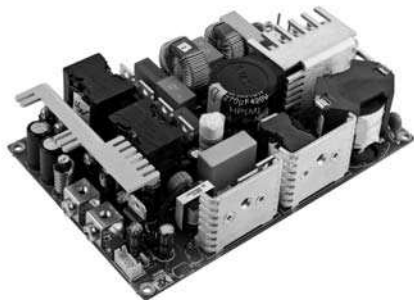


250 Watts

CCB250 Series



GREEN•POWER

- 250 W Convection Cooled
- 300 W Peak Rating for 500 ms
- Very High Efficiency up to 95%
- 5 V Standby Rail and Inhibit Function
- 80 275 VAC Operation
- IT & Medical (BF) 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, typically 60/110 µA, 115/230 VAC
Patient Leakage Current	• 100 µA max, 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	• 0.5 s typical
Hold Up Time	• 16 ms min at 90 VAC
Drift	• ±0.2% after 20 min warm up
Line Regulation	• ±0.5% max
Load Regulation	• ±1% V1, ±5% V2
Over/Undershoot	• 5% max
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 2 x MOPP, 1500 VAC Input to Ground 1 x MOPP, 1500 VAC Output to Ground 1 x MOPP
Switching Frequency	• PFC 30-500 kHz, Boost 25.6 kHz, Main 51.2 kHz
Signals	• Power Fail Inhibit, 5 V Standby
MTBF	• 369 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 & longform datasheet
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 kHz, 3 axes

EMC & Safety

Low Voltage PSU EMC Emissions	• EN61204-3, high severity level • EN55011/22 level B conducted EN55011/22 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, 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	• IEC60950-1 CB report, UL60950-1, TUV EN60950-1, IEC60601-1 CB report, UL60601-1, TUV 60601-1,
Equipment Protection Class	• EN60601-1, ANSI/AAMI ES60601-1, CSA22.2 No.60601-1 per cUL BF Rated, Including Risk Management, EN60950, UL60950

Models and Ratings

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	CCB250PS12
250 W	300 W	15.0 V	16.7 A	20.00 A	5.0 V/0.5 A	CCB250PS15
250 W	300 W	24.0 V	10.4 A	12.50 A	5.0 V/0.5 A	CCB250PS24
250 W	300 W	28.0 V	8.9 A	10.70 A	5.0 V/0.5 A	CCB250PS28
250 W	300 W	36.0 V	6.9 A	8.30 A	5.0 V/0.5 A	CCB250PS36
250 W	300 W	48.0 V	5.2 A	6.25 A	5.0 V/0.5 A	CCB250PS48

Notes

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

Mechanical Details

3D MODELS AVAILABLE ONLINE

Dimensions: 6.00 (152.4) total width, 5.73 (145.42) width to C21, 38.1 (1.5) height. Signal Connector, Output Voltage Adjustment, Output Terminals M4 Screws.

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 (Cathode)
10	Remote On / Off (Anode)

Output Connector CON 3	
1	+V1
2	V1 RTN

Input Connector CON 4	
1	Line
2	Neutral
3	Earth

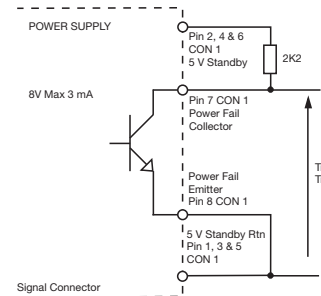
Notes

- All dimensions in inches (mm).
- Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
- Weight 1.7 lb (780 g) approx

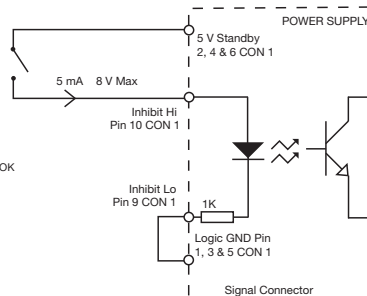
Mates with Molex housing 09-50-1051 and Molex series 5194 crimp terminals.

Signals

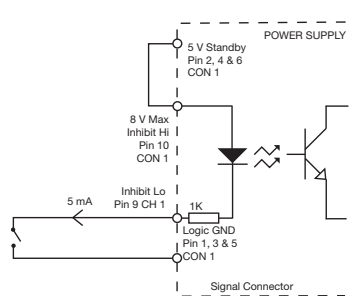
Power Fail



Inhibit (High)



Inhibit (Low)



Signals	Notes & Conditions
Power Fail	Uncommitted opto isolated transistor, normally off when AC is good Provides ≥ 5 ms (typically 20-30 ms) warning of loss of output from AC failure
Remote On/Off (Inhibit/Enable)	Uncommitted isolated optocoupler diode, powered diode inhibits the supply
Standby Supply V2	Isolated 5 V/0.5 A supply, always present when AC supplied.

Input Voltage & Temperature Derating

