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AC–DC

250 Watts
CCM Series

xppower.com



GREEN XP POWER

- 250 W Convection Cooled
- 300 W Peak Rating for 500 ms
- Very High Efficiency up to 95%
- Class B Conducted & Radiated Emissions
- 80 – 275 VAC Operation
- IT, Industrial & Medical Safety Approvals
- 3 Year Warranty

Specification

Input

Input Voltage	• 80-275 VAC (See derating curve)
Input Frequency	• 47-63 Hz
Input Current	• 2.4 A typical at 115 VAC, full load 1.2 A typical at 230 VAC, full load
Inrush Current	• 30 A max at 230 VAC, cold start at 25 °C
Power Factor	• >0.9
Earth Leakage Current	• 250 µA max at 264 VAC/60 Hz
Input Protection	• Internal T5.0 A/250 V fuse in line and neutral

Output

Output Voltage	• 12-48 VDC (see tables)
Output Voltage Trim	• ±3% (see Mechanical Details)
Initial Set Accuracy	• ±0.5% V1, ±5% V2
Minimum Load	• No minimum load required
Start Up Delay	• 1 s typical
Start Up Rise Time	• 50 ms typical
Hold Up Time	• 16 ms min at 115 VAC
Drift	• ±0.2% after 20 min warm up
Line Regulation	• ±0.5% max
Load Regulation	• ±1% V1, ±5% V2
Over/Undershoot	• 5% typical
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 (V1 only)
Overload Protection	• 125-165% Inom V1 only
Short Circuit Protection	• Continuous trip and restart (hiccup mode)
Temperature Coefficient	• 0.05%°C
Remote On/Off (Inhibit/Enable)	• Uncommitted isolated optocoupler diode, powered diode inhibits V1

General

Efficiency	• Up to 95%
Isolation	• 4000 VAC Input to Output, 1500 VAC Input to Ground, 500 VAC Output to Ground
Switching Frequency	• PFC 30-500 kHz, Boost 25.6 kHz, Main 51.2 kHz
Signals	• Power Fail - open collector, transistor off for AC good, ≥5 ms warning of loss of output
MTBF	• 365 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -20 °C to +70 °C derate linearly from +50 °C at 2.5%/°C to 50% load at +70 °C. See derating curve and longform datasheet for thermal considerations. (-40 °C consult sales)
Cooling	• Convection cooled
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 Hz, 3 axes

EMC & Safety

Low Voltage PSU EMC	• EN61204-3, high severity level
Emissions	• EN55011/32 level B conducted EN55011/32 level B radiated RTCA D0160D 21.4 Cat. M radiated MIL-STD 461D-F, CE102
Harmonic Currents	• EN61000-3-2, class A, EN61000-3-2, class C for loads ≥40%
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, MIL-STD 461 CS114
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B, EN60601-1-2, 30% 500 ms, 60% 100 ms, 100% 10 ms, 100% 5000 ms, Perf Criteria A, A, A, B - 230 VAC. Consult longform datasheet for 115 V operation.
Safety Approvals	• See Safety Approvals (see next page)
Equipment Protection Class	• Class I

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Models and Ratings

CCM250 XP

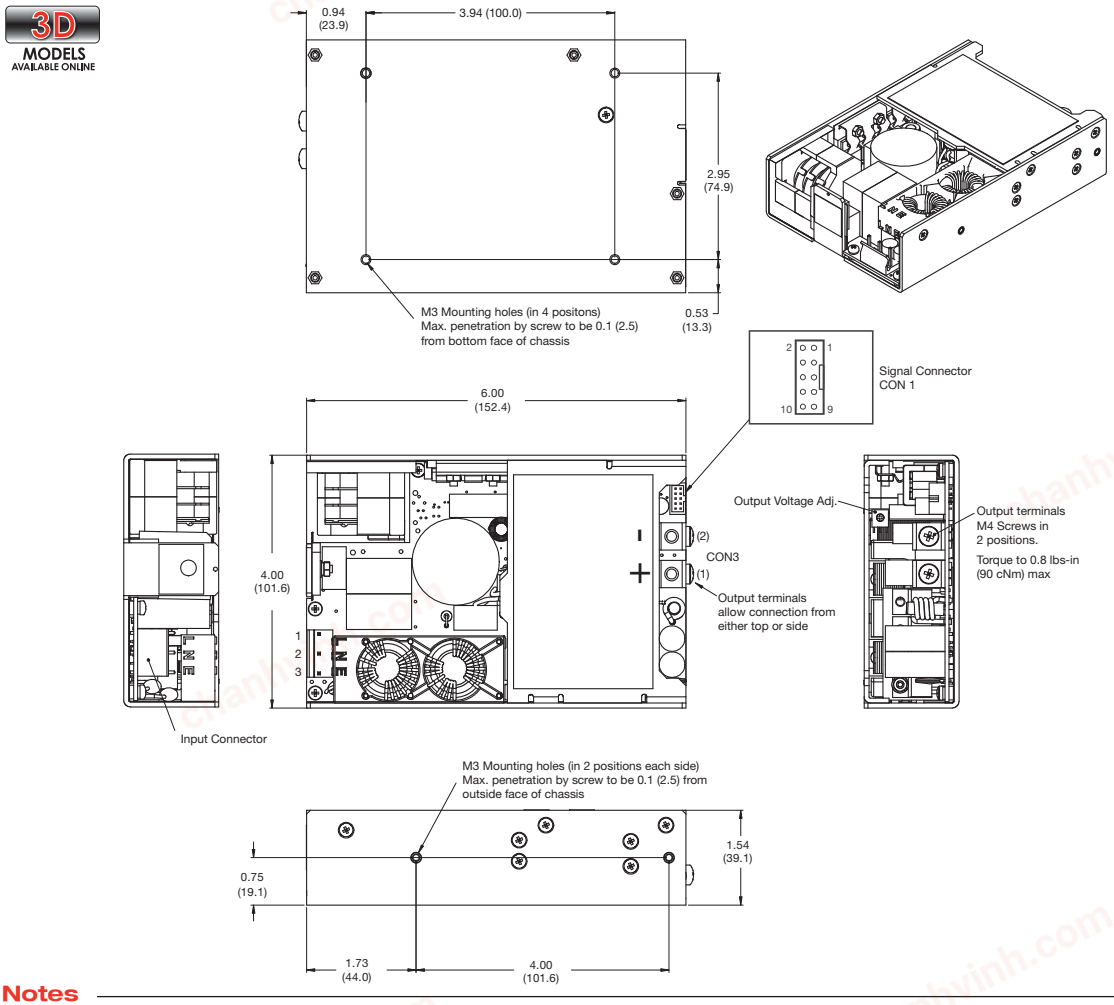
Output Power		Output Voltage V1	Output Current V1		Standby Supply V2	Model Number
Nominal	Peak[1]		Nominal	Peak[1]		
250 W	300 W	12.0 V	20.8 A	25.00 A	5.0 V/0.5 A	CCM250PS12
250 W	300 W	15.0 V	16.7 A	20.00 A	5.0 V/0.5 A	CCM250PS15
250 W	300 W	24.0 V	10.4 A	12.50 A	5.0 V/0.5 A	CCM250PS24
250 W	300 W	28.0 V	8.9 A	10.70 A	5.0 V/0.5 A	CCM250PS28
250 W	300 W	36.0 V	6.9 A	8.30 A	5.0 V/0.5 A	CCM250PS36
250 W	300 W	48.0 V	5.2 A	6.25 A	5.0 V/0.5 A	CCM250PS48

Notes

1. Peak duration is 500 ms max, average power must not exceed 250 W.

Mechanical Details

3D MODELS AVAILABLE ONLINE



Input Connector	
Pin 1	Line
Pin 2	Neutral
Pin 3	Earth

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

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

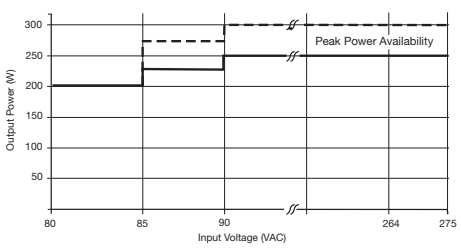
Signals Connector CON 1	
Pin 1	5 V Standby Return
Pin 2	5 V Standby
Pin 3	5 V Standby Return
Pin 4	5 V Standby
Pin 5	5 V Standby Return
Pin 6	5 V Standby
Pin 7	Power Fail (Collector)
Pin 8	Power Fail (Emitter)
Pin 9	Remote On / Off (Cathode)
Pin 10	Remote On / Off (Anode)

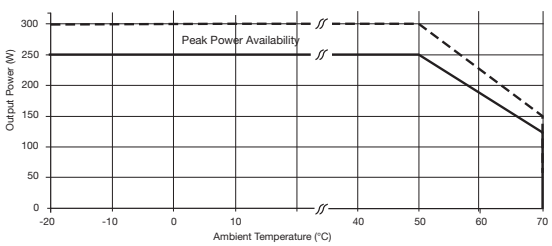
CON 1 mates with JST housing PHDR-10VS with contact SPHD-001T-P0.5

Notes

1. At AC switch on the output (VI) may momentarily rise when the unit is disabled using the 5 V standby supply in conjunction with the Remote On/Off function. (See longform datasheet for details)
2. All dimensions in inches (mm).
3. Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
4. Weight 1.7 lb (780 g) approx

Input Voltage & Temperature Derating





Safety Approvals

IEC60950-1, CSA 22.2 No. 60950-1, UL60950-1, TUV EN60950-1

IEC60601-1 CB report, CSA 22.2 No. 60601-1, UL60601-1, TUV 60601-1,

IEC62368-1, UL62368-1, CSA C22.2 No62368-1, EN62368-1,

CE & UKCA meets all applicable directives & legislation.