

BCBS 600Vdc and 1000Vdc Series Standard Combiner Boxes

Features

- 4 to 24 Input circuits
- 600Vdc or 1000Vdc Rated units
- Finger-safe Cooper Bussmann modular fuse holders*
- Configured for both positive and negative grounded arrays
- Single or dual 90°C output terminals
- Negative input terminal blocks
- Steel or fiberglass NEMA 3R, 4 or 4X enclosures with seamless door gaskets
- Operating temperature -40°C to 50°C
- Common configurations in stock for fast shipment**



BCBS Series Standard Box

| Specifications | | | | | | |
|---|---|-----------------|-----------------|--|-----------------|-----------------|
| Voltage | 600Vdc Series | | | 1000Vdc Series | | |
| Rating standard | Listed to UL1741 cETL Certified to CSA Standard C22.2 No. 29 | | | IEC Rated Components Self-Certified Fuse Gear | | |
| Fuse type | 600Vdc Midget fuses*** | | | 1000Vdc PV fuses† | | |
| Number of input circuits | 4 to 12 | 16 | 20 to 24 | 4 to 12 | 16 | 20 to 24 |
| Input conductor range | 4-16AWG | 4-16AWG | 4-16AWG | 4-16AWG | 4-16AWG | 4-16AWG |
| Number of output conductors | 1 or 2 | 1 or 2 | 1 or 2 | 1 or 2 | 1 or 2 | 1 or 2 |
| Output conductor range | 350kcmil-6AWG | 350kcmil-6AWG | 350kcmil-6AWG | 350kcmil-6AWG | 350kcmil-6AWG | 350kcmil-6AWG |
| Max fuse size†† | 25A†† | 20A | 20A | 25A | 20A | 20A |
| Max rated current (DC continuous) | 310A | 400A | 400A | 310A | 400A | 400A |
| Steel enclosure dimensions (in), weight | 16x12x6, 30 lbs | 16x16x6, 36 lbs | 20x20x6, 46 lbs | 16x12x6, 30 lbs | 16x16x6, 36 lbs | 20x20x6, 46 lbs |
| Fiberglass enclosure dim. (in), weight | 16x14x7, 18 lbs | 20x16x8, 22 lbs | 24x20x8, 35lbs | 16x14x7, 18 lbs | 20x16x8, 22 lbs | 24x20x8, 35lbs |

Part Number System Standard Combiner Box Part Number System†

Example: BCBSK-12-10F S06 R

| | | | |
|--------------------------------------|-------------------------------|------------------------------------|--------------------------|
| Series Prefix | BCBS – Standard Combiner Box | Blank - for 600Vdc systems | K - for 1000Vdc systems |
| Number of Poles | 04 08 12 16 20 24 | | |
| 600Vdc Fuses (Amps)†† | 00 – No Fuses Included | 01 02 03 04 | |
| 1000Vdc Fuses (Amps) | 01 02 03 04 05 06 08 10 12 15 | 20 25 (see Max fuse size in table) | |
| Enclosure | R – NEMA 3/3R | 4 – NEMA 4 (Powder Coated Steel) | F – NEMA 4X (Fiberglass) |
| Surge Protective Device (SPD) | S06 - 600Vdc | S10 - 1000Vdc | |
| SPD Remote Contact Signaling | R - With remote signaling | Blank - no remote contact | |

Typical Layout



Standard BCBS Series
4 to 24 Circuits
BCBS-12-00F Pictured

* See Data Sheet 2053 for details.

** Please verify stocked configurations with your Cooper Bussmann sales representative.

** Certain specifications may be modified to meet requirements, please consult factory.

*** See Data Sheet 2038 (DCM) or 2020 (KLM) for details.

† See Data Sheet 720110 for details.

†† 12 Circuit inputs are limited to 20A fuses.

‡ Total system ampacity (poles x fuse amp rating) may not exceed 400 amps.

‡‡ When fuses are specified, 600Vdc midget fuses are installed in holders.

BCBD Series with Integrated Disconnect

Features

- ETL Listed to UL1741 Standard
- cETL Certified to CSA Standard C22.2 No. 29
- 28, 55, 75, 150 and 245A Integrated disconnect switches
- 4 to 24 Input circuits
- Continuous duty rated at 600Vdc
- 600Vdc Midget fuses* for overcurrent protection
- Finger-safe Cooper Bussmann modular fuse holders**
- Configured for both positive and negative grounded arrays
- Single or dual 90°C output terminals
- Negative input terminal blocks
- Steel or fiberglass NEMA 3R, 4 or 4X enclosures with seamless door gaskets
- Operating temperature -40°C to 50°C
- Common configurations in stock for fast shipment***



BCBD Series Integrated Disconnect Box

| Disconnect Rating (Amps) | Specifications† | | | | |
|--|-----------------|-----------------|-----------------|--|------------------|
| | 28A | 55A | 75A | 150A | 245A |
| Number of input circuits | 4 | 4 | 4 to 12 | 4 to 24 | 4 to 24 |
| Input conductor range | 4-14AWG | 4-14AWG | 4-14AWG | 4-14AWG | 4-14AWG |
| Number of output conductors | 1 or 2 | 1 or 2 | 1 or 2 | 1 or 2 | 1 or 2 |
| Output conductor range | 2/0-14AWG | 2/0-14AWG | 350kcmil-6AWG | 350kcmil-6AWG | 350kcmil to 6AWG |
| Max fuse size | 30A | 30A | 30A | 6A to 30A†† | 10A to 30A†† |
| Steel enclosure dimensions (in), weight | 12x10x6, 15 lbs | 12x10x6, 15 lbs | 20x20x6, 42 lbs | 20x20x6, 50 lbs, or 20x24x6, 50 lbs | 24x24x6, 55 lbs |
| Fiberglass enclosure dimensions (in), weight | 14x12x6, 12 lbs | 14x12x7, 12 lbs | 20x16x8, 28 lbs | 24x20x18, 35 lbs, or 24x24x10, 35 lbs | 24x24x8, 40 lbs |

Part Number System Combiner Box with Disconnect Part Number System*

Example: BCBD150-12-10F = B C B D 1 5 0 - 1 2 - 1 0 F S 0 6 R

| | | |
|--------------------------------------|---|-------|
| Series Prefix | BCBD – Combiner Box w/ Disconnect | _____ |
| Disconnect Ampacity | 28 55 75 150 245 | _____ |
| Number of Poles | 04 08 12 16 20 24 | _____ |
| Fuses (Amps)†† | 00 – No Fuses Included 01 02 03 04 | _____ |
| | 05 06 08 09 10 12 15 20 25 (see Max fuse size in table) | _____ |
| Enclosure | R – NEMA 3/3R | _____ |
| | 4 – NEMA 4 (Powder Coated Steel) | _____ |
| | F – NEMA 4X (Fiberglass) | _____ |
| Surge Protective Device (SPD) | S06 - 600Vdc | _____ |
| | S10 - 1000Vdc | _____ |
| SPD Remote Contact Signaling | R - With remote signaling | _____ |
| | Blank - no remote contact | _____ |

Typical Layout



Integral Disconnect on BCBD Series
4 to 24 Circuits
BCBD245-24-00R Pictured

* See Data Sheet 2038 (DCM) or 2020 (KLM) for details.

** See Data Sheet 2053 for details.

*** Please verify stocked configurations with your Cooper Bussmann sales representative.

† Certain specifications may be modified to meet requirements, please consult factory.

†† Depends on the number of input strings:

- BCBD150 (ckt/max A): 4/30A, 8/15A, 12/12A, 16/8A, 20/6A, 24/6A

- BCBD245 (ckt/max A): 4/30A, 8/30A, 12/20A, 16/12A, 20/12A, 24/10A

‡ Total system ampacity (poles x fuse amp rating) may not exceed ampacity of selected disconnect switch.

‡‡ When fuses are specified, 600Vdc midget fuses are installed in holders.

Recombiner (Array Combiner) Boxes

Features

- ETL Listed to UL1741 Standard
- cETL Certified to CSA Standard C22.2 No. 29
- 4 to 12 Input circuits
- Continuous duty rated at 600Vdc
- 600Vdc PVS-R Fuses* for overcurrent protection
- 100A and 200A Fuse case sizes
- 70A – 200A Fuse ampacity configurations
- Steel or fiberglass NEMA 3R, 4 or 4X rated enclosures with seamless door gaskets
- Operating temperature -40°C to 50°C



| Fuse Case Size | Specifications** | | | | | |
|-----------------------------------|------------------|-----------------|------------------|-----------------|------------------|------------------|
| | 100 | | | 200 | | |
| Number of input circuits | 4 | 8 | 12 | 4 | 8 | 12 |
| Number of output conductors | 2 | 4 | 4 | 2 | 4 | 4 |
| Input conductor range | 6-2/0AWG | 6-2/0AWG | 6-2/0AWG | 6-4/0AWG | 6-4/0AWG | 6-4/0AWG |
| Output conductor range | 4-500kcmil | 4-500kcmil | 4-500kcmil | 4-500kcmil | 4-500kcmil | 4-500kcmil |
| Max fuse rating | up to 100A | up to 100A | up to 100A | up to 200A | up to 200A | up to 200A |
| Max rated current (DC continuous) | 760A | 1520A | 1520A | 760A | 1520A | 1520A |
| Enclosure dimensions (in), weight | 24x24x6, 34 lbs | 36x36x8, 94 lbs | 42x36x8, 110 lbs | 36x36x8, 94 lbs | 48x36x8, 135 lbs | 60x36x8, 160 lbs |

Recombiner Box Part Number System

Example: BCBR100-08-125R-S06R = B C B R 1 0 0 - 0 8 - 1 2 5 R S 0 6 R

| | |
|--------------------------------------|---|
| Series Prefix | BCBR – Recombiner Box |
| Fuse Case Size | 100 200 |
| Number of Circuits | 04 08 12 |
| Fuses (Amps)*** | 000 – No Fuses Included 070 080 090 100 (100 amp fuse case size) 125 150 175 200 (200 amp fuse case size) |
| Enclosure | R – NEMA 3/3R 4 – NEMA 4 (Powder Coated Steel) F – NEMA 4X (Fiberglass) |
| Surge Protective Device (SPD) | S06 - 600Vdc |
| SPD Remote Contact Signaling | R - With remote signaling Blank - no remote contact |

* See Data Sheet 4203 for details.

** Certain specifications may be modified to meet requirements, please consult factory.

*** Fuse ampacity must coincide with fuse case size specified e.g., 100A or 200A.

Integrated Surge Protective Device*

Features

- Only true UL 1449 3rd Edition (Type 2)**
- IEC 61643-11 Type 2, IEC 61643-1 Class II
- Available in standard and disconnect combiner boxes***
- UL 94V0 Thermoplastic material
- IP20 Finger-safe
- 600Vdc, 1000Vdc, 1200Vdc configurations
- *easyID*[™] Visual status indication
- Available with remote contact signaling
- Operating temperature -40°C to 80°C
- Five year warranty†



BSPH _____ YPV(R)

easyID[™]
Visual Status Indication



Remote Signal Contact Available



| Specifications | | | |
|-----------------------------------|-------------------------------------|---------------|---------|
| Max Continuous Operating Voltage | 600Vdc | 1000Vdc | 1200Vdc |
| Total Discharge Current | 40kA | 40kA | 30kA |
| Voltage Protection Level | <2.5kV | <4.0kV | <4.5kV |
| Voltage Protection Level at 5kA | <2.0 kV | <3.5kV | <4.0kV |
| Integrated Fuse Breaking Capacity | 30kA | 30kA | 30kA |
| Nominal Discharge Current | 12.5kA | 12.5kA | 12.5kA |
| Max Discharge Current | 25kA | 25kA | 25kA |
| Response time | <25ns | <25ns | <25ns |
| Min Conductor Ratings | | 60/75°C 14AWG | |
| Max Conductor Ratings | 60/75°C 2AWG Stranded 4AWG Flexible | | |

Dimensions - mm



Shown with optional remote contact signaling

Module Circuit Diagrams



BSPH _____ YPV(R)

Shown with optional remote contact signaling

* See Data Sheet 2055 for additional details.

** Does not apply to 1200Vdc unit.

*** Surge module may increase the enclosure size requirement, please see factory for specific sizes.

† See Cooper Bussmann SPD Limited Warranty Statement (3A1502) for details at www.cooperbussmann.com/surge.

Current Monitoring Device

Features

- Available in standard and disconnect combiner boxes*
- Uses Obvius Solar Current Monitor (SCM) unit
- Unique “Mesh” technology optimizes routing communications with no configuration
- Twisted pair output or wireless communication
- 8 or 16 Input circuit monitoring units
- Monitors 4 to 24 input circuits



| Specifications | |
|------------------------|---|
| Processor | 60MHz Arm7 embedded CPU processor |
| LEDs | 3 x RF, 2 x RS 485, 2 x pulse, alive, alarm |
| Protocol | Modbus RTU |
| Address Setting | Modbus address may be set from 1 to 247 via DIP switch |
| Inputs | <ul style="list-style-type: none"> - 2 pulse inputs, dry contact - Monitor consumption/rate/min/max - Pulse rate/width user selectable to 10Hz, 50Hz, 100Hz, or 250Hz. - Pulse rate option: 10Hz, minimum pulse width 50ms - Pulse rate option: 50Hz, minimum pulse width 10ms - Pulse rate option: 100Hz, minimum pulse width 5ms - Pulse rate option: 250Hz, minimum pulse width 2ms - Contact closure threshold 100W to 2.5kW user selectable - Pulse count values are stored in non-volatile memory. |
| Communications | 1 RS-485 (+, -, S), 9600/19200 baud, N, 8, 1, two wire. Supports up to 32 external devices per ModHopper (expandable) |
| RF | Frequency Hopping, ISM band, -SN Option: 400MHz Receive Only (Sensor Network) |
| Environmental | North America: Temperature 0° – 50°C, 0 – 95% humidity, non-condensing. Pollution degree 2, altitude up to 2000M |
| EMC | FCC CFR 47 Part 15, Class A |
| Size | 6.5x4.5x2" (260x64x45mm) |
| Weight | 1.25lbs (0.67 kg) |
| Power Input | 9-30Vdc, 200mA |

*Monitoring module may increase the enclosure size requirement, please consult factory for specific sizes.

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