

SIMOTICS GP 1LE1 Standard Motors – Eagle Line

NEMA Energy Efficient MG1 motors, Table 12-11

Self-ventilated or forced-air cooled motors
Aluminum series 1LE1021

IE2



Selection and ordering data

Operating values at 60 Hz rated output															Aluminum series 1LE1021 – NEMA Energy Efficient version		m _{IM} B3 J	Torque class		
P _{rated} , 50 Hz	P _{rated} , 60 Hz	Frame size	η _{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 _{LR} /I _{LR} , ted	I _{LR} /I _{LR} , ted	T _B /I _B , ted	L _{pfA} , 60 Hz	L _{WA} , 60 Hz					
kW	hp	FS	rpm	Nm		%	%	%	A					dB(A)	dB(A)					
▲ New															Order No.					
• Cooling: Self-ventilated (IC 411) or with order code F90 forced-air cooled without external fan and fan cover (IC 416)																				
• Efficiency: NEMA Energy Efficient, UL, CSA and service factor (SF) 1.15 – for operation in the USA and Canada, not admissible for exporting to Mexico																				
• Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																				
2-pole: 3000 rpm at 50 Hz, 3600 rpm at 60 Hz																				
3	4	100 L	3520	8.1	–	87.5	87.3	86.2	0.83	5.2	2.6	8.1	3.8	71	83	▲ 1LE1021-1AA4	21	0.0044	16	
4	5	112 M	3565	9.9	✓	87.5	87.4	85.8	0.84	6.3	2.9	9.3	4.0	73	85	▲ 1LE1021-1BA2	27	0.0092	16	
5.5	7.5	132 S	3555	15	✓	88.5	88.3	88.1	0.86	9.1	2.0	7.6	3.3	72	84	▲ 1LE1021-1CA0	39	0.020	16	
7.5	10	132 S	3560	20	✓	89.5	89.6	89.6	0.87	12.1	2.3	8.2	3.6	72	84	▲ 1LE1021-1CA1	43	0.024	16	
11	15	160 M	3560	30	✓	90.2	89.6	87.8	0.86	17.8	2.4	8.2	3.6	77	89	▲ 1LE1021-1DA2	67	0.045	16	
15	20	160 M	3565	40	✓	90.2	89.9	88.0	0.87	24	2.8	8.4	3.9	77	89	▲ 1LE1021-1DA3	75	0.053	16	
18.5	25	160 L	3565	50	✓	91.0	90.5	89.4	0.87	29.5	3.3	8.9	4.1	77	89	▲ 1LE1021-1DA4	84	0.061	16	
4-pole: 1500 rpm at 50 Hz, 1800 rpm at 60 Hz																				
2.2	3	100 L	1760	12	–	87.5	87.5	86.5	0.78	4.05	2.5	8.1	3.9	62	74	▲ 1LE1021-1AB4	21	0.0086	16	
3	4	100 L	1765	16	–	87.5	88.3	87.1	0.79	5.4	2.4	8.3	3.7	62	74	▲ 1LE1021-1AB5	25	0.011	16	
4	5	112 M	1770	20	✓	87.5	87.0	86.0	0.77	6.9	3.0	8.7	4.0	62	74	▲ 1LE1021-1BB2	29	0.014	16	
5.5	7.5	132 S	1770	30	✓	89.5	89.6	88.3	0.78	9.9	2.6	8.0	3.3	68	80	▲ 1LE1021-1CB0	42	0.027	16	
7.5	10	132 M	1770	40	✓	89.5	90.3	89.5	0.82	12.8	2.7	8.0	3.4	68	80	▲ 1LE1021-1CB2	49	0.034	16	
11	15	160 M	1775	59	✓	91.0	91.3	90.5	0.84	18.1	2.5	7.7	3.2	69	81	▲ 1LE1021-1DB2	71	0.065	16	
15	20	160 L	1780	80	✓	91.0	90.7	89.9	0.84	24.5	2.6	8.5	3.4	69	81	▲ 1LE1021-1DB4	83	0.083	16	
Voltages (≤ 600 V) ¹⁾						No. of poles	Frame size	Motor type	Version							Order code(s)				
50 Hz	230 VΔ/400 VY	60 Hz	460 VY			2, 4	100 L ... 160 L	1LE1021-1A ... -1D	Standard	2	2							–		
50 Hz	400 VΔ	60 Hz	460 VΔ			2, 4	100 L ... 160 L	1LE1021-1A ... -1D	Standard	3	4							–		
50 Hz	500 VY					2, 4	100 L ... 160 L	1LE1021-1A ... -1D	Without additional charge	2	7							–		
50 Hz	500 VΔ					2, 4	100 L ... 160 L	1LE1021-1A ... -1D	Without additional charge	4	0							–		
Further voltages						For add. charges, code numbers, order codes and descriptions, see supplements and special versions.						9	0							...
Types of construction ²⁾						No. of poles	Frame size	Motor type	Version							Order code(s)				
With flange						2, 4	100 L ... 160 L	1LE1021-1A ... -1D	With additional charge	F							–			
With standard flange						2, 4	100 L ... 160 L	1LE1021-1A ... -1D	With additional charge	K							–			
Further types of construction						For additional charges, code letters and descriptions, see supplements and special versions.						■							...	
Motor protection						No. of poles	Frame size	Motor type	Version							Order code(s)				
Without						2, 4	100 L ... 160 L	1LE1021-1A ... -1D	Standard	A							–			
PTC thermistor with 3 temperature sensors						2, 4	100 L ... 160 L	1LE1021-1A ... -1D	With additional charge	B							–			
Further motor protection						For additional charges, code letters and descriptions, see supplements and special versions.						■							...	
Connection box position						No. of poles	Frame size	Motor type	Version							Order code(s)				
Connection box at top						2, 4	100 L ... 160 L	1LE1021-1A ... -1D	Standard	4							–			
Further connection box positions						For additional charges, code numbers and descriptions, see supplements and special versions.														
Special versions						No. of poles	Frame size	Motor type							Order code(s)					
Forced-air cooled without ext. fan/ fan cover (IC 416)						2, 4	100 L ... 160 L	1LE1021-1A ... -1D	1LE1021-....	■	■	■	■	■	■	F90 +...+...+...				
Options						For add. charges, order codes and descriptions, see supplements and special versions.						1LE1021-....	■	■	■	■	...+...+...+...			

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⁾ Types derived from IM B5 (IM V3 and IM V1) and from IM B14 (IM V19 and IM V18) are possible, provided that no requirements exist for condensation drainage holes (H03) and stamping of the type on the rating plate. The basic type IM B5 or IM B14 is stamped as standard on the rating plate. When ordering with condensation drainage holes (H03), the type must be specified.

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Selection and ordering data (continued)

Operating values at 60 Hz rated output																Aluminum 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	$\cos\phi_{rated}$, 60 Hz, 4/4	I_{rated} , 60 Hz, 460 V	T_{LR}/I_{ra-} , ted	I_{LR}/I_{ra-} , ted	T_B/I_{ra-} , ted	L_{pFA} , 60 Hz	L_{WA} , 60 Hz	1LE1021 – NEMA Energy Efficient version	Order No.			
kW	hp	FS	rpm	Nm		%	%	%		A								kg	kgm ²	CL
• Cooling: Self-ventilated (IC 411) or with order code F90 forced-air cooled without external fan and fan cover (IC 416) • Efficiency: NEMA Energy Efficient, UL, CSA and service factor (SF) 1.15 – for operation in the USA and Canada, not admissible for exporting to Mexico • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																				
6-pole: 1000 rpm at 50 Hz, 1200 rpm at 60 Hz																				
1.5	2	100 L	1175	12	–	86.5	86.0	84.4	0.69	3.15	2.3	7.0	3.4	62	74	▲ 1LE1021-1AC4	25	0.011	16	
2.2	3	112 M	1170	18	✓	87.5	87.4	85.9	0.73	4.3	2.3	7.3	3.4	60	72	▲ 1LE1021-1BC2	29	0.014	16	
3	4	132 S	1175	24	–	87.5	87.6	85.9	0.70	6.1	1.8	6.5	3.0	67	79	▲ 1LE1021-1CC0	38	0.024	13	
4	5	132 M	1180	30	✓	87.5	88.3	87.0	0.73	7.3	2.1	6.6	3.2	67	79	▲ 1LE1021-1CC2	43	0.029	13	
5.5	7.5	132 M	1175	45	✓	89.5	89.7	88.7	0.74	10.4	2.0	7.1	3.2	67	79	▲ 1LE1021-1CC3	52	0.037	16	
7.5	10	160 M	1180	61	✓	89.5	90.0	89.0	0.74	14.2	2.0	7.1	3.2	70	82	▲ 1LE1021-1DC2	77	0.075	16	
11	15	160 L	1180	89	✓	90.2	90.0	89.1	0.78	19.6	1.8	6.8	3.0	70	82	▲ 1LE1021-1DC4	93	0.098	16	
Voltages (≤ 600 V) ¹⁾						No. of poles	Frame size	Motor type	Version											Order code(s)
50 Hz	230 VΔ/400 VY		60 Hz	460 VY	6	100 L ... 160 L	1LE1021-1A ... -1D	Standard								2	2		–	
50 Hz	400 VΔ		60 Hz	460 VΔ	6	100 L ... 160 L	1LE1021-1A ... -1D	Standard								3	4		–	
50 Hz	500 VY				6	100 L ... 160 L	1LE1021-1A ... -1D	Without additional charge								2	7		–	
50 Hz	500 VΔ				6	100 L ... 160 L	1LE1021-1A ... -1D	Without additional charge								4	0		–	
Further voltages						For additional charges, code numbers, order codes and descriptions, see supplements and special versions.										9	0		...	
Types of construction ²⁾						No. of poles	Frame size	Motor type	Version											Order code(s)
With flange				IM B5 ³⁾	6	100 L ... 160 L	1LE1021-1A ... -1D	With additional charge									F		–	
With standard flange				IM B14 ³⁾	6	100 L ... 160 L	1LE1021-1A ... -1D	With additional charge									K		–	
Further types of construction						For additional charges, code letters and descriptions, see supplements and special versions.													...	
Motor protection						No. of poles	Frame size	Motor type	Version											Order code(s)
Without					6	100 L ... 160 L	1LE1021-1A ... -1D	Standard									A		–	
PTC thermistor with 3 temperature sensors					6	100 L ... 160 L	1LE1021-1A ... -1D	With additional charge									B		–	
Further motor protection						For additional charges, code letters and descriptions, see supplements and special versions.													...	
Connection box position						No. of poles	Frame size	Motor type	Version											Order code(s)
Connection box at top					6	100 L ... 160 L	1LE1021-1A ... -1D	Standard									4		–	
Further connection box positions						For additional charges, code numbers and descriptions, see supplements and special versions.														
Special versions						No. of poles	Frame size	Motor type												Order code(s)
Forced-air cooled without external fan/ fan cover (IC 416)						6	100 L ... 160 L	1LE1021-1A ... -1D									1LE1021- ...	▲-■■■■■	-Z	F90 + . . . + . . .
Options						For additional charges, order codes and descriptions, see supplements and special versions.											1LE1021- ...	▲-■■■■■	-Z	. . . + . . . + . . .

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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.

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