

# SIMOTICS GP 1LA Standard Motors

## NEMA Energy Efficient MG1 motors, Table 12-11

Self-ventilated motors  
Aluminum series 1LA9 with order code D42



### Selection and ordering data

Operating values at 60 Hz rated output														Aluminum series		m <sub>IM</sub> B3 J		Torque class	
P <sub>rated</sub> 50 Hz	P <sub>rated</sub> 60 Hz	Frame size	n <sub>rated</sub> 60 Hz	T <sub>rated</sub> 60 Hz	EISA CC No. CC032A	η <sub>ra</sub> - ted, 60 Hz, 4/4	η <sub>ra</sub> - ted, 60 Hz, 3/4	η <sub>ra</sub> - ted, 60 Hz, 2/4	cos φ rated, 60 Hz, 4/4	I <sub>rated</sub> 60 Hz, 460 V	T <sub>L/R</sub> / I <sub>rated</sub>	I <sub>L/R</sub> / I <sub>rated</sub>	T <sub>B</sub> / I <sub>rated</sub>	L <sub>pfA</sub> , 60 Hz	L <sub>WA</sub> , 60 Hz	1LA9 – NEMA Energy Efficient version (NEMA MG1, Table 12-11) Order No.	kg	kgm <sup>2</sup>	CL
kW	hp	FS	rpm	Nm		%	%	%	A							Successor 1LE1021			

- 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																				
0.18	0.25	63 M	3460	0.5	–	69.5	69.5	65.5	0.78	0.42	2.8	4.9	3.3	53	64	1LA9060-2KA	■-Z D42	4.0	0.00022	16
0.25	0.33	63 M	3460	0.69	–	71.0	71.0	67.0	0.76	0.58	2.5	5.0	2.7	53	64	1LA9063-2KA	■-Z D42	4.7	0.00026	16
0.37	0.5	71 M	3445	1.0	–	71.0	71.0	67.0	0.75	0.87	3.3	7.5	3.4	56	67	1LA9070-2KA	■-Z D42	6.0	0.00041	16
0.56	0.75	71 M	3445	1.6	–	72.0	72.0	68.0	0.73	1.34	3.6	7.2	3.7	56	67	1LA9073-2KA	■-Z D42	7.2	0.00050	16
0.75	1	80 M	3485	2.1	–	75.5	75.5	72.5	0.82	1.52	4.4	9.6	4.4	60	71	1LA9080-2KA	■-Z D42	10.7	0.0010	16
1.1	1.5	80 M	3480	3.0	–	82.5	82.5	81.5	0.89	1.88	3.8	8.6	3.2	60	71	1LA9083-2KA	■-Z D42	12.4	0.0013	16
1.5	2	90 S	3510	4.1	✓	84.0	84.0	83.0	0.87	2.6	4.1	8.6	4.1	64	76	1LA9090-2KA	■-Z D42	16.2	0.0018	16
2.2	3	90 L	3500	6.0	✓	85.5	85.5	84.5	0.87	3.7	4.1	8.5	5.1	64	76	1LA9096-2KA	■-Z D42	18.6	0.0022	16
3	4	100 L	3510	8.2	–	87.5	87.5	86.5	0.87	4.95	3.4	8.6	3.7	66	78	1LA9106-2KA	■-Z D42	25	0.0044	16
4	5	112 M	3525	10	✓	88.5	88.5	87.5	0.88	6.0	2.8	9.2	4.0	67	79	1LA9113-2KA	■-Z D42	36.7	0.0077	16
5.5	7.5	132 S	3540	15	✓	88.5	88.5	87.5	0.90	8.7	2.7	8.5	3.8	72	84	1LA9130-2KA	■-Z D42	46.2	0.019	16
7.5	10	132 S	3540	20	✓	89.5	89.5	88.5	0.92	11.4	2.8	8.3	3.7	72	84	1LA9131-2KA	■-Z D42	58.1	0.024	16
11	15	160 M	3555	30	✓	90.2	90.2	89.2	0.90	17	2.5	8.5	3.7	74	86	1LA9163-2KA	■-Z D42	78.6	0.044	16
15	20	160 M	3555	40	✓	90.2	90.2	89.2	0.90	23	2.5	8.5	3.7	74	86	1LA9164-2KA	■-Z D42	87.6	0.051	16
18.5	25	160 L	3550	50	✓	91.0	91.0	90.0	0.92	27.5	2.4	8.5	3.5	74	86	1LA9166-2KA	■-Z D42	110.4	0.065	16
22	30	180 M	3545	59	✓	91.0	91.0	90.0	0.86	35.5	2.6	8.6	3.5	74	86	1LA9183-2WA	■-Z D42	131	0.090	16
30	40	200 L	3555	81	✓	91.7	91.7	90.7	0.88	46.5	2.5	8.4	3.6	75	88	1LA9206-2WA	■-Z D42	182	0.16	16
37	50	200 L	3555	99	✓	92.4	92.4	91.4	0.88	57	2.7	8.4	3.7	75	88	1LA9207-2WA	■-Z D42	211	0.20	16

Voltages (≤ 600 V) <sup>1)</sup>					No. of poles	Motor type	Version	Order code(s)
50 Hz	230 VΔ/400 VY	60 Hz	460 VY		2	1LA9060 ... 207	Standard	1 –
50 Hz	400 VΔ	60 Hz	460 VΔ		2	1LA9060 ... 207	Standard	9 L1U
50 Hz	500 VY				2	1LA9060 ... 207	Without additional charge	3 –
50 Hz	500 VΔ				2	1LA9106 ... 207	Without additional charge	5 –
Further voltages								9 ...

Types of construction <sup>2)</sup>					No. of poles	Motor type	Version	Order code(s)
With flange		IM B5, IM V1 without protective cover			2	1LA9060 ... 207	With additional charge	1 –
		IM V3			2	1LA9060 ... 166	With additional charge	1 –
		IM V1 with protective cover <sup>3)</sup>			2	1LA9183 ... 207	With additional charge	9 M1G
					2	1LA9060 ... 207	With additional charge	4 –
With standard flange		IM B14, IM V19, IM V18 without protective cover			2	1LA9060 ... 166	With additional charge	2 –
With special flange		IM B14, IM V19, IM V18 without protective cover			2	1LA9060 ... 166	With additional charge	3 –
Further types of construction								9 ...

Special versions							Order code(s)
Options		For additional charges, code numbers and descriptions, see supplements and special versions.				1LA9 . . . . . ■-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) The "Second shaft extension" option, order code K16 is not possible.

# SIMOTICS GP 1LA Standard Motors

## NEMA Energy Efficient MG1 motors, Table 12-11



Self-ventilated motors  
Aluminum series 1LA9 with order code D42

### Selection and ordering data (continued)

Operating values at 60 Hz rated output															Aluminum series		m <sub>IM B3 J</sub>		Torque class
P <sub>rated</sub> 50 Hz	P <sub>rated</sub> 60 Hz	Frame size	n <sub>rated</sub> 60 Hz	T <sub>rated</sub> 60 Hz	EISA CC No. CC032A	η <sub>rated</sub> 60 Hz, 4/4	η <sub>rated</sub> 60 Hz, 3/4	η <sub>rated</sub> 60 Hz, 2/4	cos φ <sub>rated</sub> 60 Hz, 4/4	I <sub>rated</sub> 60 Hz, 460 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> 60 Hz	L <sub>WA</sub> 60 Hz	1LA9 – NEMA Energy Efficient version (NEMA MG1, Table 12-11) Order No.	kg	kgm <sup>2</sup>	CL
kW	hp	FS	rpm	Nm		%	%	%	A							Successor 1LE1021			

- 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																			
0.12	0.16	63 M	1710	0.67	–	68.0	67.5	64.0	0.60	0.37	2.7	3.9	2.8	46	57	1LA9060-4KA ■■-Z D42	4.0	0.00037	16
0.19	0.25	63 M	1705	1.1	–	64.0	63.0	59.0	0.67	0.59	3.0	3.6	3.1	46	57	1LA9063-4KA ■■-Z D42	4.7	0.00045	16
0.25	0.33	71 M	1730	1.4	–	68.5	68.5	64.5	0.60	0.76	3.6	4.9	3.4	48	59	1LA9070-4KA ■■-Z D42	6.0	0.00076	16
0.37	0.5	71 M	1725	2.0	–	69.0	69.0	65.0	0.68	0.99	3.3	4.9	3.4	48	59	1LA9073-4KA ■■-Z D42	7.0	0.00095	16
0.56	0.75	80 M	1725	3.1	–	74.3	74.3	71.3	0.71	1.33	3.4	6.8	3.6	51	62	1LA9080-4KA ■■-Z D42	10.7	0.0017	16
0.75	1	80 M	1720	4.2	–	82.5	82.5	81.5	0.72	1.58	4.0	7.3	3.9	51	62	1LA9083-4KA ■■-Z D42	12.4	0.0024	16
1.1	1.5	90 S	1755	6.0	✓	84.0	84.0	83.0	0.76	2.15	3.1	7.7	3.9	52	64	1LA9090-4KA ■■-Z D42	16.2	0.0033	16
1.5	2	90 L	1755	8.2	✓	84.0	84.0	83.0	0.76	2.95	3.6	8.1	4.2	52	64	1LA9096-4KA ■■-Z D42	18.6	0.0040	16
2.2	3	100 L	1750	12	–	87.5	87.5	86.5	0.79	4.0	3.4	8.4	4.3	57	69	1LA9106-4KA ■■-Z D42	26	0.0052	16
3	4	100 L	1750	16	–	87.5	87.5	86.5	0.79	5.4	3.8	8.7	4.6	57	69	1LA9107-4KA ■■-Z D42	31	0.0077	16
4	5	112 M	1755	20	✓	87.5	87.5	86.5	0.79	6.7	3.2	8.6	3.9	57	69	1LA9113-4KA ■■-Z D42	38.7	0.014	16
5.5	7.5	132 S	1760	30	✓	89.5	89.5	88.5	0.81	9.5	3.2	8.7	4.1	66	78	1LA9130-4KA ■■-Z D42	49.2	0.023	16
7.5	10	132 M	1760	41	✓	89.5	89.5	88.5	0.82	12.8	3.4	8.7	4.1	66	78	1LA9133-4KA ■■-Z D42	62.1	0.029	16
11	15	160 M	1765	60	✓	91.0	91.0	90.0	0.85	17.8	2.7	8.1	3.2	70	82	1LA9163-4KA ■■-Z D42	86.6	0.055	16
15	20	160 L	1765	81	✓	91.0	91.0	90.0	0.85	24.5	2.8	8.5	3.5	70	82	1LA9166-4KA ■■-Z D42	115.4	0.072	16
18.5	25	180 M	1770	100	✓	92.4	92.4	91.4	0.83	30.5	2.8	8.4	3.6	67	80	1LA9183-4WA ■■-Z D42	126	0.15	16
22	30	180 L	1775	118	✓	92.4	92.4	91.4	0.83	36	3.1	8.8	3.9	67	80	1LA9186-4WA ■■-Z D42	146	0.19	16
30	40	200 L	1770	162	✓	93.0	93.0	91.5	0.86	47	3.0	8.3	3.6	69	82	1LA9207-4WA ■■-Z D42	196	0.32	16

Voltages (≤ 600 V) <sup>1)</sup>					No. of poles	Motor type	Version	Order code(s)
50 Hz	230 VΔ/400 VY	60 Hz	460 VY		4	1LA9060 ... 207	Standard	1 –
50 Hz	400 VΔ	60 Hz	460 VΔ		4	1LA9060 ... 207	Standard	9 L1U
50 Hz	500 VY				4	1LA9060 ... 207	Without additional charge	3 –
50 Hz	500 VΔ				4	1LA9106 ... 207	Without additional charge	5 –
Further voltages								9 ...

Types of construction <sup>2)</sup>					No. of poles	Motor type	Version	Order code(s)
With flange	IM B5, IM V1 without protective cover				4	1LA9060 ... 207	With additional charge	1 –
	IM V3				4	1LA9060 ... 166	With additional charge	1 –
	IM V1 with protective cover <sup>3)</sup>				4	1LA9183 ... 207	With additional charge	9 M1G
With standard flange	IM B14, IM V19, IM V18 without protective cover				4	1LA9060 ... 166	With additional charge	2 –
With special flange	IM B14, IM V19, IM V18 without protective cover				4	1LA9060 ... 166	With additional charge	3 –
Further types of construction								9 ...

Special versions							Order code(s)
Options		For additional charges, code numbers and descriptions, see supplements and special versions				1LA9 . . . . . ■■-Z D42	+ . . . + . . . + . . .

<sup>1)</sup> Operating voltages only ≤ 600 V admissible in accordance with MG1 Table 12-11.  
<sup>2)</sup> 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.  
<sup>3)</sup> The "Second shaft extension" option, order code K16 is not possible.

# SIMOTICS GP 1LA Standard Motors

## NEMA Energy Efficient MG1 motors, Table 12-11

Self-ventilated motors  
Aluminum series 1LA9 with order code D42



### Selection and ordering data (continued)

Operating values at 60 Hz rated output															Aluminum series		m <sub>IM B3 J</sub>		Torque class	
P <sub>rated</sub> , 50 Hz	P <sub>rated</sub> , 60 Hz	Frame size	n <sub>rated</sub> , 60 Hz	T <sub>rated</sub> , 60 Hz	EISA CC No. CC032A	η <sub>ra</sub> - ted, 60 Hz, 4/4	η <sub>ra</sub> - ted, 60 Hz, 3/4	η <sub>ra</sub> - ted, 60 Hz, 2/4	cos φ rated, 4/4	I <sub>r</sub> rated, 60 Hz, 460 V	T <sub>LR</sub> / I <sub>r</sub> rated	I <sub>LR</sub> / I <sub>r</sub> rated	T <sub>B</sub> / I <sub>r</sub> rated	L <sub>pfA</sub> , 60 Hz	L <sub>WA</sub> , 60 Hz	1LA9 – NEMA Energy Efficient version (NEMA MG1, Table 12-11) Order No.	Successor 1LE1021	kg	kgm <sup>2</sup>	CL
kW	hp	FS	rpm	Nm		%	%	%	A											
6-pole: 1200 rpm at 60 Hz																				
0.75	1	90 S	1140	6.3	✓	80.0	80.0	79.0	0.66	1.78	3.0	5.6	3.0	47	59	1LA9090-6KA ■■-Z D42	16.9	0.0033	16	
1.1	1.5	90 L	1150	9.1	✓	85.5	85.5	84.5	0.64	2.5	3.7	6.4	3.7	47	59	1LA9096-6KA ■■-Z D42	19.6	0.0050	16	
1.5	2	100 L	1150	12	–	86.5	86.5	85.5	0.70	3.1	3.5	7.2	3.8	51	63	▶ 1LA9106-6KA ■■-Z D42	26	0.0055	16	
2.2	3	112 M	1160	18	–	87.5	87.5	86.5	0.66	4.8	2.9	7.5	3.7	56	68	▶ 1LA9113-6KA ■■-Z D42	38.7	0.014	16	
4	5	132 M	1160	30	✓	87.5	87.5	86.5	0.77	6.9	3.0	7.9	3.6	67	79	▶ 1LA9133-6KA ■■-Z D42	53.2	0.025	16	
5.5	7.5	132 M	1160	45	✓	89.5	89.5	88.5	0.73	10.6	3.7	8.4	4.3	67	79	▶ 1LA9134-6KA ■■-Z D42	66.1	0.034	16	
7.5	10	160 M	1165	61	✓	89.5	89.5	88.5	0.70	15	2.4	6.4	2.8	70	82	▶ 1LA9163-6KA ■■-Z D42	103.6	0.063	16	
11	15	160 L	1165	90	✓	90.2	90.2	89.2	0.77	19.9	3.1	8.3	3.8	70	82	▶ 1LA9166-6KA ■■-Z D42	113.4	0.072	16	
15	20	180 L	1175	122	✓	90.2	90.2	89.2	0.75	28	2.8	7.1	2.8	70	82	▶ 1LA9186-6WA ■■-Z D42	144	0.19	16	
18.5	25	200 L	1175	150	✓	91.7	91.7	90.7	0.75	34	2.8	7.1	2.8	70	82	▶ 1LA9206-6WA ■■-Z D42	183	0.28	16	
22	30	200 L	1175	179	✓	91.7	91.7	90.7	0.75	40	2.8	7.2	2.8	70	82	▶ 1LA9207-6WA ■■-Z D42	214	0.36	16	
Voltages (≤ 600 V) <sup>1)</sup>					No. of poles	Motor type	Version		Order code(s)											
50 Hz	230 VΔ/400 VY	60 Hz	460 VY		6	1LA9090 ... 207	Standard	1	–											
50 Hz	400 VΔ	60 Hz	460 VΔ		6	1LA9090 ... 207	Standard	9	L1U											
50 Hz	500 VY				6	1LA9090 ... 207	Without additional charge	3	–											
50 Hz	500 VΔ				6	1LA9106 ... 207	Without additional charge	5	–											
Further voltages								9	...											
For additional charges, code numbers and descriptions, see supplements and special versions.																				
Types of construction <sup>2)</sup>					No. of poles	Motor type	Version		Order code(s)											
With flange		IM B5, IM V1 without protective cover			6	1LA9090 ... 207	With additional charge	1	–											
		IM V3			6	1LA9090 ... 166	With additional charge	1	–											
		IM V1 with protective cover <sup>3)</sup>			6	1LA9183 ... 207	With additional charge	9	M1G											
					6	1LA9090 ... 207	With additional charge	4	–											
With standard flange		IM B14, IM V19, IM V18 without protective cover			6	1LA9090 ... 166	With additional charge	2	–											
With special flange		IM B14, IM V19, IM V18 without protective cover			6	1LA9090 ... 166	With additional charge	3	–											
Further types of construction								9	...											
For additional charges, code numbers and descriptions, see supplements and special versions.																				
Special versions									Order code(s)											
Options					For additional charges, code numbers and descriptions, see supplements and special versions.			1LA9 . . . . . ■■-Z D42	+ . . + . . + . . + . . + . .											

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

<sup>2)</sup> 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.

<sup>3)</sup> The "Second shaft extension" option, order code K16 is not possible.