

# SIMOTICS GP 1LA Standard Motors

## Motors for converter-fed operation only

Self-ventilated motors  
Aluminum series 1LA7 and 1LA5 with special insulation

### Selection and ordering data

Operating values at rated output														Aluminum series		$m_{IM\ B3\ J}$		Torque class				
$P_{rated}$ 50 Hz	$P_{rated}$ 60 Hz	Frame size	$n_{rated}$ 50 Hz	$T_{rated}$ 50 Hz	IE class	$\eta_{rated}$ 50 Hz, 4/4	$\eta_{rated}$ 50 Hz, 3/4	$\eta_{rated}$ 50 Hz, 2/4	$\cos\phi_{rated}$ 50 Hz, 4/4	$I_{rated}$ 50 Hz, 400 V	$I_{rated}$ 50 Hz, 690 V	$T_{LR}/I_{rated}$	$I_{LR}/I_{rated}$	$T_{\beta}/I_{rated}$	$L_{pfA}$ 50 Hz	$L_{WA}$ 50 Hz	1LA7/1LA5 – Version only for converter-fed operation with special insulation Order No.	kg	$kgm^2$	CL		
kW	kW	FS	rpm	Nm	%	%	%		A	A												
<ul style="list-style-type: none"> <li>Cooling: Self-ventilated (IC 411)</li> <li>Converter-fed operation: Only for operation on SINAMICS or SIMOVERT MASTERDRIVES with special insulation for voltages of &gt; 500 to 690 V</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>																						
2-pole: 3000 rpm at 50 Hz																						
3	–	100 L	2890	9.9	–	81.5	81.5	80.5	0.85	6.3	3.6	2.8	6.8	3.0	62	74	1LA7106-2PM	21	0.0035	16		
4	–	112 M	2905	13	–	83.1	83.1	82.1	0.86	8.1	4.7	2.6	7.2	2.9	63	75	1LA7113-2PM	27	0.0059	16		
5.5	–	132 S	2925	18	–	84.7	84.7	83.7	0.89	10.5	6.1	2.0	5.9	2.8	68	80	1LA7130-2PM	37	0.015	16		
7.5	–	132 S	2930	24	–	86.0	86.0	85.0	0.89	14.1	8.2	2.3	6.9	3.0	68	80	1LA7131-2PM	42	0.019	16		
11	–	160 M	2940	36	–	87.6	87.6	86.6	0.88	20.5	11.9	2.1	6.5	2.9	70	82	1LA7163-2PM	63	0.034	16		
15	–	160 M	2940	49	–	88.7	88.7	87.7	0.90	27	15.7	2.2	6.6	3.0	70	82	1LA7164-2PM	72	0.043	16		
18.5	–	160 L	2940	60	–	89.3	89.3	88.3	0.91	33	19	2.4	7.0	3.1	70	82	1LA7166-2PM	82	0.051	16		
22	–	180 M	2940	71	–	89.9	89.9	88.9	0.88	40	23.5	2.5	6.9	3.2	70	83	1LA5183-2PM	113	0.077	16		
30	–	200 L	2945	97	–	90.7	90.7	89.7	0.89	54	31	2.4	7.2	2.8	71	84	1LA5206-2PM	159	0.14	16		
37	–	200 L	2945	120	–	91.2	91.2	90.2	0.89	66	38	2.4	7.7	2.8	71	84	1LA5207-2PM	179	0.16	16		
45	–	225 M	2960	145	–	91.7	91.7	90.7	0.89	80	46	2.8	7.7	3.4	71	84	1LA5223-2PM	209	0.20	16		
4-pole: 1500 rpm at 50 Hz																						
2.2	–	100 L	1420	15	–	79.7	79.7	78.7	0.82	4.85	2.8	2.5	5.6	2.8	53	65	1LA7106-4PM	20	0.0047	16		
3	–	100 L	1420	20	–	81.5	81.5	80.5	0.82	6.5	3.75	2.7	5.6	3.0	53	65	1LA7107-4PM	23	0.0055	16		
4	–	112 M	1440	27	–	83.1	83.1	82.1	0.83	8.4	4.85	2.7	6.0	3.0	53	65	1LA7113-4PM	29	0.012	16		
5.5	–	132 S	1455	36	–	84.7	84.7	83.7	0.81	11.6	6.7	2.5	6.3	3.1	62	74	1LA7130-4PM	39	0.018	16		
7.5	–	132 M	1455	49	–	86.0	86.0	85.0	0.82	15.4	8.9	2.7	6.7	3.2	62	74	1LA7133-4PM	46	0.023	16		
11	–	160 M	1460	72	–	87.6	87.6	86.6	0.84	21.5	12.5	2.2	6.2	2.7	66	78	1LA7163-4PM	67	0.043	16		
15	–	160 L	1460	98	–	88.7	88.7	87.7	0.84	29	16.8	2.6	6.5	3.0	66	78	1LA7166-4PM	81	0.055	16		
18.5	–	180 M	1460	121	–	89.3	89.3	88.3	0.83	36	21	2.3	7.5	3.0	63	76	1LA5183-4PM	113	0.13	16		
22	–	180 L	1460	144	–	89.9	89.9	88.9	0.84	42	24.5	2.3	7.5	3.0	63	76	1LA5186-4PM	123	0.15	16		
30	–	200 L	1465	196	–	90.7	90.7	89.7	0.86	56	32	2.6	7.0	3.2	65	78	1LA5207-4PM	157	0.24	16		
37	–	225 S	1470	240	–	91.2	91.2	90.2	0.87	67	39	2.8	7.0	3.2	65	78	1LA5220-4PM	206	0.32	16		
45	–	225 M	1470	292	–	91.7	91.7	90.7	0.87	81	47	2.8	7.7	3.3	65	78	1LA5223-4PM	232	0.36	16		
6-pole: 1000 rpm at 50 Hz																						
1.5	–	100 L	925	15	–	75.2	75.2	72.2	0.75	3.85	2.25	2.3	4.0	2.3	47	59	1LA7106-6PM	20	0.0047	16		
2.2	–	112 M	940	22	–	77.7	78.2	75.2	0.78	5.2	3.05	2.2	4.6	2.5	52	64	1LA7113-6PM	24	0.0091	16		
3	–	132 S	950	30	–	79.7	79.7	78.7	0.76	7.1	4.15	1.9	4.2	2.2	63	75	1LA7130-6PM	34	0.015	16		
4	–	132 M	950	40	–	81.4	81.4	80.4	0.76	9.3	5.4	2.1	4.5	2.4	63	75	1LA7133-6PM	41	0.019	16		
5.5	–	132 M	950	55	–	83.1	83.1	82.1	0.76	12.6	7.3	2.3	5.0	2.6	63	75	1LA7134-6PM	50	0.025	16		
7.5	–	160 M	960	75	–	84.7	84.7	83.7	0.74	17.3	10	2.1	4.6	2.5	66	78	1LA7163-6PM	70	0.044	16		
11	–	160 L	960	109	–	86.4	86.4	85.4	0.74	25	14.4	2.3	4.8	2.6	66	78	1LA7166-6PM	89	0.063	16		
15	–	180 L	970	148	–	87.7	87.7	86.7	0.77	32	18.6	2.0	5.2	2.4	66	78	1LA5186-6PM	126	0.15	16		
18.5	–	200 L	975	181	–	88.6	88.6	87.6	0.77	39	22.5	2.7	5.5	2.8	66	78	1LA5206-6PM	161	0.24	16		
22	–	200 L	975	215	–	89.2	89.2	88.2	0.77	46	27	2.8	5.5	2.9	66	78	1LA5207-6PM	183	0.28	16		
30	–	225 M	978	293	–	90.2	90.2	89.2	0.77	62	36	2.8	5.7	2.9	66	78	1LA5223-6PM	214	0.36	16		
<b>Voltages</b>																						
			No. poles		Motor type 1LA7		Motor type 1LA5		Version				Order code(s)									
50 Hz			500 VY		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		Standard		3									
			500 VA		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		Without add. charge		5									
			690 VY		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		Without add. charge		8									
Further voltages			For additional charges, code numbers and descriptions, see supplements and special versions.																			
													9		...							
<b>Types of construction</b>																						
			No. poles		Motor type 1LA7		Motor type 1LA5		Version				Order code(s)									
Without flange			IM B3/6/7/8, IM V6, IM V5 without prot. cover		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		Standard		0									
With flange			IM B5, IM V1 without protective cover <sup>1)</sup>		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		With add. charge		1									
			IM V3		2, 4, 6		1LA7106 ... 166		–		With add. charge		1									
					2, 4, 6		–		1LA5183 ... 223		With add. charge		9									
			IM V1 with protective cover <sup>1)2)</sup>		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		With add. charge		4									
			IM B35		2, 4, 6		1LA7106 ... 166		1LA5183 ... 223		With add. charge		6									
With standard flange			IM B14, IM V19, IM V18 without prot. cover		2, 4, 6		1LA7106 ... 166		–		With add. charge		2									
			IM B34		2, 4, 6		1LA7106 ... 166		–		With add. charge		7									
With special flange			IM B14, IM V19, IM V18 without prot. cover		2, 4, 6		1LA7106 ... 166		–		With add. charge		3									
Further types of construction			For additional charges, code numbers and descriptions, see supplements and special versions.																			
													9		...							
<b>Special versions</b>																						
Options			For add. charges, code numbers and descriptions, see suppl. and special versions.														1LA ... - PM		-Z		...+...+...+...	

<sup>1)</sup> 1LA5 motors can be supplied as an option with two additional eyebolts – specify order code K32.

<sup>2)</sup> The "Second shaft extension" option, order code K16 is not possible.