300, -	10,0
	0,16	0,5		1LA7 083-1TD ..	1.380, -	11,4
	0,26	0,72	90 S	1LA7 090-1TD ..	1.540, -	14,6
	0,34	0,99	90 L	1LA7 096-1TD ..	1.650, -	17,9
	0,54	1,53	100 L	1LA7 106-1TD ..	1.860, -	24,0
	0,68	1,89		1LA7 107-1TD ..	2.020, -	27,0
	0,81	2,7	112 M	1LA7 113-1TD ..	2.180, -	34,0
	1,08	3,5	132 S	1LA7 130-1TD ..	2.660, -	47,0
	1,53	4,85	132 M	1LA7 133-1TD ..	3.050, -	53,0
	2,25	6,5	160 M	1LA7 163-1TD ..	4.110, -	73,0
	3,35	10,8	160 L	1LA7 166-1TD ..	5.190, -	98,0
	4,95	14,4	180 M	1LA5 183-1TD ..	6.570, -	125,0
	5,9	17,1	180 L	1LA5 186-1TD ..	7.820, -	139,0
	8,6	23,5	200 L	1LA5 207-1TD ..	9.550, -	184,0

750/ 1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,09	0,45	80 M	1LA7 080-0TB ..	1.110, -	10,0
	0,14	0,63		1LA7 083-0TB ..	1.160, -	11,4
	0,2	0,9	90 S	1LA7 090-0TB ..	1.180, -	14,6
	0,3	1,35	90 L	1LA7 096-0TB ..	1.320, -	17,9
	0,45	1,8	100 L	1LA7 106-0TB ..	1.600, -	24,0
	0,59	2,25		1LA7 107-0TB ..	1.860, -	27,0
	0,81	3,25	112 M	1LA7 113-0TB ..	2.260, -	34,0
	0,99	4,25	132 S	1LA7 130-0TB ..	2.790, -	47,0
	1,26	5,8	132 M	1LA7 133-0TB ..	3.180, -	53,0
	1,98	8,6	160 M	1LA7 163-0TB ..	3.840, -	73,0
	3	12,6	160 L	1LA7 166-0TB ..	4.650, -	98,0
	4,05	14,4	180 M	1LA5 183-0TB ..	5.570, -	125,0
	4,5	16,7	180 L	1LA5 186-0TB ..	6.620, -	139,0
	6,8	25	200 L	1LA5 207-0TB ..	8.630, -	184,0

The rated outputs and weights may change slightly after they have been checked.
Further electrical data can be calculated and supplied on receipt of order.

Order No. supplements

Motor type	Penultimate place: Voltage code			Last place: Type of construction code For other types of construction, please refer to Page 9/9.							
	50 Hz, direct-on-line starting			IM B 3	at additional charge, please refer to Page 9/9.						
	230 V	400 V	500 V		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA7 080 to 1LA7 166	1	6	5	0	1	1	4	6	2	7	3
1LA5 183 to 1LA5 207	1	6	5	0	1	1	4	6	-	-	-

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

Smoke-extraction motors

Forced-air cooled, for temperature/time classes F200, F300 – Aluminum series 1PP7/5, cast-iron series 1PP6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days	20 working days	On request

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	0,75	80 M	1PP7 080-2TA ..	757, -
	1,1		1PP7 083-2TA ..	808, -
	1,5	90 S	1PP7 090-2TA ..	912, -
	2,2	90 L	1PP7 096-2TA ..	1.050, -
	3	100 L	1PP7 106-2TA ..	1.200, -
	4	112 M	1PP7 113-2TA ..	1.390, -
	5,5	132 S	1PP7 130-2TA ..	1.790, -
	7,5		1PP7 131-2TA ..	2.130, -
	11	160 M	1PP7 163-2TA ..	2.930, -
	15	160 M	1PP7 164-2TA ..	3.550, -
	18,5	160 L	1PP7 166-2TA ..	4.080, -
	22	180 M	1PP5 183-2TA ..	5.020, -
	30	200 L	1PP5 206-2TA ..	6.500, -
	37		1PP5 207-2TA ..	8.070, -
	45	225 M	1PP5 223-2TA ..	10.000, -
	55	250 M	1PP6 253-2TB ..	11.800, -
	75	280 S	1PP6 280-2TB ..	15.100, -
	90	280 M	1PP6 283-2TB ..	18.300, -
	110	315 S	1PP6 310-2TB ..	21.900, -
	132	315 M	1PP6 313-2TB ..	25.300, -
	160	315 L	1PP6 316-2TB ..	30.600, -
	200	315 L	1PP6 317-2TB ..	39.100, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	0,55	80 M	1PP7 080-4TA ..	742, -
	0,75		1PP7 083-4TA ..	774, -
	1,1	90 S	1PP7 090-4TA ..	856, -
	1,5	90 L	1PP7 096-4TA ..	943, -
	2,2	100 L	1PP7 106-4TA ..	1.090, -
	3		1PP7 107-4TA ..	1.230, -
	4	112 M	1PP7 113-4TA ..	1.440, -
	5,5	132 S	1PP7 130-4TA ..	1.810, -
	7,5	132 M	1PP7 133-4TA ..	2.170, -
	11	160 M	1PP7 163-4TA ..	2.950, -
	15	160 L	1PP7 166-4TA ..	3.650, -
	18,5	180 M	1PP5 183-4TA ..	4.490, -
	22	180 L	1PP5 186-4TA ..	5.110, -
	30	200 L	1PP5 207-4TA ..	6.660, -
	37	225 S	1PP5 220-4TA ..	8.290, -
	45	225 M	1PP5 223-4TA ..	9.750, -
	55	250 M	1PP6 253-4TA ..	11.800, -
	75	280 S	1PP6 280-4TA ..	14.600, -
	90	280 M	1PP6 283-4TA ..	17.300, -
	110	315 S	1PP6 310-4TA ..	19.900, -
	132	315 M	1PP6 313-4TA ..	25.100, -
	160	315 L	1PP6 316-4TA ..	30.700, -
	200	315 L	1PP6 317-4TA ..	38.300, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	0,37	80 M	1PP7 080-6TA ..	757, -
	0,55		1PP7 083-6TA ..	813, -
	0,75	90 S	1PP7 090-6TA ..	902, -
	1,1	90 L	1PP7 096-6TA ..	1.010, -
	1,5	100 L	1PP7 106-6TA ..	1.140, -
	2,2	112 M	1PP7 113-6TA ..	1.340, -
	3	132 S	1PP7 130-6TA ..	1.700, -
	4	132 M	1PP7 133-6TA ..	1.990, -
	5,5	132 M	1PP7 134-6TA ..	2.380, -
	7,5	160 M	1PP7 163-6TA ..	3.110, -
	11	160 L	1PP7 166-6TA ..	3.930, -
	15	180 L	1PP5 186-6TA ..	5.280, -
	18,5	200 L	1PP5 206-6TA ..	6.400, -
	22		1PP5 207-6TA ..	7.330, -
	30	225 M	1PP5 223-6TA ..	10.100, -
	37	250 M	1PP6 253-6TA ..	11.900, -
	45	280 S	1PP6 280-6TA ..	14.800, -
	55	280 M	1PP6 283-6TA ..	17.700, -
	75	315 S	1PP6 310-6TA ..	21.600, -
	90	315 M	1PP6 313-6TA ..	24.600, -
	110	315 L	1PP6 316-6TA ..	29.200, -
	132	315 L	1PP6 317-6TA ..	33.600, -
	160	315 L	1PP6 318-6TA ..	41.200, -

Force ventilated (surface cooled) motors without external fan and fan cover; the motors are in the air stream of the ventilator and are ventilated sufficiently at operation under normal conditions.

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Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 9/9.						
	50 Hz				IM B 3	at additional charge, please refer to Page 9/9.					
	230 V∆ 400 VY	400 V∆ 690 VY	500 VY	500 V∆		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP7 080 to 1PP7 096	1	6	3	-	0	1	1	6	2	7	3
1PP7 106 to 1PP7 166	1	6	3	5	0	1	1	6	2	7	3
1PP5 183 and 1PP5 223	1	6	3	5	0	1	1	6	-	-	-
1PP6 253 to 1PP6 313	1	6	3	5	0	1	1	6	-	-	-
1PP6 316 to 1PP6 318	-	6	-	5	0	-	8	6	-	-	-

Order codes and additonal charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Forced-air cooled, for temperature/time classes F200, F300 – Aluminum series 1PP7/5, cast-iron series 1PP6

Selection and ordering data

1500/ 3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,14	0,63	80 M	1PP7 080-0TA ..	1.160, -	10,6
	0,23	0,86		1PP7 083-0TA ..	1.290, -	12,0
	0,3	1,26	90 S	1PP7 090-0TA ..	1.410, -	14,0
	0,45	1,8	90 L	1PP7 096-0TA ..	1.540, -	17,3
	0,59	2,25	100 L	1PP7 106-0TA ..	1.660, -	23,0
	0,72	2,8		1PP7 107-0TA ..	1.910, -	26,0
	0,99	3,95	112 M	1PP7 113-0TA ..	2.200, -	33,0
	1,3	5,3	132 S	1PP7 130-0TA ..	2.670, -	46,0
	1,8	7,2	132 M	1PP7 133-0TA ..	3.160, -	52,0
	2,6	10,4	160 M	1PP7 163-0TA ..	3.840, -	70,0
	3,85	15,3	160 L	1PP7 166-0TA ..	4.980, -	101,0

1000/ 1500 rpm 6/4-pole	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · with two windings	0,11	0,36	80 M	1PP7 080-1TD ..	1.220, -	9,6
	0,16	0,5		1PP7 083-1TD ..	1.320, -	11,0
	0,26	0,72	90 S	1PP7 090-1TD ..	1.460, -	14,0
	0,34	0,99	90 L	1PP7 096-1TD ..	1.580, -	17,3
	0,54	1,53	100 L	1PP7 106-1TD ..	1.780, -	23,0
	0,68	1,89		1PP7 107-1TD ..	1.910, -	26,0
	0,81	2,7	112 M	1PP7 113-1TD ..	2.080, -	33,0
	1,08	3,5	132 S	1PP7 130-1TD ..	2.530, -	46,0
	1,53	4,85	132 M	1PP7 133-1TD ..	2.910, -	52,0
	2,25	6,5	160 M	1PP7 163-1TD ..	3.920, -	70,0
	3,35	10,8	160 L	1PP7 166-1TD ..	4.940, -	95,0
	4,95	14,4	180 M	1PP5 183-1TD ..	6.240, -	116,0
	5,9	17,1	180 L	1PP5 186-1TD ..	7.440, -	130,0
	8,6	23,5	200 L	1PP5 207-1TD ..	9.100, -	173,0

750/ 1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,09	0,45	80 M	1PP7 080-0TB ..	1.060, -	9,6
	0,14	0,63		1PP7 083-0TB ..	1.100, -	11,0
	0,2	0,9	90 S	1PP7 090-0TB ..	1.120, -	14,0
	0,3	1,35	90 L	1PP7 096-0TB ..	1.260, -	17,3
	0,45	1,8	100 L	1PP7 106-0TB ..	1.500, -	23,0
	0,59	2,25		1PP7 107-0TB ..	1.780, -	26,0
	0,81	3,25	112 M	1PP7 113-0TB ..	2.150, -	33,0
	0,99	4,25	132 S	1PP7 130-0TB ..	2.660, -	46,0
	1,26	5,8	132 M	1PP7 133-0TB ..	3.030, -	52,0
	1,98	8,6	160 M	1PP7 163-0TB ..	3.660, -	70,0
	3	12,6	160 L	1PP7 166-0TB ..	4.430, -	95,0
	4,05	14,4	180 M	1PP5 183-0TB ..	5.300, -	116,0
	4,5	16,7	180 L	1PP5 186-0TB ..	6.320, -	130,0
	6,8	25	200 L	1PP5 207-0TB ..	8.200, -	173,0

The rated outputs and weights may change slightly after they have been checked.
Further electrical data can be calculated and supplied on receipt of order.

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Order No. supplements

Motor type	Penultimate place: Voltage code			Last place: Type of construction code For other types of construction, please refer to Page 9/9.						
	50 Hz, direct-on-line starting			IM B 3	at additional charge, please refer to Page 9/9.					
	230 V	400 V	500 V		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP7 080 to 1PP7 166	1	6	5	0	1	1	6	2	7	3
1PP5 183 to 1PP5 207	1	6	5	0	1	1	6	-	-	-

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

Smoke-extraction motors

Self-ventilated, for temperature/time class F400 – Cast-iron series 1LA6, 1LG6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	3	100 L	1LA6 106-2UA ..	2.510, -
	4	112 M	1LA6 113-2UA ..	3.070, -
	5,5	132 S	1LA6 130-2UA ..	3.780, -
	7,5		1LA6 131-2UA ..	4.340, -
	11	160 M	1LA6 163-2UA ..	5.170, -
	15	160 M	1LA6 164-2UA ..	6.130, -
	18,5	160 L	1LA6 166-2UA ..	6.980, -
	22	180 M	1LG6 183-2UA ..	7.940, -
	30	200 L	1LG6 206-2UA ..	10.400, -
	37		1LG6 207-2UA ..	12.700, -
	45	225 M	1LG6 223-2UA ..	14.300, -
	55	250 M	1LG6 253-2UA ..	16.800, -
	75	280 S	1LG6 280-2UB ..	21.000, -
	90	280 M	1LG6 283-2UB ..	25.100, -
	110	315 S	1LG6 310-2UB ..	29.500, -
	132	315 M	1LG6 313-2UB ..	34.800, -
	160	315 L	1LG6 316-2UB ..	43.400, -
	190	315 L	1LG6 317-2UB ..	54.000, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	2,2	100 L	1LA6 106-4UA ..	2.290, -
	3		1LA6 107-4UA ..	2.510, -
	4	112 M	1LA6 113-4UA ..	3.070, -
	5,5	132 S	1LA6 130-4UA ..	3.610, -
	7,5	132 M	1LA6 133-4UA ..	4.460, -
	11	160 M	1LA6 163-4UA ..	5.290, -
	15	160 L	1LA6 166-4UA ..	5.990, -
	18,5	180 M	1LG6 183-4UA ..	6.410, -
	22	180 L	1LG6 186-4UA ..	7.110, -
	30	200 L	1LG6 207-4UA ..	8.790, -
	37	225 S	1LG6 220-4UA ..	10.400, -
	45	225 M	1LG6 223-4UA ..	12.600, -
	55	250 M	1LG6 253-4UA ..	14.900, -
	75	280 S	1LG6 280-4UA ..	19.200, -
	90	280 M	1LG6 283-4UA ..	22.600, -
	110	315 S	1LG6 310-4UA ..	27.800, -
	132	315 M	1LG6 313-4UA ..	33.400, -
	160	315 L	1LG6 316-4UA ..	38.300, -
	200	315 L	1LG6 317-4UA ..	47.200, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	1,5	100 L	1LA6 106-6UA ..	2.650, -
	2,2	112 M	1LA6 113-6UA ..	3.210, -
	3	132 S	1LA6 130-6UA ..	3.780, -
	4	132 M	1LA6 133-6UA ..	4.340, -
	5,5	132 M	1LA6 134-6UA ..	4.740, -
	7,5	160 M	1LA6 163-6UA ..	5.570, -
	11	160 L	1LA6 166-6UA ..	6.410, -
	15	180 L	1LG6 186-6UA ..	7.510, -
	18,5	200 L	1LG6 206-6UA ..	9.070, -
	22		1LG6 207-6UA ..	10.300, -
	30	225 M	1LG6 223-6UA ..	13.900, -
	37	250 M	1LG6 253-6UA ..	15.900, -
	45	280 S	1LG6 280-6UA ..	19.600, -
	55	280 M	1LG6 283-6UA ..	23.200, -
	75	315 S	1LG6 310-6UA ..	30.000, -
	90	315 M	1LG6 313-6UA ..	35.900, -
	110	315 L	1LG6 316-6UA ..	41.200, -
	132	315 L	1LG6 317-6UA ..	48.500, -
	160	315 L	1LG6 318-6UA ..	58.500, -

Surface ventilated motors with external fan and fan cover.

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Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 9/10.							
	50 Hz				IM B 3	at additional charge, please refer to Page 9/10.						
	230 V∆ 400 VY	400 V∆ 690 VY	500 VY	500 V∆		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA6 106 to 1LA6 166	1	6	3	5	0	1	1	4	6	2	7	3
1LG6 183 to 1LG6 313	1	6	3	5	0	1	1	4	6	-	-	-
1LG6 316 to 1LG6 318	-	6	-	5	0	-	8	4	6	-	-	-

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Self-ventilated, for temperature/time class F400 – Cast-iron series 1LA6, 1LG6

Selection and ordering data

1500/3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,52	2	100 L	1LA6 106-0UA ..	2.530, -	32,0
	0,64	2,5		1LA6 107-0UA ..	2.770, -	35,0
	0,88	3,5	112 M	1LA6 113-0UA ..	3.320, -	43,0
	1,16	4,7	132 S	1LA6 130-0UA ..	3.800, -	53,0
	1,6	6,4	132 M	1LA6 133-0UA ..	4.710, -	60,0
	2,3	9,2	160 M	1LA6 163-0UA ..	5.550, -	97,0
	3,45	13,6	160 L	1LA6 166-0UA ..	6.390, -	110,0

1000/1500 rpm 6/4-pole	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · with two windings	0,48	1,36	100 L	1LA6 106-1UD ..	2.780, -	32,0
	0,6	1,68		1LA6 107-1UD ..	3.060, -	35,0
	0,72	2,4	112 M	1LA6 113-1UD ..	3.660, -	43,0
	0,96	3,1	132 S	1LA6 130-1UD ..	4.180, -	53,0
	1,36	4,3	132 M	1LA6 133-1UD ..	5.180, -	60,0
	2	5,75	160 M	1LA6 163-1UD ..	6.100, -	97,0
	2,95	9,6	160 L	1LA6 166-1UD ..	7.030, -	110,0

750/1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,3	1,6	100 L	1LA6 106-0UB ..	2.530, -	32,0
	0,52	2		1LA6 107-0UB ..	2.770, -	35,0
	0,72	2,85	112 M	1LA6 113-0UB ..	3.320, -	43,0
	0,88	3,75	132 S	1LA6 130-0UB ..	3.800, -	53,0
	1,12	5,1	132 M	1LA6 133-0UB ..	4.710, -	60,0
	1,76	7,6	160 M	1LA6 163-0UB ..	5.550, -	97,0
	2,6	11,2	160 L	1LA6 166-0UB ..	6.390, -	110,0

The rated outputs and weights may change slightly after they have been checked.
Further electrical data can be calculated and supplied on receipt of order.

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Order No. supplements

Motor type	Penultimate place: Voltage code			Last place: Type of construction code For other types of construction, please refer to Page 9/10.							
	50 Hz, direct-on-line starting			IM B 3	at additional charge, please refer to Page 9/10.						
	230 V	400 V	500 V		IM B 5	IM V 1 without protective cover	IM V 1 with protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1LA6 106 to 1LA6 166	1	6	5	0	1	1	4	6	2	7	3

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

Smoke-extraction motors

Forced-air cooled, for temperature/time class F400 – Cast-iron series 1PP6

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Selection and ordering data

3000 rpm 2-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	3	100 L	1PP6 106-2UA ..	2.380, -
	4	112 M	1PP6 113-2UA ..	2.920, -
	5,5	132 S	1PP6 130-2UA ..	3.580, -
	7,5		1PP6 131-2UA ..	4.120, -
	11	160 M	1PP6 163-2UA ..	4.910, -
	15	160 M	1PP6 164-2UA ..	5.840, -
	18,5	160 L	1PP6 166-2UA ..	6.640, -
	22	180 M	1PP6 183-2UA ..	7.560, -
	30	200 L	1PP6 206-2UA ..	9.950, -
	37		1PP6 207-2UA ..	11.900, -
	45	225 M	1PP6 223-2UA ..	13.800, -
	55	250 M	1PP6 253-2UA ..	15.900, -
	75	280 S	1PP6 280-2UB ..	19.900, -
	90	280 M	1PP6 283-2UB ..	23.800, -
	110	315 S	1PP6 310-2UB ..	27.800, -
	132	315 M	1PP6 313-2UB ..	33.300, -
	160	315 L	1PP6 316-2UB ..	41.200, -
	190	315 L	1PP6 317-2UB ..	51.600, -

1500 rpm 4-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	2,2	100 L	1PP6 106-4UA ..	2.190, -
	3		1PP6 107-4UA ..	2.380, -
	4	112 M	1PP6 113-4UA ..	2.920, -
	5,5	132 S	1PP6 130-4UA ..	3.450, -
	7,5	132 M	1PP6 133-4UA ..	4.250, -
	11	160 M	1PP6 163-4UA ..	5.040, -
	15		1PP6 166-4UA ..	5.700, -
	18,5	180 M	1PP6 183-4UA ..	6.110, -
	22	180 L	1PP6 186-4UA ..	6.760, -
	30	200 L	1PP6 207-4UA ..	8.370, -
	37	225 S	1PP6 220-4UA ..	9.950, -
	45	225 M	1PP6 223-4UA ..	11.800, -
	55	250 M	1PP6 253-4UA ..	14.300, -
	75	280 S	1PP6 280-4UA ..	18.300, -
	90	280 M	1PP6 283-4UA ..	21.600, -
	110	315 S	1PP6 310-4UA ..	26.500, -
	132	315 M	1PP6 313-4UA ..	31.600, -
	160	315 L	1PP6 316-4UA ..	36.500, -
	200	315 L	1PP6 317-4UA ..	44.900, -

1000 rpm 6-pole	Rated output kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR
· degree of protection IP 55 · 50 Hz	1,5	100 L	1PP6 106-6UA ..	2.530, -
	2,2	112 M	1PP6 113-6UA ..	3.060, -
	3	132 S	1PP6 130-6UA ..	3.580, -
	4	132 M	1PP6 133-6UA ..	4.120, -
	5,5	132 M	1PP6 134-6UA ..	4.510, -
	7,5	160 M	1PP6 163-6UA ..	5.300, -
	11	160 L	1PP6 166-6UA ..	6.110, -
	15	180 L	1PP6 186-6UA ..	7.150, -
	18,5	200 L	1PP6 206-6UA ..	8.620, -
	22		1PP6 207-6UA ..	9.820, -
	30	225 M	1PP6 223-6UA ..	13.200, -
	37	250 M	1PP6 253-6UA ..	15.200, -
	45	280 S	1PP6 280-6UA ..	18.600, -
	55	280 M	1PP6 283-6UA ..	22.100, -
	75	315 S	1PP6 310-6UA ..	28.500, -
	90	315 M	1PP6 313-6UA ..	34.300, -
	110	315 L	1PP6 316-6UA ..	39.100, -
	132	315 L	1PP6 317-6UA ..	46.300, -
	160	315 L	1PP6 318-6UA ..	55.700, -

Force ventilated (surface cooled) motors without external fan and fan cover; the motors are in the air stream of the ventilator and are ventilated sufficiently at operation under normal conditions.

9

Order No. supplements

Motor type	Penultimate place: Voltage code				Last place: Type of construction code For other types of construction, please refer to Page 9/10.						
	50 Hz				IM B 3	at additional charge, please refer to Page 9/10.					
	230 V∆ 400 VY	400 V∆ 690 VY	500 VY	500 V∆		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP6 106 to 1PP6 166	1	6	3	5	0	1	1	6	2	7	3
1PP6 183 to 1PP6 313	1	6	3	5	0	1	1	6	-	-	-
1PP6 316 to 1PP6 318	-	6	-	5	0	-	8	6	-	-	-

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Forced-air cooled, for temperature/time class F400 – Cast-iron series 1PP6

Selection and ordering data

1500/3000 rpm 4/2-pole	Rated output 1500 rpm kW	Rated output 3000 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,52	2	100 L	1PP6 106-0UA ..	2.410, -	31,0
	0,64	2,5		1PP6 107-0UA ..	2.650, -	34,0
	0,88	3,5	112 M	1PP6 113-0UA ..	3.130, -	42,0
	1,16	4,7	132 S	1PP6 130-0UA ..	3.610, -	51,0
	1,6	6,4	132 M	1PP6 133-0UA ..	4.470, -	58,0
	2,3	9,2	160 M	1PP6 163-0UA ..	5.300, -	95,0
	3,45	13,6	160 L	1PP6 166-0UA ..	6.090, -	108,0

1000/1500 rpm 6/4-pole	Rated output 1000 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · with two windings	0,48	1,36	100 L	1PP6 106-1UD ..	2.650, -	31,0
	0,6	1,68		1PP6 107-1UD ..	2.910, -	34,0
	0,72	2,4	112 M	1PP6 113-1UD ..	3.450, -	42,0
	0,96	3,1	132 S	1PP6 130-1UD ..	3.990, -	51,0
	1,36	4,3	132 M	1PP6 133-1UD ..	4.910, -	58,0
	2	5,75	160 M	1PP6 163-1UD ..	5.840, -	95,0
	2,95	9,6	160 L	1PP6 166-1UD ..	6.700, -	108,0

750/1500 rpm 8/4-pole	Rated output 750 rpm kW	Rated output 1500 rpm kW	Frame size	Order No.	Price plus MS for type of constr. IM B 3 EUR	weight kg
· Degree of protection IP 55 · 50 Hz · double pole-changing · single Dahlander circuit winding	0,3	1,6	100 L	1PP6 106-0UB ..	2.410, -	31,0
	0,52	2		1PP6 107-0UB ..	2.650, -	34,0
	0,72	2,85	112 M	1PP6 113-0UB ..	3.130, -	42,0
	0,88	3,75	132 S	1PP6 130-0UB ..	3.610, -	51,0
	1,12	5,1	132 M	1PP6 133-0UB ..	4.470, -	58,0
	1,76	7,6	160 M	1PP6 163-0UB ..	5.300, -	95,0
	2,6	11,2	160 L	1PP6 166-0UB ..	6.090, -	108,0

The rated outputs and weights may change slightly after they have been checked.
Further electrical data can be calculated and supplied on receipt of order.

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Order No. supplements

Motor type	Penultimate place: Voltage code			Last place: Type of construction code For other types of construction, please refer to Page 9/10.						
	50 Hz, direct-on-line starting			IM B 3	at additional charge, please refer to Page 9/10.					
	230 V	400 V	500 V		IM B 5	IM V 1 without protective cover	IM B 35	IM B 14 with standard flange	IM B 34 with standard flange	IM B 14 with special flange
1PP6 106 to 1PP6 166	1	6	5	0	1	1	6	2	7	3

Order codes and additional charges, please refer to Page 9/8. Other voltages with voltage code '9 L1Y'.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for other rated voltages

	Type of voltage code	Order code	Additional charge plus MS EUR 1LA7						1LA5		
			Frame size								
	11th position		80	90	100	112	132	160	180	200	225
Plain-text required (non-standard winding) 1)	9	L1Y	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -	406, -

	Type of voltage code	Order code	Additional charge plus MS EUR 1PP7						1PP5		
			Frame size								
	11th position		80	90	100	112	132	160	180	200	225
Plain-text required (non-standard winding) 1)	9	L1Y	62,50	73,40	90,70	110, -	140, -	174, -	225, -	274, -	406, -

	Type of voltage code	Order code	Additional charge plus MS EUR 1LA6				1LG6					
			Frame size									
	11th position		100	112	132	160	180	200	225	250	280	315
Plain-text required (non-standard winding) 1)	9	L1Y	90,70	110, -	140, -	174, -	225, -	274, -	406, -	511, -	654, -	850, -

	Type of voltage code	Order code	Additional charge plus MS EUR 1PP6									
			Frame size									
	11th position		100	112	132	160	180	200	225	250	280	315
Plain-text required (non-standard winding) 1)	9	L1Y	90,70	110, -	140, -	174, -	225, -	274, -	406, -	511, -	654, -	850, -

1) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for all types of construction

	Construct. code		Additional charge plus MS EUR								
			1LA7						1LA5		
	12th pos.	Order code	Frame size								
			80	90	100	112	132	160	180	200	225
Without flange:											
IM B 3	0	-	■	■	■	■	■	■	■ 1)	■ 1)	■ 1)
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■ 1)	■ 1)	■ 1)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF165 A 200**	**FF165 A 200**	**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**	**FF300 A 350**	**FF350 A 400**	**FF400 A 450**
IM B 5, IM V 1 without cover	1 2)	-	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -	354, -
IM V 1 with cover	4 2) 3)	-	93,20	111, -	129, -	154, -	199, -	268, -	386, -	515, -	677, -
IM V 3	1	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
	9	M1G	–	–	–	–	–	–	226, -	274, -	354, -
IM B 35	6	-	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -	592, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT100 C 120**	**FT115 C 140**	**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**			
IM B 14, IM V 18 without cover, IM V 19	2	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM B 34	7	-	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**			
IM B 14, IM V 18 without cover, IM V 19	3	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM B 34	9	M2C	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–

	Construct. code		Additional charge plus MS EUR								
			1PP7						1PP5		
	12th pos.	Order code	Frame size								
			80	90	100	112	132	160	180	200	225
Without flange:											
IM B 3	0	-	■	■	■	■	■	■	■ 1)	■ 1)	■ 1)
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■ 1)	■ 1)	■ 1)
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF165 A 200**	**FF165 A 200**	**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**	**FF300 A 350**	**FF350 A 400**	**FF400 A 450**
IM B 5, IM V 1 without cover	1 2)	-	45,90	55,10	68,30	84,80	110, -	143, -	226, -	274, -	354, -
IM V 3	1	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
	9	M1G	–	–	–	–	–	–	226, -	274, -	354, -
IM B 35	6	-	61,60	70,50	84,80	111, -	139, -	201, -	305, -	401, -	592, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT100 C 120**	**FT115 C 140**	**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**			
IM B 14, IM V 18 without cover, IM V 19	2	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM B 34	7	-	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**			
IM B 14, IM V 18 without cover, IM V 19	3	-	45,90	55,10	68,30	84,80	110, -	143, -	–	–	–
IM B 34	9	M2C	61,60	70,50	84,80	111, -	139, -	201, -	–	–	–

■ Standard design

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

1) When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.
2) Motor frame sizes 180 M to 225 M can be supplied with two additional eyebolts; state identification code '-Z' and order code 'K32'.
3) The 'second shaft extension' option (order code K16) is not possible.

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Smoke-extraction motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Order codes for all types of construction

	Construct. code		Additional charge plus MS EUR										
			1LA6				1LG6						
	12th pos.	Order code	Frame size										
			100	112	132	160	180	200	225	250	280	315 S/M	315 L
Without flange:													
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■	■	■	■	■
IM V 5 without cover*	0	-	■	■	■	■	■	■	■	■	■	■	–
IM V 6 *	0	-	■	■	■	■	■	■	■	■	■	■	–
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**	**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A 660**
IM B 5, IM V 1 without cover	1 [1]	-	68,30	84,80	110, -	143, -	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	8	-	–	–	–	–	–	–	–	–	–	–	1.270, - [2]
			–	–	–	–	–	–	–	–	–	–	882, - [3]
IM V 1 with cover	4 [1] [4]	-	129, -	154, -	199, -	268, -	386, -	515, -	677, -	835, -	1.100, -	1.530, -	
													1.900, - [2]
													1.530, - [3]
IM V 3	1 [1]	-	68,30	84,80	110, -	143, -	–	–	–	–	–	–	–
	9	M1G	–	–	–	–	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	84,80	111, -	139, -	201, -	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**							
IM B 14, IM V 18 without cover, IM V 19	2	-	68,30	84,80	110, -	143, -	–	–	–	–	–	–	–
IM B 34	7	-	84,80	111, -	139, -	201, -	–	–	–	–	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**							
IM B 14, IM V 18 without cover, IM V 19	3	-	68,30	84,80	110, -	143, -	–	–	–	–	–	–	–
IM B 34	9	M2C	84,80	111, -	139, -	201, -	–	–	–	–	–	–	–

	Construct. code		Additional charge plus MS EUR										
			1PP6										
	12th pos.	Order code	Frame size										
			100	112	132	160	180	200	225	250	280	315 S/M	315 L
Without flange:													
IM B 3	0	-	■	■	■	■	■	■	■	■	■	■	■
IM B 6 *, IM B 7 *, IM B 8	0	-	■	■	■	■	■	■	■	■	■	■	■
IM V 5 without cover*	0	-	■	■	■	■	■	■	■	■	■	■	–
IM V 6 *	0	-	■	■	■	■	■	■	■	■	■	■	–
With flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FF215 A 250**	**FF215 A 250**	**FF265 A 300**	**FF300 A 350**	**FF300 A 350**	**FF350 A 400**	**FF400 A 450**	**FF500 A 550**	**FF500 A 550**	**FF600 A 660**	**- A 660**
IM B 5, IM V 1 without cover	1 [1]	-	68,30	84,80	110, -	143, -	226, -	274, -	354, -	426, -	620, -	882, -	–
IM V 1 without cover	8	-	–	–	–	–	–	–	–	–	–	–	1.270, - [2]
			–	–	–	–	–	–	–	–	–	–	882, - [3]
IM V 3	1 [1]	-	68,30	84,80	110, -	143, -	–	–	–	–	–	–	–
	9	M1G	–	–	–	–	226, -	274, -	354, -	426, -	620, -	882, -	–
IM B 35	6	-	84,80	111, -	139, -	201, -	305, -	401, -	592, -	807, -	1.050, -	1.380, -	1.380, -
With standard flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT130 C 160**	**FT130 C 160**	**FT165 C 200**	**FT215 C 250**							
IM B 14, IM V 18 without cover, IM V 19	2	-	68,30	84,80	110, -	143, -	–	–	–	–	–	–	–
IM B 34	7	-	84,80	111, -	139, -	201, -	–	–	–	–	–	–	–
With special flange:	acc. to DIN EN 50347 acc. to DIN 42 948		**FT165 C 200**	**FT165 C 200**	**FT215 C 250**	**FT265 C 300**							
IM B 14, IM V 18 without cover, IM V 19	3	-	68,30	84,80	110, -	143, -	–	–	–	–	–	–	–
IM B 34	9	M2C	84,80	111, -	139, -	201, -	–	–	–	–	–	–	–

■ Standard design

The type of construction supplement '9' must be stated in the order code.
When the 12th position of the Order No. is the same as the basic type of construction then the basic form will be stated on the rating plate.

* When foot-mounting motors are wall-mounted, it is advisable to provide extra bracing of the motor feet.

1) Motors frame size 225 up to frame size 315 L are supplied with two bolted eyebolts in accordance to IM B 5; one of there can be repositioned in accordance to IM V 1 or IM V 3. Care must be taken to avoid stress perpendicular to the eyebolt.

2) For 2-pole motors; 60-Hz design on request.

3) For 4- to 8-pole motors.

4) The 'second shaft extension' option (order code K16) is not possible.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Order codes for special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
					1LA7 (aluminum) temperature/time classes F200 and F300						**1LA5 (aluminum) temperature/time classes F200 and F300**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**				127,–	127,–	127,–	127,–	190,–	190,–	275,–	275,–	306,–			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**				251,–	251,–	251,–	251,–	339,–	339,–	501,–	501,–	530,–			
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**				111,–	111,–	111,–	111,–	175,–	175,–	424,–	424,–	557,–			
Installation of 3 PT 100 resistance thermometers [1]	**A60**				–	–	–	–	–	–	–	–	1.270,–			
Motor connection and connection boxes																
External earthing	**L13**				20,10	20,10	24,30	24,30	24,30	24,30	31,10	31,10	31,10			
Protruding cable ends - right side [2]	**L51**				30,20	34,–	87,70	O	O	O	O	O	O			
Protruding cable ends - left side [2]	**L52**				30,20	34,–	87,70	O	O	O	O	O	O			
Colors and paint finish																
Special finish in RAL 7030 stone gray					□	□	□	□	□	□	□	□	□			
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….				51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–	294,–			
Sea-air proof special finish	**M94**				O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Unpainted (only cast iron parts primed)	**K23**				O	O	O	O	O	O	O	O	O			
Unpainted, only primed	**K24**				17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90	69,90			
Mechanical design and degrees of protection																
With two additional eyebolts for IM V1/IM V3	**K32**				–	–	–	–	–	–	100,–	100,–	100,–			
IP65 degree of protection	**K50**				126,–	126,–	126,–	126,–	126,–	189,–	521,–	572,–	606,–			
Condensation drainage holes [3]	**L12**				56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–	107,–			
Non-rusting screws (externally)	**M27**				56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–	143,–			

For legend and footnotes, see Page 9/12.

Smoke-extraction motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
					1LA7 (aluminum) temperature/time classes F200 and F300						**1LA5 (aluminum) temperature/time classes F200 and F300**					
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**				–	–	216,–	242,–	267,–	293,–	316,–	342,–	368,–			
Regreasing device	**K40**				–	–	267,–	273,–	281,–	305,–	321,–	362,–	401,–			
Balance and vibration quantity																
Vibration quantity level A					□	□	□	□	□	□	□	□	□			
Vibration quantity level B	**K02**				214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–	755,–			
Full key balancing	**L68**				80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–	175,–			
Balancing without key	**M37**				18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70	49,70			
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**				336,–	336,–	375,–	404,–	438,–	487,–	536,–	589,–	666,–			
Anti-condensation heaters for 115 V	**K46**				336,–	336,–	375,–	404,–	438,–	487,–	536,–	589,–	666,–			
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**				–	–	17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Second rating plate, loose (standard version)					□	□	□	□	□	□	□	□	□			
Extra rating plate with identification code	**Y82** • and identification code				34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code				34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**				24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10			
Operating instructions German/English enclosed in print	**B23**				54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–			
Type test with heat run for vertical motors, with acceptance	**F83**				4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Wire-lattice pallet	**L99**				O	O	O	O	O	O	O	–	–			

□ Standard version
O Without additional charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

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1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. Double the number of temperature sensors are required for pole-changing motors with separate windings. (Order code A11, price of A12 or order code A12, prices on request).

2) No additional charge with types of construction without feet: IM B5, IM V1, IM V3.

3) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
							1LA6 (cast-iron) temperature/time class F400				**1LG6 (cast-iron) temperature/time classes F200, F300 and F400**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**						127,–	127,–	190,–	190,–	275,–	275,–	306,–	359,–	359,–	359,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**						251,–	251,–	339,–	339,–	501,–	501,–	530,–	635,–	635,–	635,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**						111,–	111,–	175,–	175,–	424,–	424,–	557,–	557,–	557,–	912,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**						–	–	–	–	1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**						–	–	–	–	–	–	–	2.700,–	2.700,–	2.700,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**						–	–	–	–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**						–	–	–	–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Motor connection and connection boxes																
External earthing	**L13**						24,30	24,30	24,30	24,30	□	□	□	□	□	□
Protruding cable ends - right side [2]	**L51**						87,70	O	O	O	279,–	374,–	431,–	739,–	1.020,–	1.310,–
Protruding cable ends - left side [2]	**L52**						87,70	O	O	O	279,–	374,–	431,–	739,–	1.020,–	1.310,–
Colors and paint finish																
Special finish in RAL 7030 stone gray							□	□	□	□	□	□	□	□	□	□
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….						86,70	86,70	113,–	113,–	159,–	198,–	294,–	356,–	438,–	563,–
Off-shore special finish	**M91**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**						O	O	O	O	O	O	O	O	O	O
Unpainted, only primed	**K24**						23,30	23,30	37,20	37,20	69,90	69,90	69,90	69,90	69,90	69,90
Mechanical design and degrees of protection																
IP65 degree of protection	**K50**						126,–	126,–	126,–	189,–	521,–	572,–	606,–	775,–	882,–	998,–
Condensation drainage holes [3]	**L12**						69,40	75,70	82,10	88,30	□	□	□	□	□	□
Non-rusting screws (externally)	**M27**						69,40	69,40	82,10	82,10	94,80	107,–	143,–	170,–	177,–	235,–

For legend and footnotes, see Page 9/14.

Smoke-extraction motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
							1LA6 (cast-iron) temperature/time class F400				**1LG6 (cast-iron) temperature/time classes F200, F300 and F400**					
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						216,–	242,–	267,–	293,–	316,–	342,–	368,–	393,–	418,–	444,–
Regreasing device	**K40**						267,–	273,–	281,–	305,–	321,–	362,–	401,–	482,–	□	□
Balance and vibration quantity																
Vibration quantity level A							□	□	□	□	□	□	□	□	□	□
Vibration quantity level B	**K02**						238,–	275,–	351,–	435,–	497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**						93,20	93,20	108,–	108,–	136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**						23,80	23,80	28,10	28,10	36,70	36,70	49,70	49,70	60,50	70,20
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**						375,–	404,–	438,–	487,–	536,–	589,–	666,–	793,–	814,–	814,–
Anti-condensation heaters for 115 V	**K46**						375,–	404,–	438,–	487,–	536,–	589,–	666,–	793,–	814,–	814,–
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose (standard version)							□	□	□	□	□	□	□	□	□	□
Extra rating plate with identification code	**Y82** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**						24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**						54,–	54,–	54,–	54,–	–	–	–	–	–	–
Type test with heat run for vertical motors, with acceptance	**F83**						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Wire-lattice pallet	**L99**						○	○	○	○	–	–	–	–	–	–

□ Standard version
○ Without additional charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. For pole-changing motors with seperate windings, the number of temperature sensors must be doubled. (order code A11, price of A12 or order code A12, price available on request.)

2) No additional charge with types of construction without feet: IM B5, IM V1, IM V3.

3) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
					1PP7 (aluminum) temperature/time classes F200 and F300						**1PP5 (aluminum) temperature/time classes F200 and F300**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**				127,–	127,–	127,–	127,–	190,–	190,–	275,–	275,–	306,–			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**				251,–	251,–	251,–	251,–	339,–	339,–	501,–	501,–	530,–			
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**				111,–	111,–	111,–	111,–	175,–	175,–	424,–	424,–	557,–			
Installation of 3 PT 100 resistance thermometers [1]	**A60**				–	–	–	–	–	–	–	–	1.270,–			
Motor connection and connection boxes																
External earthing	**L13**				20,10	20,10	24,30	24,30	24,30	24,30	31,10	31,10	31,10			
Protruding cable ends - right side [2]	**L51**				30,20	34,–	87,70	O	O	O	O	O	O			
Protruding cable ends - left side [2]	**L52**				30,20	34,–	87,70	O	O	O	O	O	O			
Colors and paint finish																
Special finish in RAL 7030 stone gray					□	□	□	□	□	□	□	□	□			
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54 •** and special finish RAL ….				51,40	51,40	86,70	86,70	113,–	113,–	159,–	198,–	294,–			
Sea-air proof special finish	**M94**				O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Unpainted (only cast iron parts primed)	**K23**				O	O	O	O	O	O	O	O	O			
Unpainted, only primed	**K24**				17,50	23,30	23,30	23,30	37,20	37,20	69,90	69,90	69,90			
Mechanical design and degrees of protection																
With two additional eyebolts for IM V1/IM V3	**K32**				–	–	–	–	–	–	100,–	100,–	100,–			
IP65 degree of protection	**K50**				126,–	126,–	126,–	126,–	126,–	189,–	521,–	572,–	606,–			
Condensation drainage holes [3]	**L12**				56,80	63,30	69,40	75,70	82,10	88,30	94,80	101,–	107,–			
Non-rusting screws (externally)	**M27**				56,80	56,80	69,40	69,40	82,10	82,10	94,80	107,–	143,–			

Legende und Fußnoten siehe Seite 9/16.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
					1PP7 (aluminum) temperature/time classes F200 and F300						**1PP5 (aluminum) temperature/time classes F200 and F300**					
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**				–	–	216,–	242,–	267,–	293,–	316,–	342,–	368,–			
Regreasing device	**K40**				–	–	267,–	273,–	281,–	305,–	321,–	362,–	401,–			
Balance and vibration quantity																
Vibration quantity level A					□	□	□	□	□	□	□	□	□			
Vibration quantity level B	**K02**				214,–	227,–	238,–	275,–	351,–	435,–	497,–	558,–	755,–			
Full key balancing	**L68**				80,70	93,20	93,20	93,20	108,–	108,–	136,–	136,–	175,–			
Balancing without key	**M37**				18,40	18,40	23,80	23,80	28,10	28,10	36,70	36,70	49,70			
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**				336,–	336,–	375,–	404,–	438,–	487,–	536,–	589,–	666,–			
Anti-condensation heaters for 115 V	**K46**				336,–	336,–	375,–	404,–	438,–	487,–	536,–	589,–	666,–			
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**				–	–	17,70	17,70	17,70	17,70	56,80	56,80	56,80			
Second rating plate, loose (standard version)					□	□	□	□	□	□	□	□	□			
Extra rating plate with identification code	**Y82** • and identification code				34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code				34,90	34,90	34,90	34,90	34,90	34,90	58,20	58,20	58,20			
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**				24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10			
Operating instructions German/English enclosed in print	**B23**				54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–	54,–			
Type test with heat run for vertical motors, with acceptance	**F83**				4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Wire-lattice pallet	**L99**				O	O	O	O	O	O	O	–	–			

□ Standard version
O Without additional charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. Double the number of temperature sensors are required for pole-changing motors with separate windings. (Order code A11, price of A12 or order code A12, prices on request).

2) No additional charge with types of construction without feet: IM B5, IM V1, IM V3.

3) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

10 working days | **20 working days** | **On request** | Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
							1PP6 (cast-iron) temperature/time classes F200, F300 and F400									
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**						127,–	127,–	190,–	190,–	275,–	275,–	306,–	359,–	359,–	359,–
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**						251,–	251,–	339,–	339,–	501,–	501,–	530,–	635,–	635,–	635,–
Motor temperature detection with embedded temperature sensor KTY 84-130 [1]	**A23**						111,–	111,–	175,–	175,–	424,–	424,–	557,–	557,–	557,–	912,–
Installation of 3 PT 100 resistance thermometers [1]	**A60**						–	–	–	–	1.270,–	1.270,–	1.270,–	1.400,–	1.400,–	1.400,–
Installation of 6 PT 100 resistance thermometers in stator winding [1]	**A61**						–	–	–	–	–	–	–	2.700,–	2.700,–	2.700,–
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings [1]	**A72**						–	–	–	–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–	3.620,–
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings [1]	**A78**						–	–	–	–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–	3.970,–
Motor connection and connection boxes																
External earthing	**L13**						24,30	24,30	24,30	24,30	□	□	□	□	□	□
Protruding cable ends - right side [2]	**L51**						87,70	○	○	○	279,–	374,–	431,–	739,–	1.020,–	1.310,–
Protruding cable ends - left side [2]	**L52**						87,70	○	○	○	279,–	374,–	431,–	739,–	1.020,–	1.310,–
Colors and paint finish																
Special finish in RAL 7030 stone gray							□	□	□	□	□	□	□	□	□	□
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005 (see Catalog D 81.1)	**Y54** • and special finish RAL ….						86,70	86,70	113,–	113,–	159,–	198,–	294,–	356,–	438,–	563,–
Off-shore special finish	**M91**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Sea-air proof special finish	**M94**						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	**K23**						○	○	○	○	○	○	○	○	○	○
Unpainted, only primed	**K24**						23,30	23,30	37,20	37,20	69,90	69,90	69,90	69,90	69,90	69,90
Mechanical design and degrees of protection																
IP65 degree of protection	**K50**						126,–	126,–	126,–	189,–	521,–	572,–	606,–	775,–	882,–	998,–
Condensation drainage holes [3]	**L12**						69,40	75,70	82,10	88,30	□	□	□	□	□	□
Non-rusting screws (externally)	**M27**						69,40	69,40	82,10	82,10	94,80	107,–	143,–	170,–	177,–	235,–

For legend and footnotes, see Page 9/18.

Smoke-extraction motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code and plain text if required	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
							1PP6 (cast-iron) temperature/time classes F200, F300 and F400									
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						216,–	242,–	267,–	293,–	316,–	342,–	368,–	393,–	418,–	444,–
Regreasing device	**K40**						267,–	273,–	281,–	305,–	321,–	362,–	401,–	482,–	□	□
Balance and vibration quantity																
Vibration quantity level A							□	□	□	□	□	□	□	□	□	□
Vibration quantity level B	**K02**						238,–	275,–	351,–	435,–	497,–	558,–	755,–	960,–	1.120,–	1.440,–
Full key balancing	**L68**						93,20	93,20	108,–	108,–	136,–	136,–	175,–	175,–	175,–	175,–
Balancing without key	**M37**						23,80	23,80	28,10	28,10	36,70	36,70	49,70	49,70	60,50	70,20
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**						375,–	404,–	438,–	487,–	536,–	589,–	666,–	793,–	814,–	814,–
Anti-condensation heaters for 115 V	**K46**						375,–	404,–	438,–	487,–	536,–	589,–	666,–	793,–	814,–	814,–
Rating plate and extra rating plates																
Second lubrication plate, can be supplied loose	**B06**						17,70	17,70	17,70	17,70	56,80	56,80	56,80	56,80	56,80	56,80
Second rating plate, loose (standard version)							□	□	□	□	□	□	□	□	□	□
Extra rating plate with identification code	**Y82** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Additional information on rating plate and on package label (maximum of 20 characters)	**Y84** • and identification code						34,90	34,90	34,90	34,90	58,20	58,20	58,20	72,70	72,70	91,80
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**						24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10	24,10
Operating instructions German/English enclosed in print	**B23**						54,–	54,–	54,–	54,–	–	–	–	–	–	–
Type test with heat run for vertical motors, with acceptance	**F83**						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Wire-lattice pallet	**L99**						○	○	○	○	–	–	–	–	–	–

□ Standard version
○ Without additional charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. For pole-changing motors with seperate windings, the number of temperature sensors must be doubled. (order code A11, price of A12 or order code A12, price available on request.)

2) No additional charge with types of construction without feet: IM B5, IM V1, IM V3.

3) Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.

Notes

Marine motors

Type approved standard motors up to frame size 315 L

Selection and ordering data

Most standard motors of Siemens AG can be used as marine motors if the appropriate order codes are used.
The following table shows the standard motor series that are available with type testing up to frame size 315 L:

Motor type	Standard degree of protection	Frame design	Motor series [1]	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz at CT 45 °C in temperature class 155 (F), used according to 155 (F).
Self-ventilated motors with improved efficiency	IP55	Aluminum	1LA7	56 M ... 160 L	0.06 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
		Cast-iron	1LA6	100 L ... 160 L	0.75 ... 18.5
			1LG4	180 M ... 315 L	11 ... 200
Self-ventilated motors with high efficiency	IP55	Aluminum	1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LG6	180 M ... 315 L	11 ... 200

The type approved and self-cooled motor series 1LP4, 1LP5, 1LP6 and 1LP7 in frame sizes 63 M to 315 L with derating without external fan and fan cover can be supplied on request.

For technical specifications and selection and ordering data, see the relevant sections of "Standard motors up to frame size 315 L", chapter 2.

Ordering example:

Selection criteria	Requirement	Structure of the Order No.
Motor type	Standard motor with improved efficiency, IP55 degree of protection, cast-iron version	**1LG4**
No. of poles/speed	4-pole/1500 rpm	1LG4**253-4AA**
Rated output	55 kW	
Voltage and frequency	400 VΔ/690 VY, 50 Hz	1LG4253-4AA**6**
Type of construction	IM B3	1LG4253-4AA6**0**
Paint finish	Special paint finish in RAL 5007	1LG4253-4AA60**-Z** **Y54** **Plain text: RAL 5007**
Marine version	Drive for "essential services" with type test certificate according to Germanischer Lloyd with coolant temperature CT 45 °C	1LG4253-4AA60-Z Y54**+E11** Plain text: RAL 5007
	Individual acceptance (by marine classification society)	1LG4253-4AA60-Z Y54+E11**+E10** Plain text: RAL 5007
	Type test with heat run for horizontal motors, with acceptance	1LG4253-4AA60-Z Y54+E11+E10**+F83** Plain text: RAL 5007

The ordering example is valid for an order quantity of 1 item. For larger order quantities, a type test with heat run (order code **F83**) only has to be ordered for one motor. For all other identical motors, order code F83 is not required. The order must be subdivided into two order items.

Example for ordering 5 items:

Order item	Quantity (items)	Order No.
1	1	1LG4253-4AA60-Z Y54+E11+E10+**F83** Plain text: RAL 5007
2	4	1LG4253-4AA60-Z Y54+E11+E10 Plain text: RAL 5007

For further information about order codes see "Special versions".

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[1] For 1LA9 motors with increased output, derating is necessary. (Please inquire)

Type approved explosion-proof motors up to frame size 315 L

Selection and ordering data

Most explosion-proof motors up to frame size 315 L from Siemens AG can be used as marine motors if ordered with the relevant order codes. The following table shows the series of explosion-proof motors that are available with type testing up to frame size 315 L:

Motor type	Standard degree of protection	Frame design	Motor series [1]	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz at CT 45 °C in temperature class 155 (F), used according to 155 (F).
Self-ventilated motors in **Zone 1** with type of protection "e" (Zone 1 Exe II T3)	IP55	Aluminum	1MA7	63 M ... 160 L	0.12 ... 16
		Cast-iron	1MA6	100 L ... 315 L	1.3 ... 165
Self-ventilated motors in **Zone 1** with type of protection "d" (Zone 1 Exde IIC T4)	IP55	Cast-iron	1MJ6	71 M ... 200 L	0.25 ... 37
			1MJ7	225 S ... 315 M	30 ... 132
Self-ventilated motors in **Zone 2** with type of protection "n"	IP55	Aluminum	1LA7	63 M ... 160 L	0.09 ... 18.5
			1LA9	63 M ... 160 L	0.12 ... 18.5
		Cast-iron	1LA6	100 L ... 160 L	0.75 ... 18.5
			1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in **Zone 21** with protection against dust explosions	IP55	Aluminum	1LA7	56 M ... 160 L	0.06 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in **Zone 22** with protection against dust explosions	IP55	Aluminum	1LA7	56 M ... 160 L	0.06 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LA6	100 L ... 160 L	0.75 ... 18.5
			1LG4/1LG6	180 M ... 315 L	11 ... 200

For technical specifications and selection and ordering data, see the relevant sections of "Explosion-proof motors", chapter 4.

For further information about order codes see "Special versions".

Type approved fan motors

Selection and ordering data

Most fan motors of Siemens AG can be used as marine motors if the appropriate order codes are used. The following table shows the series of fan motors that are available with type testing:

Motor type	Standard degree of protection	Frame design	Motor series	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz at CT 45 °C in temperature class 155 (F), used according to 155 (F).
Self-ventilated motors in pole-changing version	IP55	Aluminum	1LA7	80 M ... 160 L	0.15 ... 17
			1LA5	180 M ... 200 L	3 ... 28
		Cast-iron	1LG4	180 M ... 280 M	4.5 ... 175
Forced-air cooled motors without external fan, without fan cover	IP55	Aluminum	1PP7	63 M ... 160 L	0.09 ... 18.5
			1PP5	180 M ... 200 L	15 ... 37
		Cast-iron	1PP4	180 M ... 315 L	11 ... 200

For technical specifications and selection and ordering data, see the relevant sections of "Fan motors", chapter 7.

For further information about order codes see "Special versions".

[1] With explosion-proof motors, derating is necessary. (Please inquire)

Marine motors

Standard motors up to frame size 315 L (individual acceptance required)

Selection and ordering data

Most standard motors of Siemens AG can be used as marine motors if the appropriate order codes are used. The following table shows the series of self-cooled standard motors that are available with derating without an external fan and without a fan cover:

Motor type	Standard degree of protection	Frame design	Motor series	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz at CT 45 °C in temperature class 155 (F), used according to 155 (F).
Self-cooled motors without external fan	IP55	Aluminum	1LP7	63 M ... 160 L	0.045 ... 7
			1LP5	180 M ... 200 L	5.5 ... 16.5
		Cast-iron	1LP4	180 M ... 315 L	3.7 ... 67

For selection and ordering data, see the relevant sections of "Standard motors up to frame size 315 L", chapter 2.

For further information about order codes see "Special versions".

Smoke-extraction motors (individual acceptance required)

Selection and ordering data

Most smoke-extraction motors of Siemens AG can be used as marine motors if the appropriate order codes are used. The following table shows the self-ventilated and self-cooled motor series that are available:

Motor type	Standard degree of protection	Frame design	Motor series	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz
Temperature/time classes F200 and F300					
Self-ventilated motors	IP55	Aluminium	1LA7	80 M ... 160 L	0.09 ... 18.5
			1LA5	180 M ... 225 M	4.05 ... 45
		GG	1LG6	250 M ... 315 L	37 ... 200
Forced-air cooled motors	IP55	Aluminium	1PP7	80 M ... 160 L	0.09 ... 18.5
			1PP5	180 M ... 225 M	4.05 ... 45
		GG	1PP6	250 M ... 315 L	37 ... 200
Temperature/time classes F400					
Self-ventilated motors	IP55	GG	1LA6	100 L ... 160 L	0.3 ... 22
			1LG6	180 M ... 315 L	15 ... 200
Forced-air cooled motors	IP55	GG	1PP6	100 L ... 315 L	0.3 ... 200

Selection and ordering data see the relevant sections of "Smoke-extraction motors", chapter 9.

For further information about order codes see "Special versions".

Non-standard motors frame size 315 and above (individual acceptance required)

Selection and ordering data

Most non-standard motors frame size 315 and above of Siemens AG can be used as marine motors if the appropriate order codes are used. The following table shows the available series of non-standard motors frame size 315 and above (individual acceptance required):

Motor type	Standard degree of protection	Frame design	Motor series	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz at CT 45 °C in temperature class 155 (F), used according to 155 (F).
Self-ventilated motors for mains-fed and converter-fed operation	IP55	Cast-iron	1LA8	315 ... 450	160 ... 1000 [1]
Forced-air cooled motors with mounted separately driven fan for converter-fed operation	IP55	Cast-iron	1PQ8	315 ... 450	160 ... 1000 [1]
Self-ventilated motors with through ventilation for mains-fed and converter-fed operation	IP23	Cast-iron	1LL8	315 ... 450	200 ... 1250 [1]
Water-cooled motors for mains-fed and converter-fed operation (technical specifications can be supplied on request)	IP55	Steel	1LH8	450	485 ... 1150 [1]

Motor series 1LH8 (please inquire).

For selection and ordering data, see the relevant sections of "Non-standard motors frame size 315 and above", chapter 3.

For further information about order codes see "Special versions".

Explosion-proof motors frame size 315 and above (individual acceptance required)

Selection and ordering data

Most explosion-proof motors frame size 315 and above of Siemens AG can be used as marine motors if the appropriate order codes are used. The following table shows the available series of explosion-proof motors frame size 315 and above (individual acceptance required):

Motor type	Standard degree of protection	Frame design	Motor series	Motor frame sizes	Output range in kW Output data for mains-fed operation 50 Hz at CT 45 °C in temperature class 155 (F)
Self-ventilated motors in **Zone 2** with type of protection "n"	IP55	Cast-iron	1LA8	315 ... 450	160 ... 1000 [2]
Self-ventilated motors in **Zone 22** with protection against dust explosions	IP55	Cast-iron	1LA8	315 ... 450	160 ... 1000 [1]

For selection and ordering data, see the relevant sections of "Explosion-proof motors", chapter 4.

For further information about order codes see "Special versions".

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[1] At a coolant temperature of 45 °C when used according to temperature class 155 (F), the output is reduced by 4 %.

[2] At a coolant temperature of 45° C, the output is reduced by 4 %. When used according to with temperature class 130 (B), the output is reduced by a further 15 %.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Overview

Recommended special versions:

- Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping – Order code **A11**
- Mounting of PT 100 resistance thermometers for winding temperature monitoring – Order codes **A60, A61**
- Specially for motor series 1LA8, 1PQ8 and 1LL8: Mounting of 2 screw-in PT 100 resistance thermometers in basic circuit for roller bearings – Order code **A72**
- Anti-condensation heaters for 230 V – Order code **K45**
- Anti-condensation heaters for 115 V – Order code **K46**
- IP56 degree of protection (non-heavy-sea) for protection against harmful dust deposits, protection against water jets from any direction – Order code **K52**
- IP65 degree of protection for complete protection against dust deposits, protection against water jets from any direction – Order code **K50**
  Not possible for non-standard motors 1LA8, 1PQ8 and 1LL8.
- Special bearing for drive-end (DE) and non-drive-end (NDE) bearing size 63 – Order code **K36**
  For non-standard motors please inquire.
- External metal fan for self-ventilated motors – Order code **K35**

Order codes for special versions

Order information

The fees levied by the classification authorities for individual acceptance testing are included in order code **E09**/**E10** for motor types 1LG4, 1LG6, 1PP4, 1LA8, 1PQ8, 1LL8 and 1LH8. For the other motor types, 1LA5, 1LA6, 1LA7, 1LA9, 1MA, 1MJ, 1PP5, 1PP7, individual acceptance testing must be ordered in plain text and will be invoiced separately (please inquire).

When ordering, add the supplement "-Z" to the Order No. as well as plain text details. For 1LA8 motors, supplement the Order No. with order code **E80** and plain text.

For other special versions, see the relevant sections under "Standard motors up to frame size 315 L", "Non-standard motors frame size 315 and above", "Explosion-proof motors" and "Fan motors". In addition to this, for marine motors, the following special versions are the Standard version and therefore included in the order codes for the basic marine version.

Standard version:

Description	Order code
Acceptance test certificate 3.1 according to EN 10204 (not included in order code E00)	**B02**
External earthing terminal	**L13**

Type approved standard motors up to frame size 315 L in marine version

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency																
		1LA7 (aluminum)									**1LA5 (aluminum)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**	54,90	54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80	84,80			
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
Acceptance/certification																
Individual acceptance by marine classification society	**E10**	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–	6.620,–			
Type test with heat run for horizontal motors, with acceptance	**F83** [2]	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			

For legend and footnotes, see Seite 10/6.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency																
							1LA6 (cast-iron)				**1LG4 (cast-iron)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**						59,30	59,30	59,30	59,30	84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**						–	–	–	–	6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
	Details in plain text						O. R.	O. R.	O. R.	O. R.	–	–	–	–	–	–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Self-ventilated energy-saving motors with high efficiency																
		1LA9 (aluminum)														
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**	54,90	54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80				
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
Acceptance/certification																
Individual acceptance by marine classification society	**E10** [2]	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–				
Type test with heat run for horizontal motors, with acceptance	**F83** [2]	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				

For legend and footnotes, see Seite 10/6.

Marine motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency																
											1LG6 (cast-iron)					
Basic marine version [1]																
Without type test certificate according to ABS 50°C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**										84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**										132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**										6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

– Not possible
O. R. Possible on request

[1] Motor for use in shipping for higher ambient temperature and/or used as 155 (F) according to 130 (B), order with details in plain text. The order codes for the basic marine version (**E00**, **E11**, **E21**, **E31**, **E51**) cannot be combined with each other. For motor series 1LA9 with increased output with order codes **E11**, **E31** and **E51** the output is reduced by 4 % and for order codes **E00** and **E21** the outout is reduced by 8 %.

[2] Option or details in plain text only necessary for one motor when ordering several motors of the same type.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Type approved explosion-proof motors up to frame size 315 L in marine version

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "e"																
			1MA7 (aluminum)													
Basic marine version [1]																
Without type test certificate according to ABS 50°C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**		54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30						
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–						
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–						
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–						
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–						
Acceptance/certification																
Individual acceptance by marine classification society	Details in plain text		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.						
Type test with heat run for horizontal motors, with acceptance	Details in plain text [2]		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.						
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.						
							1MA6 (cast-iron)									
Basic marine version [1]																
Without type test certificate according to ABS 50°C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**						59,30	59,30	59,30	59,30	84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	Details in plain text						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Type test with heat run for horizontal motors, with acceptance	Details in plain text [2]						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

For legend and footnotes, see Seite 10/8.

Marine motors

Special versions

Metal factor for metal surcharges (MS): **N - V - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone 1 with type of protection "de"																
				1MJ6 (cast-iron)									**1MJ7 (cast-iron)**			
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**			54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**			91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**			91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**			91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**			91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	Details in plain text			O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Type test with heat run for horizontal motors, with acceptance	Details in plain text [2]			O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]			O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

O. R. Possible on request

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[1] Motor for use in shipping for higher ambient temperature and/or used as 155 (F) according to 130 (B), order with details in plain text. In some cases motor series 1MA is supplied with reduced output. For motor series 1MJ output is reduced by 4 % for order codes **E11**, **E21**, **E31** and **E51** and by 8 % for order code E00. The order codes for the basic marine version (**E00**, **E11**, **E21**, **E31**, **E51**) cannot be combined with each other.

[2] Option or details in plain text only necessary for one motor when ordering several motors of the same type.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions																
		1LA7 (aluminum) [1]									**1LA5 (aluminum) [2]**					
Basic marine version [3]																
Without type test certificate according to ABS 50°C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**	54,90	54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80	84,80			
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
Acceptance/certification																
Individual acceptance by marine classification society	**E10**	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–	6.620,–			
Type test with heat run for horizontal motors, with acceptance	**F83 [4]**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Type test with heat run for vertical motors, with acceptance	Details in plain text [4]	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
		1LA9 (aluminum) [5]														
Basic marine version [3]																
Without type test certificate according to ABS 50°C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**	54,90	54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80				
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**	91,60	91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
Acceptance/certification																
Individual acceptance by marine classification society	**E10**	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–				
Type test with heat run for horizontal motors, with acceptance	**F83 [4]**	3.570,–	3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Type test with heat run for vertical motors, with acceptance	Details in plain text [4]	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				

For legend and footnotes, see Seite 10/10.

Marine motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions																
							1LA6 (cast-iron) [6]				**1LG4 (cast-iron)/1LG6 (cast-iron)**					
Basic marine version [3]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/ RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**						59,30	59,30	59,30	59,30	84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**						–	–	–	–	6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
	Details in plain text						O. R.	O. R.	O. R.	O. R.	–	–	–	–	–	–
Type test with heat run for horizontal motors, with acceptance	**F83 [4]**						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [4]						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

– Not possible
O. R. Possible on request

1) Zone 2 for 1LA7 motors not possible in frame size 56.

2) Zone 2 for 1LA5 motors not possible, for Zone 2 use 1LG4 motors instead of 1LA5 motors.

3) Motor for use in shipping for higher ambient temperature and/or used as 155 (F) according to 130 (B), order with details in plain text. The output of motors is reduced by 4 % for order codes **E11**, **E21**, **E31** and **E51** and by 8 % for order code E00.
The order codes for the basic marine version (**E00**, **E11**, **E21**, **E31**, **E51**) cannot be combined with each other.

4) Option or details in plain text only necessary for one motor when ordering several motors of the same type.

5) Zone 2 not possible for 1LA9 motors in frame sizes 56, 180 and 200.

6) Zone 21 not possible for 1LA6 motors.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Type approved fan motors in marine version

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**				54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80				
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
Acceptance/certification																
Individual acceptance by marine classification society	**E10**				5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–				
Type test with heat run for horizontal motors, with acceptance	**F83** [2]				4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]				O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
											1LG4 (cast-iron)					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**										84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**										132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**										6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

For legend and footnotes, see Seite 10/12.

Marine motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors without external fan, without fan cover																
			1PP7 (aluminum)								**1PP5 (aluminum)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**		54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80				
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**		91,60	91,60	91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–				
Acceptance/certification																
Individual acceptance by marine classification society	**E10**		5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–				
Type test with heat run for horizontal motors, with acceptance	**F83** [2]		3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
											1PP4 (cast-iron)						
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**										84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**										132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**										132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**										6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

– Not possible

O. R. Possible on request

[1] Motor for use in shipping for higher ambient temperature and/or used as 155 (F) according to 130 (B), order with details in plain text. The order codes for the basic marine version (**E00**, **E11**, **E21**, **E31**, **E51**) cannot be combined with each other.

[2] Option or details in plain text only necessary for one motor when ordering several motors of the same type.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Standard motors up to frame size 315 L in marine version (individual acceptance required)

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan																
			1LP7 (aluminum)								**1LP5 (aluminum)**					
Basic marine version [1) 2)]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**		54,90	54,90	54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80				
Acceptance/certification																
Individual acceptance by marine classification society	**E10**		5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–				
Type test with heat run for horizontal motors, with acceptance	**F83** [3)]		3.570,–	3.570,–	4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–				
Type test with heat run for vertical motors, with acceptance	Details in plain text [3)]		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
											1LP4 (cast-iron)						
Basic marine version [1) 2)]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**										84,80	84,80	84,80	87,60	87,60	87,60
Acceptance/certification																
Individual acceptance by marine classification society	**E10**										6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
Type test with heat run for horizontal motors, with acceptance	**F83** [3)]										7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [3)]										O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

O. R. Possible on request

1) Motor for use in shipping for higher ambient temperature and/or used as 155 (F) according to 130 (B), order with details in plain text. The output of motors is reduced by 8 % for order code **E00**. The order codes for the basic marine version (**E00**, **E11**, **E21**, **E31**, **E51**) cannot be combined with each other.

2) Certification is possible on request according to the marine classification authorities GL, LR, BV and DNV.

3) Option or details in plain text only necessary for one motor when ordering several motors of the same type.

Marine motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Smoke-extraction motors in marine version (individual acceptance required)

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in pole-changing version																
					1LA7 (aluminum)						**1LA5 (aluminum)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/ RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**				54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80	84,80			
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
Acceptance/certification																
Individual acceptance by marine classification society	**E10**				5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–	6.620,–			
Type test with heat run for horizontal motors, with acceptance	**F83** [2]				4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]				O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
							1LA6 (cast-iron)				**1LG6 (cast-iron)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/ RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**						59,30	59,30	59,30	59,30	84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**						5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

For legend and footnotes, see Seite 10/16.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Special versions

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Fremdgekühlte Motoren																
					1PP7 (aluminum)						**1PP5 (aluminum)**					
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/ RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**				54,90	54,90	59,30	59,30	59,30	59,30	84,80	84,80	84,80			
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**				91,60	91,60	124,–	124,–	124,–	132,–	132,–	189,–	189,–			
Acceptance/certification																
Individual acceptance by marine classification society	**E10**				5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–	6.620,–			
Type test with heat run for horizontal motors, with acceptance	**F83** [2]				4.160,–	4.760,–	5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–			
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]				O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			

For legend and footnotes, see Seite 10/16.

Marine motors

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
							1PP6 (cast-iron)									
Basic marine version [1]																
Without type test certificate according to ABS 50 °C/CCS 45 °C/ RINA 45 °C, temperature class 155 (F) used according to 155 (F) (if acceptance test certificate 3.1 according to EN 10204 is required, this must be ordered with the additional order code **B02**)	**E00**						59,30	59,30	59,30	59,30	84,80	84,80	84,80	87,60	87,60	87,60
With type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E11**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E21**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E31**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
With type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E51**						124,–	124,–	124,–	132,–	132,–	189,–	189,–	249,–	366,–	654,–
Acceptance/certification																
Individual acceptance by marine classification society	**E10**						5.880,–	5.880,–	5.880,–	5.880,–	6.620,–	6.620,–	6.620,–	7.480,–	7.480,–	7.480,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]						5.350,–	5.700,–	6.190,–	6.540,–	7.480,–	8.350,–	8.830,–	8.830,–	9.950,–	11.200,–
Type test with heat run for vertical motors, with acceptance	Details in plain text [2]						O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.

– Not possible
O. R. Possible on request

[1] The order codes for the basic marine version (**E00**, **E11**, **E21**, **E31**, **E51**) cannot be combined with each other.

[2] Option or details in plain text only necessary for one motor when ordering several motors of the same type.

10 working days | **20 working days** | **On request**

Metal factor for metal surcharges (MS): **N - W - - -**

Non-standard motors frame size 315 and above in marine version (individual acceptance required)

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Self-ventilated motors for mains-fed and converter-fed operation					
		1LA8 (cast-iron)			
Basic marine version [1]					
Without type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E11**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E21**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E31**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E51**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to ABS (American Bureau of Shipping), USA, CT 50 °C, temperature class 155 (F), used according to 155 (F)	**E61**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to CCS (Chinese Classification Society), China, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E71**	15.100,–	17.100,–	31.800,–	38.700,–
Motor for use in shipping, higher ambient temperature and/or used as temperature class 155 (F) according to 130 (B)	**E80** + plain text details	15.100,–	17.100,–	31.800,–	38.700,–
Acceptance/certification					
Individual acceptance by marine classification society	**E10**	7.640,–	7.640,–	7.640,–	7.640,–
Individual acceptance by marine classification society with supervision of construction and acceptance test certificate 3.2 according to EN 10204	**E09**	14.300,–	14.300,–	14.300,–	14.300,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, with acceptance	**F93** [2]	19.000,–	19.000,–	19.000,–	19.000,–
Forced-air cooled motors with externally mounted fan for converter-fed operation					
		1PQ8 (cast-iron)			
Basic marine version [1]					
Without type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E11**	17.600,–	19.600,–	34.300,–	41.300,–
Without type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E21**	17.600,–	19.600,–	34.300,–	41.300,–
Without type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E31**	17.600,–	19.600,–	34.300,–	41.300,–
Without type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E51**	17.600,–	19.600,–	34.300,–	41.300,–
Without type test certificate according to ABS (American Bureau of Shipping), USA, CT 50 °C, temperature class 155 (F), used according to 155 (F)	**E61**	17.600,–	19.600,–	34.300,–	41.300,–
Without type test certificate according to CCS (Chinese Classification Society), China, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E71**	17.600,–	19.600,–	34.300,–	41.300,–
Motor for use in shipping, higher ambient temperature and/or used as temperature class 155 (F) according to 130 (B)	**E80** + plain text details	17.600,–	19.600,–	34.300,–	41.300,–
Acceptance/certification					
Individual acceptance by marine classification society	**E10**	7.640,–	7.640,–	7.640,–	7.640,–
Individual acceptance by marine classification society with supervision of construction and acceptance test certificate 3.2 according to EN 10204	**E09**	14.300,–	14.300,–	14.300,–	14.300,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, with acceptance	**F93** [2]	19.000,–	19.000,–	19.000,–	19.000,–

For legend and footnotes, see Seite 10/18.

Special versions

Metal factor for metal surcharges (MS): **N - W - - -**

10 working days | **20 working days** | **On request**

Special versions	Additional identification code **-Z** with order code or plain text	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Self-ventilated motors with through ventilation for mains-fed and converter-fed operation					
		1LL8 (cast-iron)			
Basic marine version [1]					
Without type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E11**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E21**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E31**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E51**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to ABS (American Bureau of Shipping), USA, CT 50 °C, temperature class 155 (F), used according to 155 (F)	**E61**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to CCS (Chinese Classification Society), China, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E71**	15.100,–	17.100,–	31.800,–	38.700,–
Motor for use in shipping, higher ambient temperature and/or used as temperature class 155 (F) according to 130 (B)	**E80** + plain text details	15.100,–	17.100,–	31.800,–	38.700,–
Acceptance/certification					
Individual acceptance by marine classification society	**E10**	7.640,–	7.640,–	7.640,–	7.640,–
Individual acceptance by marine classification society with supervision of construction and acceptance test certificate 3.2 according to EN 10204	**E09**	14.300,–	14.300,–	14.300,–	14.300,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, with acceptance	**F93** [2]	19.000,–	19.000,–	19.000,–	19.000,–

Explosion-proof motors frame size 315 and above in marine version (individual acceptance required)

Special versions	Order No. supplement **-Z** with order code and/or plain text details	Additional charge plus MS **EUR** Motor type frame size 315	355	400	450
Self-ventilated motors in Zone 22 with type of protection "n" or protection against dust explosions					
		1LA8 (cast-iron)			
Basic marine version [1]					
Without type test certificate according to GL (Germanischer Lloyd), Germany, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E11**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to LR (Lloyds Register), Great Britain, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E21**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to BV (Bureau Veritas), France, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E31**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to DNV (Det Norske Veritas), Norway, CT 45 °C, temperature class 155 (F) used according to 155 (F)	**E51**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to ABS (American Bureau of Shipping), USA, CT 50 °C, temperature class 155 (F), used according to 155 (F)	**E61**	15.100,–	17.100,–	31.800,–	38.700,–
Without type test certificate according to CCS (Chinese Classification Society), China, CT 45 °C, temperature class 155 (F), used according to 155 (F)	**E71**	15.100,–	17.100,–	31.800,–	38.700,–
Motor for use in shipping, higher ambient temperature and/or used as temperature class 155 (F) according to 130 (B)	**E80** + plain text details	15.100,–	17.100,–	31.800,–	38.700,–
Acceptance/certification					
Individual acceptance by marine classification society	**E10**	7.640,–	7.640,–	7.640,–	7.640,–
Individual acceptance by marine classification society with supervision of construction and acceptance test certificate 3.2 according to EN 10204	**E09**	14.300,–	14.300,–	14.300,–	14.300,–
Type test with heat run for horizontal motors, with acceptance	**F83** [2]	23.700,–	23.700,–	23.700,–	23.700,–
Type test with heat run for vertical motors, with acceptance	**F93** [2]	19.000,–	19.000,–	19.000,–	19.000,–

[1] The order codes for the basic marine version (**E11**, **E21**, **E31**, **E51**, **E61**, **E71**, **E80**) cannot be combined with each other.

[2] Option only necessary for one motor when ordering several motors of the same type. Type testing is also performed for converter-fed operation.

Accessories

Overview

Modular technology

The components of modular technology can be ordered as accessories. The brake, as a safety-related module, must not be retrofitted.

Cables for rotary pulse encoders can be ordered from Catalog DA 65.10.

Mounting of rotary pulse encoder and separately driven fan for 1LA5, 1LA6, 1LA7 and 1LG motors					Price	Weight
Version		Frame size	Number of poles	Order No.		kg
Rotary pulse encoder [1]	HTL version	71 ... 225	all	**1XP8 001–1**	**482,–**	0.3
	TTL version	71 ... 225	all	**1XP8 001-2**	**727,–**	0.3
Separately driven fan incl. mounting parts [2]		100	all	**2CW2 180-8RF54-1AB0**	**401,–**	3.9
		112	all	**2CW2 210-8RF54-1AB1**	**434,–**	4.4
		132	all	**2CW2 250-8RF54-1AB2**	**441,–**	6.7
		160	all	**2CW2 300-8RF54-1AB3**	**496,–**	7.2
		180	all	**2CW2 300-8RF54-1AB4**	**637,–**	9.8
		200	all	**2CW2 300-8RF54-1AB5**	**748,–**	10.7
		225 [3]	all	**2CW2 300-8RF54-1AB6**	**748,–**	10.7
		250	all	**1PP9 063-2LA12-Z A11+K50** [4]	on request	
		280	all	**1PP9 063-2LA12-Z A11+K50** [4]	on request	
		315	2	**1PP9 070-2LA12-Z A11+K50** [4]	on request	
		315	4 to 8	**1PP9 063-2LA12-Z A11+K50** [4]	on request	
Separately driven fan and rotary pulse encoder 1XP8 001-1 incl. mounting parts [2]		100	all	**2CW2 180-8RF54-2AB0**	**882,–**	4.2
		112	all	**2CW2 210-8RF54-2AB1**	**913,–**	4.7
		132	all	**2CW2 250-8RF54-2AB2**	**918,–**	6.0
		160	all	**2CW2 300-8RF54-2AB3**	**984,–**	7.5
		180	all	**2CW2 300-8RF54-2AB4**	**1.120,–**	10.1
		200	all	**2CW2 300-8RF54-2AB5**	**1.230,–**	11.0
		225 [3]	all	**2CW2 300-8RF54-2AB6**	**1.230,–**	11.0

Slide rails with fixing bolts and tensioning screws acc. to DIN 42923

Slide rails are used to tension the belt of a machine easily and conveniently when a belt tightener is not available. They are fixed to the base using stone bolts or foundation blocks.

The assignment of slide rails to motor size can be found in DIN 42923. For motors of frame sizes 335 to 450, there are no standardised slide rails (please inquire).

Available from:
Lütgert & Co. GmbH
Postfach 42 51
33276 Gütersloh, Germany
Tel. +49 (0)5241-7407-0
Fax +49 (0)5241-7407-90

http://www.luetgert-antriebe.de
e-mail: info@luetgert-antriebe.de

Foundation block acc. to DIN 799

The foundation blocks are inserted into the stone foundation and embedded in concrete. They are used for fixing machines of medium size, slide rails, pedestal bearings, baseframes, etc. After the fixing bolts have been unscrewed, the machine can be dragged without it having to be lifted.

When the machine is initially installed, the foundation block that is bolted to the machine (without washers) and fitted with tapered pins is not embedded with concrete until the machine has been fully aligned. In this case, the machine is positioned 2 to 3 mm lower. The difference in shaft height is compensated by inserting shims on final installation. The tapered pins safeguard the exact position of the machine when it is repeatedly removed and replaced without the need for realignment.

Available from:
Lütgert & Co. GmbH
Postfach 42 51
33276 Gütersloh, Germany
Tel. +49 (0)5241-7407-0
Fax +49 (0)5241-7407-90

http://www.luetgert-antriebe.de
e-mail: info@luetgert-antriebe.de

[1] For motor series 1LG, the rotary pulse encoders are available on request. They are only available for motor series 1LA7 as accessories for spare parts.

[2] The separately driven fan 2CW2 ... comprises a complete fan unit with impeller, the separately driven fan 1PP9 ... only comprises the fan motor without mounting components and impeller.

[3] For 1LG motors with separately driven fan with Order No.1PP9 063-2LA12-Z A11+K50 (weight 4.37 kg).

[4] Only for replacement purposes.

Overview (continued)

Taper pins acc. to DIN 258 with threaded ends and constant taper lengths

Taper pins are used for components that are repeatedly removed. The drilled hole is ground conical using a conical reamer until the pin can be pushed in by hand until the cone shoulder lies 3 to 4 mm above the rim of the hole.

It can then be driven in using a hammer until it is correctly seated. The pin is removed from the drilled hole by screwing on the nut and tightening it.

Standardised taper pins are available from general engineering suppliers.

Available from:
Otto Roth GmbH & Co. KG
Rutesheimer Straße 22
70499 Stuttgart, Germany
Tel. +49 (0)711-13 88-0
Fax +49 (0)711-13 88-233

http://www.ottoroth.de
e-mail: info@ottoroth.de

Couplings

The motor from Siemens is connected to the machine or gear unit through a coupling. Flender is an important coupling manufacturer with a wide range of products. For standard applications, Siemens recommends that elastic couplings of Flender types N-Eupex and Rupex or torsionally rigid couplings of types Arpex and Zapex are used. For special applications, Fludex and Elpex couplings are recommended. These coupling types are suitable for use in areas subject to explosion hazards and are offered with declaration of conformity and type certificate according to directive 94/9/EG.

Available from:
A. Friedr. Flender AG
Kupplungswerk Mussum
Industriepark Bocholt
Schlavenhorst 100
46395 Bocholt, Germany
Tel. +49 (0)2871-92 2185
Fax +49 (0)2871-92 2579

http://www.flender.com
e-mail: couplings@flender.com

Mounting of encoder

In the case of mounting by the customer.

Options H79, H80

Baumer Hübner GmbH
Planufer 92b
10967 Berlin, Germany
Tel. +49 (0)30-690 03-0
Fax +49 (0)30-690 03-104

http://www.baumerhuebner.com
e-mail: info@baumerhuebner.com

Options H78

Leine & Linde (Deutschland) GmbH
Bahnhofstraße 36
73430 Aalen, Germany
Tel. +49 (0)7361-78 093-0
Fax +49 (0)7361-78 093-11

http://www.leinelinde.de
e-mail: info@leinelinde.se

More information

Spare motors and repair parts

- Supply commitment for spare motors and repair parts following delivery of the motor
  - For up to 5 years, in the event of total motor failure, Siemens will supply a comparable motor with regard to the mounting dimensions and functions (the type series may vary).
  - Repair parts will be supplied for up to 5 years.
  - For up to 10 years, Siemens will provide information and will, if necessary, supply documentation for repair parts.
- When repair parts are ordered, the following details must be provided:
  - Designation and part number
  - Order No. and factory number of the motor

Example for ordering a fan cowl 1LA7, frame size 160 M, 4-pole:

Fan cowl No. 7.40,
1LA7 163–4AA60, factory number J783298901018

- For bearing types, see Catalog D 81.1.
- Repair parts for 1MJ6, 1MJ7, 1MJ8, 1MJ1, 1ME8, 1ML8, 1LG8 motors and smoke-extraction motors are available on request.
- For standard components, a supply commitment does not apply.
- Support – Hotline
  In Germany
  Tel.: 01 80/5 05 04 48

National telephone numbers can be found on the Internet page:
http://www.siemens.com/automation/service&support

SD Manual Collection

Overview

The SD manual Collection brings together all manuals of low-voltage motors, geared motors and low-voltage converters in the smallest possible package. It is eminently suitable for startup and service, replaces the space-consuming paper version in the office and provides fast access to the information.

- Keyword search within the PDF file
- Full text search in the complete DVD
- Electronic Update Service, free of charge for 1 year
- The DVD is networkable, i. e. storage of the PDFs is on the central server

The SD Manual Collection on DVD in 5 languages (English, French, German, Italian and Spanish) contains manuals of the following motors and converters:

- Low-voltage converters
  - IEC motors
  - NEMA motors
- Geared motors
- Low-Voltage converters
  - MICROMASTER 3
  - MICROMASTER 4
  - SINAMICS G110
  - SINAMICS G120, SINAMICS G120D
  - Frequency converters SIMATIC ET200

Maintenance service for 1 year

In addition, a maintenance service can be ordered, which includes the delivery of the up-to-date SD Manual Collection as well as the three following updates. This is valid for one year. If the contract isn´t canceled, it automatically is renewed for one more year.

Selection and ordering data

	Order No.	Price
SD Manual Collection on DVD [1], 5 languages all manuals for low-voltage motors, geared motors and low-voltage converters	**6SL3298-0CA00-0MG0**	50,–
SD Manual Collection on DVD [1], 5 languages, Update service for 1 year	**6SL3298-0CA10-0MG0**	150,–

[1] Subject to export regulations: AL: N and ECCN: 5D992B1.

Customer support
Our services for every phase of your project

In the face of harsh competition you need optimum conditions to keep ahead all the time:
a strong starting position, a sophisticated strategy and a team for the necessary support – in every phase.
Service & Support from Siemens provides this support with a complete range of different services for automation and drives.

In every phase: from planning and commissioning to maintenance and upgrading.

Our specialists know when and where to act to keep the productivity and cost-effectiveness of your system running in top form.

Online support

The comprehensive information system available round the clock via Internet ranging from Product Support and Service & Support services to Support Tools in the Shop.

http://www.siemens.com/automation/service&support

Technical support

Competent consulting in technical questions covering a wide range of customer-oriented services for all our products and systems.

Phone: +49 (0)180 50 50 222
Fax: +49 (0)180 50 50 223
(0.14 €/min. from the German fixed network)
E-Mail:
adsupport@siemens.com

In the United States, call toll-free:
Phone: +1 800 333 7421,
Fax: +1 423 262 2200
E-Mail: solutions.support@sea.siemens.com

In Canada, call:
Phone: +1 888 303 3353
E-Mail: cic@siemens.ca

In Asia:
Phone: +86 10 6475 7575,
Fax: +86 10 6474 7474
E-Mail:
adsupport.asia@siemens.com

Technical consulting

Support in the planning and designing of your project from detailed actual-state analysis, target definition and consulting on product and system questions right to the creation of the automation solution.[1)]

Configuration and software engineering

Support in configuring and developing with customer-oriented services from actual configuration to implementation of the automation project.[1)]

Service on site

With Service On Site, we offer services for startup and maintenance essential for ensuring system availability.

In Germany
Phone: 0180 50 50 444 [1)]
(0.14 €/min. from the German fixed network)

In the United States, call toll-free:
Phone: +1 800 333 7421

In Canada, call:
Phone: +1 888 303 3353

Repairs and spare parts

In the operating phase of a machine or automation system, we provide a comprehensive repair and spare parts service ensuring the highest degree of operating safety and reliability.

In Germany
Phone: 0180 50 50 446 [1)]
(0.14 €/min. from the German fixed network)

In the United States, call toll-free:
Phone: +1 800 241 4453

In Canada, call:
Phone: +1 888 303 3353

Optimization and upgrading

To enhance productivity and save costs in your project, we offer high-quality services in optimization and upgrading.[1)]

[1)] You will find telephone numbers for other countries on our Internet site http://www.siemens.com/automation/service&support

Customer support

Knowledge Base on CD-ROM

For those applications in which an online link to the Internet is not available, an extract from the information area that can be accessed free of charge is available on CD-ROM (Service & Support Knowledge Base). This CD-ROM contains all the product information (FAQs, downloads, tips and tricks, news) that was available at the time the CD was generated as well as general information about service and technical support.

On the CD-ROM you will also find a full text search and our Knowledge Manager to search for specific solutions. The CD-ROM is updated every 4 months.

As is the case with our online information on the Internet, the Service & Support Knowledge Base CD is available complete with 5 languages (English, German, French, Italian and Spanish).

You can order the CD **Service and Support Knowledge Base** from your Siemens contact.

Order No.: **6ZB5310-0EP30-0BA2**

Ordering via the Internet
(with the Automation Value Card or credit card) at:

http://www.siemens.com/automation/service&support

in the shop.

Automation Value Card

Small card – lots of support

The Automation Value Card is an integral part of the comprehensive service concept with which Siemens Automation and Drives accompanies you in every phase of your automation project.

Whether you require certain services from our Technical Support or want to buy high-quality support tools in our online shop: You can always pay with the Automation Value Card. No costs for processing invoices, transparent and secure. With the card number that is only known to you and the associated PIN, you can check your current balance at any time as well as all the debits and credits.

Services on the card. This is how it works.

The card number and PIN are printed on the back of the Automation Value Card. When it is supplied, the PIN is covered by a scratch field so the full credit is guaranteed to be on the card.

By specifying the card number and PIN, you have complete access to the current range of Service and Support. The amount for the service obtained is deducted in the form of credits from the balance on your Automation Value Card.

All the offered services are priced in terms of credits independently of national currencies, so you can use the Automation Value Card worldwide.

Order Numbers for the Automation Value Card	
Credits	Order No.
200	**6ES7 997-0BA00-0XA0**
500	**6ES7 997-0BB00-0XA0**
1000	**6ES7 997-0BC00-0XA0**
10000	**6ES7 997-0BG00-0XA0**

For detailed information about the offered services, visit our Internet site:

http://www.siemens.com/automation/service&support

Service & Support à la Card: Some examples

Technical Support	
"Priority"	Priority handling for urgent cases
"24 h"	Availability round-the-clock
"Extended"	Technical advice for complex questions
Support tools in the Support Shop	
"System Utilities"	Ready-to-use tools for design, analysis and checking
"Applications"	Complete topics including fully tested software
"Functions & Samples"	Modifiable function blocks to speed up your developments

Notes

Metal surcharges

Explanation of the metal factor

Surcharges will be added to the prices of products that contain silver, copper, aluminum, lead and/or gold if the respective basic official prices for these metals are exceeded.

The surcharges will be determined based on the following criteria:

- Official price of the metal

  Official price on the day prior to receipt of the order or prior to the release order (=daily price) for
  - silver (sale price of the processed material),
  - gold (sale price of the processed material)

  Source: Umicore, Hanau
  (http://www.metalsmanagement.umicore.com)
  and for
  - copper (low DEL notation + 1 %),
  - aluminum (aluminum in cables) and
  - lead (lead in cables)

  Source: German Trade Association for Cables and Conductors
  (http://www.kabelverband.de)

- Metal factor of the products

  Certain products are assigned a metal factor. The metal factor determines the official price as of which the metal surcharges are charged and the calculation method used (weight or percentage method). An exact explanation is given below.

Structure of the metal factor

The metal factor consists of several digits; the first digit indicates whether the method of calculation refers to the list price or a discounted price (customer net price)
(L = list price / N = customer net price).

The remaining digits indicate the method of calculation used for the respective metal. If no surcharge is added, a "-" is used.

1st digit	List or customer net price using the percentage method
2nd digit	for silver (AG)
3rd digit	for copper (CU)
4th digit	for aluminum (AL)
5th digit	for lead (PB)
6th digit	for gold (AU)

Weight method

The weight method uses the basic official price, the daily price and the raw material weight. In order to calculate the surcharge, the basic official price must be subtracted from the daily price. The result is then multiplied by the raw material weight.

The basic official price can be found in the table below using the number (2 to 9) of the respective digit of the metal factor. The raw material weight can be found in the respective product descriptions.

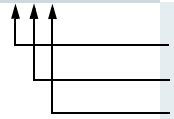
Percentage method

Use of the percentage method is indicated by the letters A-Z at the respective digit of the metal factor.

The surcharge is increased - dependent on the deviation of the daily price compared with the basic official price - using the percentage method in "steps" and consequently offers surcharges that remain constant within the framework of this "step range". A higher percentage rate is charged for each new step. The respective percentage level can be found in the table below.

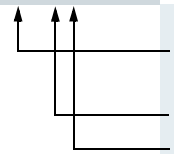
Metal factor examples

L E A – – –



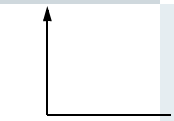
Basis for % surcharge: List price
Silver: basis 150 €, step range 50 €, 0.5 %
Copper: basis 150 €, step range 50 €, 0.1 %
No surcharge for aluminum
No surcharge for lead
No surcharge for gold

N – A 6 – –



Basis for % surcharge: Customer net price
No surcharge for silver
Copper: basis 150 €, step range 50 €, 0.1 %
Aluminum acc. to weight, basic offic. price 225 €
No surcharge for lead
No surcharge for gold

– – 3 – – –



No basis necessary
No surcharge for silver
Copper acc. to weight, basic official price150 €
No surcharge for aluminum
No surcharge for lead
No surcharge for gold

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Values of the metal factor

Percentage method	Basic official price	Step range	% surcharge 1st step	% surcharge 2nd step	% surcharge 3rd step	% surcharge 4th step	% surcharge per additional step
			Official price	Official price	Official price	Official price	
			151 € – 200 €	201 € – 250 €	251 € – 300 €	301 € – 350 €	
A	150	50	0.1	0.2	0.3	0.4	0.1
B	150	50	0.2	0.4	0.6	0.8	0.2
C	150	50	0.3	0.6	0.9	1.2	0.3
D	150	50	0.4	0.8	1.2	1.6	0.4
E	150	50	0.5	1.0	1.5	2.0	0.5
F	150	50	0.6	1.2	1.8	2.4	0.6
G	150	50	0.7	1.4	2.1	2.8	0.7
H	150	50	1.2	2.4	3.6	4.8	1.2
I	150	50	1.6	3.2	4.8	6.4	1.6
J	150	50	1.8	3.6	5.4	7.2	1.8
K	150	50	2.0	3.5	5.0	6.5	1.5
L	150	50	2.2	4.4	6.6	8.8	2.2
M	150	50	2.5	5.0	7.5	10.0	2.5
			176 € – 225 €	226 € – 275 €	276 € – 325 €	326 € – 375 €	
O	175	50	0.1	0.2	0.3	0.4	0.1
P	175	50	0.2	0.4	0.6	0.8	0.2
Q	175	50	0.3	0.6	0.9	1.2	0.3
R	175	50	0.5	1.0	1.5	2.0	0.5
			226 € – 275 €	276 € – 325 €	326 € – 375 €	376 € – 425 €	
S	225	50	0.2	0.4	0.6	0.8	0.2
T	225	50	0.5	1.0	1.5	2.0	0.5
U	225	50	1.0	2.0	3.0	4.0	1.0
V	225	50	1.0	1.5	2.0	3.0	1.0
W	225	50	1.2	2.5	3.5	4.5	1.0
			126 € – 150 €	151 € – 175 €	176 € – 200 €	201 € – 225 €	
X	125	25	1.9	3.8	5.7	7.6	1.9
			151 € – 175 €	176 € – 200 €	201 € – 225 €	226 € – 250 €	
Y	150	25	0.3	0.6	0.9	1.2	0.3
			401 € – 425 €	426 € – 450 €	451 € – 475 €	476 € – 500 €	
Z	400	25	0.1	0.2	0.3	0.4	0.1
	Price basis (1st digit)						
L	Charged on the list price						
N	Charged on the customer net price or discounted list price						

Weight method	Basic official price	
2	100	Calculation based on raw material weight
3	150	
4	175	
5	200	
6	225	
7	300	
8	400	
9	555	

Misc.	
-	No metal surcharge

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Conditions of sale and delivery

Terms and Conditions of Sale and Delivery

By using this catalog you can acquire hardware and software products described therein from Siemens AG subject to the following terms. Please note! The scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside of Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. The following terms apply exclusivelyfor orders placed with Siemens AG.

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The "General Terms of Payment" as well as the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry" shall apply.

For software products, the "„General License Conditions for Software Products for Automation and Drives for Customers with a Seat or registered Office in Germany" shall apply.

For customers with a seat or registered office outside of Germany

The "General Terms of Payment" as well as the "General Conditions for Supplies of Siemens, Automation and Drives for Customers with a Seat or registered Office outside of Germany" shall apply.

For software products, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or registered Office outside of Germany" shall apply.

General

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches only apply to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the corresponding pages, - especially with regard to data, dimensions and weights given - these are subject to change without prior notice.

The prices are in € (Euro) ex works, exclusive packaging.

The sales tax (value added tax) is not included in the prices. It shall be debited separately at the respective rate according to the applicable legal regulations.

Prices are subject to change without prior notice. We will debit the prices valid at the time of delivery.

Surcharges will be added to the prices of products that contain silver, copper, aluminum, lead and/or gold, if the respective basic official prices for these metals are exceeded. These surcharges will be determined based on the official price and the metal factor of the respective product.

The surcharge will be calculated on the basis of the official price on the day prior to receipt of the order or prior to the release order.
The metal factor determines the official price as of which the metal surcharges are charged and the calculation method used. The metal factor, provided it is relevant, is included with the price information of the respective products. An exact explanation of the metal factor can be found on the page entitled "Metal surcharges".

The texts of the Comprehensive Terms and Conditions of Sale and Delivery are available free of charge from your local Siemens business office under the following Order Nos.:

- 6ZB5310-0KR30-0BA1
  (for customers based in Germany)
- 6ZB5310-0KS53-0BA1
  (for customers based outside of Germany)

or download them from the Internet
http://www.siemens.com/automation/mall
(Germany: A&D Mall Online-Help System)

Export regulations

The products listed in this catalog / price list may be subject to European / German and/or US export regulations.

Therefore, any export requiring a license is subject to approval by the competent authorities.

According to current provisions, the following export regulations must be observed with respect to the products featured in this catalog / price list:

AL	Number of the German Export List Products marked other than "N" require an export license. In the case of software products, the export designations of the relevant data medium must also be generally adhered to. Goods labeled with an "AL" not equal to "N" are subject to a European or German export authorization when being exported out of the EU.
ECCN	Export Control Classification Number. Products marked other than "N" are subject to a reexport license to specific countries. In the case of software products, the export designations of the relevant data medium must also be generally adhered to. Goods labeled with an "ECCN" not equal to "N" are subject to a US re-export authorization.

Even without a label or with an "AL: N" or "ECCN: N", authorization may be required due to the final destination and purpose for which the goods are to be used.

The deciding factors are the AL or ECCN export authorization indicated on order confirmations, delivery notes and invoices.

Errors excepted and subject to change without prior notice.

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Catalogs

Industry Automation, Drive Technologies and Electrical Installation Technology

Further information can be obtained from our branch offices listed in the appendix or at www.siemens.com/automation/partner

Automation and Drives	*Catalog*
Interactive catalog on DVD	CA 01

Drive Systems	
Variable-Speed Drives	
SINAMICS G110/SINAMICS G120 Inverter Chassis Units SINAMICS G120D Distributed Frequency Inverters	D 11.1
SINAMICS G130 Drive Converter Chassis Units, SINAMICS G150 Drive Converter Cabinet Units	D 11
SINAMICS GM150/SINAMICS SM150 Medium-Voltage Converters	D 12
SINAMICS S150 Drive Converter Cabinet Units	D 21.3
Asynchronous Motors Standardline	D 86.1
Synchronous Motors with Permanent-Magnet Technology, HT-direct	D 86.2
DC Motors	DA 12
SIMOREG DC MASTER 6RA70 Digital Chassis Converters	DA 21.1
SIMOREG K 6RA22 Analog Chassis Converters	DA 21.2
PDF: *SIMOREG DC MASTER 6RM70 Digital Converter Cabinet Units*	*DA 22*
SIMOVERT PM Modular Converter Systems	DA 45
SIEMOSYN Motors	DA 48
MICROMASTER 420/430/440 Inverters	DA 51.2
MICROMASTER 411/COMBIMASTER 411	DA 51.3
SIMOVERT MASTERDRIVES Vector Control	DA 65.10
SIMOVERT MASTERDRIVES Motion Control	DA 65.11
Synchronous and asynchronous servomotors for SIMOVERT MASTERDRIVES	DA 65.3
SIMODRIVE 611 universal and POSMO	DA 65.4
Low-Voltage Three-Phase-Motors	
IEC Squirrel-Cage Motors	D 81.1
MOTOX Geared Motors	D 87.1
Automation Systems for Machine Tools SIMODRIVE	NC 60
• Motors	
• Converter Systems SIMODRIVE 611/POSMO	
Automation Systems for Machine Tools SINAMICS	NC 61
• Motors	
• Drive System SINAMICS S120	
SIMOTION, SINAMICS S120 and Motors for Production Machines	PM 21
Drive and Control Components for Hoisting Equipment	HE 1
Mechanical Driving Machines	
Flender Standard Couplings	MD 10.1

Electrical Installation Technology	
PDF: *ALPHA Small Distribution Boards and Distribution Boards, Terminal Blocks*	*ET A1*
PDF: *ALPHA 8HP Molded-Plastic Distribution System*	*ET A3*
PDF: *BETA Low-Voltage Circuit Protection*	*ET B1*
PDF: *DELTA Switches and Socket Outlets*	*ET D1*
GAMMA Building Controls	ET G1

Human Machine Interface Systems SIMATIC HMI	ST 80

Low-Voltage	*Catalog*
Controls and Distribution – SIRIUS, SENTRON, SIVACON	LV 1
Controls and Distribution – Technical Information SIRIUS, SENTRON, SIVACON	LV 1 T
SIDAC Reactors and Filters	LV 60
SIVENT Fans	LV 65
SIVACON 8PS Busbar Trunking Systems	LV 70

Motion Control	
SINUMERIK & SIMODRIVE Automation Systems for Machine Tools	NC 60
SINUMERIK & SINAMICS Automation Systems for Machine Tools	NC 61
SIMOTION, SINAMICS S120 and Motors for Production Machines	PM 21

Process Instrumentation and Analytics	
Field Instruments for Process Automation Measuring Instruments for Pressure, Differential Pressure, Flow, Level and Temperature, Positioners and Liquid Meters	FI 01
PDF: *Indicators for panel mounting*	*MP 12*
SIREC Recorders and Accessories	MP 20
SIPART, Controllers and Software	MP 31
SIWAREX Weighing Systems	WT 01
Continuous Weighing and Process Protection	WT 02
Process Analytical Instruments	PA 01
PDF: *Process Analytics, Components for the System Integration*	*PA 11*

SIMATIC Industrial Automation Systems	
Products for Totally Integrated Automation and Micro Automation	ST 70
SIMATIC PCS 7 Process Control System	ST PCS 7
Add-ons for the SIMATIC PCS 7 Process Control System	ST PCS 7.1
Migration solutions with the SIMATIC PCS 7 Process Control System	ST PCS 7.2
pc-based Automation	ST PC
SIMATIC Control Systems	ST DA

SIMATIC NET	
Industrial Communication	IK PI

SIMATIC Sensors	
Sensors for Factory Automation	FS 10

Systems Engineering	
Power supplies SITOP power and LOGO! Power	KT 10.1
System cabling SIMATIC TOP connect	KT 10.2

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TELEPERM M Process Control System	
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PDF: These catalogs are only available as pdf files.

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