

2 Product Information

2.1 Ratings



Fuses

The AC supply to the drive must be installed with suitable protection against overload and short-circuits. The following section shows recommended fuse ratings. Failure to observe this requirement will cause risk of fire.

Table 2-1 Size 0 to 3 ratings

Model	Max. cont. input current		Fuse		Cable size				Normal Duty			Heavy Duty		
					EN60204		UL508C		Max. cont. output current	Nom power @ 220V	Motor power @ 230V	Max. cont. output current	Nom power @ 220V	Motor power @ 230V
	Input	Output	Input	Output	A	kW	hp	A						
	1ph	3ph	IEC gG	UL	mm ²	mm ²	AWG	AWG						
SP0201	5.0	3.6	6	10	0.75	0.75	16	24				2.2	0.37	0.5
SP0202	7.6	5.6	10	10	1	0.75	16	22				3.1	0.55	0.75
SP0203	9.6	6.9	12	16	1.5	0.75	14	20				4.0	0.75	1.0
SP0204	13.5	8.9	16	20	2.5	0.75	12	18				5.7	1.1	1.5
SP0205	17.4	12.3	20	20	4	0.75	12	18				7.5	1.5	2.0
SP0401		2.3	4	10	0.75	0.75	16	24				1.3	0.37	0.5
SP0402		2.8	4	10	0.75	0.75	16	24				1.7	0.55	0.75
SP0403		3.3	6	10	0.75	0.75	16	24				2.1	0.75	1.0
SP0404		4.4	6	10	0.75	0.75	16	22				3.0	1.1	1.5
SP0405		5.7	8	10	0.75	0.75	16	20				4.2	1.5	2.0
SP1201		9.5	10	10	1.5	1.0	14	18	5.2	1.1	1.5	4.3	0.75	1.0
SP1202		11.3	12	15	1.5	1.0	14	16	6.8	1.5	2.0	5.8	1.1	1.5
SP1203		16.4	20	20	4.0	1.0	12	14	9.6	2.2	3.0	7.5	1.5	2.0
SP1204		19.1	20	20	4.0	1.5	12	14	11	3.0	3.0	10.6	2.2	3.0
SP1401		4.8	8	8	1.0	1.0	16	22	2.8	1.1	1.5	2.1	0.75	1.0
SP1402		5.8	8	8	1.0	1.0	16	20	3.8	1.5	2.0	3.0	1.1	1.5
SP1403		7.4	8	10	1.0	1.0	16	18	5.0	2.2	3.0	4.2	1.5	2.0
SP1404		10.6	12	15	1.5	1.0	14	16	6.9	3.0	5.0	5.8	2.2	3.0
SP1405		11	12	15	1.5	1.0	14	14	8.8	4.0	5.0	7.6	3.0	5.0
SP1406		13.4	16	15	2.5	1.5	14	14	11	5.5	7.5	9.5	4.0	5.0
SP2201		18.1	20	20	4.0	2.5	12	14	15.5	4.0	5.0	12.6	3.0	3.0
SP2202		22.6	25	25	4.0	4.0	10	10	22	5.5	7.5	17	4.0	5.0
SP2203		28.3	32	30	6.0	6.0	8	8	28	7.5	10	25	5.5	7.5
SP2401		17	20	20	4.0	2.5	12	14	15.3	7.5	10	13	5.5	10
SP2402		21.4	25	25	4.0	4.0	10	10	21	11	15	16.5	7.5	10
SP2403		27.6	32	30	6.0	6.0	8	8	29	15	20	25	11	20
SP2404		27.6	32	30	6.0	6.0	8	8				29	15	20
SP3201		43.1	50	45	16	16	6	6	42	11	15	31	7.5	10
SP3202		54.3	63	60	25	25	4	4	54	15	20	42	11	15
SP3401		36.2	40	40	10	10	6	6	35	18.5	25	32	15	25
SP3402		42.7	50	45	16	16	6	6	43	22	30	40	18.5	30
SP3403		53.5	63	60	25	25	4	4	56	30	40	46	22	30
SP3501		6.7	8	10	1.0	1.0	16	18	5.4	3.0	3.0	4.1	2.2	2.0
SP3502		8.2	10	10	1.0	1.0	16	16	6.1	4.0	5.0	5.4	3.0	3.0
SP3503		11.1	12	15	1.5	1.0	14	14	8.4	5.5	7.5	6.1	4.0	5.0
SP3504		14.4	16	15	2.5	1.5	14	14	11	7.5	10	9.5	5.5	7.5
SP3505		18.1	20	20	4.0	2.5	12	14	16	11	15	12	7.5	10
SP3506		22.2	25	25	4.0	4.0	10	10	22	15	20	18	11	15
SP3507		26.0	32	30	6.0	6.0	8	8	27	18.5	25	22	15	20

Table 2-2 Size 4 to 6 ratings

Model	Max. cont. input current	Fuse option 1		Fuse option 2 semi. fuse in series with HRC fuse or breaker		Cable size				Normal Duty			Heavy Duty		
						EN60204		UL508C							
	3ph	IEC Class	North America Ferraz HSJ	HRC IEC class gG UL class J	IEC class aR	Input	Output	Input	Output	Max. cont. output current	Nom power @ 220V	Motor power @ 230V	Max. cont. output current	Nom power @ 220V	Motor power @ 230V
SP4201	68.9	100	90	90	160	25	3	25	3	68	18.5	25	56	15	20
SP4202	78.1	100	100	100	160	35	3	35	3	80	22	30	68	18.5	25
SP4203	99.9	125	125	125	200	70	1	70	1	104	30	40	80	22	30
SP4401	62.3	80	80	80	160	25	3	25	3	68	37	50	60	30	50
SP4402	79.6	110	110	100	200	35	2	35	2	83	45	60	74	37	60
SP4403	97.2	125	125	125	200	70	1	70	1	104	55	75	96	45	75
SP4601	26.5	63	60	32	125	4	10	4	10	22	18.5	25	19	15	20
SP4602	28.8	63	60	40	125	6	8	6	8	27	22	30	22	18.5	25
SP4603	35.1	63	60	50	125	10	8	10	8	36	30	40	27	22	30
SP4604	41	63	60	50	125	16	6	16	6	43	37	50	36	30	40
SP4605	47.9	63	60	63	125	16	6	16	6	52	45	60	43	37	50
SP4606	56.9	80	60	63	125	25	4	25	4	62	55	75	52	45	60
SP5201	142	200	175	160	200	95	2/0	95	2/0	130	37	50	105	30	40
SP5202	165	250	225	200	250	120	4/0	120	4/0	154	45	60	130	37	50
SP5401	131	200	175	160	200	95	2/0	95	2/0	138	75	100	124	55	100
SP5402*	156	250	225	200	250	120	4/0	120	4/0	168	90	125	156	75	125
SP5601	82.6	125	100	90	160	35	2	35	2	84	75	100	63	55	75
SP5602	94.8	125	100	125	160	50	1	50	1	99	90	125	85	75	100
SP6401*	241	315	300	250	315	2 x 70	2 x 2/0	2 x 70	2 x 2/0	205	110	150	180	90	150
SP6402*	258	315	300	300	350	2 x 120	2 x 4/0	2 x 120	2 x 4/0	236	132	200	210	110	150
SP6601*	138	200	200	200	200	2 x 50	2 x 1	2 x 50	2 x 1	125	110	150	100	90	125
SP6602*	156	200	200	200	200	2 x 50	2 x 1	2 x 50	2 x 1	144	132	175	125	110	150

* Derating is applied to these drives at low output frequencies. Please contact the supplier of the drive for more information if the application requires significant torque, at or close to zero speed for extended periods of time or if prolonged periods of overload (>100%) are required.

Short term overload limits

The maximum percentage overload limit changes depending on the selected motor. Variations in motor rated current, motor power factor and motor leakage inductance all result in changes in the maximum possible overload. Typical values are shown in the table below:

Table 2-3 Size 0 to 5

Operating mode	CL from cold	CL from 100%	OL from cold	OL from 100%
Normal Duty overload with motor rated current = drive rated current	110% for 165s	110% for 9s	110% for 165s	110% for 9s
Heavy Duty overload with motor rated current = drive rated current	175% for 40s	175% for 5s	150% for 60s	150% for 8s
Heavy Duty overload with a typical 4 pole motor	200% for 28s	200% for 3s	175% for 40s	175% for 5s



Table 2-4 Size 6

Operating mode	CL from cold	CL from 100%	OL from cold	OL from 100%
Normal Duty overload with motor rated current = drive rated current	110% for 165s	110% for 9s	110% for 165s	110% for 9s
Heavy Duty overload with motor rated current = drive rated current	150% for 60s	150% for 8s	129% for 97s	129% for 15s

Generally the drive rated current is higher than the matching motor rated current allowing a higher level of overload than the default setting as illustrated by the example of a typical 4 pole motor.

The time allowed in the overload region is proportionally reduced at very low output frequency on some drive ratings.

NOTE The maximum overload level which can be attained is independent of the speed.

2.2 Nameplate description

See Figure 3-8 for location of rating labels.

Figure 2-1 Typical drive rating labels for size 0

