



Short Form Guide

Unidrive SP

Part Number: 0471-0162-02
Issue: 2

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

	Schaffner					Epcos						
	No.	L1, L2, L3				No.	L1, L2, L3					
SP2401	4200-6210	10mm ² 8AWG	2 N m (1.5 lb ft)	M5	3.5 N m (2.6 lb ft)	4200-6211	10mm ² 8AWG	1.35 N m (1.0 lb ft)	M5	3.0 N m (2.2 lb ft)		
SP2402												
SP2403												
SP2404												
SP3201	4200-6307	16mm ² 6AWG	2.2 N m (1.6 lb ft)	M6	3.9 N m (2.9 lb ft)	4200-6306	16mm ² 6AWG	2.2 N m (1.6 lb ft)	M6	5.1 N m (3.8 lb ft)		
SP3202												
SP3401	4200-6305	16mm ² 6AWG	2.2 N m (1.6 lb ft)	M6	3.9 N m (2.9 lb ft)	4200-6306	16mm ² 6AWG	2.2 N m (1.6 lb ft)	M6	5.1 N m (3.8 lb ft)		
SP3402												
SP3403												
SP3501	4200-6309	16mm ² 6AWG	2.2 N m (1.6 lb ft)	M6	3.9 N m (2.9 lb ft)	4200-6308	16mm ² 6AWG	2.2 N m (1.6 lb ft)	M6	5.1 N m (3.8 lb ft)		
SP3502												
SP3503												
SP3504												
SP3505												
SP3506												
SP3507												
SP4201	4200-6406	50mm ² 0AWG	8 N m (5.9 lb ft)	M10	25 N m (18.4 lb ft)	4200-6405	50mm ² 0AWG	6.8 N m (5.0 lb ft)	M10	10 N m (7.4 lb ft)		
SP4202												
SP4203												
SP4401												
SP4402												
SP4403												
SP4601	4200-6408	25mm ² 4AWG	2.3 N m (1.7 lb ft)	M6	3.9 N m (2.9 lb ft)	4200-6407	50mm ² 0AWG	6.8 N m (5.0 lb ft)	M10	10 N m (7.4 lb ft)		
SP4602												
SP4603												
SP4604												
SP4605												
SP4606												
SP5201	4200-6503	95mm ² 4/0AWG	20 N m (14.7 lb ft)	M10	25 N m (18.4 lb ft)	4200-6501	95mm ² 4/0AWG	20 N m (14.7 lb ft)	M10	10 N m (7.4 lb ft)		
SP5202												
SP5401												
SP5402												
SP5601	4200-6504	50mm ² 0AWG	8 N m (5.9 lb ft)	M10	25 N m (18.4 lb ft)	4200-6502	95mm ² 4/0AWG	20 N m (14.7 lb ft)	M10	10 N m (7.4 lb ft)		
SP5602												
SP6401	4200-6603			M10	25 N m (18.4 lb ft)	4200-6601			M10	10 N m (7.4 lb ft)		
SP6402												
SP6601	4200-6604			M10	25 N m (18.4 lb ft)	4200-6602			M10	10 N m (7.4 lb ft)		
SP6602												

The external EMC filters for sizes 0 to 3 can be footprint or bookcase mounted. The external EMC filters for sizes 4 to 6 are designed to be mounted above the drive.



To avoid a fire hazard and maintain validity of the UL listing, adhere to the specified tightening torques for the power and ground terminals.

For further information refer to the *Unidrive SP User Guide* on the CD Rom supplied with the drive.

4.4 Braking resistor values (40°C [104°F])

Model	Minimum resistance*	Instantaneous power rating
	Ω	kW
SP0201 ~ SP0205	35	4.35
SP0401 ~ SP0405	105	5.79
SP1201 ~ SP1203	43	3.5
SP1204	29	5.3
SP1401 ~ SP1404	74	8.3
SP1405 ~ SP1406	58	10.6
SP2201 ~ SP2203	18	8.9
SP2401 ~ SP2404	19	33.1
SP3201 ~ SP3202	5.0	30.3
SP3401 ~ SP3403	18	35.5
SP3501 ~ SP3507	18	50.7
SP4201 ~ SP4203**	5.0	30.3
SP4401 ~ SP4402**	11	55.3
SP4403**	9	67.6
SP4601 ~ SP4606**	13	95.0
SP5201 ~ SP5202**	3.5	53
SP5401 ~ SP5402**	7	86.9
SP5601 ~ SP5602**	10	125
SP6401 ~ SP6402**	5	122
SP6601 ~ SP6602**	10	125

* Resistor tolerance: $\pm 10\%$.

** The power ratings specified are for a stand-alone drive only. If the drive is part of a common DC bus system different ratings must be used. Contact the supplier of the drive for more information.