

# CH Modular, IP20 finger-safe DIN-Rail holders for Class CC, midget and PV fuses

RoHS

**Catalog symbol:**

- CHCC\_ (Class CC)
- CHM\_ (UL® midget/IEC 10x38)
- CHPV\_ (13/32 x 1-1/2 and 10x38 photovoltaic)

**Description:**

Eaton's Bussmann™ series CH DIN-Rail fuse holders are for UL Class CC and midget fuses, and IEC 10x38 fuses. They are available with and without indication in 1-, 2- and 3-pole IP20 finger-safe versions. A variety of accessories extends their application flexibility and they may be ganged together to meet specific application requirements.

For other Bussmann series CH fuse holders, please see the following data sheets.

| Fuse class | Fuse size  | Data sheet No. |
|------------|------------|----------------|
| Class J    | 30 and 60A | 2141           |
|            | 8x32mm     | 720147         |
| IEC        | 14x51mm    | 10080          |
|            | 22x58mm    | 10015          |

**Specifications:****Ratings**

- Volts
  - 600 V (or less) UL
  - 690 V (or less) IEC
  - 1000 Vdc (or less) photovoltaic (PV)
- Amps
  - 30 A UL
  - 32 A IEC
- Short-Circuit Current Rating (SCCR)
  - 33 kA photovoltaic
  - 200 kA RMS Sym. (CHCC, CHM\*)

\* CHM SCCR is fuse interrupting rating dependent.

**Agency information**

- UL Listed File E14853, Guide IZLT, Recognized IZLT2
- UL Listed to E348242 and Guide IZMR (CHPV)
- CSA® File 47235, CHPV and CHM - Class 6225-30, CHCC - Class 6225-01
- IEC 60269-2 (CHM, CHPV)
- CCC
- RoHS compliant

**Mounting**

- 35mm DIN-Rail

**Wire range**

- 75°C and 90°C Cu
- #18 to #4 (0.8mm<sup>2</sup> to 21.1mm<sup>2</sup>)
  - Solid
  - Stranded
  - Fine stranded

**Terminals**

- Single or dual conductors
- Comb busbar
- Torque 30 Lb-In (3.4 N•m) maximum

**Flammability**

- UL 94V0, self-extinguishing

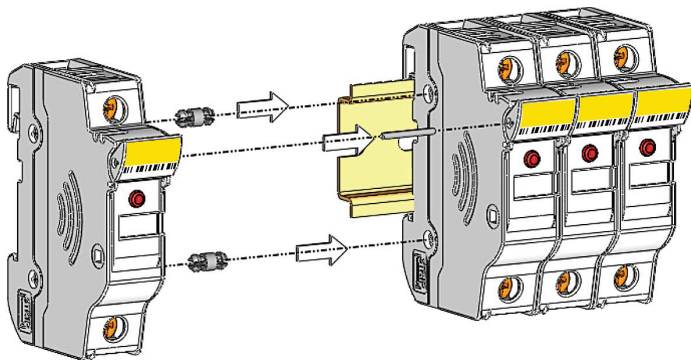
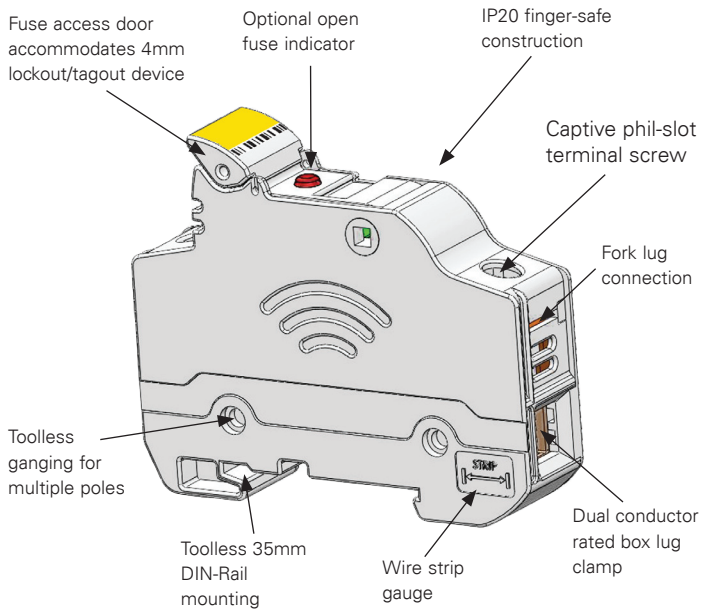
**Storage and operating temperature**

- -4°F (-20°C) to 194°F (90°C) indicating
- -4°F (-20°C) to 248°F (120°C) non-indicating

## Features and benefits:

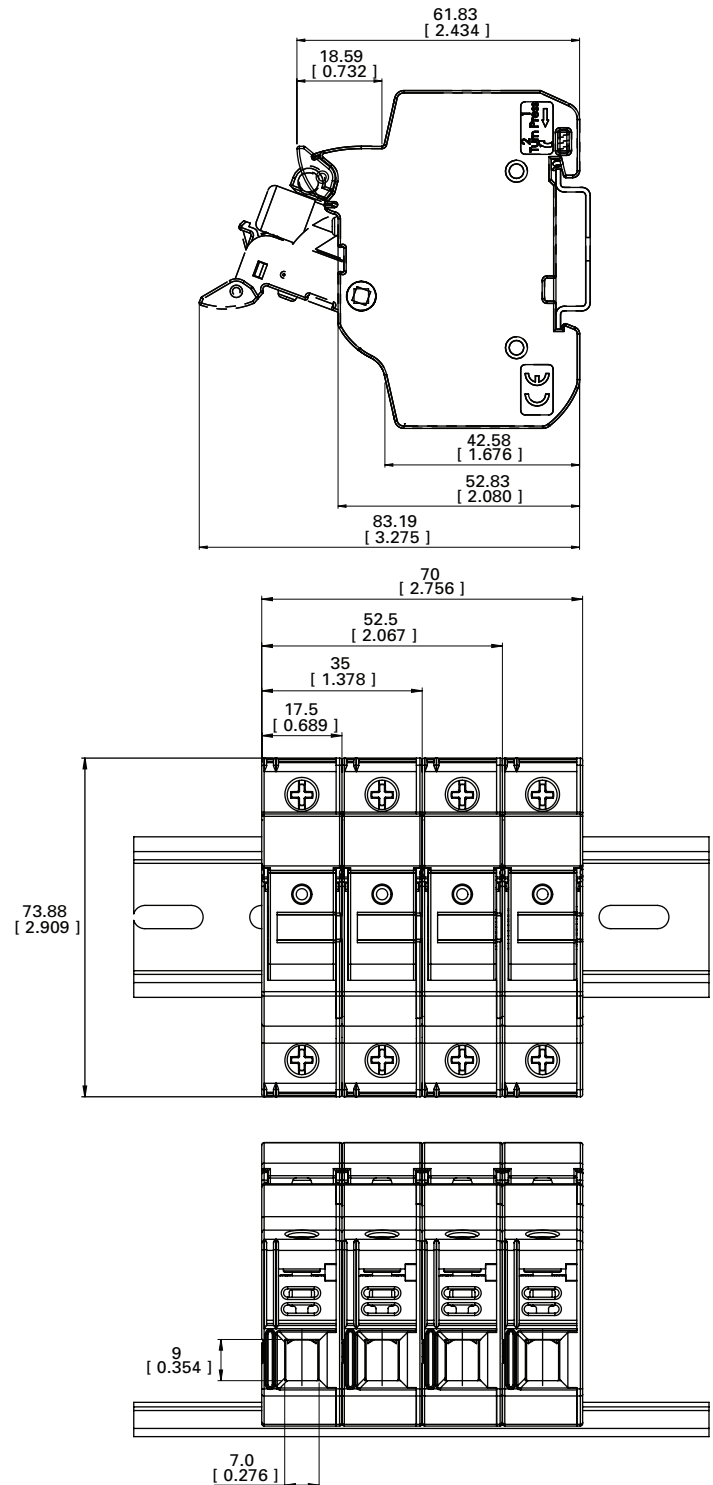
- High SCCR rated, UL Listed Class CC holder with optional open fuse indication for 600 Vac/dc and 48V dc (see catalog number table for details).
- Enhanced safety with IP20 finger-safe construction.
- UL Recognized midget and IEC 10x38 holders with factory assembled neutral pole option.
- Agency ratings up to 1000 Vdc for use with PV fuses.
- Available remote PLC indication module.
- Wiring flexibility with terminals rated for use with 75°C or 90°C solid, stranded and fine stranded wire, and spade terminals and comb-bus bars. (Use any higher temperature insulations at the 90°C ampacity.)
- Complete range of UL Listed and high SCCR rated one- and three-phase finger-safe comb-bus bars and power feed lugs.

## Features:



Gang multiple poles to meet application requirements using kit catalog number JV-L (gangs up to four poles).

## Dimensions - mm (in):





## UL midget and IEC 10x38 CHM holder catalog numbers

| Catalog number   |                    | Volts and amps          |             | Agency marks              | Poles       | SCCR                           | Recommended Bussmann series fuses                                      |  |  |  |
|------------------|--------------------|-------------------------|-------------|---------------------------|-------------|--------------------------------|------------------------------------------------------------------------|--|--|--|
| With indication* | Without indication | UL                      | IEC         |                           |             |                                |                                                                        |  |  |  |
| CHM1DIU          | CHM1DU             | 600 V/30 A              | 690 V/32 A  | UR, CSA, IEC 60269-2, CCC | 1           | 200 kA**<br>RMS Sym.           | BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_              |  |  |  |
| CHM2DIU          | CHM2DU             |                         |             |                           | 2           |                                |                                                                        |  |  |  |
| CHM3DIU          | CHM3DU             |                         |             |                           | 3           |                                |                                                                        |  |  |  |
| CHM4DIU          | CHM4DU             |                         |             |                           | 4           |                                |                                                                        |  |  |  |
| CHM1DNIU         | CHM1DNU            |                         |             | IEC 60269-2               | 1 + neutral |                                |                                                                        |  |  |  |
| CHM3DNIU         | CHM3DNU            |                         |             |                           | 3 + neutral |                                |                                                                        |  |  |  |
| CHM1DI-48U       | —                  | 48 Vdc/30 A             | 48 Vdc/32 A | UR, CSA, IEC 60269-2, CCC | 1           |                                |                                                                        |  |  |  |
| —                | CHM1DNXU           | —                       | 690V/32 A   | IEC 60269-2               |             | N/A                            | N/A                                                                    |  |  |  |
| CHM1DCIU         | CHM1DCU            | 600 Vac, 1000 Vdc, 30 A | 690 V, 32 A | UR, CSA, IEC 60269-2      | 1           | 200 kA**<br>RMS Sym., 33 kA DC | 600/690V<br>BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_, |  |  |  |
| CHM2DCIU         | CHM2DCU            |                         |             |                           | 2           |                                |                                                                        |  |  |  |
| CHM3DCIU         | CHM3DCU            |                         |             |                           | 3           |                                |                                                                        |  |  |  |
| CHM4DCIU         | CHM4DCU            |                         |             |                           | 4           |                                |                                                                        |  |  |  |
|                  |                    |                         |             |                           |             |                                |                                                                        |  |  |  |
|                  |                    |                         |             |                           |             |                                |                                                                        |  |  |  |

\* All models require 90V minimum for illumination, except CHM1DI-48U that requires 15V minimum.

\*\* SCCR is limited to the interrupting rating of the installed fuse or 200kA, which ever is less.



## UL Class CC CHCC holder catalog numbers

| Catalog number   |                    | Volts / amps | Agency marks | Poles | SCCR                  | Recommended Bussmann series fuses |
|------------------|--------------------|--------------|--------------|-------|-----------------------|-----------------------------------|
| With indication* | Without indication |              |              |       |                       |                                   |
| CHCC1DIU         | CHCC1DU            | 600 V/30 A   | UL, CSA, CCC | 1     | 200 kA<br>RMS<br>Sym. | LP-CC,<br>FNQ-R,<br>KTK-R         |
| CHCC2DIU         | CHCC2DU            |              |              | 2     |                       |                                   |
| CHCC3DIU         | CHCC3DU            |              |              | 3     |                       |                                   |
| CHCC1DI-48U      | —                  | 48 Vdc/30 A  |              | 1     | 33 kA DC              |                                   |

\* All models require 90V minimum for illumination, except CHCC1DI-48U that requires 15V minimum.



## UL and IEC photovoltaic CHPV holder catalog numbers

| Catalog number  |                    | Volts / amps  | Agency marks                            | Poles | SCCR     | Recommended Bussmann series fuses |
|-----------------|--------------------|---------------|-----------------------------------------|-------|----------|-----------------------------------|
| With indication | Without indication |               |                                         |       |          |                                   |
| CHPV1IU         | CHPV1U             | 1000 Vdc/30 A | UL, CSA, , UL 4248-18, IEC 60269-1, CCC | 1     | 33 kA DC | PV-(amp)A10F,<br>PV10M-(amp)      |
| CHPV2IU         | CHPV2U             |               |                                         | 2     |          |                                   |

\* All models require 90V minimum for illumination.

## Accessories:

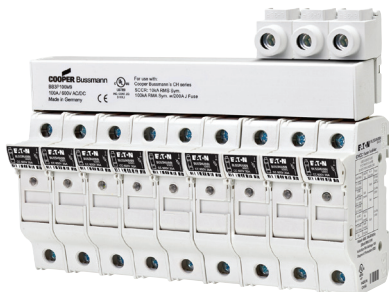
Bussmann series CH modular fuse holders can be applied using a variety of accessories that facilitate or simplify installation.

### 35mm DIN-Rails

- Constructed of high strength stainless steel
- Sold in 1 meter lengths
- Available in high- or low-profile versions

| Catalog numbers | Profile | Height |
|-----------------|---------|--------|
| DRL35MMLO       | Low     | 7.5mm  |
| DRL35MMHI       | High    | 15mm   |

### Comb busbars



- Easily distribute power in single-or three-phase systems
- Flexible cut-to-length busbars do not compromise the finger-safe protection (requires using endcaps)
- 100 kA SCCR when protected by a max 200 A Class J fuse
- Single-phase busbars rated to 1000 Vdc and 100 A
- Three-phase busbars rated to 600 Vac/dc and 100 A
- Power feed terminals for single-and three-phase systems

## Specifications:

### Agency information

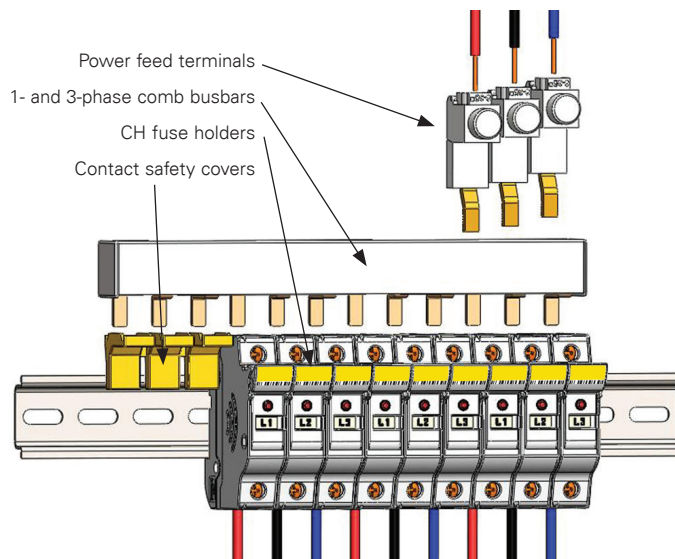
- UL 508, File E195399

### Pitch

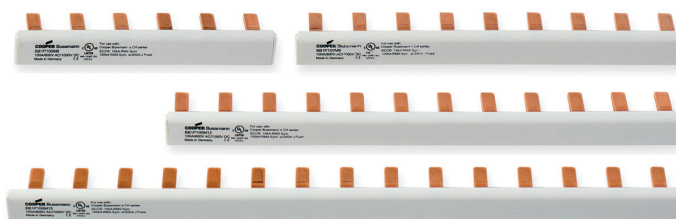
- 178mm

### Ratings

- Volts
  - 600 Vac/dc max. (three-phase)
  - 1000 Vdc/600Vac max. (single-phase)
- Amps 100 A max.
- SCCR
  - 10 kA (default)
  - 100 kA (with upstream Class J max 200 A fuses)

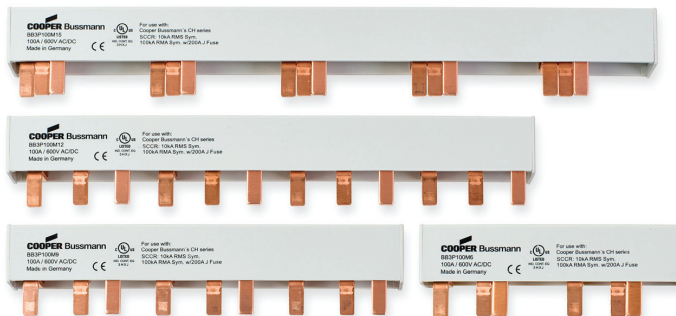


### Single-phase comb busbars



Available in 3, 6, 9, 12, 15 and 57 pin constructions.

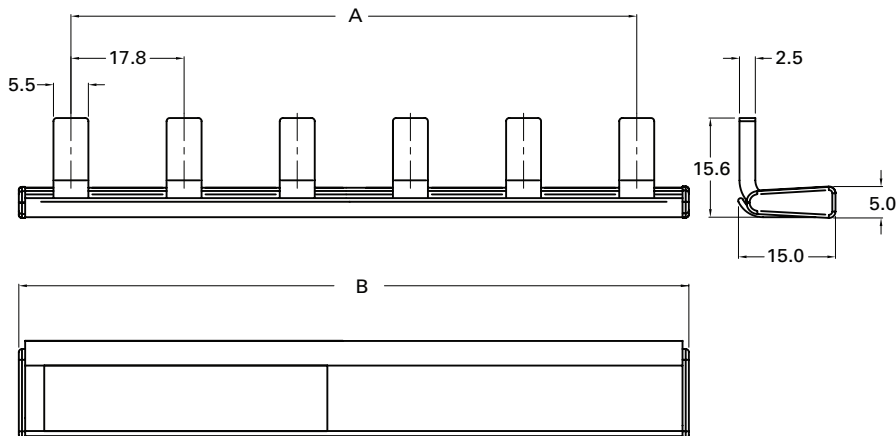
### Three-phase comb busbars



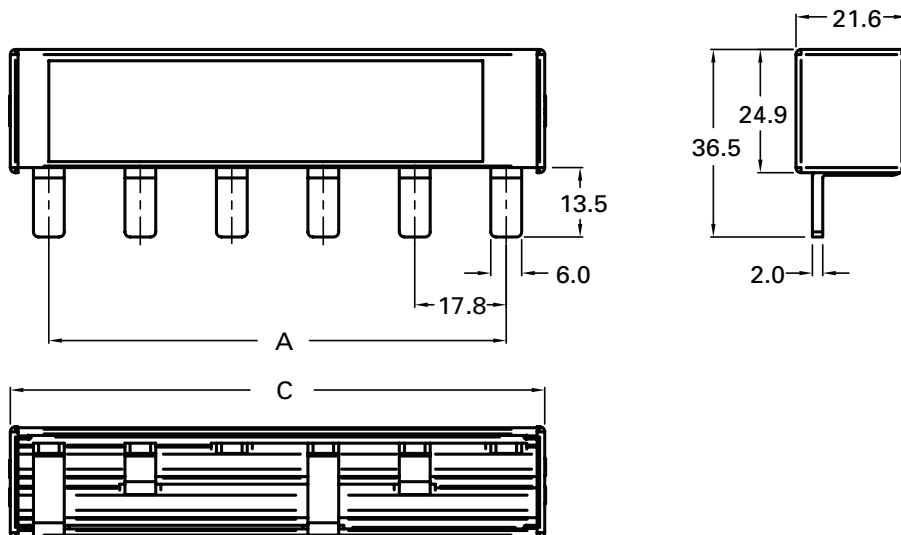
Available in 6, 9, 12, 15 and 57 pin constructions.

## Comb busbar dimensions - mm:

### Single-phase



### Three-phase



### Single- and three-phase dimensions - mm

| Poles | A     | B    | C    |
|-------|-------|------|------|
| 3     | 35.6  | 52   | —    |
| 6     | 89.0  | 106  | 104  |
| 9     | 142.4 | 160  | 159  |
| 12    | 195.8 | 208  | 214  |
| 15    | 249.2 | 272  | 266  |
| 57    | 996.8 | 1012 | 1009 |

All 15-pole or fewer comb busbars come with endcaps installed. If a comb busbar will be cut-to-length, order additional endcaps to maintain electrical protection.

End caps are sold in carton quantities of 50. Order ECAP1P for single-phase and ECAPMP for three phase.

## Comb busbar catalog numbers:

| Catalog number | Phase        | Voltage  | Amps  | Number of pins  | Endcaps                                                                        |
|----------------|--------------|----------|-------|-----------------|--------------------------------------------------------------------------------|
| BB1P100M3      | Single-phase | 1000 Vdc | 100 A | 3               | With endcaps assembled. If cut to length, order additional endcaps separately. |
| BB1P100M6      |              |          |       | 6               |                                                                                |
| BB1P100M9      |              |          |       | 9               |                                                                                |
| BB1P100M12     |              |          |       | 12              |                                                                                |
| BB1P100M15     |              |          |       | 15              |                                                                                |
| BB1P100M57     | Three-phase  | 600 V    | 100 A | 57 pin cuttable | Without endcaps (order separately)                                             |
| BB3P100M6      |              |          |       | 6               | With endcaps assembled. If cut to length, order additional endcaps separately. |
| BB3P100M9      |              |          |       | 9               |                                                                                |
| BB3P100M12     |              |          |       | 12              |                                                                                |
| BB3P100M15     |              |          |       | 15              |                                                                                |
| BB3P100M57     | Three-phase  | 600 V    | 100 A | 57 pin cuttable | Without endcaps (order separately)                                             |

## Power feed terminals:

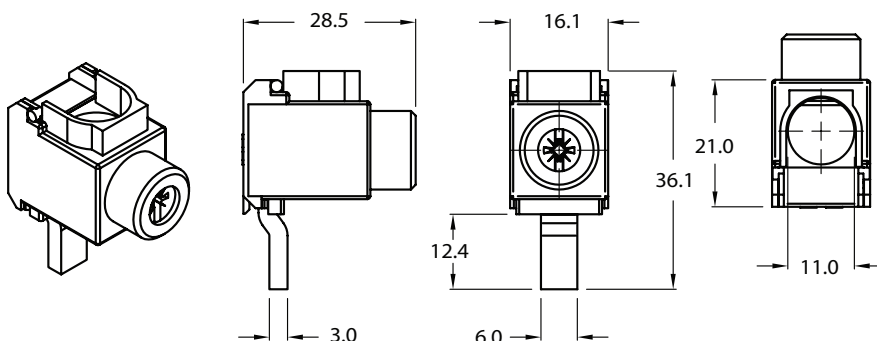
### PWR1PLP



Single-phase, low profile power feed terminal

#### Ratings

- Volts 1000 Vac/dc
- Amps 115 A
- Wire range 1/0-10 AWG Cu, max torque 50 lb-in (5.6 N•m)
- Wire temp. rating 60°C\*



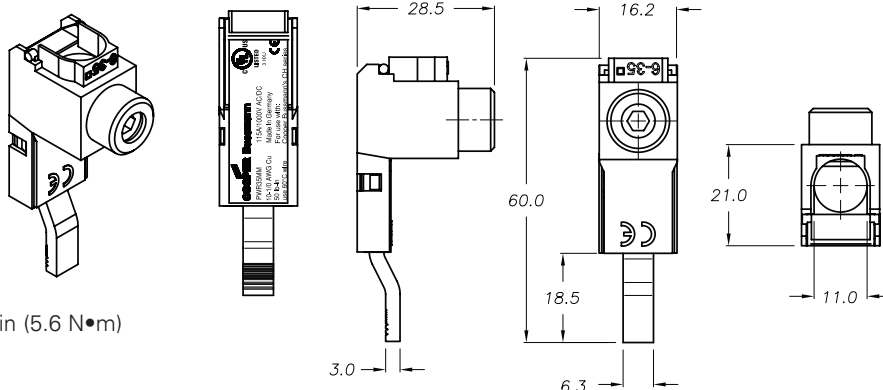
### PWR35MM



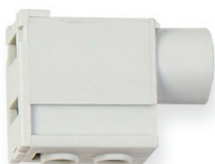
35mm² three-phase power feed terminal  
for three-phase busbars

#### Ratings

- Volts 1000 Vac/dc
- Amps 115 A
- Wire range 1/0-10 AWG Cu, max torque 50 lb-in (5.6 N•m)
- Wire temp. rating 60°C\*



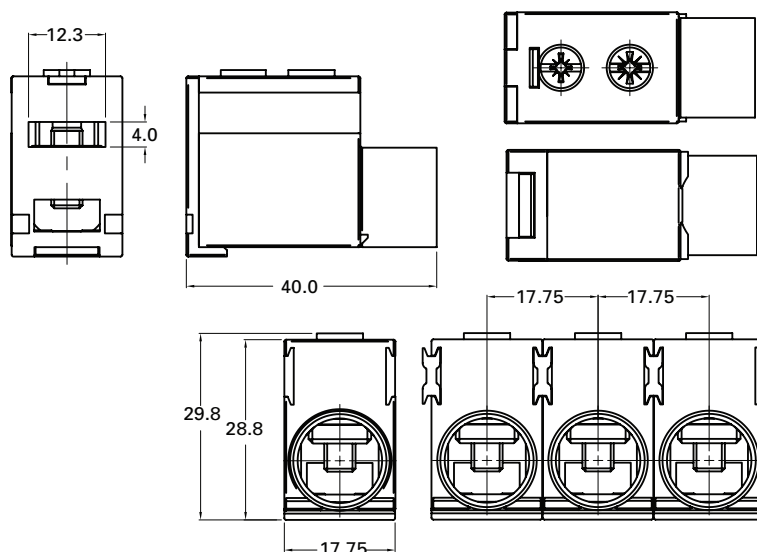
### PWR50MM



50mm² direct feed power terminal

#### Ratings

- Volts 1000 Vac/dc
- Amps 115 A
- Wire range 1-14AWG Cu, max torque 35 lb-in (3.9 N•m)
- Wire temp. rating 75°C\*



\* Higher temperature rated wire may be used with appropriate derating.

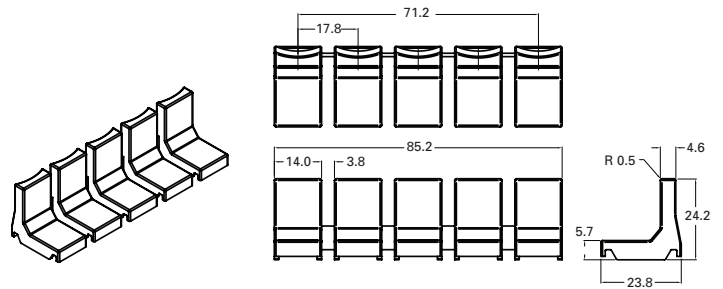


## Comb busbar safety covers and end caps:

### FSCVR



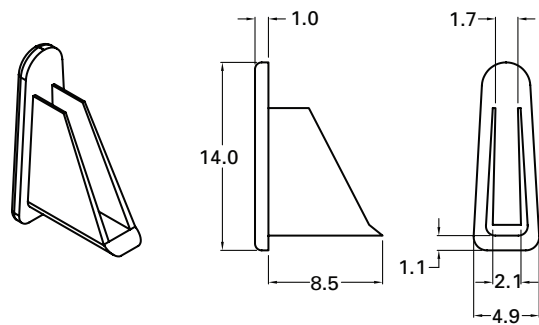
Spare comb busbar pin safety protection covers (used to cover exposed pins on comb busbars). Sold in quantity of ten strips of five covers each. (FSCVR comes with five covers on a strip. Minimum order is 10 strips or 50 safety covers total.)



### ECAP1P



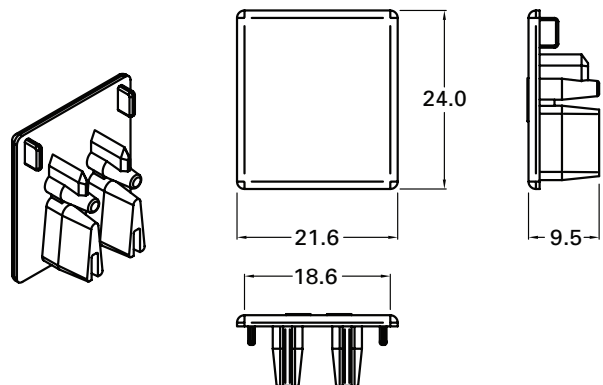
End cap for single-phase comb busbars. Sold in quantity of fifty.



### ECAPMP



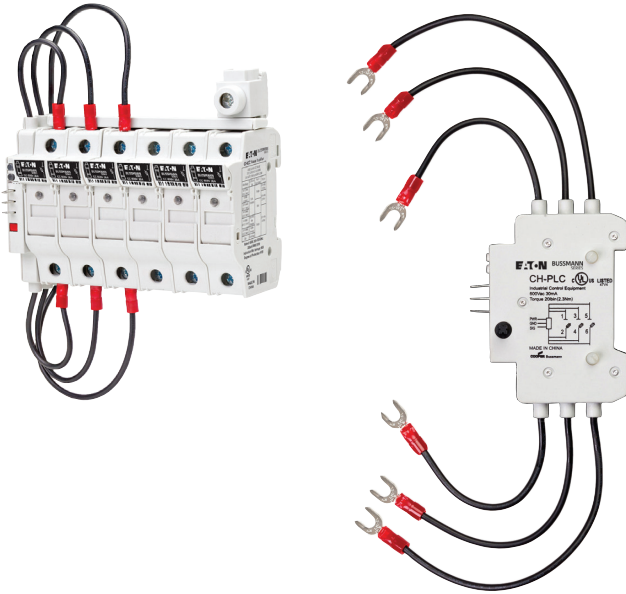
End cap for three-phase comb busbars. Sold in quantity of fifty.



## Accessory catalog numbers

| Catalog number | Description                                                                       | Carton quantity                                           |
|----------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|
| PWR1PLP        | Single-phase low-profile power feed terminal (115 A, 1000 Vac/dc)                 | 10                                                        |
| PWR35MM        | 35mm <sup>2</sup> power feed terminal for three-phase busbar (115 A, 1000 Vac/dc) | 10                                                        |
| PWR50MM        | 50mm <sup>2</sup> direct power feed terminal (1000 Vac/dc)                        | 10                                                        |
| ECAP1P         | Single-phase busbar endcap                                                        | 50                                                        |
| ECAPMP         | Three-phase comb busbar end cap                                                   | 50                                                        |
| FSCVR          | Spare comb busbar pin safety protection covers                                    | 10 strips of five covers each, total 50 individual covers |

## PLC remote fuse monitor



The Bussmann series resettable remote fuse monitor permits easy integration with a Programmable Logic Controller (PLC) or other monitoring and control equipment. Signals up to three-phases.

### Specifications:

- Power input: 24 Vdc / 5 mA
- Sensing voltage: 600 V/30 mA
- Digital output signals
  - 0 Vdc (low) – fuse is good
  - 24 Vdc (high) – fuse has opened

When the fuse opens, the output signal is sent high and will remain high until the unit is reset.

- Rated impulse voltage
  - 8 kV
- Local indication
  - Two distinct LEDs indicate unit power (green) and open fuse (red)
  - Upon fuse replacement, the actuation of the reset switch will reset the open fuse LED
- Flammability rating
  - UL 94V0

### Wiring

For power, signal and ground connections use shielded twisted pair 22-24 AWG (0.34-0.25 mm<sup>2</sup>) 300 V rated wire.

### Minimum circuit voltage

- Minimum circuit voltage required across the CH holder is 100 Vac for the remote indication device to operate

### Installation

- Mounts on the left side of the fuse holder and mechanically interlocks with the fuse holder switch handle with hardware provided

### Degree of protection

- Finger-safe IP20

### Storage and operating temperature

- -4°F (-20°C) to 167°F (75°C)

### Agency information

- UL 508
- cULus to CSA Standard 22.2 No.14

### PLC programming

- The CH-PLC signal line is designed to provide a digital input to a PLC I/O card
- Programmable Logic Control program must be written to properly interpret the input signal to the PLC
- The PLC program should check for consecutive high signals before taking action on a critical process

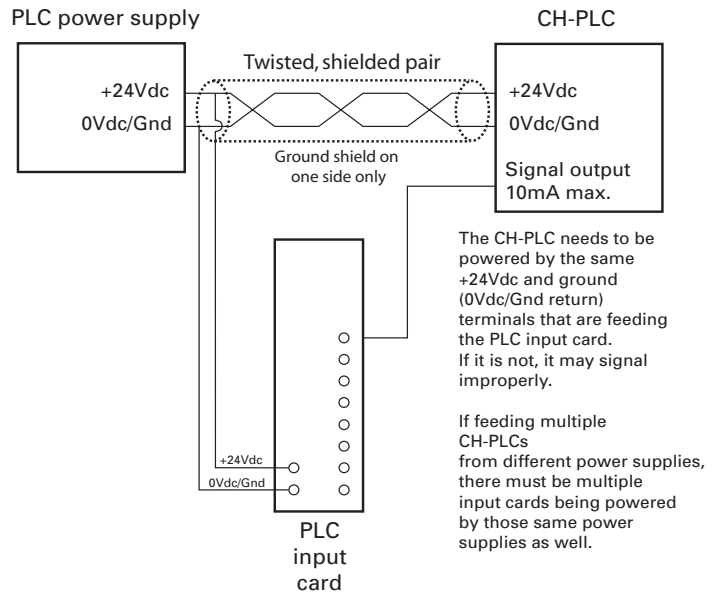
### Packaging

- The CH-PLC is packaged individually
- A single unit monitors up to three phases
- Package includes 0.11" (2.8mm) quick connects for power, signal and ground connections

### To order

- Specify catalog number CH-PLC

### PLC wiring schematic





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