Specifications, Dimensions, and Ratings

Specifications

Environment

Ambient Operating Temperature	32 to 104 °F (0 to 40 °C) 32 to 122 °F (0 to 50 °C) with derating
Cooling method	Forced convection
Humidity	95% maximum non-condensing at 104 °F (40 °C)
Storage Temperature	-40 to 122 °F (-40 to 50 °C)
Altitude	0 to 9,900 ft (0 to 3000 m). Derate 1% per 328 ft (100 m) between 3280 ft (1000 m) and 9,900 ft (3000 m)
Vibration	Tested in accordance with IEC 60068-2-6, 2-29, 2-64
Mechanical Shock	In accordance with IEC 60068-2-27
Enclosure	NEMA 1 (IP 20), NEMA 12 (IP 54) through-panel mounting
Electromagnetic Immunity	In compliance with EN 61800-3 and EN 61000-6-2, and complies with EN61800-3 2nd environment with built-in filter
Electromagnetic Emissions	In compliance with EN61000-6-4 when the recommended RFI filter is used and EMC installation guidelines are followed

AC Supply Requirements

Voltage	200 to 240 Vac ±10% 380 to 480 Vac ±10%
Phase	3Ø (SP size Zero: 200 to 240 V 1Ø or 3Ø)
Phase Imbalance	2% negative phase sequence (equivalent to 3% voltage imbalance between phases)
Frequency	48 to 65 Hz
Input Power Factor	Displacement 0.97

Control

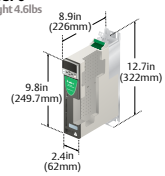
Carrier Frequency	3, 4, 6, 8, 12,16 kHz - Panel Mount drives 3, 4, 6 kHz - Free Standing and SPM drives
Output Frequency	0 to 3000 Hz (Open-loop)
Output Speed	0 to 40,000 rpm (Closed-loop)
Frequency Accuracy	±0.01% of full scale
Frequency Resolution	0.001 Hz
Analog Input	10 bit + sign (Qty 2); 16 bit + sign (Qty 1) resolution
Serial Communications	2-wire RS485 4-wire RS232 or RS485 with SM-APPS module Protocol is ANSI x 3.28-2.5-A4, or Modbus RTU Baud rate 300 to 115,200
Braking	DC injection braking (stopping and holding) and dynamic braking transistor standard.
Control Power Ride Through	Up to 1 second depending on inertia and decel time

Protection

DC Bus Undervoltage Trip	175 / 330 (approximately 124 / 233 line voltage)
DC Bus Overvoltage Trip	415 / 830 (approximately 293 / 587 / 700 Vac line voltage)
MOV Voltage Transient Protection	120 Joules, 1500 Vdc clamping (line-to-line); 140 Joules, 1815 Vdc clamping (line-to-ground)
Drive Overload Trip	Current overload value is exceeded Programmable for Normal Duty or Heavy Duty, open-loop or closed-loop operation
Instantaneous Overcurrent Trip	225% of drive rated current
Phase Loss Trip	DC bus ripple threshold exceeded
Overtemperature Trips	Drive heatsink, control board, and option module(s) monitoring
Short Circuit Trip	Protects against output phase to phase fault
Ground Fault Trip	Protects against output phase to ground fault
Motor Thermal Trip	Electronically protects the motor from overheating due to loading conditions

Dimensions

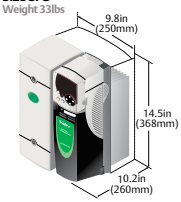
Size SP0
Weight 4.6lbs



Size SP1
Weight 11lbs

Size SP2
Weight 15.5lbs

Size SP3
Weight 33lbs



Ratings

200-240 Vac, 1Ø Input, 3Ø Output

Frame Size	Order Code	Max. Continuous Current (A)	Max. Peak Current (A)	Typical HP	Typical kW
0*	SP0201	2.2	3.3	0.5	0.37
	SP0202	3.1	4.6	0.75	0.55
	SP0203	4	6	1	0.75
	SP0204	5.7	8.5	1.5	1.1
	SP0205	7.5	11.2	2	1.5

200-240 Vac, 3Ø Input and Output

Frame Size	Order Code	Max. Continuous Current (A)	Max. Peak Current (A)	Typical HP	Typical kW
0*	SP0201	2.2	3.8	0.5	0.37
	SP0202	3.1	5.4	0.75	0.55
	SP0203	4	7	1	0.75
	SP0204	5.7	10	1.5	1.1
	SP0205	7.5	13.1	2	1.5
1	SP1201	4.3	7.5	1	0.75
	SP1202	5.8	10.1	1.5	1.1
	SP1203	7.5	13.1	2	1.5
	SP1204	10.6	18.5	3	2.2
2	SP2201	12.6	22	3	2.2
	SP2202	17	29.7	5	3.7
	SP2203	24.2	43.7	7.5	5.5
3	SP3201	31	54.2	10	7.5
	SP3202	42	73.5	15	11

380-480 Vac, 3ø Input and Output

Frame Size	Order Code	Max. Continuous Current (A)	Max. Peak Current (A)	Typical HP	Typical kW
0*	SP0401	1.3	2.2	0.5	0.37
	SP0402	1.7	2.9	0.75	0.55
	SP0403	2.1	3.6	1	0.75
	SP0404	3	5.2	1.5	1.1
	SP0405	4.2	7.3	2	1.5
1	SP1401	2.1	3.6	1	0.75
	SP1402	3	5.2	1.5	1.1
	SP1403	4.2	7.3	2	1.5
	SP1404	5.8	10.1	3	2.2
	SP1405	7.6	13.3	5	3.7
	SP1406	9.2	16.6	7.5	5.5
2	SP2401	13	22.7	7.5	5.5
	SP2402	14.9	28.8	10	7.5
	SP2403	19.9	40.2	15	11
	SP2404	20.5	50.7	15	11
3	SP3401	30.3	56	20	15
	SP3402	33.8	70	25	18.5
	SP3403	33.8	80.5	25	18.5

Notes:
All ratings based on 104° F (40° C) ambient temperature and 6 kHz switching frequency. Refer to the Unidrive SP User Guide for ratings for alternative operating conditions.

** Frame 0 drives can accept quantity 2 SM option modules, all other frames can accept quantity 3.*