

Squirrel-cage motors for use on SIMOVERT MASTERDRIVES

1LA · With special insulation up to 690 V

Selection and ordering data

Rated voltage
For motors connected to converters, the tolerance to DIN EN 60034-1 is generally applicable, a rated voltage range is not specified.

1LA7, 1LA5 motors
It is important to note the following in the case of these motors: In contrast to the standard version, for the windings and motor protection, options C11, C12, C13, Y52, A10, A23 and for the mechanical design options D31, D40, K45, K46, H15 are not possible. Also, versions for Zone 2, 21 and 22 are not possible.

Rated output	Size	Order No. Order No. supplement for voltage and type of construction, see table below	Operating data at rated output					Starting torque	Starting current	Stalling torque	Torque class	Moment of inertia <i>J</i>	Weight of constr. IM B 3 approx.
			Rated speed	Efficiency η	Power factor p.f.	Rated current at 690 V	Rated torque						
kW			rpm	%		A	Nm	For direct-on-line starting as multiple of the rated torque	current	torque	KL	kg m ²	kg
Aluminium housing, IP55 degree of protection, temperature class F													
		3000 rpm, 2-pole, 50 Hz											
3	100 L	1LA7 106–2PM ..	2890	84.0	0.85	3.50	9.9	2.8	6.8	3.0	16	0.0035	21
4	112 M	1LA7 113–2PM ..	2905	86.0	0.86	4.55	13	2.6	7.2	2.9	16	0.0059	27
5.5 7.5	132 S	1LA7 130–2PM ..	2925	86.5	0.89	6.00	18	2.0	5.9	2.8	16	0.015	37
		1LA7 131–2PM ..	2930	88.0	0.89	8.00	24	2.3	6.9	3.0	16	0.019	42
11 15 18.5	160 M	1LA7 163–2PM ..	2940	89.5	0.88	11.6	36	2.1	6.5	2.9	16	0.034	63
	160 M	1LA7 164–2PM ..	2940	90.0	0.90	15.4	49	2.2	6.6	3.0	16	0.043	72
	160 L	1LA7 166–2PM ..	2940	91.0	0.91	18.6	60	2.4	7.0	3.1	16	0.051	82
22	180 M	1LA5 183–2PM ..	2940	91.7	0.88	23.0	71	2.5	6.9	3.2	16	0.077	113
30 37	200 L	1LA5 206–2PM ..	2945	92.3	0.89	30.5	97	2.4	7.2	2.8	16	0.14	159
		1LA5 207–2PM ..	2945	92.8	0.89	37.5	120	2.4	7.7	2.8	16	0.16	179
45	225 M	1LA5 223–2PM ..	2960	93.6	0.89	45.0	145	2.8	7.7	3.4	16	0.2	209
		1500 rpm, 4-pole, 50 Hz											
2.2 3	100 L	1LA7 106–4PM ..	1420	82.0	0.82	2.75	15	2.5	5.6	2.8	16	0.0047	20
		1LA7 107–4PM ..	1420	82.6	0.82	3.70	20	2.7	5.6	3.0	16	0.0055	23
4	112 M	1LA7 113–4PM ..	1440	85.0	0.83	4.75	27	2.7	6.0	3.0	16	0.012	29
5.5 7.5	132 S	1LA7 130–4PM ..	1455	86.0	0.81	6.60	36	2.5	6.3	3.1	16	0.018	39
	132 M	1LA7 133–4PM ..	1455	87.0	0.82	8.80	49	2.7	6.7	3.2	16	0.023	46
11 15	160 M	1LA7 163–4PM ..	1460	88.5	0.84	12.4	72	2.2	6.2	2.7	16	0.043	67
	160 L	1LA7 166–4PM ..	1460	90.0	0.84	16.6	98	2.6	6.5	3.0	16	0.055	81
18.5 22	180 M	1LA5 183–4PM ..	1460	90.5	0.83	20.5	121	2.3	7.5	3.0	16	0.13	113
	180 L	1LA5 186–4PM ..	1460	91.2	0.84	24.0	144	2.3	7.5	3.0	16	0.15	123
30	200 L	1LA5 207–4PM ..	1465	91.8	0.86	32.0	196	2.6	7.0	3.2	16	0.24	157
37 45	225 S	1LA5 220–4PM ..	1470	92.9	0.87	38.5	240	2.8	7.0	3.2	16	0.32	206
	225 M	1LA5 223–4PM ..	1470	93.4	0.87	46.5	292	2.8	7.7	3.3	16	0.36	232
		1000 rpm, 6-pole, 50 Hz											
1.5	100 L	1LA7 106–6PM ..	925	74.0	0.75	2.25	15	2.3	4.0	2.3	16	0.0047	20
2.2	112 M	1LA7 113–6PM ..	940	78.0	0.78	3.05	22	2.2	4.6	2.5	16	0.0091	24
3	132 S	1LA7 130–6PM ..	950	79.0	0.76	4.20	30	1.9	4.2	2.2	16	0.015	34
4	132 M	1LA7 133–6PM ..	950	80.5	0.76	5.50	40	2.1	4.5	2.4	16	0.019	41
5.5	132 M	1LA7 134–6PM ..	950	83.0	0.76	7.30	55	2.3	5.0	2.6	16	0.025	50
7.5 11	160 M	1LA7 163–6PM ..	960	86.0	0.74	9.90	75	2.1	4.6	2.5	16	0.044	70
	160 L	1LA7 166–6PM ..	960	87.5	0.74	14.2	109	2.3	4.8	2.6	16	0.063	89
15	180 L	1LA5 186–6PM ..	970	89.5	0.77	18.2	148	2.0	5.2	2.4	16	0.15	126
18.5 22	200 L	1LA5 206–6PM ..	975	90.2	0.77	22.5	181	2.7	5.5	2.8	16	0.24	161
		1LA5 207–6PM ..	975	90.8	0.77	26.5	215	2.8	5.5	2.9	16	0.28	183
30	225 M	1LA5 223–6PM ..	978	91.8	0.77	35.5	293	2.8	5.7	2.9	16	0.36	214

Order No. supplements

Motor type	Penultimate position: Voltage identifier no rated voltage range 690 V Y	Final position: Type of construction identifier							
		IM B 3	IM B 5	Price supplement					
				IM V 1 Without protective cover	IM V 1 With protective cover	IM B 14 With standard flange	IM B 14 With special flange	IM B 35	
1LA7 106 to 1LA7 166	8	0	1	1	4	2	3	6	
1LA5 183 to 1LA5 223	8	0	1	1	4	–	–	6	

Other voltages with voltage identifier "9" and Order Code L1Y.
For other types of construction, see "Technical information", "Types of construction".

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1LA/1LG · With special insulation up to 690 V

Selection and ordering data

Rated voltage

For motors connected to converters, the tolerance to DIN EN 60034-1 is generally applicable, a rated voltage range is not specified.

1LA8 motors

These motors are also available with separately driven fans (type **1PQ8**).

1LG6 motors

It is important to note the following in the case of these motors: In contrast to the standard version, for windings and motor protection, options C11, C12, C13, Y52, A10, and for versions

for Zone 2, 21 and 22 options M34, M35, M38, M39, M72, M73 and for the mechanical design options D30, D31, D40 are not possible. Option K30 "VIK version" can be ordered on request.

Rated output	Size	Order No.	Operating data at rated output					Starting torque	Starting current	Stalling torque	Torque class	Moment of inertia	Weight
		Order No. supplement for voltage and type of construction, see table below	Rated speed	Efficiency η	Power factor p.f.	Rated current at 690 V	Rated torque	For direct-on-line starting as multiple of the rated current torque				J	Type of constr. IM B 3 approx.
			rpm	%		A	Nm				KL	kg m ²	kg
Cast iron housing, IP55 degree of protection, temperature class F													
		3000 rpm, 2-pole, 50 Hz											
22	180 M	1LG6 183–2PM ..	2955	93.7	0.88	22.5	71	2.5	7.2	3.4	16	0.086	180
30	200 L	1LG6 206–2PM ..	2960	93.1	0.89	30.5	97	2.4	7.0	3.3	16	0.15	225
37		1LG6 207–2PM ..	2960	93.6	0.89	37	119	2.5	7.2	3.3	16	0.18	255
45	225 M	1LG6 223–2PM ..	2965	94.4	0.89	45	145	2.5	7.3	3.2	16	0.27	330
55	250 M	1LG6 253–2PM ..	2975	95.0	0.90	54	177	2.4	6.8	3.0	16	0.47	420
75	280 S	1LG6 280–2PM .. ●	2975	95.0	0.89	74	241	2.5	7.0	3.0	13	0.83	530
90	280 M	1LG6 283–2PM .. ●	2978	95.3	0.90	88	289	2.6	7.6	3.1	13	1.00	615
110	315 S	1LG6 310–2PM .. ●	2982	95.5	0.91	106	352	2.4	6.9	2.8	13	1.40	790
132	315 M	1LG6 313–2PM .. ●	2982	95.8	0.91	126	423	2.6	7.1	2.9	13	1.60	915
160	315 L	1LG6 316–2PM .. ●	2982	96.2	0.92	152	512	2.5	7.1	2.9	13	2.1	1055
200		1LG6 317–2PM .. ●	2982	96.2	0.93	188	641	2.5	6.9	2.8	13	2.5	1245
240	315	1LA8 315–2PM ..	2978	96.1	0.90	230	770	1.8	7.0	3.0	10	2.7	1300
300		1LA8 317–2PM ..	2978	96.5	0.91	285	962	1.9	7.0	3.0	10	3.3	1500
345	355	1LA8 353–2PM ..	2981	96.4	0.90	335	1105	1.7	7.0	2.6	10	4.8	1900
390		1LA8 355–2PM ..	2981	96.6	0.91	370	1249	1.7	6.7	2.6	10	5.3	2000
485		1LA8 357–2PM ..	2982	97.0	0.91	460	1553	1.8	7.0	2.6	10	6.4	2200
545	400	1LA8 403–2PM ..	2986	97.1	0.91	520	1743	1.5	7.0	3.0	10	8.6	2800
610		1LA8 405–2PM ..	2986	97.1	0.92	570	1951	1.6	7.0	2.9	10	9.6	3000
680		1LA8 407–2PM ..	2986	97.2	0.92	640	2175	1.7	7.0	3.0	10	11	3200
775	450	1LA8 453–2PM ..	2987	97.2	0.92	730	2478	0.9	7.0	2.8	5	19	4000
875		1LA8 455–2PM ..	2987	97.3	0.92	820	2798	0.9	7.0	2.8	5	21	4200
970		1LA8 457–2PM ..	2987	97.4	0.93	900	3101	0.9	7.0	2.8	5	23	4400
1500 rpm, 4-pole, 50 Hz													
18.5	180 M	1LG6 183–4PM ..	1470	92.1	0.83	20	120	2.5	6.4	3.0	16	0.12	155
22	180 L	1LG6 186–4PM ..	1470	92.7	0.84	23.5	143	2.5	6.7	3.1	16	0.14	180
30	200 L	1LG6 207–4PM ..	1470	92.7	0.85	32	195	2.6	6.7	3.3	16	0.23	225
37	225 S	1LG6 220–4PM ..	1480	93.6	0.85	39	239	2.7	6.8	3.0	16	0.40	290
45	225 M	1LG6 223–4PM ..	1480	94.1	0.85	47	290	2.8	6.9	3.0	16	0.49	330
55	250 M	1LG6 253–4PM ..	1485	94.8	0.87	56	354	2.6	7.5	3.0	16	0.86	460
75	280 S	1LG6 280–4PM .. ●	1485	94.7	0.87	76	482	2.5	6.8	2.9	16	1.40	575
90	280 M	1LG6 283–4PM .. ●	1486	95.1	0.86	92	578	2.7	7.5	3.1	16	1.70	675
110	315 S	1LG6 310–4PM .. ●	1488	95.6	0.87	110	706	2.7	7.1	2.9	16	2.3	810
132	315 M	1LG6 313–4PM .. ●	1488	95.9	0.88	130	847	2.7	7.3	2.9	16	2.9	965
160	315 L	1LG6 316–4PM .. ●	1490	96.1	0.88	158	1026	3.0	7.4	3.0	16	3.5	1105
200		1LG6 317–4PM .. ●	1490	96.1	0.88	198	1282	3.2	7.6	3.0	16	4.2	1305
235	315	1LA8 315–4PM ..	1485	95.8	0.87	235	1511	1.8	7.0	2.8	13	3.6	1300
290		1LA8 317–4PM ..	1485	96.0	0.88	285	1865	1.8	7.0	2.8	13	4.4	1500
340	355	1LA8 353–4PM ..	1488	96.0	0.87	340	2182	1.9	7.0	2.6	13	6.1	1900
385		1LA8 355–4PM ..	1488	96.2	0.87	385	2471	2.0	7.0	2.6	13	6.8	2000
480		1LA8 357–4PM ..	1488	96.5	0.87	480	3081	2.1	7.0	2.5	13	8.5	2200
545	400	1LA8 403–4PM ..	1491	96.6	0.88	540	3491	1.9	7.0	2.6	13	13	2800
615		1LA8 405–4PM ..	1491	96.8	0.88	600	3939	1.9	7.0	2.7	13	14	3000
690		1LA8 407–4PM ..	1491	96.9	0.89	670	4420	1.9	7.0	2.6	13	16	3200
785	450	1LA8 453–4PM ..	1492	96.8	0.88	770	5025	1.5	6.9	2.5	10	23	4000
880		1LA8 455–4PM ..	1492	97.0	0.87	870	5633	1.6	7.0	2.6	10	26	4200
980		1LA8 457–4PM ..	1492	97.1	0.89	950	6273	1.7	7.0	2.6	10	28	4400

● Insulated NDE bearing is recommended (Order Code **L27**)

Order No. supplements

Motor type	Penultimate position: Voltage identifier		Final position: Type of construction identifier				
	no rated voltage range		IM B 3	IM B 5	Price supplement		
	690 VY	690 VΔ			IM V 1 Without protective cover	IM V 1 With protective cover	IM B 35
1LG6 183 to 1LG6 313	8	–	0	1	1	4	6
1LG6 316 to 1LG6 318	8	–	0	–	8	4	6
1LA8 315 to 1LA8 405	8	–	0	–	8	4	6
1LA8 407 to 1LA8 457	–	7	0	–	8	4	6

Other voltages with voltage identifier "9" and Order Code **L1Y**. For other types of construction, see "Technical information", "Types of construction".

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1LA/1LG · With special insulation up to 690 V

Selection and ordering data

Rated output	Size	Order No.	Operating data at rated output					Starting torque	Starting current	Stalling torque	Torque class	Moment of inertia	Weight
		Order No. supplement for voltage and type of construction, see table below	Rated speed	Efficiency η	Power factor p.f.	Rated current at 690 V	Rated torque	For direct-on-line starting as multiple of the rated					
			rpm	%		A	Nm	torque	current	torque	KL	kg m ²	Type of constr. IM B 3 approx. kg
Cast iron housing, IP55 degree of protection, temperature class F													
	1000 rpm, 6-pole, 50 Hz												
15	180 L	1LG6 186–6PM ..	975	90.0	0.81	17.2	147	2.4	5.5	2.5	16	0.20	175
18.5	200 L	1LG6 206–6PM ..	978	90.5	0.81	21	181	2.4	5.6	2.4	16	0.29	210
22	200 L	1LG6 207–6PM ..	978	91.4	0.82	24.5	215	2.4	5.6	2.4	16	0.36	240
30	225 M	1LG6 223–6PM ..	980	92.6	0.83	32.5	292	2.8	6.5	2.9	16	0.63	325
37	250 M	1LG6 253–6PM ..	985	93.1	0.83	40	359	2.9	6.8	2.5	16	0.93	405
45	280 S	1LG6 280–6PM ..	988	93.9	0.85	47	435	3.0	6.8	2.7	16	1.40	520
55	280 M	1LG6 283–6PM ..	988	93.9	0.85	58	532	3.3	7.3	2.9	16	1.60	570
75	315 S	1LG6 310–6PM ..	990	94.6	0.83	80	723	2.8	7.3	3.0	16	2.5	760
90	315 M	1LG6 313–6PM ..	990	94.9	0.85	93	868	2.7	7.3	2.9	16	3.2	935
110	315 L	1LG6 316–6PM ..	990	95.2	0.85	114	1061	2.9	7.4	2.9	16	4.0	1010
132		1LG6 317–6PM ..	990	95.4	0.85	136	1273	3.1	7.8	3.1	16	4.7	1180
160		1LG6 318–6PM ..	990	95.3	0.86	164	1543	3.2	7.8	3.1	16	5.4	1245
190	315	1LA8 315–6PM ..	990	95.5	0.85	196	1833	2.1	7.0	2.7	13	6.0	1300
235		1LA8 317–6PM ..	990	95.7	0.86	240	2267	2.2	7.0	2.7	13	7.3	1500
300	355	1LA8 355–6PM ..	992	96.2	0.86	305	2888	2.2	7.0	2.8	13	13	2000
380		1LA8 357–6PM ..	992	96.4	0.86	385	3658	2.3	7.0	2.9	13	16	2200
435	400	1LA8 403–6PM ..	993	96.4	0.85	445	4184	2.1	7.0	2.8	13	21	2800
485		1LA8 405–6PM ..	993	96.5	0.86	490	4664	2.1	7.0	2.8	13	24	3000
545		1LA8 407–6PM ..	993	96.6	0.86	550	5241	2.1	7.0	2.7	13	27	3200
615	450	1LA8 453–6PM ..	993	96.8	0.84	630	5915	2.0	7.0	2.7	13	35	4000
690		1LA8 455–6PM ..	993	96.8	0.85	700	6636	1.9	7.0	2.5	13	39	4200
780		1LA8 457–6PM ..	993	96.9	0.85	790	7502	2.0	7.0	2.6	13	44	4500
	750 rpm, 8-pole, 50 Hz												
11	180 L	1LG6 186–8PM ..	725	88.1	0.76	13.8	145	1.9	4.6	2.2	13	0.21	165
15	200 L	1LG6 207–8PM ..	725	88.2	0.80	17.8	198	2.3	5.3	2.6	13	0.37	235
18.5	225 S	1LG6 220–8PM ..	730	89.9	0.81	21.5	242	2.3	5.6	2.6	13	0.55	295
22	225 M	1LG6 223–8PM ..	730	90.6	0.81	25	288	2.4	5.8	2.8	13	0.66	335
30	250 M	1LG6 253–8PM ..	735	91.9	0.82	33.5	390	2.5	6.0	2.8	13	1.10	435
37	280 S	1LG6 280–8PM ..	738	92.6	0.81	41.5	479	2.3	5.7	2.3	13	1.40	510
45	280 M	1LG6 283–8PM ..	738	93.3	0.81	50	582	2.6	6.1	2.4	13	1.60	560
55	315 S	1LG6 310–8PM ..	740	93.8	0.82	60	710	2.5	6.3	2.9	13	2.5	750
75	315 M	1LG6 313–8PM ..	740	93.9	0.83	81	968	2.5	6.7	2.9	13	3.1	840
90	315 L	1LG6 316–8PM ..	740	94.2	0.84	95	1161	2.4	6.3	2.8	13	3.9	1005
110		1LG6 317–8PM ..	740	94.3	0.84	116	1420	2.4	6.4	2.6	13	4.5	1100
132		1LG6 318–8PM ..	740	94.4	0.84	140	1704	2.5	6.7	2.9	13	5.3	1270
145	315	1LA8 315–8PM ..	740	94.6	0.79	162	1871	2.2	6.4	2.5	13	6.0	1300
180		1LA8 317–8PM ..	740	94.9	0.80	198	2323	2.2	6.4	2.5	13	7.3	1500
230	355	1LA8 355–8PM ..	743	95.5	0.80	250	2956	2.1	6.8	2.4	13	13	2000
290		1LA8 357–8PM ..	743	95.7	0.81	315	3727	2.1	6.8	2.4	13	16	2200
335	400	1LA8 403–8PM ..	743	96.0	0.80	365	4306	1.9	6.6	2.6	13	21	2800
375		1LA8 405–8PM ..	743	96.1	0.80	410	4820	1.9	6.9	2.7	13	24	3000
425		1LA8 407–8PM ..	743	96.2	0.79	470	5463	1.9	6.8	2.7	13	27	3200
485	450	1LA8 453–8PM ..	745	96.5	0.78	540	6217	1.9	6.8	2.5	13	35	4000
545		1LA8 455–8PM ..	745	96.6	0.78	610	6986	2.0	6.8	2.5	13	39	4200
600		1LA8 457–8PM ..	745	96.7	0.79	660	7691	2.0	6.8	2.5	13	44	4500

● Insulated NDE bearing is recommended (Order Code L27)

Order No. supplements

Motor type	Penultimate position: Voltage identifier no rated voltage range		Final position: Type of construction identifier			Price supplement		
			IM B 3	IM B 5		IM V 1	IM V 1	IM B 35
	690 VY	690 VΔ				Without protective cover	With protective cover	
1LG6 183 to 1LG6 313	8	–	0	1	1	4	6	
1LG6 316 to 1LG6 318	8	–	0	–	8	4	6	
1LA8 315 to 1LA8 457	8 ¹⁾	7 ²⁾	0	–	8	4	6	

Other voltages with voltage identifier "9" and Order Code L1Y.

For other types of construction, see "Technical information", "Types of construction".

1) Not possible for 6-pole motors from 1LA8 455 upwards.

2) Available for 6-pole motors from 1LA8 455 upwards only.