

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



### 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	2144
	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
- Terminal screws
  - Standard phil-slot
  - Optional hex head (order by adding "-H" suffix to the catalog number, e.g., CHM1DU-H)

#### Flammability

- UL 94V0, self-extinguishing

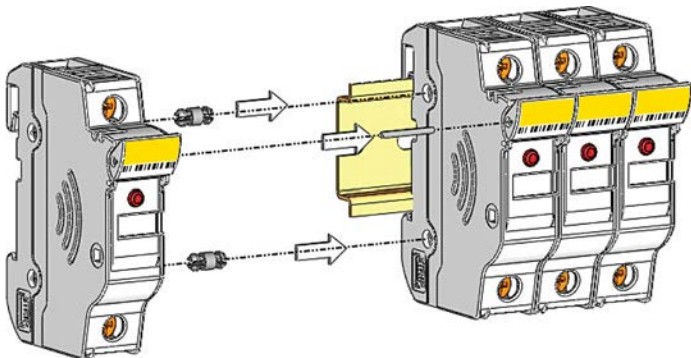
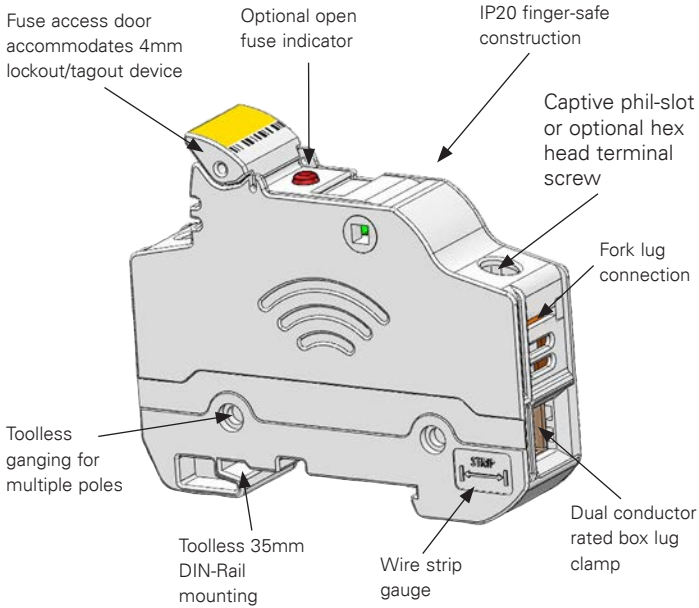
**Storage and operating temperature**

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

**Features and benefits:**

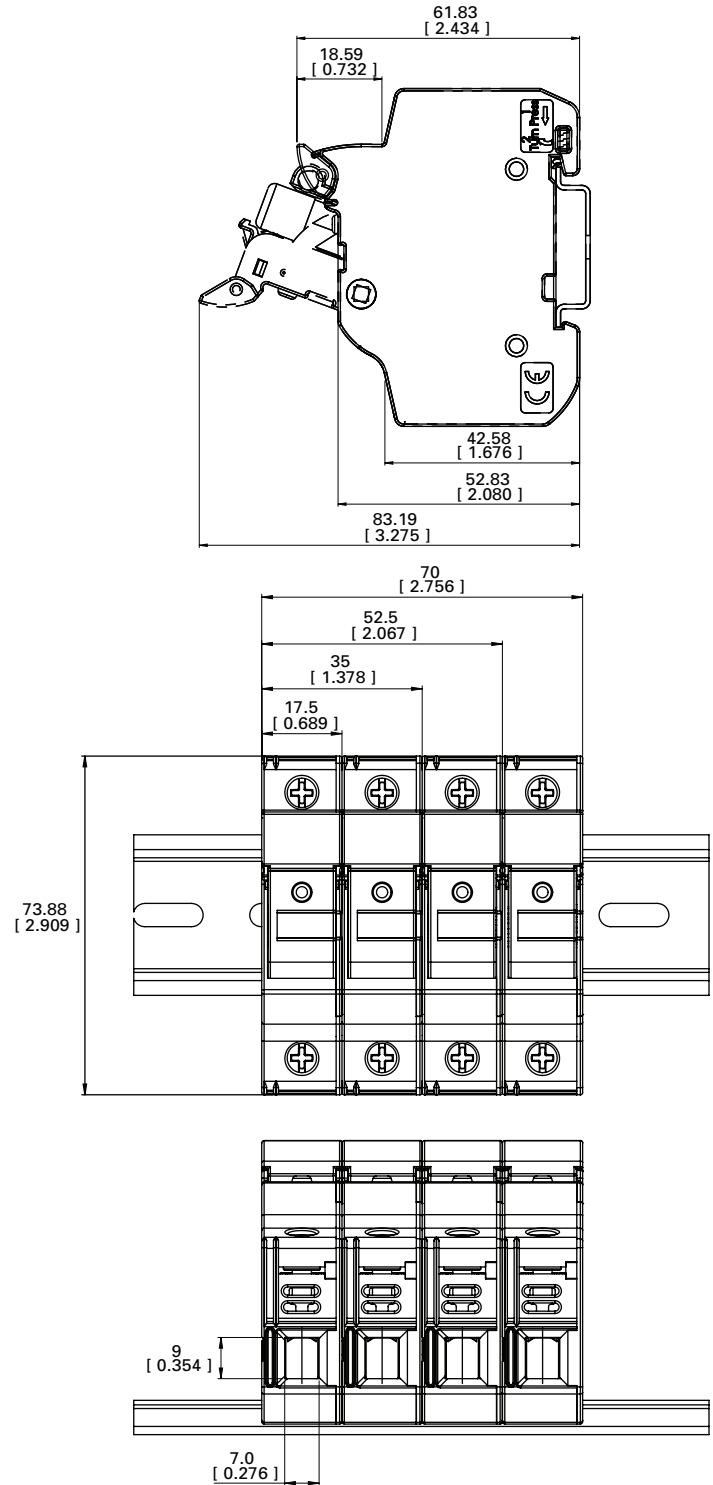
- High SCCR rated, UL Listed Class CC holder with optional open fuse indication for 600 Vac/dc and 48V dc (see catalog number table for details).
- Enhanced safety with IP20 finger-safe construction.
- UL Recognized midget and IEC 10x38 holders with factory assembled neutral pole option.
- Agency ratings 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** RMS Sym.††	BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_
CHM2DIU	CHM2DU				2		
CHM3DIU	CHM3DU				3		
CHM4DIU	CHM4DU				4		
CHM1DNIU	CHM1DNU				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** RMS Sym., 33 kA DC††	600/690V BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_, 1000Vdc PV-(amp)A10F, PV10M-(amp)
CHM2DCIU	CHM2DCU				2		
CHM3DCIU	CHM3DCU				3		
CHM4DCIU	CHM4DCU				4		

† Available with optional hex head terminal screws. To order, add "-H" suffix to the desired catalog number.  
 †† SCCR is limited to the interrupting rating of the installed fuse or 200 kA, which ever is less.  
 \* 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 RMS Sym.	LP-CC, FNQ-R, KTK-R
CHCC2DIU	CHCC2DU			2		
CHCC3DIU	CHCC3DU			3		
CHCC1DI-48U	—	48 Vdc/30 A		1	33 kA DC	

† Available with optional hex head terminal screws. To order, add "-H" suffix to the desired catalog number.  
 \* 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, PV10M-(amp)
CHPV2IU	CHPV2U			2		

† Available with optional hex head terminal screws. To order, add "-H" suffix to the desired catalog number.  
 \* 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**

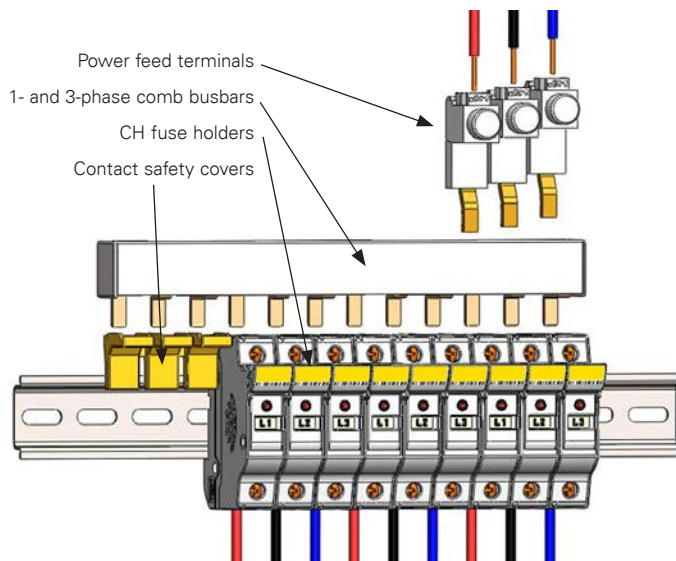
- UL 508, File E195399

**Pitch**

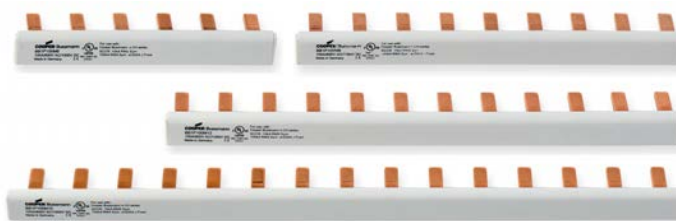
- 178mm

**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)

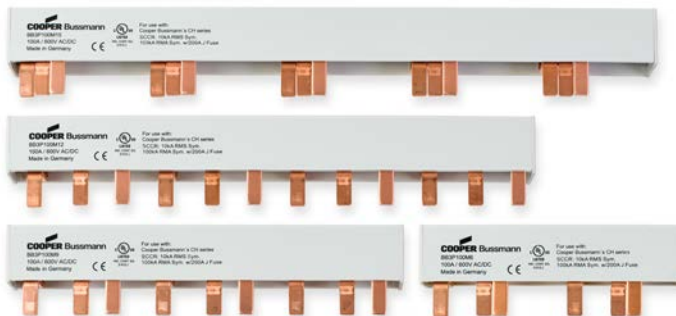


**Single-phase comb busbars**



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

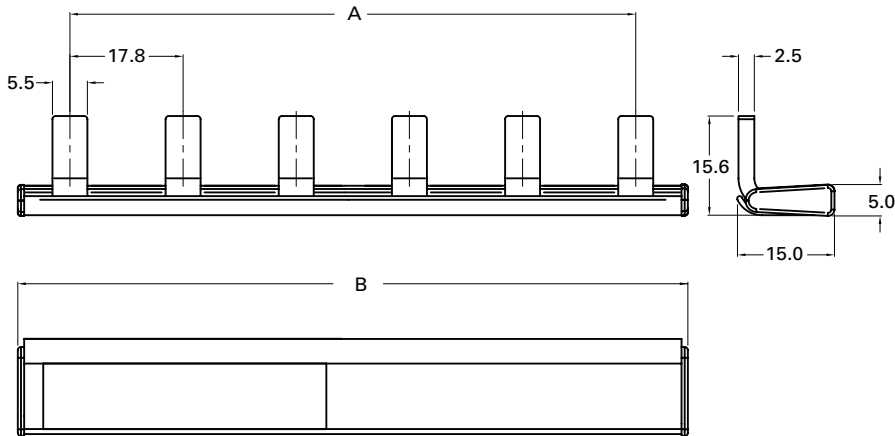
**Three-phase comb busbars**



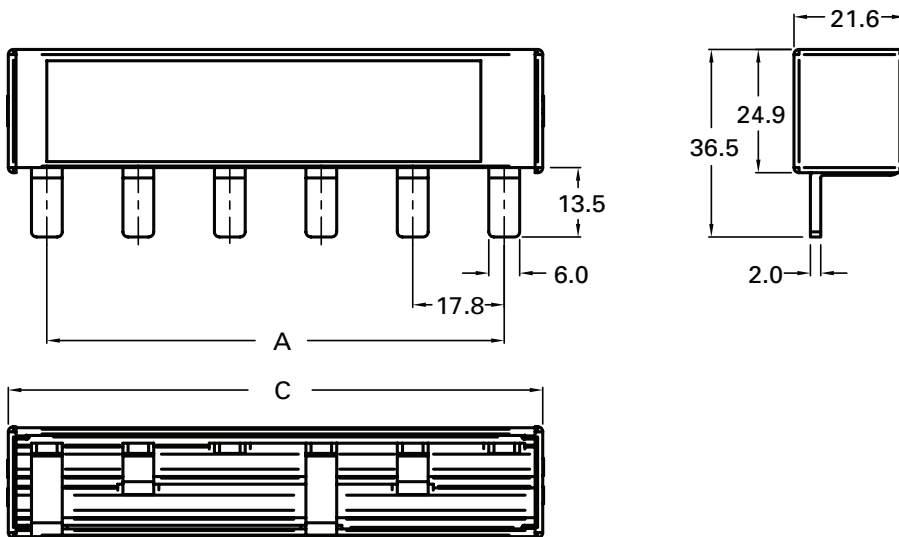
Available in 6, 9, 12, 15 and 57 pin constructions.

**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				57 pin cuttable		Without endcaps (order separately)
BB3P100M6	Three-phase	600 V	100 A	6	With endcaps assembled. If cut to length, order additional endcaps separately.	
BB3P100M9				9		
BB3P100M12				12		
BB3P100M15				15		
BB3P100M57				57 pin cuttable		Without endcaps (order separately)

**Power feed terminals:**

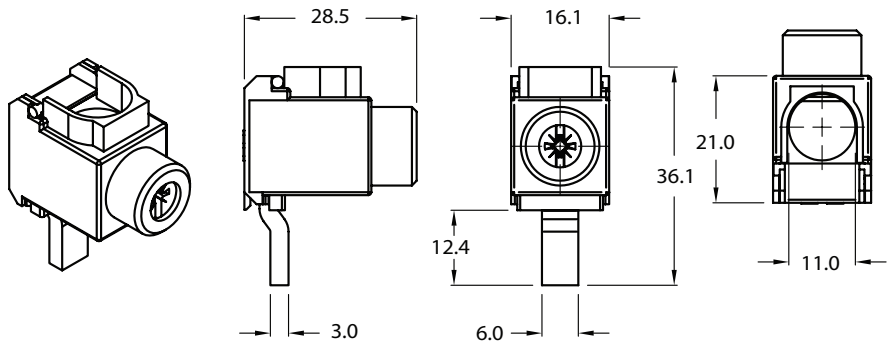
**PWR1PLP**



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\*



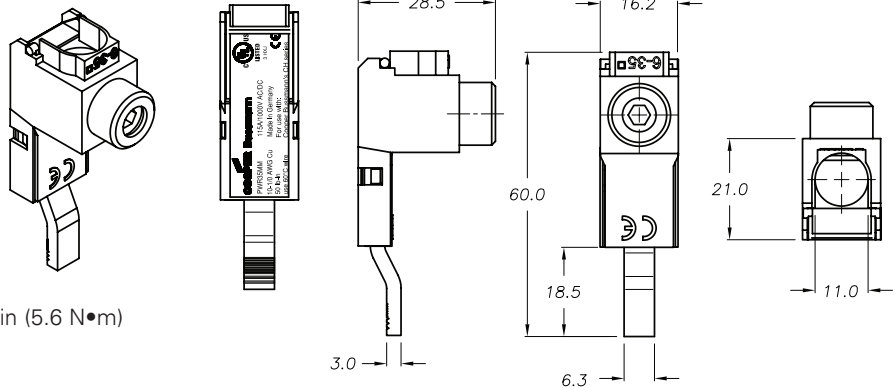
**PWR35MM**



35mm<sup>2</sup> 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\*



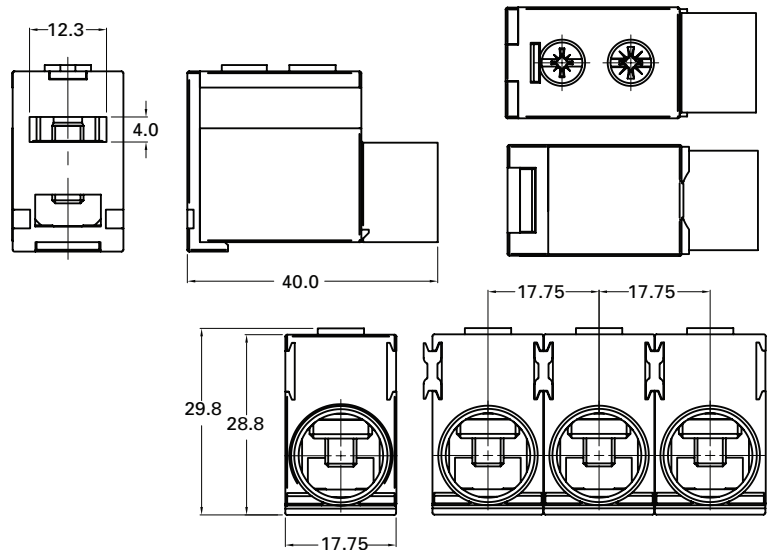
**PWR50MM**



50mm<sup>2</sup> 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.

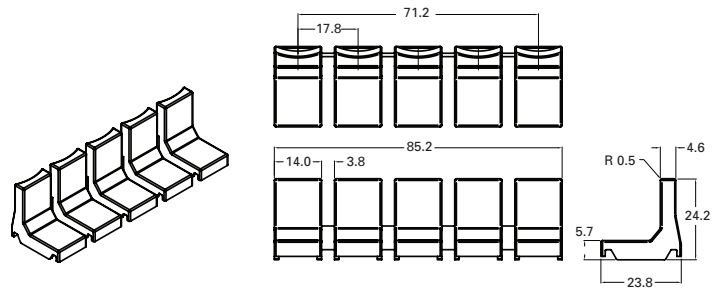


### Comb busbar safety covers and end caps:

#### FSCVR



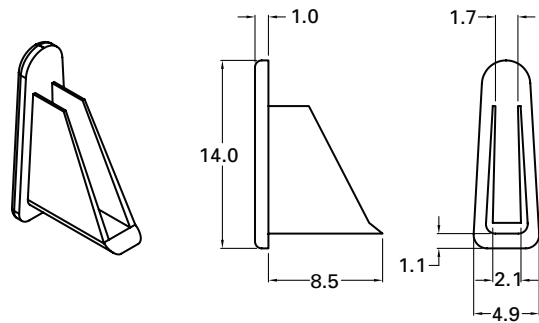
Spare comb busbar pin safety protection covers (used to cover exposed pins on comb busbars). Sold in quantity of ten strips of five covers each. (FSCVR comes with five covers on a strip. Minimum order is 10 strips or 50 safety covers total.)



#### ECAP1P



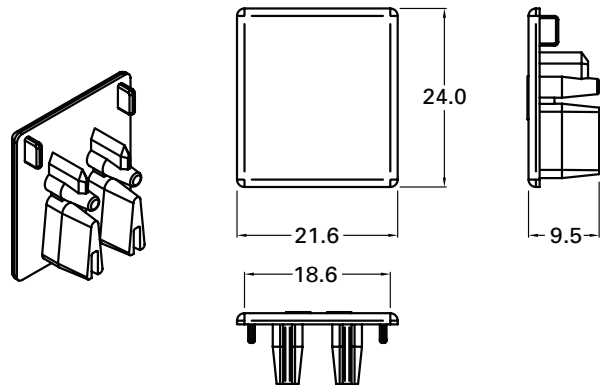
End cap for single-phase comb busbars. Sold in quantity of fifty.



#### ECAPMP



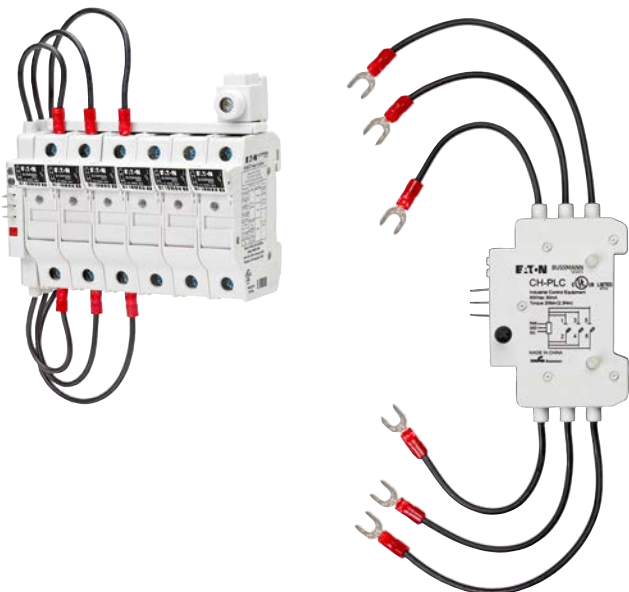
End cap for three-phase comb busbars. Sold in quantity of fifty.



### 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

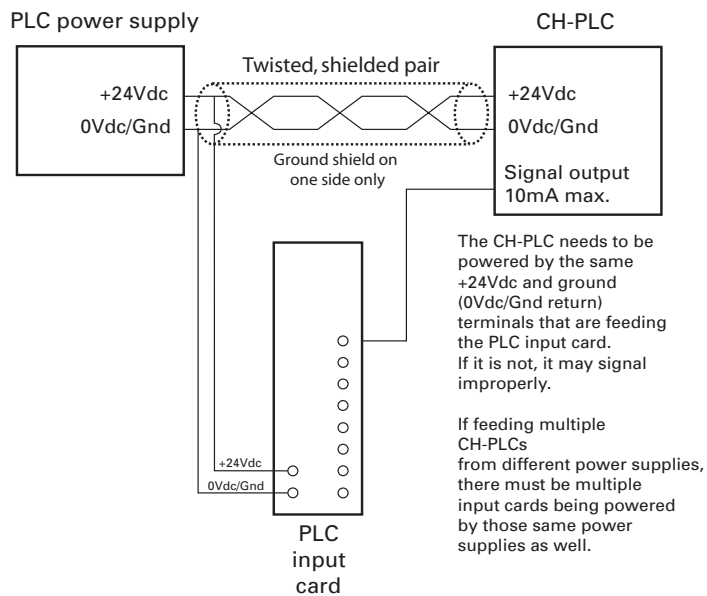
### Packaging

- 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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**Eaton**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
Eaton.com

Bussmann Division  
114 Old State Road  
Ellisville, MO 63021  
United States  
Eaton.com/bussmannseries

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