

# SIMOTICS GP 1LE1 Standard Motors

## Pole-changing motors

### Self-ventilated motors – Aluminum series 1LE1011/ 1LE1012 for square-law load torque

#### Selection and ordering data

			Operating values at rated output for N1								Operating values at rated output for N2								Aluminum series			<i>m</i>	<i>J</i>	Torque class
<i>P<sub>ra</sub></i> ted1, 50 Hz	<i>P<sub>ra</sub></i> ted2, 50 Hz	Frame size	<i>n<sub>ra</sub></i> ted1, 50 Hz	<i>T<sub>ra</sub></i> ted1, 50 Hz	<i>η<sub>ra</sub></i> ted1, 50 Hz, 4/4	COS <i>φ<sub>ra</sub></i> ted1, 50 Hz, 4/4	<i>I<sub>ra</sub></i> ted1, 50 Hz, 4/4	<i>T<sub>LR</sub></i> / <i>I<sub>ra</sub></i> ted1	<i>I<sub>LR</sub></i> / <i>I<sub>ra</sub></i> ted1	<i>T<sub>B</sub></i> / <i>I<sub>ra</sub></i> ted1	<i>n<sub>ra</sub></i> ted2, 50 Hz	<i>T<sub>ra</sub></i> ted2, 50 Hz	<i>η<sub>ra</sub></i> ted2, 50 Hz, 4/4	COS <i>φ<sub>ra</sub></i> ted2, 50 Hz, 4/4	<i>I<sub>ra</sub></i> ted2, 50 Hz, 4/4	<i>T<sub>LR</sub></i> / <i>I<sub>ra</sub></i> ted2	<i>I<sub>LR</sub></i> / <i>I<sub>ra</sub></i> ted2	<i>T<sub>B</sub></i> / <i>I<sub>ra</sub></i> ted2	1LE1011 – One winding 1LE1012 – Two windings pole-changing for square-law load torque Order No.	IM B3				
kW	kW	FS	rpm	Nm	%	A				rpm	Nm	%	A							kg	kgm <sup>2</sup>	CL		
<ul style="list-style-type: none"> <li>• Cooling: Self-ventilated (IC 411)</li> <li>• Line operation: Double pole-changing for square-law load torque, e.g. for driving fans</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>																								
4/2-pole: 1500/3000 rpm at 50 Hz with one winding connected in Dahlander circuit																								
1500 rpm	3000 rpm		1500 rpm							3000 rpm														
0.65	2.4	100 L	1415	4.4	75.0	0.86	1.45	1.6	4.1	1.8	2800	8.2	70.0	0.88	5.6	1.8	4.2	1.8	1LE1011-1AP4	18	0.0059	13		
0.8	3.1	100 L	1435	5.3	79.0	0.85	1.72	1.9	5.2	2.8	2840	10.0	77.3	0.90	6.4	2.1	5.2	2.9	1LE1011-1AP5	22	0.0078	13		
1.1	4.4	112 M	1455	7.2	83.4	0.85	2.25	2.2	6.1	2.5	2885	15.0	80.8	0.92	8.5	2.1	6.4	2.6	1LE1011-1BP2	27	0.010	13		
1.45	5.9	132 S	1460	9.5	84.0	0.84	2.95	1.6	5.8	2.8	2875	20.0	80.0	0.89	12.0	1.8	5.6	2.8	1LE1011-1CP0	38	0.019	13		
2.0	8.0	132 M	1455	13	85.0	0.85	4.00	1.8	5.6	2.8	2880	27.0	82.0	0.92	15.3	1.8	6.3	2.8	1LE1011-1CP2	44	0.024	13		
2.9	11.5	160 M	1465	19	86.5	0.86	5.6	1.8	5.9	2.9	2870	38.0	82.0	0.92	22.0	1.8	6.0	2.9	1LE1011-1DP2	62	0.044	13		
4.3	16.0	160 L	1455	28	87.0	0.85	8.4	1.6	6.0	2.3	2920	52.0	86.0	0.94	28.5	1.9	7.1	2.8	1LE1011-1DP6	85	0.068	13		
6/4-pole: 1000/1500 rpm at 50 Hz with two windings																								
1000 rpm	1500 rpm		1000 rpm							1500 rpm														
0.6	1.7	100 L	970	5.9	55.5	0.62	2.50	1.7	3.4	2.7	1435	11.0	76.2	0.83	3.90	1.8	4.6	2.2	1LE1012-1AQ4	18	0.0059	10		
0.8	2.1	100 L	955	8	64.2	0.77	2.35	1.2	3.4	2.0	1435	14.0	78.4	0.84	4.60	2.0	5.4	2.3	1LE1012-1AQ5	22	0.0078	10		
0.9	3.0	112 M	975	8.8	64.7	0.66	3.05	1.6	3.9	2.5	1455	20.0	81.4	0.78	6.8	2.1	6.1	3.0	1LE1012-1BQ2	27	0.010	13		
1.2	3.9	132 S	980	12	72.3	0.70	3.40	1.4	4.6	2.5	1455	26.0	83.1	0.83	8.2	1.5	5.7	2.4	1LE1012-1CQ0	38	0.019	10		
1.7	5.4	132 M	980	17	74.1	0.71	4.65	1.7	5.0	2.5	1465	35.0	85.9	0.82	11.1	2.0	6.9	2.8	1LE1012-1CQ2	44	0.024	10		
2.5	7.2	160 M	985	24	77.7	0.71	6.5	1.5	4.7	2.6	1470	47.0	86.9	0.85	14.1	1.8	6.3	2.7	1LE1012-1DQ2	62	0.044	10		
3.7	12.0	160 L	985	36	82.4	0.69	9.4	2.3	6.2	3.5	1475	78.0	87.9	0.8	24.5	2.1	7.5	3.5	1LE1012-1DQ4	73	0.059	10		
8/4-pole: 750/1500 rpm at 50 Hz with one winding connected in Dahlander circuit																								
750 rpm	1500 rpm		750 rpm							1500 rpm														
0.5	2.0	100 L	720	6.6	52.0	0.50	2.80	1.3	3.3	3.4	1440	13.0	82.0	0.79	4.45	3.0	7.5	4.0	1LE1011-1AR4	22	0.0078	7		
0.65	2.5	100 L	715	8.7	56.0	0.58	2.90	1.0	3.2	2.6	1425	17.0	81.0	0.84	5.3	2.3	6.3	3.2	1LE1011-1AR5	22	0.0078	7		
0.9	3.6	112 M	715	12	56.0	0.57	4.05	1.0	2.8	2.1	1430	24.0	82.0	0.84	7.5	1.9	5.6	2.4	1LE1011-1BR2	27	0.010	7		
1.1	4.7	132 S	730	14	62.0	0.54	4.75	1.0	3.2	2.2	1430	31.0	82.0	0.86	9.6	1.7	5.2	2.2	1LE1011-1CR0	38	0.019	7		
1.4	6.4	132 M	730	18	67.5	0.52	5.8	1.1	3.5	2.3	1440	42.0	84.5	0.87	12.6	1.9	5.7	2.3	1LE1011-1CR2	44	0.024	7		
2.2	9.5	160 M	730	29	80.6	0.63	6.3	1.5	4.0	2.5	1465	62.0	86.1	0.84	19.0	2.0	6.3	2.7	1LE1011-1DR2	62	0.044	10		
3.3	14	160 L	735	43	81.4	0.56	10.4	2.5	4.8	3.3	1475	91.0	85.8	0.73	32.5	2.5	7.2	3.8	1LE1011-1DR4	73	0.056	16		
<b>Voltagess</b>			No. of poles		Frame size		Motor type		Version										Order code(s)					
50 Hz 230 V			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Standard		2		2						-					
50 Hz 400 V			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Standard		3		4						-					
50 Hz 500 V			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Without add. charge		4		0						-					
50 Hz 690 V			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Without add. charge		4		7						-					
Further voltages <sup>1)</sup>			For add. charges, code numbers, order codes and descr., see suppl. and special versions.																					
Further voltages <sup>1)</sup>			9		0														...					
<b>Types of construction</b>			No. of poles		Frame size		Motor type		Version										Order code(s)					
Without flange			IM B3 <sup>2)</sup>		4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Standard		A						-					
With flange			IM B5 <sup>2)</sup>		4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		With additional charge		F						-					
With standard flange			IM B14 <sup>2)</sup>		4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		With additional charge		K						-					
Further types of construction			For add. charges, code letters and descriptions, see supplements and special versions.																					
Further types of construction																			...					
<b>Motor protection</b>			No. of poles		Frame size		Motor type		Version										Order code(s)					
Without			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Standard		A								-					
PTC thermistor with 3 temperature sensors			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		With additional charge		B								-					
Further motor protection			For add. charges, code letters and descriptions, see supplements and special versions.																					
Further motor protection																			...					
<b>Connection box position</b>			No. of poles		Frame size		Motor type		Version										Order code(s)					
Connection box at top			4/2, 6/4, 8/4		100 L ... 160 L		1LE101-1A ... -1D		Standard		4								-					
Further connection box positions			For additional charges, code numbers and descriptions, see supplements and special versions.																					
<b>Special versions</b>			Order code(s)																					
Options			For add. charges, order codes and descr., see suppl. and special versions.																1LE101-...-Z		...+...+...			

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

<sup>2)</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.