

# CCB200 Series



- 200 W Convection Cooled at +70 °C
- Industry Standard “3 x 5” Package
- Very Low Heat Loss
- Very High Efficiency up to 95%
- Very Long Capacitor Lifetime
- 1U Form Factor
- <0.5 W Standby Power
- 80 V – 300 VAC Input Operation
- IT & Medical (BF) Safety Approvals
- Remote On/Off & Power Fail Signal as Standard
- 5 V Standby (Optional)
- Covers Available

The CCB200 range of single output AC-DC 200 W power supplies feature industry leading efficiency of up to 95% and absolute minimum efficiency of 93% with 90 VAC input and full load.

This leap in efficiency particularly at low input voltages has been achieved by harmonising digital circuitry with resonant zero current switching techniques.

These techniques coupled with close attention to even the smallest levels of power loss within the unit, have resulted in a convection cooled power supply packaged in a 3” (76.2mm) x 5” (127mm) x 1.43” (36mm) open frame design unequalled in the market today.

System designers can easily integrate the CCB200 into a wide variety of end use applications due to the very low levels of heat dissipated from the supply. This low dissipation results in lower component temperatures and extended lifetime by as much as four times when compared to other convection cooled products with similar power density.

The 200W of power is available without derating over the full input (90V – 264V AC) and temperature range (-20°C to +70°C).

The five standard models cover the voltage range from 12V - 56V, have dual input fusing and are compliant with IEC60601-1 Medical (BF) and IEC62368-1 IT safety approvals.

## Models and Ratings - Convection-cooled

Output Power	Output Voltage V1	Output Current V1	5 V Standby (Optional)	Model Number
200 W	12.0 V	16.7 A	5 V/0.5 A	CCB200PS12
200 W	15.0 V	13.3 A	5 V/0.5 A	CCB200PS15
200 W	24.0 V	8.3 A	5 V/0.5 A	CCB200PS24
200 W	28.0 V	7.1 A	5 V/0.5 A	CCB200PS28
200 W	48.0 V	4.2 A	5 V/0.5 A	CCB200PS48
200 W	56.0 V	3.6 A	5 V/0.5 A	CCB200PS56

1. Add suffix -C for covered version, e.g. CCB200PS12-C.
2. Add suffix -A for 5V standby option, or -AC for standby and cover options combined.

## Input Characteristics

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	80	115/230	300	VAC	Derate output power <90 VAC. See fig 1. Power fail signal cannot be used <90 VAC.
Input Frequency	47	50/60	63	Hz	
Power Factor		>0.9			EN61000-3-2 class A compliant
Input Current - Full Load		1.8/0.9		A	115/230 VAC
Inrush Current			40	A	230 VAC, 25 °C
No Load Input Power			0.5	W	Under inhibit condition
Earth Leakage Current		75/145	250	µA	115/230 VAC/50 Hz (Typ.), 264 VAC/60 Hz (Max.)
Input Protection	T5.0A/250 V internal fuse in both line and neutral				

## Output Characteristics

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage - V1	12		56	VDC	See Models and Ratings table
Initial Set Accuracy			±0.5	%	50% load, 115/230 VAC
Output Voltage Adjustment	-4		+5	%	V1 only via potentiometer. See mech. details (page 8).
Minimum Load	0			A	
Start Up Delay		0.5		s	230 VAC full load
Hold Up Time	20			ms	90 VAC full load
Drift			±0.2	%	After 20 min warm up
Line Regulation			±0.5	%	90-264 VAC
Load Regulation			±1	%	0-100% load.
Transient Response - V1			4	%	Recovery within 1% in less than 500 µs for a 50-75% and 75-50% load step
Ripple & Noise			1	% pk-pk	20 MHz bandwidth
Overvoltage Protection	115		140	%	Vnom DC. Output 1 only, recycle input to reset
Overload Protection	110		150	% I nom	Output 1 only, auto reset (see fig.2)
Short Circuit Protection					Continuous, trip & restart (hiccup mode) all outputs
Temperature Coefficient			0.05	%/°C	
Overtemperature Protection				°C	Not Fitted
Patient Leakage Current		75	100	µA	264 VAC/60 Hz