COOPER Bussmann

Photovoltaic Combiner Boxes

BCBC/BCBCT* Series Compact Combiner Boxes

Features

- ETL Listed to UL1741 Standard
- cETL Certified to CSA Standard C22.2 No. 29
- 2 to 6 Input circuits
- Continuous duty rated at 600Vdc
- 600Vdc Midget fuses** for overcurrent protection
- Finger-safe Cooper Bussmann modular fuse holders***
- NEMA 4X Polycarbonate enclosure
- Ground blocks included
- External mounting feet included
- Operating temperature -40°C to 50°C
- Common configurations in stock for fast shipment†

BCBC Series Compact Box

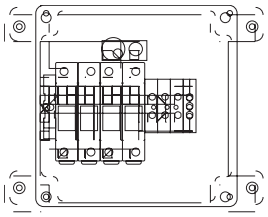
Specifications††			
Number of Input Circuits	**2 to 3**	**4**	**5 to 6**
Input conductor range	6-14AWG	6-14AWG	6-14AWG
Number of output conductors	1	1	1
Output conductor range	6-14AWG	6-14AWG	6-14AWG
Max rated current (DC continuous)	76A	76A	76A
Max fuse size	25A	20A	12A
Enclosure dimensions (in), Weight	6.5x6.5x4, 4 lbs	6.5x6.5x4, 4 lbs	6.5x9.5x4, 4 lbs

Part Number System Compact Combiner Box Part Number System‡

Example: BCBC-04-10P = B C B C - 0 4 - 1 0 P

Series Prefix	BCBC – Compact Combiner Box
Number of Poles	02 03 04 05 06
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	P – NEMA 4X (Polycarbonate)

Typical Layout



Compact BCBC Series
2 to 6 Circuits
BCBC-04-00P Pictured

* BCBC Combines negative inputs with a jumper. BCBCT allows negative inputs to pass through to the outputs without being combined.
** 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.
‡ Total system ampacity (poles x fuse amp rating) may not exceed 76 amps.
‡‡ When fuses are specified, 600Vdc midget fuses are installed in holders.

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 = B C B S K - 1 2 - 1 0 F S 0 6 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
- 05 06 08 09 10 12 15 20 25 (see Max fuse size in table)

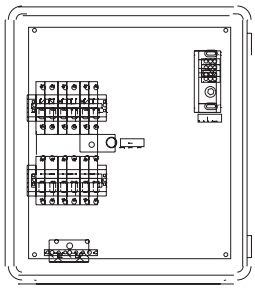
1000Vdc Fuses (Amps)
- 01 02 03 04 05 06 08 10 12 15 (see Max fuse size)

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

Specifications†					
Disconnect Rating (Amps)	**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

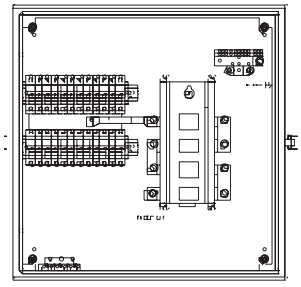
Fuses (Amps)‡‡ 00 – No Fuses Included 01 02 03 04
05 06 08 09 10 12 15 20 25 (see Max fuse size in table)

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

Specifications**						
Fuse Case Size	**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
- *easy*ID™ Visual status indication
- Available with remote contact signaling
- Operating temperature -40°C to 80°C
- Five year warranty†

BSPH_____YPV(R)

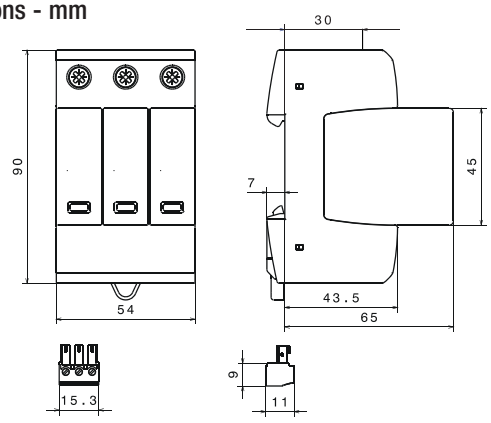
5 YEAR WARRANTY

*easy*ID™ Visual Status Indication

Remote Signal Contact Available

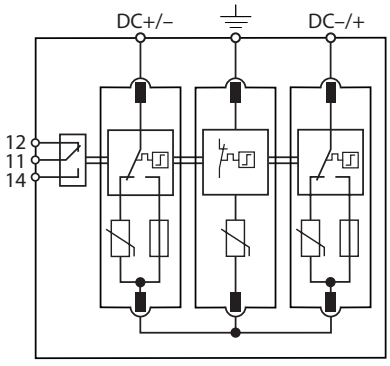
Specifications			
Max Continuous Operating Voltage	**600Vdc**	**1000Vdc**	**1200Vdc**
Total Discharge Current	40kA	40kA	30kA
Voltage Protection Level	≤2.5kV	≤4.0kV	≤4.5kV
Voltage Protection Level at 5kA	≤2.0 kV	≤3.5kV	≤4.0kV
Integrated Fuse Breaking Capacity	30kA	30kA	30kA
Nominal Discharge Current	12.5kA	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	- 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 0º – 50ºC, 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.

LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
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