

Squirrel-cage motors for use on SIMOVERT MASTERDRIVES

1LA · With standard insulation for ≤ 500 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 usually specified (voltage identifiers 4, 5, 7 and 8).

1LA8 motors

It is important to note the following in the case of these motors:

The motors are designed with standard rotors and are suitable for mains and converter-fed operation. They are fitted with an insulated NDE bearing as standard.

For outputs from 900 kW upwards, operation on two parallel inverters without interphase transformers is possible, on request. 1LA8 motors are also available with separately driven fan (type **1PQ8**).

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 400 V	Rated torque	For direct-on-line starting as multiple of the rated torque	For direct-on-line starting as multiple of the rated current	For direct-on-line starting as multiple of the rated torque		J	Type of constr. IM B 3 approx.
kW			rpm	%		A	Nm				KL	kg m ²	kg
IP55 degree of protection, temperature class F, 2-, 4-, 6-, 8-pole, 50 Hz													
	3000 rpm, 2-pole, 50 Hz												
250 315	315	1LA8 315–2PC ..	2979	96.3	0.90	415	801	1.8	7.0	2.8	10	2.7	1300
		1LA8 317–2PC ..	2979	96.7	0.91	520	1010	1.8	7.0	2.8	10	3.3	1500
355 400 500	355	1LA8 353–2PC ..	2980	96.6	0.90	590	1140	1.7	6.5	2.5	10	4.8	1900
		1LA8 355–2PC ..	2980	96.7	0.91	660	1280	1.7	6.5	2.5	10	5.3	2000
		1LA8 357–2PC ..	2982	97.1	0.91	820	1600	1.8	6.5	2.6	10	6.4	2200
560 630 710	400	1LA8 403–2PC ..	2985	97.1	0.91	910	1790	1.6	7.0	2.8	10	8.6	2800
		1LA8 405–2PC ..	2985	97.1	0.91	1020	2020	1.6	7.0	2.8	10	9.6	3000
		1LA8 407–2PC ..	2985	97.3	0.91	670 ●	2270	1.7	7.0	2.8	10	11	3200
800 900 1000	450	1LA8 453–2PE ..	2986	97.2	0.91	760 ●	2560	0.9	7.0	3.0	5	19	4000
		1LA8 455–2PE ..	2986	97.3	0.92	840 ●	2880	0.9	7.0	2.8	5	21	4200
		1LA8 457–2PE ..	2986	97.4	0.93	920 ●	3200	0.9	7.0	2.7	5	23	4400
	1500 rpm, 4-pole, 50 Hz												
250 315	315	▲ 1LA8 315–4PB ..	1486	96.0	0.88	425	1600	1.9	6.5	2.8	13	3.6	1300
		▲ 1LA8 317–4PB ..	1488	96.3	0.88	540	2020	2.0	6.8	2.8	13	4.4	1500
355 400 500	355	▲ 1LA8 353–4PB ..	1488	96.3	0.87	610	2280	2.1	6.5	2.6	13	6.1	1900
		▲ 1LA8 355–4PB ..	1488	96.3	0.87	690	2570	2.1	6.5	2.6	13	6.8	2000
		▲ 1LA8 357–4PB ..	1488	96.8	0.88	850	3210	2.1	6.5	2.4	13	8.5	2200
560 630 710	400	1LA8 403–4PB ..	1492	96.8	0.88	950	3580	1.9	6.5	2.7	13	13	2800
		1LA8 405–4PB ..	1492	97.0	0.88	1060	4030	1.9	6.8	2.7	13	14	3000
		1LA8 407–4PB ..	1492	97.0	0.89	690 ● ●	4540	1.9	6.8	2.7	13	16	3200
800 900 1000	450	1LA8 453–4PC ..	1492	97.0	0.88	780 ● ●	5120	1.6	7.0	2.6	10	23	4000
		1LA8 455–4PC ..	1492	97.1	0.88	880 ● ●	5760	1.6	7.0	2.6	10	26	4200
		1LA8 457–4PC ..	1492	97.1	0.89	970 ●	6400	1.7	7.0	2.6	10	28	4400
	1000 rpm, 6-pole, 50 Hz												
200 250	315	1LA8 315–6PB ..	989	95.7	0.86	345	1930	2.0	6.3	2.5	13	6.0	1300
		1LA8 317–6PB ..	989	95.9	0.86	430	2410	2.0	6.3	2.5	13	7.3	1500
315 400	355	1LA8 355–6PB ..	993	96.2	0.86	540	3040	2.2	6.5	2.8	13	13	2000
		1LA8 357–6PB ..	993	96.5	0.86	690	3850	2.2	6.5	2.8	13	16	2200
450 500 560	400	1LA8 403–6PB ..	992	96.5	0.86	780	4330	2.2	6.5	2.8	13	21	2800
		1LA8 405–6PB ..	992	96.5	0.86	860	4810	2.3	6.5	2.8	13	24	3000
		1LA8 407–6PB ..	992	96.7	0.86	960	5390	2.3	6.5	2.8	13	27	3200
630 710 800	450	1LA8 453–6PB ..	993	96.8	0.86	1100	6060	2.0	6.5	2.6	13	35	4000
		1LA8 455–6PB ..	993	96.8	0.86	710 ● ●	6830	2.0	6.5	2.5	13	39	4200
		1LA8 457–6PB ..	993	97.0	0.86	790 ● ●	7690	2.0	6.5	2.5	13	44	4500
	750 rpm, 8-pole, 50 Hz												
160 200	315	1LA8 315–8PB ..	739	94.9	0.82	295	2070	2.1	6.0	2.3	13	6.0	1300
		1LA8 317–8PB ..	739	95.2	0.82	370	2580	2.1	6.0	2.3	13	7.3	1500
250 315	355	1LA8 355–8PB ..	741	95.7	0.82	460	3220	2.1	6.1	2.4	13	13	2000
		1LA8 357–8PB ..	741	96.0	0.82	580	4060	2.1	6.1	2.4	13	16	2200
355 400 450	400	1LA8 403–8PB ..	742	96.1	0.82	650	4570	2.0	6.5	2.6	13	21	2800
		1LA8 405–8PB ..	742	96.2	0.82	730	5150	2.1	6.5	2.6	13	24	3000
		1LA8 407–8PB ..	742	96.3	0.82	820	5790	2.1	6.5	2.6	13	27	3200
500 560 630	450	1LA8 453–8PB ..	744	96.4	0.81	920	6420	2.0	6.6	2.4	13	35	4000
		1LA8 455–8PB ..	744	96.5	0.81	1040	7190	2.0	6.6	2.4	13	39	4200
		1LA8 457–8PB ..	744	96.6	0.81	1160	8090	2.0	6.6	2.4	13	44	4500

● Rated current at 690 V. ● Also supplied for 400 VΔ (voltage identifier "9" and order code L1Y).

▲ Standardline for 1LA8 motors (for more details see Page 3/13)

Order No. supplements

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz (no rated voltage range)				IM B 3			
	400 VΔ	400 VΔ / 690 VΥ ³⁾	500 VΔ	690 VΔ ³⁾		Price supplement		
						IM V 1 Without protective cover	IM V 1 With protective cover	IM B 35
1LA8 315 to 1LA8 405	4	8	5	—	0	8	4	6
1LA8 407 to 1LA8 457	4 ¹⁾	8 ¹⁾	5	7 ²⁾	0	8	4	6

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

1) Not possible for 2- and 4-pole motors from 1LA8 407 upwards and for 6-pole motors from 1LA8 455 upwards.

2) Only for 2- and 4-pole motors from 1LA8 407 upwards and for 6-pole motors from 1LA8 455 upwards.

3) Operation of motors with standard insulation is only possible with converter circuit (dv/dt filter or sine filter).