



# Compact Modular Fuse Holders With the Industry's Best Ratings

Products for PV, IEC and UL Applications





**Protection**  
made simple™

Cooper Bussmann CH Series finger-safe modular fuse holders offer a set of advantages you can't find anywhere else.



## Best Ratings

With a wide wire range and industry leading ratings - up to 32A, 1000V, 200kA SCCR - the new CH Series provides worldwide acceptance and easy specification - including the latest PV fuse holder standard (UL 4248-18)



## Smallest Footprint

The CH Series conserves valuable panel space. Up to 10 percent smaller than the competition.



## Ease of Use

Easy to identify and specify, product color coding shows PV, IEC and UL holders at a glance. Optional factory-installed neutral pole and open fuse indication speeds troubleshooting.



## Accessories Provide Greater Flexibility

Save time and money by reducing wiring and components. Advanced comb-bus bar and PLC communication accessories expand design possibilities while delivering superior performance.



## QuikShip<sup>™</sup> Service Everyday

In stock for QuikShip Everyday Service - 90% of our orders ship within 24 hours. QuikShip Emergency Service ensures you're covered 24/7, 365 with "Next flight out" courier service.

# Modular Fuse Holder Specifications and Selection Guide

RoHS

## Features and Benefits

- High SCCR rated, UL Listed Class CC holder with indicator option for 600Vac/dc and 48Vdc.
- UL Recognized midget and 10 x 38 holders with factory assembled neutral pole option.
- Agency ratings up to 1000Vdc for use with solar PV fuses.
- Available remote PLC indication with the CH-PLC module.
- Rated for use with 75°C or 90°C wire, fine stranded wire, spade terminals and comb-bus bars. Use any higher temperature rated wire with appropriate derating.
- Complete range of UL Listed and high SCCR rated 1-phase and 3-phase finger-safe comb-bus bars and power feed lugs.



## Specifications

**Agency Information:** UL File E14853

Guide IZLT Listed, IZLT2 Recognized

CSA: File 47235, CHPV and CHM - Class 6225-30, CHCC - Class 6225-01

### Ratings:

600V/30A (UL)

690V/32A (IEC)

### Wire Range:

#18 to #4 (0.8mm<sup>2</sup> to 21.1mm<sup>2</sup>)

### Torque Ratings:

30 Lb-In (3.4 N•m) maximum

### Flammability Ratings:

UL 94V0, self-extinguishing

### Storage & Operating Temperature Range:

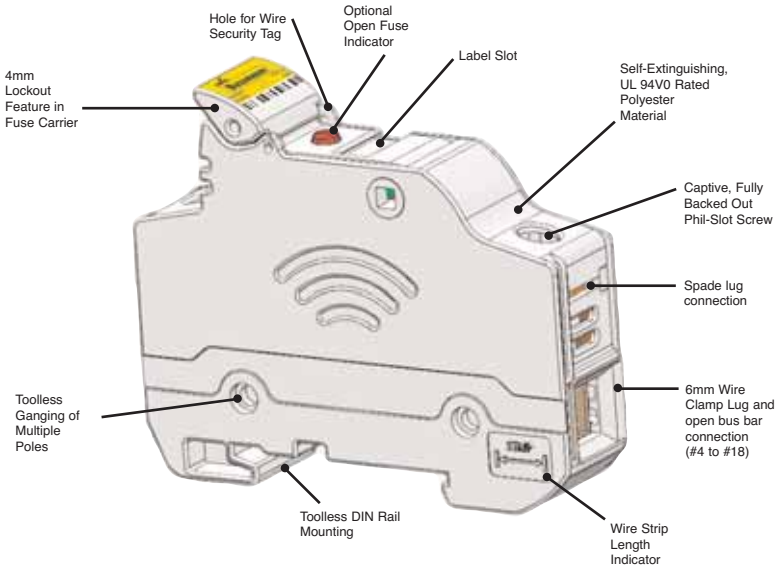
-20°C to +90°C (indicating)

-20°C to +120°C (non-indicating)

Series & Size	Catalog Number		Voltage & Current	Agency Markings	Number of Poles	Terminal Rating	SCCR Rating	Cooper Bussmann Fuses
	With Indicator	Without Indicator						
CHM 10x38 and Midget	CHM1DIU	CHM1DU	UL 600V/30A; IEC 690V/32A	UR; IEC 60269-2; CSA; CCC	1	Solid, Stranded, Fine Stranded, Spade Lug, Comb Bus Bar; Single and Dual Wire; 75°C and 90°C Cu wire	200kA rms sym	FNQ, KLM, FNM, KTK, BAF, FWA, DCM, C10 SERIES, AGU, BAN, FWC
	CHM2DIU	CHM2DU			2			
	CHM3DIU	CHM3DU			3			
	CHM4DIU	CHM4DU			4			
	CHM1DNUI	CHM1DNU	IEC 60269-2	1 pole + 1 neutral				
	CHM3DNUI	CHM3DNU		3 poles + 1 neutral				
	CHM1DI-48U		UL 48Vdc/30A; IEC 48Vdc/32A	UR; IEC 60269-2; CSA; CCC	1			
	CHM1DNXU	IEC 690V/32A	IEC60269-2	1 neutral	n/a	n/a		
CHPV	CHPV1IU	CHPV1U	UL & IEC; 1000Vdc/30A	UL; CSA; UL4248-18; IEC60269-1; CCC	1		33kA	Solar PV series
	CHPV2IU	CHPV2U			2			
CHCC Class CC	CHCC1DIU	CHCC1DU	UL 600V/30A	UL; CSA; CCC	1		200kA rms sym	LP-CC, FNQ-R, KTK-R
	CHCC2DIU	CHCC2DU			2			
	CHCC3DIU	CHCC3DU			3			
		CHCC1DI-48U	UL 48Vdc/30A	1				

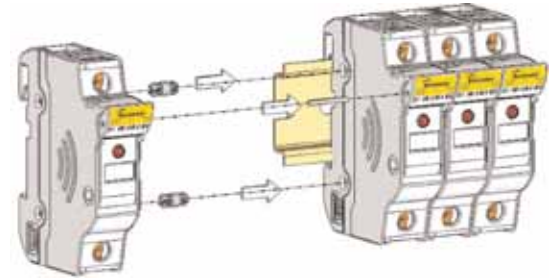
# Modular Fuse Holder Features and Installation Guide

## Features

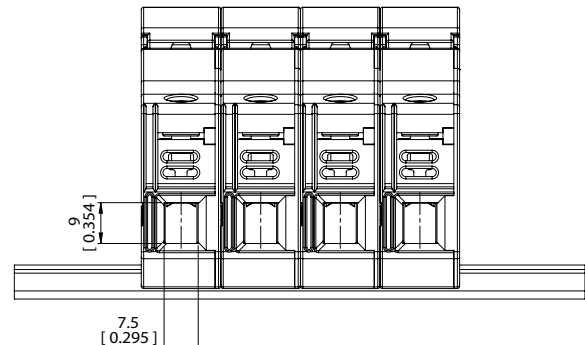
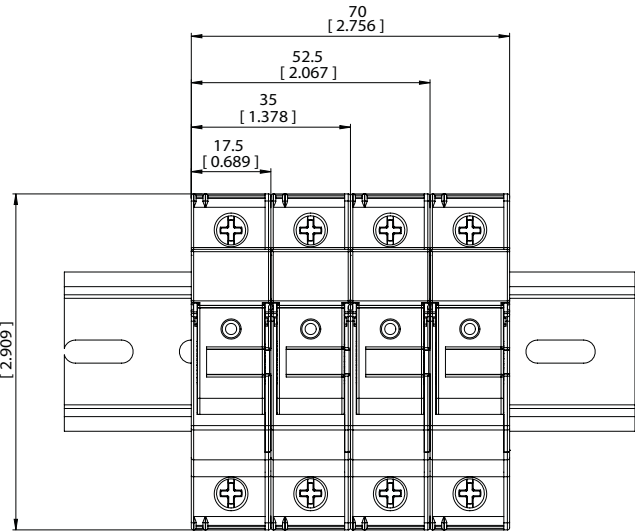
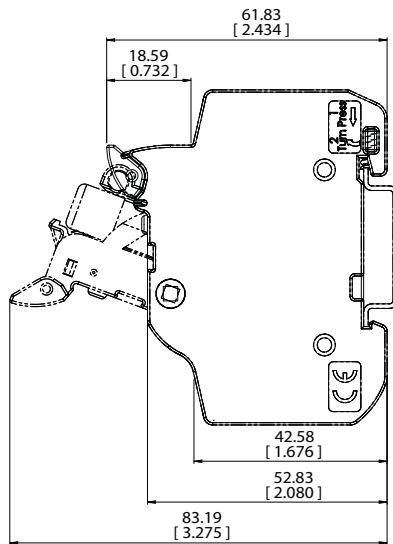


## Multi-Pole Ganging

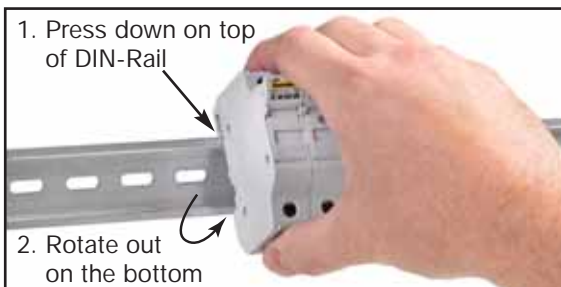
Use multi-pole connection kit part number JV-L to gang multiple poles together. One JV-L kit is sufficient to gang up to 4 poles.



## Dimensional Data - mm (in)

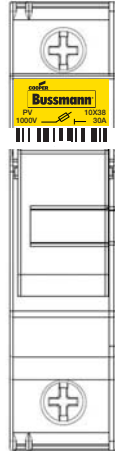
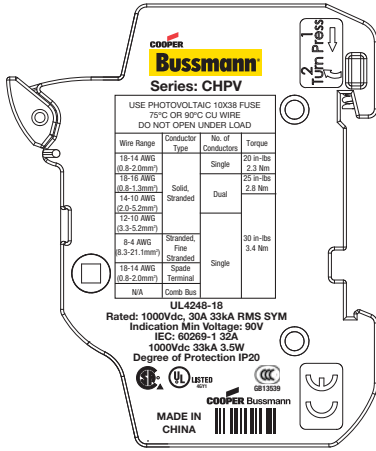


## Removing Instructions

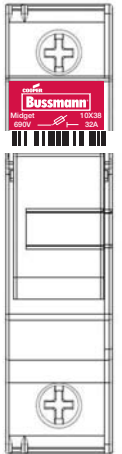
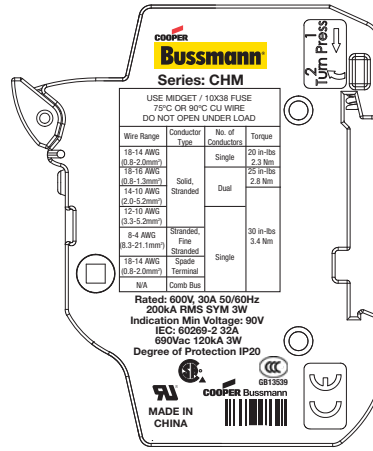


# Product Design and Label Specifications

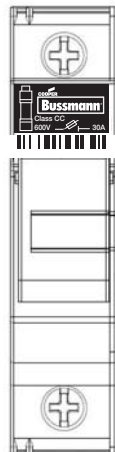
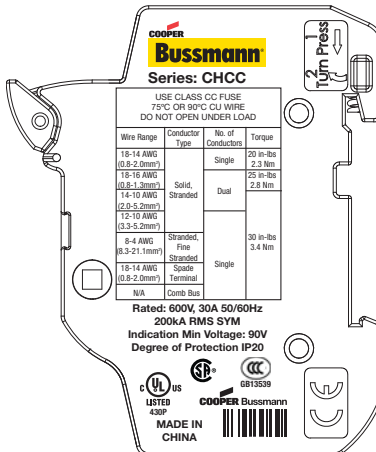
## CHPV & CHPVI (PV Applications)



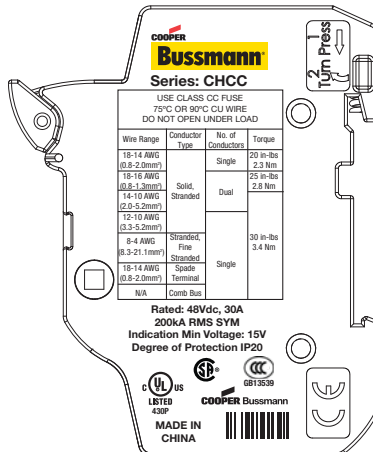
## CHM & CHMI



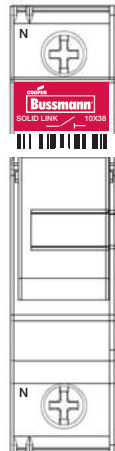
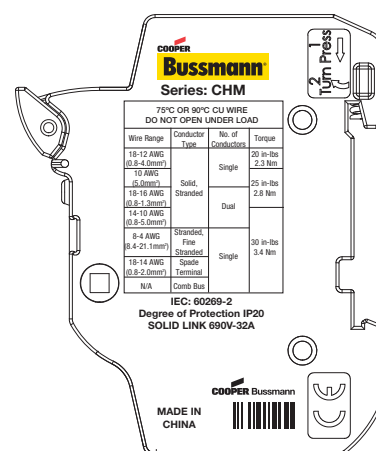
## CHCC & CHCCI (UL Applications)



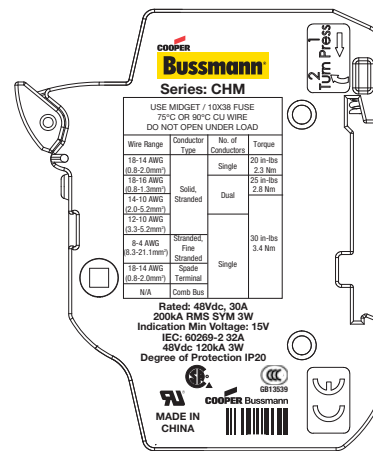
## CHCCI-48



## CHMDNX (IEC Applications)



## CHMI-48



*Make it Simple* with Cooper Bussmann resettable three-phase remote fuse monitor that integrates with a Programmable Logic Controller (PLC) or other monitoring and control equipment.



RoHS



#### Specifications:

- **Power Input:** 24Vdc / 5mA
- **Sensing Voltage:** 600V/30mA
- **Output Signals:** Digital 0Vdc (Low), 24Vdc (High)
  - 0Vdc Low – Fuse is good
  - 24Vdc High – Fuse has openedWhen the fuse opens, the output signal is sent high and will remain high until the unit is reset
- **Rated Impulse Voltage:** 8kV
- **Local Indication:** Two distinct LEDs indicate unit power (green) and open fuse (red). Upon the replacement of the fuse, the actuation of the reset switch will reset the open fuse LED
- **Flammability Rating:** UL 94V0

#### Wiring:

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

#### Emissions and Immunity Testing:

- Electrostatic Discharge IEC 61000-4-2
- Electrical Fast Transient/Burst IEC 6100-4-4
- Surge Immunity IEC61000-4-5

#### 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

#### Minimum Circuit Voltage:

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

#### Installation Technique:

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

#### IP20 Rating: Yes

#### Environmental Data:

- Storage and Operating Temperature: -20°C to 75°C

#### Agency Information:

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

#### PLC Programming:

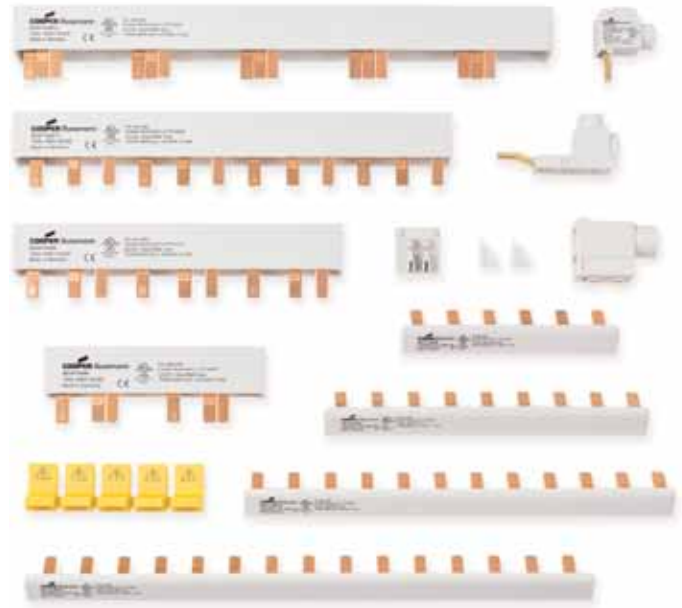
- The CH-PLC signal line is designed to provide a digital input to a PLC I/O card.
- Programmable Logic Control program must be written to properly interpret the input signal to the PLC.
- The PLC program should check for consecutive high signals before taking action on a critical process.

***De-energize all circuits before installing or removing any CH-PLC devices and follow all prescribed safety procedures.***

# Comb-Bus Bar Specifications and Selection Guide

## Features and Benefits

- Easily distribute power in single-phase or three-phase configurations
- Flexible cut-to-length solutions without compromising on the product's finger-safe features
- 100kA SCCR (Short Circuit Current Rating) when protected by a 200A Class J fuse
- Single-phase bus bars rated to 1000Vdc and 100A in end-fed configuration (200A for center-fed configuration)
- Three-phase bus bars rated to 600Vac/dc and 100A in end-fed configuration (200A for center-fed configuration)
- Power feed terminals for single-phase and three-phase service



## Specifications

Agency Information: UL508, File E195399

Pitch: 17.8mm

SCCR: 10kA (default)

100kA (with upstream Class J 200A fuses)

Max Current: 100A (power feed from end;

200A (power feed from center)

Max Voltage: 600Vac/dc (three phase)

1000Vdc/600Vac (single phase)



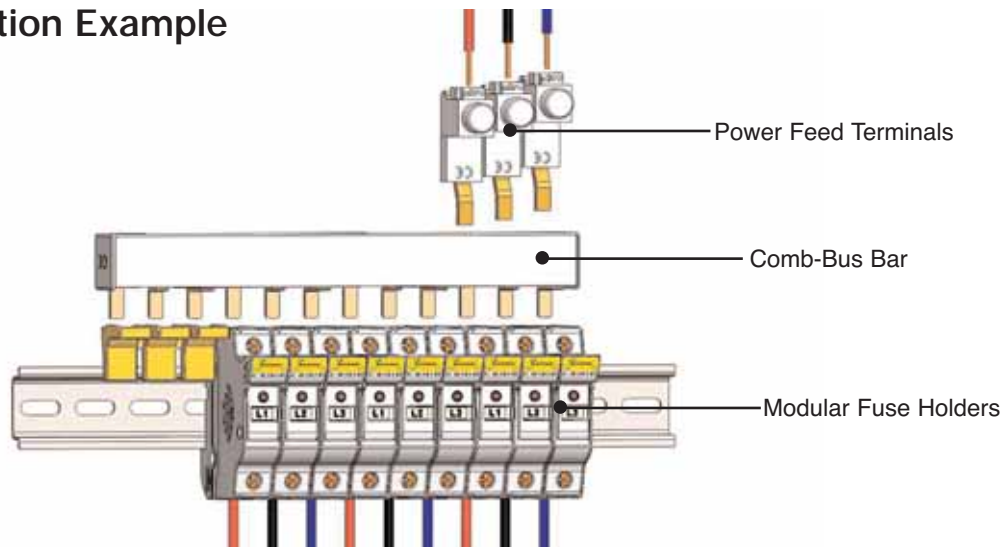
## Selection Guide

Part Number	Description
BB1P100M3	Single-phase 1000Vdc busbar, 100A, 3 pins, assembled endcap
BB1P100M6	Single-phase 1000Vdc busbar, 100A, 6 pins, assembled endcap
BB1P100M9	Single-phase 1000Vdc busbar, 100A, 9 pins, assembled endcap
BB1P100M12	Single-phase 1000Vdc busbar, 100A, 12 pins, assembled endcap
BB1P100M15	Single-phase 1000Vdc busbar, 100A, 15 pins, assembled endcap
BB1P100M57	Single-phase 1000Vdc cuttable busbar, 100A, 57 pins, without endcap
BB3P100M6	Three-phase 600V busbar, 100A, 6 pins, assembled endcap
BB3P100M9	Three-phase 600V busbar, 100A, 9 pins, assembled endcap
BB3P100M12	Three-phase 600V busbar, 100A, 12 pins, assembled endcap
BB3P100M15	Three-phase 600V busbar, 100A, 15 pins, assembled endcap
BB3P100M57	Three-phase 600V cuttable busbar, 100A, 57 pins, without endcap
ECAP1P	Single-phase busbar endcap
ECAPMP	Three-phase busbar endcap
PWR35MM	35mm <sup>2</sup> feeder terminal for three-phase busbar (115A, 1000Vac/dc)
FSCVR	Spare contact safety protection covers
PWR1PLP	Single-phase low-profile feeder terminal (115A, 1000Vac/dc)
PWR50MM	50mm <sup>2</sup> direct feed terminal (1000Vac/dc)



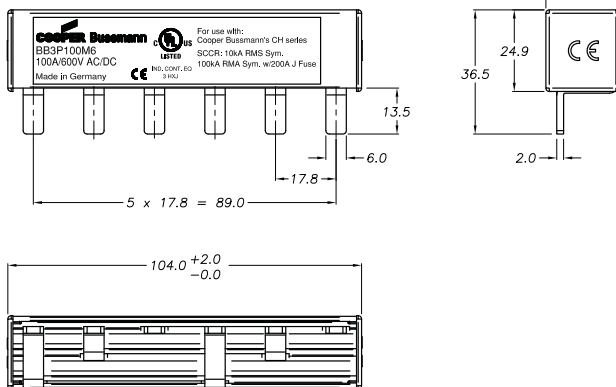
# Comb-bus Bar Features and Installation Guide

## Typical Installation Example

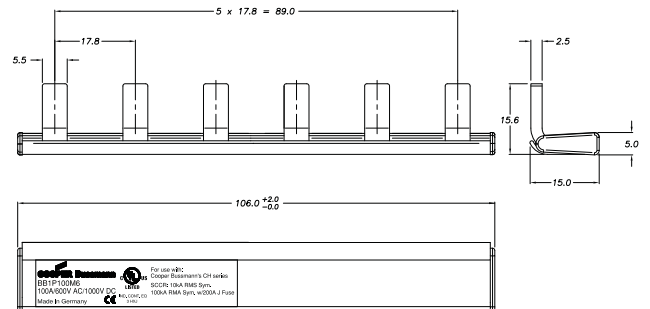


## Typical Dimensional Data

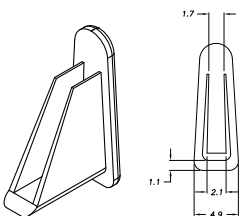
### Three-phase



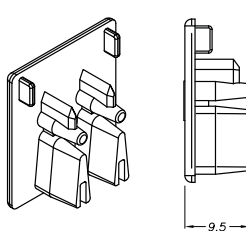
### Single-phase



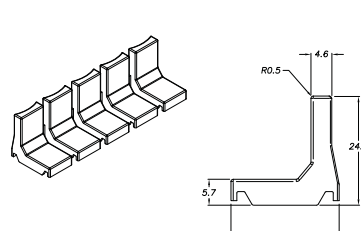
### ECAP1P



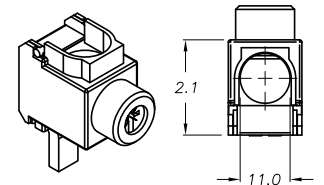
### ECAPMP



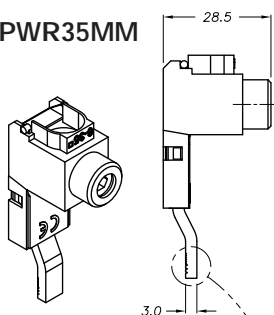
### FSCVR



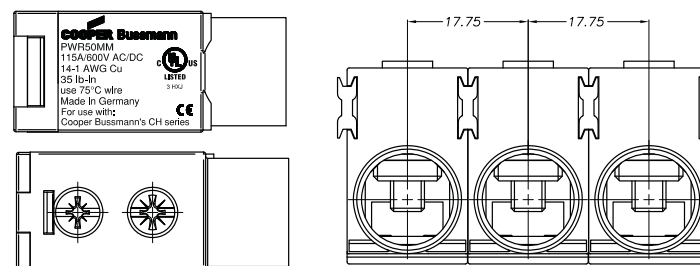
### PWR1PLP



### PWR35MM



### PWR50MM



# CH Series Modular Fuse Holder Specifications



Catalog Numbers									
Without Indication	With* Indication	Size	Max Voltage & Current	IEC	UL	Phase Configuration	No. of 17.5mm Modules	Wire Range	Maximum Torque
CH081D	CH081DI	CH08 8x32	IEC 400Vac 25A	•		1-pole	1	1-16mm <sup>2</sup> (18-8 AWG)	2.5 N•m (22LB-In)
CH081DNX	-			•		1 Neutral Pole	1		
CH081DNS	CH081DNSI			•		1-pole + Neutral	1	1-10mm <sup>2</sup> (18-8 AWG)	2.0 N•m (17.5LB-In)
CH081DN	CH081DNI			•		1-pole + Neutral	2	1-16mm <sup>2</sup> (18-8 AWG)	2.5 N•m (22LB-In)
CH082D	CH082DI			•		2-pole	2		
CH083D	CH083DI			•		3-pole	3		
CH083DNS	CH083DNSI	•		3-pole + Neutral	3				
CH083DN	CH083DNI	•		3-pole + Neutral	4				
CH084D	CH084DI			•		4-pole	4		
CHM1DU	CHM1DIU	CHM 10X38 and Midget	UL 600V/30A; IEC 690V/32A	•	*	1-pole	1	1-21mm <sup>2</sup> (18-4 AWG)	3.4 N•m (30LB-In)
CHM2DU	CHM2DIU			•	*	2-pole	2		
CHM3DU	CHM3DIU			•	*	3-pole	3		
CHM4DU	CHM4DIU			•	*	4-pole	4		
CHM1DNU	CHM1DNIU			•	*	1-pole + Neutral	2		
CHM3DNU	CHM3DNIU			•	*	3-pole + Neutral	4		
-	CHM1DI-48U		UL 48Vdc/30A; IEC 48Vdc/32A	•	*	1-pole	1		
CHM1DNXU	-		IEC 690V32A	•		1-pole + Neutral	2		
CHPV1U	CHPV1IU	CHPV	UL & IEC; 1000Vdc/30A	•	†††	1-pole	1	1-21mm <sup>2</sup> (18-4 AWG)	3.4 N•m (30LB-In)
CHPV2U	CHPV2IU			•	†††	2-pole	2		
CHCC1DU	CHCC1DIU	CHCC Class CC	UL 600V/30A		**	1-pole	1		
CHCC2DU	CHCC2DIU				**	2-pole	2		
CHCC3DU	CHCC3DIU				**	3-pole	3		
CHCC1DI-48U	-				UL 48Vdc/30A		**		
CH141D	CH141DI	CH14 14x51	UL 600Vac/dc 40A (5 Watt) IEC 690Vac, 50A	•		1-pole	1.5	2.5-16mm <sup>2</sup> (14-6 AWG)	3.0 N•m (26LB-In)
CH141DMS	-			•		1-pole + Microswitch	1.5		
CH141DNX	-			•		1 Neutral Pole	1.5		
CH141DN	CH141DNI			•		1-pole + Neutral	3		
CH142D	CH142DI			•	†	2-pole	3		
CH143D	CH143DI			•	†	3-pole	4.5		
CH143DMS	-			•		3-pole + Microswitch	4.5		
CH143DN	CH143DNI			•		3-pole + Neutral	6		
CH143DNMS	-			•		3-pole + Neutral + Microswitch	6		
CH144D	CH144DI			•		4-pole	6		
CH221D	Not Available	CH22 22x58	UL 600Vac/dc, 100A (9.5 Watt) IEC 690Vac, 125A	•	†	1-pole	2	2.5-50mm <sup>2</sup> (14-1 AWG)	4.0 N•m (35LB-In)
CH221DMS	Available			•		1-pole + Microswitch	2		
CH221DNX	with			•		1 Neutral Pole	2		
CH221DN	local			•		1-pole + Neutral	4		
CH222D	neon			•	†	2-pole	4		
CH223D	indication			•	†	3-pole	6		
CH223DMS	(remote			•		3-pole + Microswitch	6		
CH223DN	microswitch			•	†	3-pole + Neutral	8		
CH223DNMS	only)			•		3-pole + Neutral + Microswitch	8		
CH224D	-			•		4-pole	8		
<b>Class J</b>	<b>Neon</b>								
<b>easyID™</b> Indication	Indication								
CH30J1	CH30J1I	CH30J	UL/CSA		††	1-pole	—	1-50mm <sup>2</sup> (18-1 AWG)	1-8 AWG 4.0 N•m (35LB-In)
CH30J2	CH30J2I	30A	600Vac		††	2-pole	—		10-18 AWG 2.7N•m (24LB-IN)
CH30J3	CH30J3I	Class J			††	3-pole	—		
CH60J1	CH60J1I	CH60J	UL/CSA		††	1-pole	—	1-50mm <sup>2</sup> (18-1 AWG)	1-8 AWG 4.0 N•m (35LB-In)
CH60J2	CH60J2I	60A	600Vac		††	2-pole	—		10-18 AWG 2.7N•m (24LB-IN)
CH60J3	CH60J3I	Class J			††	3-pole	—		

† UL Recognized (cURus)    †† UL Listed (cULus)    ††† UL Recognized, Standard 4248-18, CSA    \* UL Recognized, CSA  
 For further details see Data Sheets 2053 (CH08, CHM, CHCC, CH14 AND CH22) and 2144 (CHJ Class J)    \*\* UL Listed, CSA  
 \*90V minimum required for illumination  
 \*\*\*12V minimum required for illumination

# Widest Range of Fuse Holders Available

<p>Modular Fuse Holders Series</p>		<p>Covers SAMI™ Series</p>	
<p>CUBEFuse™ Series</p>		<p>Open Block Series</p>	
<p>IEC Series</p>		<p>Bolt-Down Series</p>	
<p>CH Series</p>		<p>In-line Series</p>	
<p>JTN 600 Series</p>		<p>Panel Mount Series</p>	
<p>Optima® Series</p>		<p>Knife Blade Series</p>	
<p>Class CC and Midget Series</p>		<p>Military Series</p>	

## Customer Assistance

### Customer Satisfaction Team

Available to answer questions regarding Cooper Bussmann products & services Monday-Friday, 8:00 a.m. – 6:00 p.m. Central Time. Contact:

- Toll-free phone: 855-287-7626 (855-BUSSMANN)
- Toll-free fax: 800-544-2570
- E-mail: [busscustsat@cooperindustries.com](mailto:busscustsat@cooperindustries.com)

### Emergency and After-Hours Orders

Next flight out or will call shipment for time-critical needs. Customers pay only standard product price, rush freight charges, & modest emergency service fee. Place these orders through the Customer Satisfaction Team during regular business hours. For after-hours, contact:

- After hours 314-995-1342

### C<sup>3</sup> – the Enhanced, Online Cooper Customer Center

Provides real time product availability, net pricing, order status & shipment tracking across six Cooper divisions: B-Line, Bussmann, Crouse-Hinds, Lighting, Power Systems & Wiring Devices. Call 877-995-5955 for log-in assistance. Available at:

- [www.cooperc3.com](http://www.cooperc3.com)

### Application Engineering

Technical assistance is available to all customers. Staffed by degreed electrical engineers, this application support is available Monday-Friday, 8:00 a.m. – 5:00 p.m. Central Time. Contact:

- Toll-free phone: 855-287-7626 (855-BUSSMANN)
- Fax: 636-527-1607
- E-mail: [fusetech@cooperindustries.com](mailto:fusetech@cooperindustries.com)
- Live Chat: [www.cooperbussmann.com](http://www.cooperbussmann.com)

### Online Resources

Visit [www.cooperbussmann.com](http://www.cooperbussmann.com) for the following resources:

- Product search & cross-reference
- Product & technical materials
- Solutions centers for information on topical issues including arc-flash, selective coordination & short-circuit current rating
- Technical tools, like our arc-flash calculator
- Where to purchase Cooper Bussmann product

### Services

Cooper Bussmann Services team provides engineering expertise in electrical system reviews, electrical safety training & component testing for Agency compliance. Contact:

- Phone: 636-207-3294
- E-mail: [services@cooperindustries.com](mailto:services@cooperindustries.com)

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