200-400 Watts
BCC Series

- Baseplate-Cooled
- Wide Operating Temperature Range
- ETSI, EMC and Environmental Compliant
- Simple Parallel Operation
- Active PFC
- Remote On/Off
- Low Temperature Option

Specification

Input

Input Voltage	• 90-264 VAC -48 VDC inputs available - contact sales
Input Frequency	• 47-63 Hz
Input Current	• 4.5 A at 110 VAC
Inrush Current	• 35 A at 230 VAC 25 °C cold start
Power Factor	• >0.9
Earth Leakage Current	• <1.5 mA at 230 VAC
Input Protection	• Internal 10 A fuse

Output

Output Power	• See table
Output Voltage	• See table
Output Voltage Trim	• 60% to 110% Vnom
Initial Set Accuracy	• ±1% nominal
Minimum Load	• No minimum load
Hold Up Time	• 10 ms min
Line Regulation	• ±0.5%
Load Regulation	• See table
Ripple & Noise	• <150 mV pk-pk, 20MHz bandwidth
Overvoltage Protection	• 105-140% Vnom (3.3V version 130-166%)
Overtemperature Protection	• Shuts down at 115 °C (baseplate), with auto recovery
Overload Protection	• 105-135% constant current limiting with auto recovery
Temperature Coefficient	• 0.05 % /°C
Remote Sense	• Compensates for lead drops of up to 500 mV
Remote On/Off	• A logic '0' on the Remote On/Off connection electronically disables the output
Current Share	• Up to 3 power supplies can be connected in parallel sharing within 10%, total output power derates by 10%

General

Efficiency	• 80% typical
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• PWM 360 kHz typical, PFC 90 kHz typical
MTBF	• 160 kHrs per MIL-HDBK-217F at 25 °C

Environmental

Operating Temperature	• -20 °C to +70 °C, with baseplate maintained below +83 °C utilizing system cooling, -40 °C option available - add suffix 'L' to model number
Cooling	• Conduction via 6mm aluminium baseplate
Operating Humidity	• 20-95% RH, non-condensing. Units can be conformally coated for high humidity environments - add suffix 'E'
Storage Temperature	• -40 °C to +85 °C
Shock & Vibration	• 2 G 10 min/1 cycle, 10 Hz to 500 kHz, 60 minutes on each axis

EMC & Safety

Emissions	• EN55022, level B conducted
Harmonic Currents	• EN61000-3-2
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria B
Surge	• EN61000-4-5, level 3 Perf Criteria B
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	• UL60950-1:2003, CSA22.2 No. 60950-1-03, CE Mark LVD

Models and Ratings

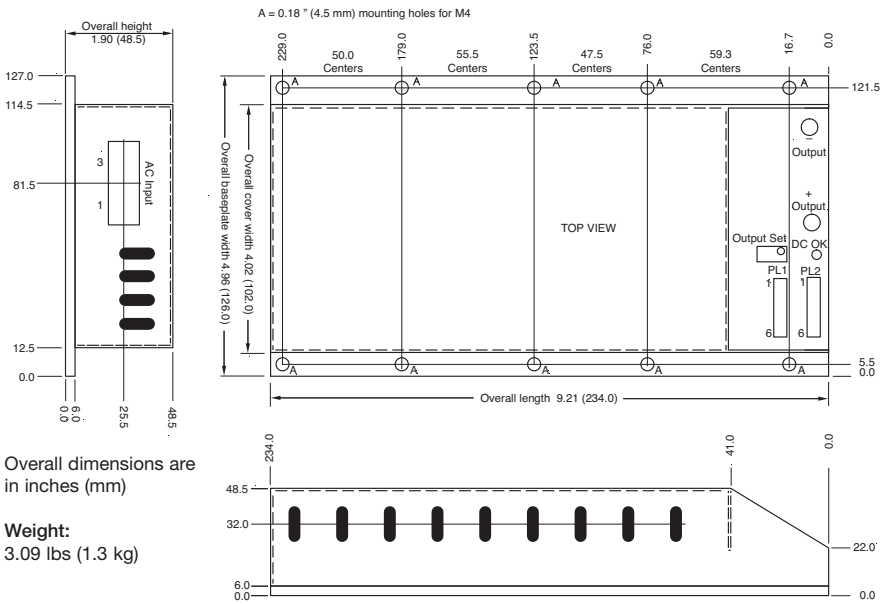
BCC XP

Output Power	Output Voltage	Output Current	Output Load Regulation	Model Number(1,2)
165 W	3.3 V	50.0 A	1.5%	BCC200PS03
200 W	5.0 V	40.0 A	1.5%	BCC200PS05
210 W	7.5 V	28.0 A	1.5%	BCC200PS07
240 W	12.0 V	20.0 A	1.5%	BCC200PS12
264 W	3.3 V	80.0 A	1.5%	BCC400PS03
400 W	5.0 V	80.0 A	1.5%	BCC400PS05
405 W	7.5 V	54.0 A	1.5%	BCC400PS07
408 W	12.0 V	34.0 A	1.0%	BCC400PS12
405 W	15.0 V	27.0 A	1.0%	BCC400PS15
396 W	18.0 V	22.0 A	1.0%	BCC400PS18
408 W	24.0 V	17.0 A	1.0%	BCC400PS24
406 W	28.0 V	14.5 A	1.0%	BCC400PS28

Notes

1. For -40 ºC operating temperature, add suffix 'L' to model number.
2. For conformally coated option, add suffix 'E' to model number.

Mechanical Details



Overall dimensions are in inches (mm)

Weight:
3.09 lbs (1.3 kg)

Input:
AMP Mate'n'lok 3 way.
Mating housing AMP 350766-1.
Socket crimp AMP 926893-1.
Pin 3: Live
Pin 2: Earth
Pin 1: Neutral

Output:
Power output +ve and -ve by M6 studs.
Use appropriate ring terminals and wire for the load current.
Signal connections on two 0.1 (2.5) headers (PL1 & PL2).
Mating Housing: Molex 22-01-2065.
Mating Crimp: Molex 08-50-0032.

PL1 Connections	
Pin	Function
1	Current Balance
2	Voltage Balance
3	Trim
4	-Remote Sense
5	+Remote Sense
6	Remote On/Off

PL2 Connections	
Pin	Function
1	Current Balance
2	Voltage Balance
3	Trim
4	-Remote Sense
5	+Remote Sense
6	Remote On/Off

Accessories
1. Input & output connector kit - order part 'BCC CONKIT'.
2. For thermal pad, order part 'BCC THERM'.

Application Notes

Current and voltage balance pins are used to connect units in parallel - see drawing.
Remote On/Off: Output is on with pin left floating, pull pin down to -Output to turn output off.

Remote sense pins are used to compensate for lead drops, for up to 0.5 V maximum. When not used, move switch SW1 to local positions. See below for switch positions. The BCC series is approximately 80% efficient, so for 400 W load consumption, the cooling system used will have to be able to absorb 100 W while maintaining the baseplate to a maximum of +83 °C.

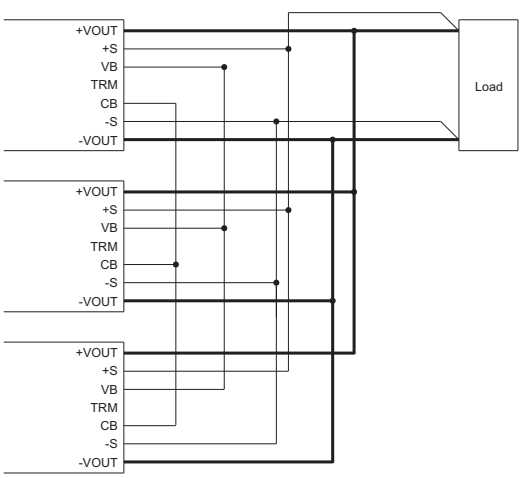
Remote sense switchers - single unit		
	Remote	Local
SW1 D (1)	OFF	ON
SW1 C (2)	OFF	ON
SW1 B (3)	ON	OFF
SW1 A (4)	ON	OFF

Parallel units with remote sense			
	PSU 1	PSU 2	PSU 3
SW1 D (1)	OFF	OFF	OFF
SW1 C (2)	OFF	OFF	OFF
SW1 B (3)	ON	OFF	OFF
SW1 A (4)	ON	OFF	OFF

Parallel units without remote sense			
	PSU 1	PSU 2	PSU 3
SW1 D (1)	ON	OFF	OFF
SW1 C (2)	ON	OFF	OFF
SW1 B (3)	OFF	OFF	OFF
SW1 A (4)	OFF	OFF	OFF

Contact sales office for a full set of application notes.

Examples of parallel operation



Ensure output power leads are of equal length and type for all units and that they are capable of carrying the load current. Set all units to the required output ±0.1V. The voltage setting pot on unit 1 can be used to set the overall output voltage if required.