

BCC Series



- Baseplate-cooled
- Wide Operating Temperature Range
- ETSI, EMC and Environmental Compliant
- Parallel Operation
- Remote On/Off
- Low Temperature Option
- 3 Year Warranty

Specification

Input

| | |
|-----------------------|--|
| Input Voltage | • 90-264 VAC |
| Input Frequency | • 47-63 Hz |
| Input Current | • 3 A max at 90 VAC (BCC200) • 6 A max at 90 VAC (BCC400) |
| Inrush Current | • 60 A at 264 VAC +25 °C cold start |
| Power Factor | • >0.9 |
| Earth Leakage Current | • <1.5 mA at 230 VAC |
| Input Protection | • Internal T10 A/250 V 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 | • <1% pk-pk, 20 MHz bandwidth |
| Overvoltage Protection | • 105-140% Vnom (3.3 V version 130-166%) |
| Overtemperature Protection | • Shuts down at +115 °C baseplate temperature, recycle mains to reset |
| Overload Protection | • 102-140% 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 typ, PFC 90 kHz typ |
| MTBF | • 160 kHrs to MIL-HDBK-217F at 25 °C, GB |

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 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 Hz, 60 mins each axis |

EMC & Safety

| | |
|----------------------|--|
| Emissions | • EN55022, level B conducted & level A radiated |
| Harmonic Currents | • EN61000-3-2, EN61000-3-3 |
| 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 A |
| Surge | • EN61000-4-5, level 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 | • UL60950-1: CSA22.2 No. 60950-1-03, CE Mark LVD, EN60950-1 |

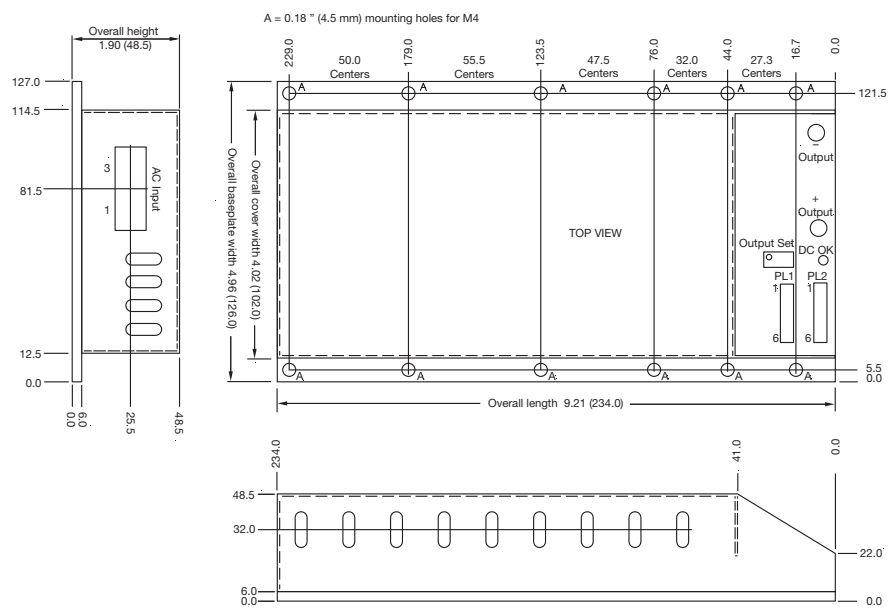
Models and Ratings

| 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

- For -40 °C operating temperature, add suffix '-L' to model number.
- For conformally coated option, add suffix '-E' to model number.
- 600 W model available for OEM quantities - contact sales.

Mechanical Details



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.
- Maximum torque: 17.7 lbs-in (2 Nm)
- 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 |

Overall dimensions are in inches (mm)
Weight: 2.87 lbs (1.3 kg)

Tolerance: ±0.05 in (±1.5 mm) length and width
±0.02 in (±0.5 mm) height

Accessories

- Input & output connector kit - order part 'BCC CONKIT'.
- 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.

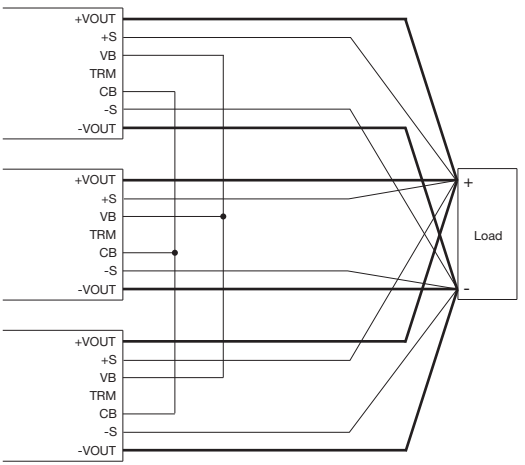
Remote sense pins are used to compensate for lead drops, for up to 0.5 V maximum. When not used, move switch SW1 to local positions. See below for switch positions. The BCC series is approximately 80% efficient, so for 400 W load consumption, the cooling system used will have to be able to absorb 100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

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.

Contact sales office for a full set of application notes.