

SIMOTICS SD 1LG Standard Motors

NEMA Energy Efficient MG1 motors, Table 12-11



Self-ventilated motors
Cast-iron series 1LG6 with order code D42

Selection and ordering data

Operating values at 60 Hz rated output																Cast-iron series		$m_{IM\ B3}$ J	Torque class						
P_{rated} 50 Hz	P_{rated} 60 Hz	Frame size	n_{rated} 60 Hz	T_{rated} 60 Hz	EISA CC No. CC032A	η_{rated} 60 Hz, 4/4	η_{rated} 60 Hz, 3/4	η_{rated} 60 Hz, 2/4	$\cos\phi$ rated, 4/4	I_{rated} 60 Hz, 460 V	T_{LR}/I_{rated}	I_{LR}/I_{rated}	T_B/I_{rated}	L_{pIA} 60 Hz	L_{WA} 60 Hz	1LG6 – NEMA Energy Efficient version (NEMA MG1, Table 12-11) Order No.									
kW	hp	FS	rpm	Nm		%	%	%	A								▲ New *	kg	kgm ²	CL					
• Cooling: Self-ventilated (IC 411) • Efficiency: NEMA Energy Efficient in accordance with NEMA MG1 Table 12-11, UL, CSA and service factor (SF) 1.15 – for operation in the USA and Canada • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																									
2-pole: 3600 rpm at 60 Hz																									
22	30	180 M	3560	60	✓	91.0	91.0	89.5	0.88	35	2.7	8.0	3.7	71	84	▲ 1LG6183-2MA ■■-Z D42	165	0.086	16						
30	40	180 L	3565	80	✓	91.7	91.7	89.7	0.88	45.5	2.7	7.8	3.5	75	88	▲ 1LG6206-2MA ■■-Z D42	215	0.15	16						
37	50	200 L	3565	100	✓	92.4	92.4	90.7	0.88	58	3.4	8.0	3.7	75	88	▲ 1LG6207-2MA ■■-Z D42	255	0.18	16						
45	60	225 M	3570	120	✓	93.0	92.7	91.3	0.88	69	3.1	8.7	3.8	74	87	▲ 1LG6223-2MA ■■-Z D42	300	0.23	16						
55	75	250 M	3575	149	–	93.0	92.5	90.8	0.89	85	2.5	7.8	3.6	80	93	▲ 1LG6253-2MB ■■-Z D42	380	0.40	13						
75	100	280 S	3580	199	–	93.6	92.9	91.0	0.87	115	2.8	7.5	3.5	80	93	▲ 1LG6280-2MB ■■-Z D42	500	0.72	13						
90	125	280 M	3578	249	✓	94.5	94.0	92.5	0.88	141	2.7	7.2	3.4	80	93	▲ 1LG6283-2MB ■■-Z D42	570	0.84	13						
110	150	315 S	3585	298	✓	94.5	94.0	92.5	0.90	165	2.6	7.7	3.3	81	94	▲ 1LG6310-2MB ■■-Z D42	750	1.3	13						
132	175	315 M	3585	348	–	95.0	94.5	93.2	0.91	190	3.0	8.3	3.3	81	94	▲ 1LG6313-2MB ■■-Z D42	915	1.6	13						
160	200	315 L	3585	397	✓	95.0	94.6	93.3	0.92	215	3.1	8.2	3.5	83	96	▲ 1LG6316-2MB ■■-Z D42	960	1.9	13						
200	250	315 L	3585	497	✓	95.0	94.8	93.8	0.91	270	3.5	8.9	3.4	83	96	▲ 1LG6317-2MB ■■-Z D42	1200	2.2	13						
250	300	315 L	3588	596	✓	95.4	94.9	93.6	0.91	325	4.3	10.7	4.5	83	97	▲ 1LG6318-2MB ■■-Z D42	1270	2.7	16						
315	400	315 L	3588	794	✓	95.4	95.0	93.8	0.89	440	4.5	10.8	4.4	87	101	▲ 1LG6312-2MA ■■-Z D42	1355	2.8	16						
Voltages (≤ 600 V) ¹⁾						No. of poles		Motor type				Version						Order code(s)							
50 Hz	230 VΔ/400 VY	60 Hz	460 VY			2	1LG6183 ... 310, 1LG6313				Standard				1		–								
50 Hz	400 VΔ	60 Hz	460 VΔ			2	1LG6183 ... 318				Standard				9		L1U								
50 Hz	500 VY					2	1LG6183 ... 310, 1LG6313				Without add. charge				3		–								
50 Hz	500 VΔ					2	1LG6183 ... 318				Without add. charge				5		–								
Further voltages			For additional charges, code numbers and descriptions, see supplements and special versions.																		9		...		
Types of construction ²⁾						No. of poles		Motor type				Version						Order code(s)							
Without flange			IM B3/6/7/8 ³⁾			2	1LG6312, 1LG6317 ... 318				Standard				0		–								
			IM V6 ³⁾			2	1LG6317				With add. charge				9		M1E								
						2	1LG6312, 1LG6318				On request				9		M1E								
			IM V5 without protective cover ³⁾			2	1LG6317				With add. charge				9		M1D								
						2	1LG6312, 1LG6318				On request				9		M1D								
			IM B5 ⁴⁾			2	1LG6183 ... 318				With add. charge				1		–								
With flange			IM V1 without protective cover ^{4) 5)}			2	1LG6183 ... 310, 1LG6313				With add. charge				1		–								
						2	1LG6312, 1LG6316 ... 318				With add. charge				8		–								
			IM V3 ⁴⁾			2	1LG6183 ... 310, 1LG6313				With add. charge				9		M1G								
			IM V1 with protective cover ^{4) 5) 6)}			2	1LG6183 ... 318				With add. charge				4		–								
Further types of construction			IM B35			2	1LG6317, 1LG6316 ... 318				With add. charge				6		–								
			For additional charges, code numbers and descriptions, see supplements and special versions.																		9		...		
Special versions																		Order code(s)							
Options			For additional charges, code numbers and descriptions, see supplements and special versions.													1LG6 ... - M. ■■-Z D42				+...+...+...+...					

¹⁾ Operating voltages only ≤ 600 V admissible in accordance with MG1 Table 12-11.

²⁾ Types of construction with feet are not possible for 2-pole, 4-pole and 6-pole motors ≤ 200 hp in accordance with MG1 Table 12-11.

³⁾ If 1LG6 motors in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

⁴⁾ 1LG6220 to 1LG6318 motors are supplied with two screw-in eyebolts conforming to IM B5, whereby one can be repositioned to conform to IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

⁵⁾ 2-pole motors 1LG6316-... to 1LG6317-... and 1LG6312-... (motor series 1LG6 frame size 315 L) in 60 Hz version available on request.

⁶⁾ The "Second shaft extension" option, order code K16 is not possible.

* Order identically priced predecessor type for 1LG6...2AA../1LG6...2AB.. 2-pole motors or 1LG6...4AA.. 4-pole motors using the options for country certificates (D31, D33, D34, D35, D40), marine certificates (E11, E21, E31, E51), explosion-proof version (M72, M73, M34, M35, M38, M39, M74, M75, C27) and IE3 version for SH 315 (D25). For 1LG6312-2MA..., 1LG6312-4MA..., 1LG6318-2MB.. and 1LG6318-4MA.. motors that do not have predecessor types, it is not possible to use the options for country certificates (D31, D33, D34, D35, D40), marine certificates (E11, E21, E31, E51), explosion-proof version (M72, M73, M34, M35, M38, M39, M74, M75, C27), brakes, brakes with encoder (G26, H47, H62, H63, H64, H98, H99), low-noise versions (K37, K38) and mounting of a separately driven fan, separately driven fan with encoder (G17, H61, H64, H97, H99).

SIMOTICS SD 1LG Standard Motors
NEMA Energy Efficient MG1 motors, Table 12-11

Self-ventilated motors
Cast-iron series 1LG6 with order code D42



Selection and ordering data (continued)

Operating values at 60 Hz rated output															Cast-iron series		m _{IM} B3 J	Torque class	
P _{rated} , 50 Hz	P _{rated} , 60 Hz	Frame size	n _{rated} , 60 Hz	T _{rated} , 60 Hz	EISA CC No. CC032A	η _{rated} , 60 Hz, 4/4	η _{rated} , 60 Hz, 3/4	η _{rated} , 60 Hz, 2/4	cos φ _{rated} , 60 Hz, 4/4	I _{rated} , 60 Hz, 460 V	T _L /I _{rated}	I _L /I _{rated}	T _B /I _{rated}	L _p A, 60 Hz	L _{WA} , 60 Hz	1LG6 – NEMA Energy Efficient version (NEMA MG1, Table 12-11) Order No.			
kW	hp	FS	rpm	Nm		%	%	%	A								kg	kgm ²	CL
• Cooling: Self-ventilated (IC 411) • Efficiency: NEMA Energy Efficient in accordance with NEMA MG1 Table 12-11, UL, CSA and service factor (SF) 1.15 – for operation in the USA and Canada • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																			
4-pole: 1800 rpm at 60 Hz																			
18.5	25	180 M	1770	101	✓	92.4	92.6	91.5	0.82	31	3.0	8.0	3.8	66	79	▲ 1LG6183-4MA ■■-Z D42	160	0.12	16
22	30	180 L	1770	121	✓	92.4	92.6	92.0	0.83	36.5	2.8	7.9	3.8	70	83	▲ 1LG6186-4MA ■■-Z D42	185	0.14	16
30	40	200 L	1775	161	✓	93.0	92.9	91.7	0.84	48	2.7	7.7	3.5	69	82	▲ 1LG6207-4MA ■■-Z D42	225	0.23	16
37	50	225 S	1778	200	–	93.0	93.2	92.7	0.86	59	3.0	7.4	3.4	66	79	▲ 1LG6220-4MA ■■-Z D42	285	0.40	16
45	60	225 M	1778	240	✓	93.6	93.7	92.9	0.86	70	3.0	8.1	3.6	66	79	▲ 1LG6223-4MA ■■-Z D42	315	0.53	16
55	75	250 M	1785	299	–	94.1	94.1	93.2	0.84	89	3.2	8.1	3.4	66	79	▲ 1LG6253-4MA ■■-Z D42	390	0.56	16
75	100	280 S	1788	398	–	94.5	94.4	93.6	0.87	114	2.8	7.9	3.2	71	84	▲ 1LG6280-4MA ■■-Z D42	560	1.3	16
90	125	280 M	1788	498	✓	94.5	94.3	93.4	0.86	144	2.9	8.1	3.5	72	85	▲ 1LG6283-4MA ■■-Z D42	640	1.4	16
110	150	315 S	1790	597	✓	95.0	94.8	93.8	0.86	172	3.1	7.6	3.2	75	88	▲ 1LG6310-4MA ■■-Z D42	750	2.0	16
132	175	315 M	1790	697	–	95.0	94.8	94.3	0.86	200	3.1	7.8	3.4	75	88	▲ 1LG6313-4MA ■■-Z D42	870	2.3	16
160	200	315 L	1790	796	✓	95.0	94.9	93.8	0.87	225	3.7	8.8	3.2	77	90	▲ 1LG6316-4MA ■■-Z D42	950	2.8	16
200	250	315 L	1792	994	✓	95.0	95.0	93.8	0.86	285	4.2	9.8	3.8	77	90	▲ 1LG6317-4MA ■■-Z D42	1120	3.4	16
250	300	315 L	1792	1193	✓	95.4	95.2	94.5	0.85	345	3.8	9.6	3.8	78	92	▲ 1LG6318-4MA ■■-Z D42	1270	4.2	16
315	400	315 L	1792	1590	✓	95.4	95.2	94.3	0.84	465	4.4	9.9	3.8	78	92	▲ 1LG6312-4MA ■■-Z D42	1480	5.0	16
Voltages (≤ 600 V) ¹⁾						No. of poles		Motor type		Version						Order code(s)			
50 Hz	230 VΔ/400 VY	60 Hz	460 VY			4	1LG6183 ... 310, 1LG6313		Standard		1		–						
50 Hz	400 VΔ	60 Hz	460 VΔ			4	1LG6183 ... 318		Standard		9		L1U						
50 Hz	500 VY					4	1LG6183 ... 310, 1LG6313		Without add. charge		3		–						
50 Hz	500 VΔ					4	1LG6183 ... 318		Without add. charge		5		–						
Further voltages		For additional charges, code numbers and descriptions, see supplements and special versions.										9		...					
Types of construction ²⁾						No. of poles		Motor type		Version						Order code(s)			
Without flange		IM B3/6/7/8 ³⁾		4		1LG6312, 1LG6317 ... 318		Standard		0		–							
		IM V6 ³⁾		4		1LG6317		Without add. charge		9		M1E							
				4		1LG6312, 1LG6318		On request		9		M1E							
		IM V5 without protective cover ³⁾		4		1LG6317		Without add. charge		9		M1D							
With flange				4		1LG6312, 1LG6318		On request		9		M1D							
		IM B5 ⁴⁾		4		1LG6183 ... 318		With add. charge		1		–							
		IM V1 without protective cover ^{4) 5)}		4		1LG6183 ... 310, 1LG6313		With add. charge		1		–							
				4		1LG6312, 1LG6316 ... 318		With add. charge		8		–							
		IM V3 ⁴⁾		4		1LG6183 ... 310, 1LG6313		With add. charge		9		M1G							
		IM V1 with protective cover ^{4) 5) 6)}		4		1LG6183 ... 318		With add. charge		4		–							
Further types of construction		IM B35		4		1LG6317, 1LG6316 ... 318		With add. charge		6		–							
		For additional charges, code numbers and descriptions, see supplements and special versions.										9		...					
Special versions																	Order code(s)		
Options										For additional charges, code numbers and descriptions, see supplements and special versions.					1LG6 M. ■■-Z D42		+ . . . + . . . + . . .		

¹⁾ Operating voltages only ≤ 600 V admissible in accordance with MG1 Table 12-11.

²⁾ Types of construction with feet are not possible for 2-pole, 4-pole and 6-pole motors ≤ 200 hp in accordance with MG1 Table 12-11.

³⁾ If 1LG6 motors in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

⁴⁾ 1LG6220 to 1LG6318 motors are supplied with two screw-in eyebolts conforming to IM B5, whereby one can be repositioned to conform to IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

⁵⁾ 2-pole motors 1LG6316-... to 1LG6317-... and 1LG6312-... (motor series 1LG6 frame size 315 L) in 60 Hz version available on request.

⁶⁾ The "Second shaft extension" option, order code K16 is not possible.

^{*} Order identically priced predecessor type for 1LG6...2AA../1LG6...2AB.. 2-pole motors or 1LG6...4AA.. 4-pole motors using the options for country certificates (D31, D33, D34, D35, D40), marine certificates (E11, E21, E31, E51), explosion-proof version (M72, M73, M34, M35, M38, M39, M74, M75, C27), brakes, brakes with encoder (G26, H47, H62, H63, H64, H98, H99), low-noise versions (K37, K38) and mounting of a separately driven fan, separately driven fan with encoder (G17, H61, H64, H97, H99).

SIMOTICS SD 1LG Standard Motors

NEMA Energy Efficient MG1 motors, Table 12-11



Self-ventilated motors
Cast-iron series 1LG6 with order code D42

Selection and ordering data (continued)

Operating values at 60 Hz rated output															Cast-iron series		$m_{IM\ B3}$ J	Torque class					
P_{rated} , 50 Hz	P_{rated} , 60 Hz	Frame size	n_{rated} , 60 Hz	T_{rated} , 60 Hz	EISA CC No. CC032A	η_{ra-} ted, 60 Hz, 4/4	η_{ra-} ted, 60 Hz, 3/4	η_{ra-} ted, 60 Hz, 2/4	$\cos\phi$ rated, 4/4	I_{rated} , 60 Hz, 460 V	T_{LR}/I_{rated}	I_{LR}/I_{rated}	T_B/I_{rated}	L_{pIA} , 60 Hz	L_{WA} , 60 Hz	1LG6 – NEMA Energy Efficient version (NEMA MG1, Table 12-11) Order No.							
kW	hp	FS	rpm	Nm		%	%	%	A								▲ New *	kg	kgm ²	CL			
• Cooling: Self-ventilated (IC 411) • Efficiency: NEMA Energy Efficient in accordance with NEMA MG1 Table 12-11, UL, CSA and service factor (SF) 1.15 – for operation in the USA and Canada • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																							
6-pole: 1200 rpm at 60 Hz																							
15	20	180 L	1178	121	✓	90.2	90.6	89.9	0.80	26	2.9	6.5	3.0	57	70		1LG6186-6AA ■■-Z D42	175	0.20	16			
18.5	25	200 L	1180	151	✓	91.7	92.0	91.2	0.79	32.5	2.9	6.5	2.7	65	78		1LG6206-6AA ■■-Z D42	210	0.29	16			
22	30	200 L	1180	181	✓	91.7	92.1	91.5	0.80	38.5	2.9	6.5	2.7	65	78		1LG6207-6AA ■■-Z D42	240	0.36	16			
30	40	225 M	1184	241	✓	93.0	93.3	92.7	0.82	49	3.4	7.2	3.4	62	75		1LG6223-6AA ■■-Z D42	325	0.63	16			
37	50	250 M	1186	300	–	93.0	93.2	92.5	0.82	61	2.8	6.3	2.4	63	76		1LG6253-6AA ■■-Z D42	405	0.93	16			
45	60	280 S	1190	359	–	93.6	93.7	93.0	0.83	72	3.6	7.7	3.1	62	75		1LG6280-6AA ■■-Z D42	520	1.4	16			
55	75	280 M	1190	449	–	93.6	93.6	92.9	0.83	90	3.9	8.3	3.3	62	75		1LG6283-6AA ■■-Z D42	570	1.7	16			
75	100	315 S	1191	600	✓	94.1	94.0	93.2	0.82	121	3.3	8.4	3.4	66	79		1LG6310-6AA ■■-Z D42	760	2.5	16			
90	125	315 M	1191	750	✓	94.1	94.1	93.5	0.84	148	3.0	7.9	3.1	66	79		1LG6313-6AA ■■-Z D42	935	3.2	16			
110	150	315 L	1192	900	✓	95.0	95.1	94.5	0.84	176	3.3	8.5	3.3	66	79		1LG6316-6AA ■■-Z D42	1010	4.0	16			
132	175	315 L	1192	1050	–	95.0	95.0	94.3	0.84	205	3.8	8.9	3.6	66	79		1LG6317-6AA ■■-Z D42	1180	4.7	16			
160	200	315 L	1192	1200	✓	95.0	94.8	93.9	0.84	235	4.0	9.4	4.0	69	82		1LG6318-6AA ■■-Z D42	1245	5.4	16			
200	250	315 L	1192	1494	✓	95.0	94.9	93.9	0.81	305	3.6	9.4	3.9	70	84	▲	1LG6312-6MA ■■-Z D42	1420	5.5	16			
Voltages (≤ 600 V) ¹⁾						No. of poles		Motor type				Version				1 3 3 5 9	Order code(s)						
50 Hz	230 VΔ/400 VY		60 Hz	460 VY		6	1LG6183 ... 310, 1LG6313				Standard				–								
50 Hz	400 VΔ		60 Hz	460 VΔ		6	1LG6183 ... 318				Standard				9 L1U								
50 Hz	500 VY					6	1LG6183 ... 310, 1LG6313				Without additional charge				3 –								
50 Hz	500 VΔ					6	1LG6183 ... 318				Without additional charge				5 –								
Further voltages			For additional charges, code numbers and descriptions, see supplements and special versions.															9	...				
Types of construction ²⁾						No. of poles		Motor type				Version				Order code(s)							
Without flange			IM B3/6/7/8 ³⁾			6	1LG6312				Standard				0	–							
			IM V6 ³⁾			6	1LG6312				On request				9	M1E							
With flange			IM V5 without protective cover ³⁾			6	1LG6312				On request				9	M1D							
			IM B5 ⁴⁾			6	1LG6183 ... 318				With additional charge				1	–							
			IM V1 without protective cover ⁴⁾			6	1LG6183 ... 310, 1LG6313				With additional charge				1	–							
						6	1LG6312, 1LG6316 ... 318				With additional charge				8	–							
			IM V3 ⁴⁾			6	1LG6183 ... 310, 1LG6313				With additional charge				9	M1G							
			IM V1 with protective cover ^{4) 5)}			6	1LG6183 ... 318				With additional charge				4	–							
			IM B35			6	1LG6312				With additional charge				6	–							
Further types of construction			For additional charges, code numbers and descriptions, see supplements and special versions.															9	...				
Special versions																		Order code(s)					
Options			For additional charges, code numbers and descriptions, see supplements and special versions.													1LG6 M . ■■-Z D42		+ . . + . . + . . + . .					

- ¹⁾ Operating voltages only ≤ 600 V admissible in accordance with MG1 Table 12-11.
- ²⁾ Types of construction with feet are not possible for 2-pole, 4-pole and 6-pole motors ≤ 200 hp in accordance with MG1 Table 12-11.
- ³⁾ If 1LG6 motors in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.
- ⁴⁾ 1LG6220 to 1LG6318 motors are supplied with two screw-in eyebolts conforming to IM B5, whereby one can be repositioned to conform to IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.
- ⁵⁾ The "Second shaft extension" option, order code K16 is not possible.

* For 1LG6312-6MA.. motors, it is not possible to use the options for country certificates (D31, D33, D34, D35, D40), marine certificates (E11, E21, E31, E51), explosion-proof version (M72, M73, M34, M35, M38, M39, M74, M75, C27), brakes, brakes with encoder (G26, H47, H62, H63, H64, H98, H99), low-noise versions (K37, K38) and mounting of a separately driven fan, separately driven fan with encoder (G17, H61, H64, H97, H99).