

# SIMOTICS GP 1LE1 Standard Motors

## Motors with High Efficiency IE2

Self-ventilated or forced-air cooled motors  
Aluminum series 1LE1001

# IE2

### Selection and ordering data

Operating values at rated output															Aluminum series 1LE1001 – IE2 version in acc. with IEC 60034-30		m <sub>IM B3</sub> J		Torque class
P <sub>rated</sub> , 50 Hz	P <sub>rated</sub> , 60 Hz (1)	Frame size	n <sub>rated</sub> , 50 Hz	T <sub>rated</sub> , 50 Hz	IE class	η <sub>rated</sub> , 50 Hz, 4/4	η <sub>rated</sub> , 50 Hz, 3/4	η <sub>rated</sub> , 50 Hz, 2/4	COS- φ <sub>rated</sub> , 50 Hz, 4/4	I <sub>rated</sub> , 50 Hz, 400 V	T <sub>LR</sub> / I <sub>rated</sub>	I <sub>LR</sub> / I <sub>rated</sub>	T <sub>B</sub> / I <sub>rated</sub>	L <sub>pFA</sub> , 50 Hz	L <sub>WA</sub> , 50 Hz	Order No.	kg	kgm <sup>2</sup>	CL
kW	kW	FS	rpm	Nm		%	%	%		A				dB(A)	dB(A)	▲ New			
2-pole: 3000 rpm at 50 Hz, 3600 rpm at 60 Hz <sup>1)</sup>																			
0.75	0.86	80 M	2805	2.6	IE2	77.4	79.5	78.8	0.84	1.67	1.9	4.9	2.3	60	71	▲ 1LE1001-0DA2	9.0	0.00080	16
1.1	1.27	80 M	2835	3.7	IE2	79.6	81.3	80.8	0.83	2.40	2.7	6.0	3.1	60	71	▲ 1LE1001-0DA3	11	0.0011	16
1.5	1.75	90 S	2885	5.0	IE2	81.3	82.3	80.8	0.84	3.15	2.7	6.9	3.6	65	77	▲ 1LE1001-0EA0	13	0.0017	16
2.2	2.55	90 L	2890	7.3	IE2	83.2	83.9	82.3	0.85	4.5	2.5	7.1	3.7	65	77	▲ 1LE1001-0EA4	15	0.0021	16
3	3.45	100 L	2905	9.9	IE2	84.6	85.2	84.7	0.84	6.1	2.3	7.0	3.3	67	79	1LE1001-1AA4	21	0.0044	16
4	4.55	112 M	2950	13	IE2	85.8	86.7	86.1	0.86	7.8	2.4	7.4	3.3	69	81	1LE1001-1BA2	27	0.0092	16
5.5	6.3	132 S	2950	18	IE2	87.0	88.0	87.4	0.87	10.5	1.8	6.6	2.9	68	80	1LE1001-1CA0	39	0.020	16
7.5	8.6	132 S	2950	24	IE2	88.1	88.7	88.6	0.87	14.1	2.2	7.5	3.1	68	80	1LE1001-1CA1	43	0.024	16
11	12.6	160 M	2955	36	IE2	89.4	90.0	89.1	0.87	20.5	2.1	7.4	3.2	70	82	1LE1001-1DA2	67	0.045	16
15	17.3	160 M	2955	48	IE2	90.3	90.9	90.3	0.88	27	2.4	7.6	3.4	70	82	1LE1001-1DA3	75	0.053	16
18.5	21.3	160 L	2955	60	IE2	90.9	91.2	90.4	0.88	33.5	2.9	7.9	3.6	70	82	1LE1001-1DA4	84	0.061	16
4-pole: 1500 rpm at 50 Hz, 1800 rpm at 60 Hz <sup>1)</sup>																			
0.55	0.63	80 M	1440	3.7	–	78.1	78.9	76.1	0.74	1.37	2.2	5.3	3.1	53	64	▲ 1LE1001-0DB2	10	0.0017	16
0.75	0.86	80 M	1440	5.0	IE2	79.6	80.2	78.0	0.76	1.79	2.2	5.6	3.1	53	64	▲ 1LE1001-0DB3	11	0.0021	16
1.1	1.27	90 S	1425	7.4	IE2	81.4	81.7	79.9	0.78	2.5	2.3	5.6	2.9	56	68	▲ 1LE1001-0EB0	13	0.0028	16
1.5	1.75	90 L	1435	10	IE2	82.8	83.5	82.0	0.79	3.3	2.6	6.4	3.4	56	68	▲ 1LE1001-0EB4	16	0.0036	16
2.2	2.55	100 L	1455	14	IE2	84.3	85.1	84.3	0.81	4.65	2.1	6.9	3.3	60	72	1LE1001-1AB4	21	0.0086	16
3	3.45	100 L	1455	20	IE2	85.5	86.7	86.0	0.82	6.2	2.0	6.9	3.1	60	72	1LE1001-1AB5	25	0.011	16
4	4.55	112 M	1460	26	IE2	86.6	87.3	86.5	0.81	8.2	2.5	7.1	3.2	58	70	1LE1001-1BB2	29	0.014	16
5.5	6.3	132 S	1465	36	IE2	87.7	89.0	87.7	0.80	11.3	2.3	6.9	2.9	64	76	1LE1001-1CB0	42	0.027	16
7.5	8.6	132 M	1465	49	IE2	88.7	90.3	88.8	0.83	14.7	2.3	6.9	2.9	64	76	1LE1001-1CB2	49	0.034	16
11	12.6	160 M	1470	71	IE2	89.8	90.9	90.8	0.85	21	2.1	6.7	2.8	65	77	1LE1001-1DB2	71	0.065	16
15	17.3	160 L	1475	97	IE2	90.6	91.3	91.0	0.85	28	2.3	7.3	3.0	65	77	1LE1001-1DB4	83	0.083	16

Voltagess	Motor protection	No. of poles	Frame size	Motor type	Version	Order code(s)				
<b>Frame sizes 80 M to 90 L: Use of the 360° freely rotatable connection box for 2 and 4-pole motors <sup>2)</sup></b>										
50 Hz 230 VΔ/400 VY	60 Hz <sup>1)</sup> 460 VY	PTC thermistor with 1 temp. sensor	2, 4	80 M ... 90 L	1LE1001-0D ... -0E	Standard	2	2	B	–
50 Hz 400 VΔ/690 VY	60 Hz <sup>1)</sup> 460 VΔ	Without	2, 4	80 M ... 90 L	1LE1001-0D ... -0E	Standard	3	4	B	–
50 Hz 400 VY	60 Hz <sup>1)</sup> 460 VY	Without	2, 4	80 M ... 90 L	1LE1001-0D ... -0E	Standard	0	2	A	–
<b>Frame sizes 100 L to 160 L: Use of the 4 x 90° rotatable connection box</b>										
50 Hz 230 VΔ/400 VY	60 Hz <sup>1)</sup> 460 VY	Any	2, 4	100 L ... 160 L	1LE1001-1A ... -1D	Standard	2	2	–	–
50 Hz 400 VΔ/690 VY	60 Hz <sup>1)</sup> 460 VΔ	Any	2, 4	100 L ... 160 L	1LE1001-1A ... -1D	Standard	3	4	–	–
50 Hz 500 VY	Any	Any	2, 4	100 L ... 160 L	1LE1001-1A ... -1D	Without add. charge	2	7	–	–
50 Hz 500 VΔ	Any	Any	2, 4	100 L ... 160 L	1LE1001-1A ... -1D	Without add. charge	4	0	–	–
Further voltages <sup>1)</sup>	For add. charges, code numbers, order codes and descr., see suppl. and spec. versions.						9	0	...	–
<b>Types of construction</b>										
Without flange	IM B3 <sup>3)</sup>		No. of poles	Frame size	Motor type	Version	Order code(s)			
With flange	IM B5 <sup>3)</sup>		2, 4	80 M ... 160 L	1LE1001-0D ... -1D	Standard	A	–	–	–
With standard flange	IM B14 <sup>3)</sup>		2, 4	80 M ... 160 L	1LE1001-0D ... -1D	With additional charge	F	–	–	–
Further types of construction	For add. charges, code letters and descriptions, see supplements and special versions.						K	–	–	–
<b>Motor protection</b>										
For add. charges, code letters and descriptions, see supplements and special versions.										
<b>Frame sizes 100 L to 160 L: Use of the 4 x 90° rotatable connection box</b>										
Without			No. of poles	Frame size	Motor type	Version	Order code(s)			
PTC thermistor with 3 temperature sensors			2, 4	100 L ... 160 L	1LE1001-1A ... -1D	Standard	A	–	–	–
Further motor protection	For add. charges, code letters and descriptions, see supplements and special versions.						B	–	–	–
<b>Connection box position</b>										
For add. charges, code numbers and descriptions, see suppl. and spec. versions.										
<b>Special versions</b>										
For add. charges, order codes and descr., see suppl. and spec. versions.										
Forced-air cooled without ext. fan/fan cover (IC 416)			No. of poles	Frame size	Motor type	Version	Order code(s)			
Options	For add. charges, order codes and descr., see suppl. and spec. versions.						1LE1001-...	–	–	–
							1LE1001-...	–	–	–

<sup>1)</sup> Operating values at rated output for 60 Hz are available on request.

<sup>2)</sup> For converter-fed operation of shaft heights 80 and 90, ordering with PTC thermistors and their connection to the converter is recommended.

<sup>3)</sup> Types derived from IM B3 (IM B6/7/8, IM V6 and IM V5), 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 B3, 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.

# SIMOTICS GP 1LE1 Standard Motors

## Motors with High Efficiency IE2

# IE2

Self-ventilated or forced-air cooled motors  
Aluminum series 1LE1001

### Selection and ordering data (continued)

Operating values at rated output															Aluminum series		m <sub>IM B3</sub> J		Torque class	
P <sub>rated</sub> , 50 Hz	P <sub>rated</sub> , 60 Hz	Frame size	n <sub>rated</sub> , 50 Hz	T <sub>rated</sub> , 50 Hz	IE class	η <sub>rated</sub> , 50 Hz, 4/4	η <sub>rated</sub> , 50 Hz, 3/4	η <sub>rated</sub> , 50 Hz, 2/4	COS-φ <sub>rated</sub> , 4/4	I <sub>rated</sub> , 50 Hz, 400 V	T <sub>LR</sub> /I <sub>rated</sub>	I <sub>LR</sub> /I <sub>rated</sub>	T <sub>B</sub> /I <sub>rated</sub>	L <sub>pFA</sub> , 50 Hz	L <sub>WA</sub> , 50 Hz	1LE1001 – IE2 version in accordance with IEC 60034-30	Order No.	kg	kgm <sup>2</sup>	CL
kW	kW	FS	rpm	Nm		%	%	%		A				dB(A)	dB(A)	▲ New				
<ul style="list-style-type: none"> <li>• Cooling: Self-ventilated (IC 411) or with order code F90 forced-air cooled without external fan and fan cover (IC 416)</li> <li>• Efficiency: High Efficiency IE2, service factor (SF) 1.15</li> <li>• Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)</li> </ul>																				
6-pole: 1000 rpm at 50 Hz, 1200 rpm at 60 Hz <sup>1)</sup>																				
0.37	0.43	80 M	925	3.85	–	71.4	71.5	66.5	0.69	1.08	2.1	4.0	2.4	42	53	▲ 1LE1001-0DC2	■-■■■■■	9	0.0017	16
0.55	0.63	80 M	935	5.6	–	74.0	74.0	70.5	0.66	1.63	2.5	4.4	2.9	42	53	▲ 1LE1001-0DC3	■-■■■■■	12	0.0025	16
0.75	0.86	90 S	925	7.7	IE2	75.9	76.0	73.0	0.70	2.05	2.0	4.1	2.5	43	55	▲ 1LE1001-0EC0	■-■■■■■	13	0.0030	16
1.1	1.27	90 L	935	11.2	IE2	78.1	78.5	75.0	0.70	2.90	2.2	4.4	2.6	43	55	▲ 1LE1001-0EC4	■-■■■■■	16	0.0040	16
1.5	1.75	100 L	970	15	IE2	79.8	80.2	79.0	0.73	3.7	2.0	6.2	2.9	59	71	1LE1001-1AC4	■-■■■■■	25	0.011	16
2.2	2.55	112 M	965	22	IE2	81.8	82.5	81.3	0.75	5.2	2.1	6.0	3.1	57	69	1LE1001-1BC2	■-■■■■■	29	0.014	16
3	3.45	132 S	970	30	IE2	83.3	84.0	82.8	0.74	7.0	1.6	5.6	2.6	63	75	1LE1001-1CC0	■-■■■■■	38	0.024	13
4	4.55	132 M	970	39	IE2	84.6	85.8	85.0	0.78	8.7	1.6	5.6	2.5	63	75	1LE1001-1CC2	■-■■■■■	43	0.029	13
5.5	6.3	132 M	970	54	IE2	86.0	87.4	87.0	0.77	12	1.9	6.1	2.8	63	75	1LE1001-1CC3	■-■■■■■	52	0.037	16
7.5	8.6	160 M	975	73	IE2	87.2	87.7	86.9	0.77	16.1	1.8	6.3	2.8	67	79	1LE1001-1DC2	■-■■■■■	77	0.075	16
11	12.6	160 L	975	108	IE2	88.7	89.5	89.4	0.80	22.5	1.7	6.2	2.7	67	79	1LE1001-1DC4	■-■■■■■	93	0.098	16
8-pole: 750 rpm at 50 Hz, 900 rpm at 60 Hz <sup>1)</sup>																				
0.75	0.86	100 L	725	9.9	–	68.3	65.8	59.3	0.58	2.75	1.6	4.0	2.8	60	72	1LE1001-1AD4	■-■■■■■	21	0.0086	13
1.1	1.27	100 L	725	14	–	68.3	65.4	58.9	0.58	4.0	1.8	4.1	2.8	60	72	1LE1001-1AD5	■-■■■■■	25	0.011	13
1.5	1.75	112 M	720	20	–	75.8	76.0	73.0	0.67	4.25	1.4	4.2	2.4	63	75	1LE1001-1BD2	■-■■■■■	29	0.014	13
2.2	2.55	132 S	725	29	–	78.8	79.3	77.2	0.65	6.2	1.4	4.3	2.1	63	75	1LE1001-1CD0	■-■■■■■	41	0.027	10
3	3.45	132 M	730	39	–	82.7	83.0	80.9	0.65	8.1	1.4	5.0	2.4	63	75	1LE1001-1CD2	■-■■■■■	49	0.035	10
4	4.55	160 M	730	52	–	86.2	86.9	86.0	0.69	9.7	1.8	4.3	2.0	63	75	1LE1001-1DD2	■-■■■■■	69	0.065	13
5.5	6.3	160 M	730	72	–	86.7	87.5	86.5	0.69	13.3	2.1	4.4	2.1	63	75	1LE1001-1DD3	■-■■■■■	82	0.083	13
7.5	8.6	160 L	730	98	–	86.9	88.2	88.1	0.72	17.3	1.9	4.5	2.1	63	75	1LE1001-1DD4	■-■■■■■	94	0.098	13
Voltages		No. of poles		Frame size		Motor type		Version								Order code(s)				
<b>Frame sizes 80 M to 90 L: Use of the 360° freely rotatable connection box for 6-pole motors <sup>2)</sup></b>																				
50 Hz	230 VΔ/400 VY	60 Hz <sup>1)</sup>	460 VY	PTC thermistor	6	80 M ... 90 L	1LE1001-0D ... -0E	Standard	2	2	B	–								
50 Hz	400 VΔ/690 VY	60 Hz <sup>1)</sup>	460 VΔ	with 1 temperature sensor	6	80 M ... 90 L	1LE1001-0D ... -0E	Standard	3	4	B	–								
50 Hz	400 VY	60 Hz <sup>1)</sup>	460 VY	Without	6	80 M ... 90 L	1LE1001-0D ... -0E	Standard	0	2	A	–								
<b>Frame sizes 100 L to 160 L: Use of the 4 x 90° rotatable connection box</b>																				
50 Hz	230 VΔ/400 VY	60 Hz <sup>1)</sup>	460 VY		6, 8	100 L ... 160 L	1LE1001-1A ... -1D	Standard	2	2	–	–								
50 Hz	400 VΔ/690 VY	60 Hz <sup>1)</sup>	460 VΔ		6, 8	100 L ... 160 L	1LE1001-1A ... -1D	Standard	3	4	–	–								
50 Hz	500 VY				6, 8	100 L ... 160 L	1LE1001-1A ... -1D	Without additional charge	2	7	–	–								
50 Hz	500 VΔ				6, 8	100 L ... 160 L	1LE1001-1A ... -1D	Without additional charge	4	0	–	–								
Further voltages <sup>1)</sup>		For add. charges, code numbers, order codes and descr., see suppl. and special versions.															9	0	...	
Types of construction		No. of poles		Frame size		Motor type		Version								Order code(s)				
Without flange		IM B3 <sup>3)</sup>		80 M ... 160 L		1LE1001-0D ... -1D		Standard		A		–		–		–				
With flange		IM B5 <sup>3)</sup>		80 M ... 160 L		1LE1001-0D ... -1D		With additional charge		F		–		–		–				
With standard flange		IM B14 <sup>3)</sup>		80 M ... 160 L		1LE1001-0D ... -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, 8		100 L ... 160 L		1LE1001-1A ... -1D		Standard		A		–		–		–				
PTC thermistor with 3 temperature sensors		6, 8		100 L ... 160 L		1LE1001-1A ... -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, 8		80 M ... 160 L		1LE1001-0D ... -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		Version								Order code(s)				
Forced-air cooled without external fan/fan cover (IC 416)		6, 8		80 M ... 160 L		1LE1001-0D ... -1D		1LE1001-... ■-■■■■■-Z		F90 +...+...+...		–		–		–				
Options		For add. charges, orer codes and descriptions, see suppl. and special versions.															1LE1001-... ■-■■■■■-Z	...+...+...+...		

<sup>1)</sup> Operating values at rated output for 60 Hz are available on request.  
<sup>2)</sup> For converter-fed operation of shaft heights 80 and 90, ordering with PTC thermistors and their connection to the converter is recommended.  
<sup>3)</sup> Types derived from IM B3 (IM B6/7/8, IM V6 and IM V5), 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 B3, 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.