

Squirrel-cage motors

1LA · Aluminium housing · Pole-change motors

Selection and ordering data

Pole-change motors

The torque classification for pole-change motors only applies once the lowest speed

has been activated until the operating speed when it is switched over to the next

highest speed.

The motors can only be started direct-on-line.
For circuit diagrams, see online help in SD configurator.

Rated output		Size	Order No.	Operating data at rated output			Starting torque		Starting current		Stalling torque		Torque class	Moment of inertia J	Weight	
				Order No. supplement for voltage and type of construction, see table below	Rated speed	Rated current at 400 V		For direct-on-line starting as multiple of the rated torque		current		torque			Type of constr. IM B 3	
						1500 rpm	3000 rpm	1500 rpm	3000 rpm	1500 rpm	3000 rpm	1500 rpm			3000 rpm	approx.
1500 rpm	3000 rpm			rpm	A	A	rpm	rpm	rpm	rpm	rpm	rpm	KL	kg m²	kg	
kW	kW															

Two-speed pole-change, M = constant, IP55 degree of protection, temperature class F

		1500/3000 rpm, 4-/2-pole, 50 Hz, version with one winding in Dahlander circuit													
0.1 0.15	0.15 0.2	63 M	1LA7 060-0AA .. 1LA7 063-0AA ..	1330/2650 1330/2700	0.41 0.51	0.51 0.58	1.8 2.0	1.8 2.0	2.7 3.0	2.9 3.3	1.8 2.0	1.8 2.0	10 10	0.00029 0.00037	4 4
0.21 0.3	0.28 0.43	71 M	1LA7 070-0AA .. 1LA7 073-0AA ..	1375/2700 1380/2770	0.70 0.89	1.1 1.3	1.6 1.8	1.6 1.8	3.0 3.7	3.1 3.8	1.8 2.0	1.8 2.0	10 10	0.00052 0.00076	5 7
0.48 0.7	0.6 0.85	80 M	1LA7 080-0AA .. 1LA7 083-0AA ..	1390/2810 1390/2810	1.25 1.75	1.6 2.1	1.7 1.8	1.7 1.8	3.9 4.3	4.0 4.3	2.0 2.1	2.0 2.1	10 10	0.0014 0.0017	9 10
1.1 1.5	1.4 1.9	90 S 90 L	1LA7 090-0AA .. 1LA7 096-0AA ..	1390/2810 1390/2860	2.70 3.40	3.6 4.5	1.6 1.9	1.8 1.9	4.2 4.9	4.3 5.3	1.9 2.0	2.0 2.1	13 13	0.0024 0.0033	13 16
2 2.6	2.4 3.1	100 L	1LA7 106-0AA .. 1LA7 107-0AA ..	1410/2870 1400/2850	4.25 5.50	5.5 7.6	1.8 2.3	1.8 2.4	5.0 5.6	5.5 5.6	2.0 2.4	2.1 2.4	13 13	0.0048 0.0055	21 24
3.7	4.4	112 M	1LA7 113-0AA ..	1420/2885	8.00	10.5	2.0	2.2	5.6	5.8	2.2	2.3	13	0.011	31
4.7 6.5	5.9 8	132 S 132 M	1LA7 130-0AA .. 1LA7 133-0AA ..	1450/2920 1450/2930	9.70 13.6	12.5 16.7	1.7 2.0	1.6 2.1	6.3 6.9	6.5 7.5	2.2 2.5	2.2 2.6	10 10	0.018 0.023	41 50
9.3 13	11.5 17	160 M 160 L	1LA7 163-0AA .. 1LA7 166-0AA ..	1455/2930 1455/2930	18.3 25.6	23.4 32.0	2.0 2.5	1.8 2.8	6.7 7.6	7.4 8.5	2.6 3.0	2.4 3.0	10 10	0.043 0.060	74 92
15 18	18 21.5	180 M 180 L	1LA5 183-0AA .. 1LA5 186-0AA ..	1470/2950 1465/2950	29.0 34.5	37.5 42.0	2.1 2.0	2.2 2.2	6.7 6.4	7.5 7.3	2.7 2.6	3.2 3.1	13 13	0.13 0.15	113 123
26	31	200 L	1LA5 207-0AA ..	1465/2940	48.5	61.0	2.6	2.6	6.7	7.5	2.8	3.3	13	0.24	157
750 rpm	1500 rpm														
		750/1500 rpm, 8-/4-pole, 50 Hz, version with one winding in Dahlander circuit													
0.35 0.5	0.5 0.7	90 S 90 L	1LA7 090-0AB .. 1LA7 096-0AB ..	675/1365 675/1380	1.19 1.60	1.41 2.10	1.3 1.4	1.3 1.5	2.5 3.0	3.2 3.5	1.6 1.7	1.6 1.8	10 10	0.0023 0.0031	11 13
0.7 0.9	1.1 1.5	100 L	1LA7 106-0AB .. 1LA7 107-0AB ..	690/1380 680/1400	2.10 2.50	3.25 3.65	1.7 1.8	1.6 1.6	3.3 3.5	3.5 3.6	2.0 2.0	1.9 1.9	10 10	0.0051 0.0063	20 22
1.4	1.9	112 M	1LA7 113-0AB ..	690/1410	4.00	5.20	1.4	1.5	3.6	4.4	1.7	1.8	10	0.013	25
1.8 2.5	3.6 5	132 S 132 M	1LA7 130-0AB .. 1LA7 133-0AB ..	720/1430 720/1430	6.30 8.20	7.20 10.0	2.0 2.0	1.3 1.3	4.3 4.3	5.4 5.4	2.3 2.3	1.8 1.8	10 10	0.018 0.023	41 49
3.5 5.6	7 11	160 M 160 L	1LA7 163-0AB .. 1LA7 166-0AB ..	725/1450 725/1450	11.7 18.5	13.9 21.15	2.0 2.2	1.4 1.7	4.0 4.2	5.4 5.9	2.3 2.4	1.8 2.0	10 10	0.043 0.060	73 91
11	18	180 L	1LA5 186-0AB ..	725/1455	27.0	35.0	1.9	2.0	5.2	6.2	2.2	2.2	13	0.21	123
17	27	200 L	1LA5 207-0AB ..	730/1465	40.5	50.5	2.4	2.3	5.4	6.6	2.5	2.5	13	0.37	157

Order No. supplements

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier							
	50 Hz, direct switch-on				IM B 3	Price supplement						
	230 V	400 V	500 V	690 V		IM B 5	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 060 to 1LA7 166	1	6	5	0	0	1	1	4	2	3	6	
1LA5 183 to 1LA5 207	1	6	5	0	0	1	1	4	–	–	6	

Other voltage and/or frequency, voltage identifier "9".
Order codes are required for this purpose (see "Technical information", "Voltages, currents and frequencies").

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

Squirrel-cage motors

1LA · Aluminium housing · Pole-change motors

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 J	Weight
				Rated speed	Rated current at 400 V		For direct-on-line starting as multiple of the rated torque		current		torque				
1500 rpm	3000 rpm	Order No. supplement for voltage and type of construction, see table below	rpm		1500 rpm	3000 rpm	1500 rpm	3000 rpm	1500 rpm	3000 rpm	1500 rpm	3000 rpm	KL	kg m ²	Type of constr. IM B 3
kW	kW					A	A								
Two-speed pole-change for driving fans, IP55 degree of protection, temperature class F															
		1500/3000 rpm, 4-/2-pole, 50 Hz, version with one winding in Dahlander circuit													
0.15	0.7	80 M	1LA7 080-0BA ..	1400/2745	0.39	1.76	1.8	1.6	3.8	4.0	2.0	2.0	10	0.0014	10
0.25	0.95		1LA7 083-0BA ..	1385/2780	0.61	2.40	1.8	1.9	3.8	4.2	2.0	2.0	10	0.0017	11
0.33	1.4	90 S	1LA7 090-0BA ..	1420/2835	0.76	3.50	1.9	1.8	4.5	4.3	2.1	2.0	10	0.0024	13
0.5	2	90 L	1LA7 096-0BA ..	1420/2835	1.08	4.80	2.2	2.2	5.1	5.0	2.5	2.5	10	0.0033	16
0.65	2.5	100 L	1LA7 106-0BA ..	1430/2865	1.44	5.40	1.7	2.2	5.0	5.5	2.3	2.3	10	0.0048	21
0.8	3.1		1LA7 107-0BA ..	1425/2860	1.70	7.00	1.8	2.3	5.7	6.1	2.6	2.6	10	0.0055	24
1.1	4.4	112 M	1LA7 113-0BA ..	1445/2885	2.50	10.7	2.1	2.2	6.2	6.2	2.4	2.4	10	0.011	31
1.45	5.9	132 S	1LA7 130-0BA ..	1455/2920	3.00	12.8	2.0	2.1	6.8	6.5	2.8	2.8	10	0.018	41
2	8	132 M	1LA7 133-0BA ..	1455/2930	4.00	16.0	1.9	2.1	7.6	7.5	2.6	2.6	10	0.023	50
2.9	11.5	160 M	1LA7 163-0BA ..	1455/2930	5.70	22.0	1.8	1.8	6.9	7.4	2.5	2.4	10	0.043	74
4.3	17	160 L	1LA7 166-0BA ..	1455/2930	8.40	31.0	1.9	2.2	7.1	8.5	2.5	2.6	10	0.060	92
1000 rpm	1500 rpm				1000 rpm	1500 rpm	1000 rpm	1500 rpm	1000 rpm	1500 rpm	1000 rpm	1500 rpm			
		1000/1500 rpm, 6-/4-pole, 50 Hz, design with two windings													
0.12	0.4	80 M	1LA7 080-1BD ..	940/1430	0.51	1.38	1.7	1.7	2.8	4.0	1.8	2.0	10	0.0014	9
0.18	0.55		1LA7 083-1BD ..	930/1420	0.73	1.62	1.5	1.7	2.5	4.0	1.8	2.0	10	0.0017	10
0.29	0.8	90 S	1LA7 090-1BD ..	950/1430	1.07	2.10	1.5	1.5	3.4	4.3	2.0	2.0	10	0.0027	13
0.38	1.1	90 L	1LA7 096-1BD ..	955/1430	1.33	2.65	1.8	1.8	3.8	4.9	2.3	2.3	10	0.0033	16
0.6	1.7	100 L	1LA7 106-1BD ..	950/1410	1.75	3.80	1.8	1.8	4.2	5.2	2.2	2.2	10	0.0049	21
0.75	2.1		1LA7 107-1BD ..	950/1420	2.30	4.55	1.6	1.9	3.9	5.2	2.0	2.2	10	0.0057	24
0.9	3	112 M	1LA7 113-1BD ..	980/1450	3.00	6.70	2.0	2.1	4.5	6.1	2.5	2.5	10	0.012	31
1.2	3.9	132 S	1LA7 130-1BD ..	975/1460	3.50	8.40	1.9	1.7	5.1	6.1	2.5	2.2	10	0.018	41
1.7	5.4	132 M	1LA7 133-1BD ..	975/1460	4.55	11.4	2.1	1.9	5.1	6.6	2.6	2.5	10	0.023	49
2.5	7.2	160 M	1LA7 163-1BD ..	980/1470	6.4	14.4	1.9	2.0	5.6	7.3	1.9	2.0	10	0.043	74
3.7	12	160 L	1LA7 166-1BD ..	980/1470	9.3	23.3	1.9	2.4	5.7	8.1	2.3	3.0	10	0.060	92
5.5	16	180 M	1LA5 183-1BD ..	965/1470	11.8	31.5	1.8	1.9	4.3	5.9	1.9	2.6	10	0.081	116
6.5	19	180 L	1LA5 186-1BD ..	965/1460	13.8	36.5	1.8	1.9	4.3	5.6	2.1	2.6	10	0.094	123
9.5	26	200 L	1LA5 207-1BD ..	980/1470	20.0	49.0	1.9	1.5	5.3	5.5	2.1	2.1	10	0.16	157
750 rpm	1500 rpm				750 rpm	1500 rpm	750 rpm	1500 rpm	750 rpm	1500 rpm	750 rpm	1500 rpm			
		750/1500 rpm, 8-/4-pole, 50 Hz, version with one winding in Dahlander circuit													
0.1	0.5	80 M	1LA7 080-0BB ..	680/1375	0.57	1.28	1.4	1.7	2.3	4.1	1.7	1.8	10	0.0014	9
0.15	0.7		1LA7 083-0BB ..	685/1380	0.77	1.76	1.4	1.8	2.4	4.2	1.7	1.8	10	0.0017	10
0.22	1	90 S	1LA7 090-0BB ..	695/1370	1.25	2.40	1.3	1.5	2.4	3.7	1.8	2.0	10	0.0024	13
0.33	1.5	90 L	1LA7 096-0BB ..	700/1375	1.80	3.30	1.5	1.8	2.6	4.2	1.8	2.0	10	0.0033	16
0.5	2	100 L	1LA7 106-0BB ..	710/1415	2.50	4.30	1.1	1.9	3.1	5.2	1.8	2.1	10	0.0047	21
0.65	2.5		1LA7 107-0BB ..	700/1400	2.80	5.30	1.1	1.9	3.1	5.4	1.8	2.1	10	0.0054	24
0.9	3.6	112 M	1LA7 113-0BB ..	720/1440	4.70	8.00	1.6	2.6	3.2	6.5	2.4	2.6	10	0.012	31
1.1	4.7	132 S	1LA7 130-0BB ..	720/1455	3.30	10.3	2.0	2.3	4.3	6.4	2.5	2.9	10	0.018	41
1.4	6.4	132 M	1LA7 133-0BB ..	720/1455	4.40	13.3	2.2	1.9	4.6	6.8	2.7	2.5	10	0.023	49
2.2	9.5	160 M	1LA7 163-0BB ..	725/1465	6.50	19.7	1.7	2.0	4.1	7.0	2.0	2.6	10	0.043	73
3.3	14	160 L	1LA7 166-0BB ..	730/1470	9.30	28.6	2.0	2.6	4.7	8.1	2.2	3.1	10	0.060	91
4.5	16	180 M	1LA5 183-0BB ..	730/1470	13.6	32.3	1.4	2.3	3.8	7.0	2.1	2.9	10	0.13	113
5	18.5	180 L	1LA5 186-0BB ..	730/1470	15.0	36.5	1.5	2.3	3.8	7.0	2.1	2.7	10	0.15	123
7.5	28	200 L	1LA5 207-0BB ..	732/1470	20.5	52.0	1.9	2.5	4.3	7.1	2.2	2.5	10	0.24	157

Higher outputs under "1LG · Cast iron housing" on Page 3/21.

Order No. supplements

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier						
	50 Hz, direct switch-on				IM B 3	Price supplement					
	230 V	400 V	500 V	690 V		IM B 5	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 080 to 1LA7 166	1	6	5	0	0	1	1	4	2	3	6
1LA5 183 to 1LA5 207	1	6	5	0	0	1	1	4	–	–	6

Other voltage and/or frequency, voltage identifier "9".
Order codes are required for this purpose (see "Technical information", "Voltages, currents and frequencies").

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