400 Watts
FCM400 Series



- 400 W Continuous, 600 W Peak
- IT and Medical Approvals
- 80 V - 275 VAC Operation
- Screw Terminals
- AC OK and Remote On/Off
- 5 V Standby
- 3 Year Warranty

Specification

Input

Input Voltage	• 80-275 VAC, derate output power <90 VAC (see derating curve)
Input Frequency	• 47-63 Hz
Input Current	• 4.2 A at 115 VAC typical 2.0 A at 230 VAC with 400 W load
Inrush Current	• 60 A max at 264 VAC, cold start 25 ºC
Power Factor	• EN61000-3-2 class A compliant
Earth Leakage Current	• 250 µA max, 264 VAC, 60 Hz
Input Protection	• T10 A / 250 V internal fuse in both line and neutral

Output

Output Voltage	• 12-48 VDC (see tables)
Output Voltage Trim	• ±10% V1
Initial Set Accuracy	• ±1% V1, ±5% V2
Minimum Load	• No minimum load required
Start Up Delay	• 1 s typical
Start Up Rise Time	• 50 ms
Hold Up Time	• 16 ms minimum
Line Regulation	• ±0.5% maximum
Load Regulation	• ±1% V1, ±5% V2
Transient Response	• 4% max. deviation, recovery to within 1% in 500 µs for a 50-75-50% load change
Ripple & Noise	• 1% pk-pk, 20 MHz bandwidth
Overvoltage Protection	• 115-140% Vnom, recycle input to reset
Overtemperature Protection	• Auto reset
Overload Protection	• 110-140%, V1 only
Short Circuit Protection	• Continuous, foldback characteristic
Temperature Coefficient	• 0.05% / ºC
Remote On/Off	• Uncommitted isolated optocoupler diode, powered diode inhibits V1 & Fan

General

Efficiency	• 85% typical
Isolation	• 4000 VAC input to output, 1500 VAC input to ground, 500 VAC output to ground
Switching Frequency	• PFC 70 kHz, main converter 65 kHz typical
Power Density	• 13.9 W/in^3
Signals	• AC OK, remote on/off, 5 V standby
MTBF	• 236 kHrs to MIL-HDBK-217F at 25 ºC, GB

Environmental

Operating Temperature	• -10 °C to +70 °C, derate linearly from +50 ºC at 2.5% / ºC to 50% load at +70 ºC
Cooling	• Forced cooled with integral fan
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 30 g pk, half sine, 6 axes
Vibration	• 2 g rms, 5 Hz to 500 kHz, 3 axes

EMC & Safety

Emissions	• EN55022 level B conducted EN55022 level A radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3, Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• IEC60950-1 CB report, CSA 22.2 No. 60950-1, UL60950-1, TUV, EN60950-1, IEC60601-1 CB report, CSA 22.2 No.60601-1, UL60601-1, TUV60601-1

FCM400

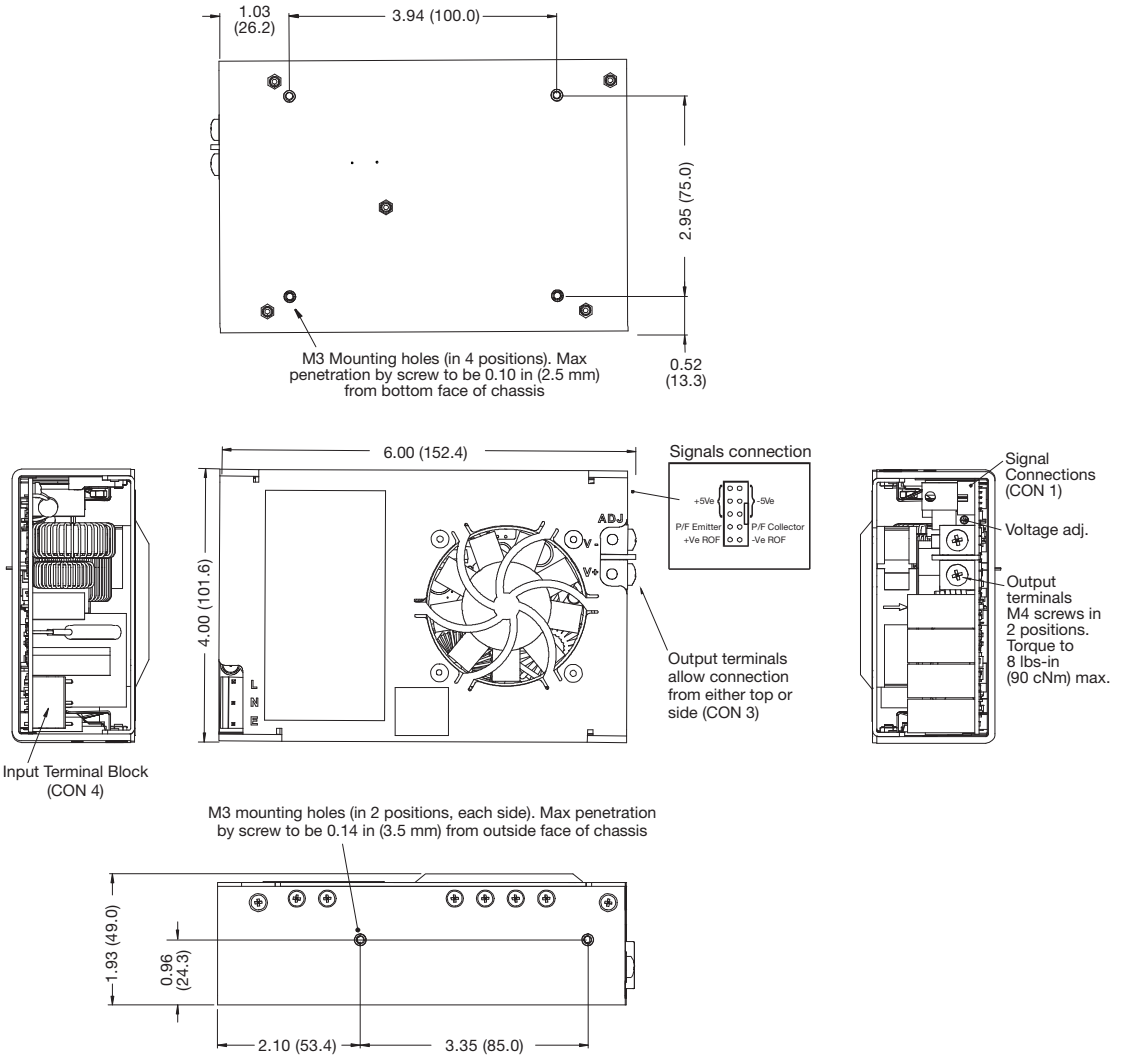
Models and Ratings

Output Voltage V1	Max Output Current V1		Standby Supply V2	Max Output Power		Model Number
	Inom	Ipk[1]		Continuous[2]	Peak[1]	
12 V	33.3 A	50.0 A	5 V / 0.5 A	400 W	600 W	FCM400PS12
15 V	26.6 A	40.0 A	5 V / 0.5 A	400 W	600 W	FCM400PS15
24 V	16.6 A	25.0 A	5 V / 0.5 A	400 W	600 W	FCM400PS24
28 V	14.2 A	21.4 A	5 V / 0.5 A	400 W	600 W	FCM400PS28
36 V	11.1 A	16.7 A	5 V / 0.5 A	400 W	600 W	FCM400PS36
48 V	8.3 A	12.5 A	5 V / 0.5 A	400 W	600 W	FCM400PS48

Notes

1. Peak Output Power - The peak duration is 500 ms maximum, average power must not exceed 400 W.
2. For 500 W continuous output power, contact sales.

Mechanical Details



Output Connector CON 3	
Pin	Single
1	+V1
2	V1 RTN

Input Connector CON 4	
Pin 1	Line
Pin 2	Neutral
Pin 3	Earth

J1 mates with Molex housing 09-50-1051 and Molex series 5194 crimp terminals.

Signals Connector CON 1	
1	5 V Standby Return
2	5 V Standby
3	5 V Standby Return
4	5 V Standby
5	5 V Standby Return
6	5 V Standby
7	Power Fail (Collector)
8	Power Fail (Emitter)
9	Remote On / Off (Anode)
10	Remote On / Off (Cathode)

Mating plug:
JST p/n PHDR-10VS

Contact:
26-22 AWG JST p/n SPHD-001T-P0.5

Notes

1. Dimensions shown in inches (mm). Tolerance: ±0.02 (±0.5)
2. Weight: 1.8 lb (800g).

Input Voltage & Temperature Derating

