

Technical specifications

Overview of technical specifications

This table lists the most important technical specifications. For more information and details, see Catalog Section 1 "Introduction".

Type of motor	SIMOTICS GP/SD 1LE1/1PC1 IEC Low-Voltage Motors
Connection types	Star connection/delta connection The connection type to be used can be established from the Article No. supplements for the required motor.
Number of poles	2, 4, 6, 8
Frame sizes	71 M ... 315 L
Rated output	0.18 ... 200 kW (1LE1 motor series)/0.3 ... 9 kW (1PC1 motor series)
Frequencies	50 Hz and 60 Hz
Versions	Self-ventilated 1LE1 energy-saving motors with: • IE1 (Standard Efficiency) • IE2 (High Efficiency) • IE3 (Premium Efficiency) • IE4 (Super Premium Efficiency) • NEE (NEMA Energy Efficient, according to NEMA MG, Table 12-11) • NPE (NEMA Premium Efficient, according to NEMA MG, Table 12-12) Self-ventilated 1LE1 motors with increased output and: • IE1 (Standard Efficiency) • IE2 (High Efficiency) • IE3 (Premium Efficiency) Forced-air cooled 1LE1 motors without external fan and fan cover with: • IE1 (Standard Efficiency) • IE2 (High Efficiency) Naturally cooled 1PC1 motors without external fan and fan cover with: • IE1 (Standard Efficiency) • IE2 (High Efficiency)
Marking	IEC 60034-30-1 IE1, IE2, IE3: 2, 4 and 6-pole US Energy Independence Security Act EISA: 2, 4, 6 and 8-pole
Rated speed (synchronous speed)	750 ... 3000 rpm
Rated torque	1.0 ... 1703 Nm (1LE1 motor series)
Insulation of the stator winding in accordance with EN 60034-1 (IEC 60034-1)	Temperature class 155 (F), utilized acc. to temperature class 130 (B) (also for motors with increased output) DURIGNIT IR 2000 insulation system
Degree of protection according to EN 60034-5 (IEC 60034-5)	IP55 as standard
Cooling according to EN 60034-6 (IEC 60034-6)	• Self-ventilated (1LE1 motor series) frame size 80 M to 315 L (IC411), • Forced-air cooled (1LE1 motor series with order code F90) frame size 80 M to 200 L (IC416) • Naturally cooled (1PC1 motor series) frame size 100 L to 160 L (IC410)
Admissible coolant temperature and installation altitude	-20 ... +40 °C as standard, installation altitude up to 1000 m above sea level. See "Coolant temperature and installation altitude" in Catalog Section 1 "Introduction".
Standard voltages according to EN 60038 (IEC 60038)	50 Hz: 230 V, 400 V, 500 V, 690 V The voltage to be used can be found in the "Selection and ordering data" for the required motor.
Type of construction according to EN 60034-7 (IEC 60034-7)	• Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6, IM V5 with protective cover • With flange: IM B5, IM V1, IM V3, IM B35 • With standard flange and special flange (next larger flange): IM B14, IM V19, IM V18, IM B34
Paint finish Suitability of paint finish for climate group according to IEC 60721, Part 2-1	Standard: color RAL 7030 stone gray See "Paint finish" in Catalog Section 1 "Introduction".
Vibration severity level according to EN 60034-14 (IEC 60034-14)	Level A (normal – without special vibration requirements) Optionally: level B (with special vibration requirements) See "Balance and vibration quantity" in Catalog Section 1 "Introduction".
Shaft extension according to DIN 748 (IEC 60072)	Balance type: half-key balancing as standard See "Balance and vibration quantity" in Catalog Section 1 "Introduction".
Sound pressure level according to EN ISO 1680 (tolerance +3 dB)	The sound pressure level is listed in the selection and ordering data for the required motor.
Weights	The weight is listed in the selection and ordering data for the required motor.
Modular mounting concept	Rotary pulse encoder, brake, separately driven fan or prepared for mountings
Consistent series concept	• Cast housing feet, screwed-on feet available as an option and retrofittable • Terminal box obliquely partitioned and rotatable through 4 x 90° • Bearings at DE and NDE are of identical design, reinforced bearings available as an option
Options	See "Supplements to article numbers and special versions"

More information

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