COOPER Bussmann

Global Modular Fuse Holders
CH Series



Insert Class CC fuse with the rejection feature facing the top.

CH Series

The CH Series of modular fuse holders is designed to accommodate a multitude of fuses from around the world, including North American Class-CC, Midget, Class gR, aR HSF, PV Series, and IEC Industrial Cylindrical (Class gG and aM) in four physical sizes: 8x32, 10x38, 14x51 and 22x58mm.

Products are manufactured in accordance with IEC 60269-1 or IEC 60269-2. cURus and cULus compliance as indicated in the part number tables.

Key features and benefits include:

- Multiple-pole configurations
- Finger-safe protection
- Lockout/tagout feature for added safety
- Optional "open fuse" indication
- 14x51 & 22x58 configurations are available with optional microswitches for remote "open fuse" indication, pre-breaking and fuse presence.
- Self-extinguishable UL 94V0 rated polyester material
- Multi-phase connections available for ganging poles
- Accepts wire security tags

Modular Fuse Holder Selection Table (10 x 38 and CC)

Part Numbers

Series Size	Catalog Numbers W/O Indication	Catalog Numbers W/Indication	Max Voltage & Current	UL	IEC	Phase Configuration	No. of 17.5mm Modules*	Box Qty.	Terminal Rating	SCCR Rating	Cooper Bussmann Fuses
CHCC Class CC	CHCC1D	CHCC1DI**	UL 600Vac/dc, 30A	††		1-pole	1	12	75° Cu Wire Only	200kA	LP-CC, FNQ-R, KTK-R
	CHCC2D	CHCC2DI**		††		2-pole	2	6			
	CHCC3D	CHCC3DI**		††		3-pole	3	4			
	—	CHCC1DI-48***	UL 48Vdc, 30A	††		1-pole	1	12			
CHPV	CHPV1	CHPV1I**	UL 1000Vdc, 30A IEC 1000Vdc, 32A (3.5 Watt)	†††	•	1-pole	1	12	75° Cu Wire Only	33kA	PV Series
CHM 10X38 & Midget	CHM1D	CHM1DI**	UL 600Vac/dc, 30A IEC 690Vac, 32A (3 Watt)	†	•	1-pole	1	12	75° Cu Wire Only	Rating varies depending on fuse used in holder.	FNQ, KLM, FNM, KTK, BAF, FWA, DCM, C10 Series, AGU, BAN, FWC
	CHM1DNX	-			•	1 Neutral Pole	1	12			
	CHM1DN	CHM1DNI**			•	1-pole + Neutral	2	6			
	CHM2D	CHM2DI**		†	•	2-pole	2	6			
	CHM3D	CHM3DI**		†	•	3-pole	3	4			
	CHM3DN	CHM3DNI**			•	3-pole + Neutral	4	3			
	CHM4D	CHM4DI**			•	4-pole	4	3			
	—	CHM1DI-48***	UL 48Vdc, 30A IEC 48Vdc, 32A (3 Watt)	†	•	1-pole	1	12			

MFH Wire Range and Torque - CH Series: CHCC, CHM & CHPV

Wire Range	Conductor Type 75°C Cu Wire Only	Conductors	Torque
18-12 AWG (0.8 - 4.0mm²)	Solid/Stranded	Single	20 lb-in 2.3 N•m
10 AWG (5.0mm²)	Solid	Single	25 lb-in (2.8 N•m)
10-8 AWG (5.0 - 8.0mm²)	Stranded		
18-14 AWG (0.8 - 2.5mm²)	Solid	Dual	
18-10 AWG (0.8 - 5.0mm²)	Stranded		

† UL Recognized (cURus)
†† UL Listed (cULus)
††† UL Recognized, Standard 4248-1
*Holder width as compared to standard 17.5mm module, i.e., 1 = 17.5mm 2 = 35mm.
**90V miminum required for illumination
***12V mininum required for illumination

Modular Fuseholder Selection Table (8x32, 14x51, and 22x58)

Part Numbers

Series/ Size	Catalog Numbers W/O Indication	Catalog Numbers W/Indication	Max Voltage & Current	IEC	UL	Phase Configuration	No. of 17.5mm Modules*	Box Qty.	Wire Range	Maximum Torque
CH08 8X32	CH081D	CH081DI	IEC 400Vac 25A	•		1-pole	1	12	1-16mm^2 (18-6 AWG)	2.5 N•m (22in-lb)
	CH081DNX	-		•		1 Neutral Pole	1	12		
	CH081DNS	CH081DNSI		•		1-pole + Neutral	1	12	1-10mm^2 (18-8 AWG)	2.0 N•m (17.5in-lb)
	CH081DN	CH081DNI		•		1-pole + Neutral	2	6	1-16mm^2 (18-6 AWG)	2.5 N•m (22in-lb)
	CH082D	CH082DI		•		2-pole	2	6		
	CH083D	CH083DI		•		3-pole	3	4		
	CH083DNS	CH083DNSI		•		3-pole + Neutral	3	4		
	CH083DN	CH083DNI		•		3-pole + Neutral	4	3		
	CH084D	CH084DI		•		4-pole	4	3		
CH14 14X51	CH141D	CH141DICH1	UL/cURus 600Vac/dc, 40A (5 Watt) IEC 690Vac, 50A	•	†	1-pole	1.5	6	2.5-16mm^2 (14-6 AWG)	3.0 N•m (26in-lb)
	CH141DMS	-14X51		•		1-pole + Microswitch	1.5	6		
	CH141DNX	-		•		1 Neutral Pole	1.5	6		
	CH141DN	CH141DNI		•		1-pole + Neutral	3	3		
	CH142D	CH142DI		•	†	2-pole	3	3		
	CH143D	CH143DI		•	†	3-pole	4.5	2		
	CH143DMS	-		•		3-pole + Microswitch	4.5	2		
	CH143DN	CH143DNI		•		3-pole + Neutral	6	1		
	CH143DNMS	-		•		3-pole + Neutral + Microswitch	6	1		
	CH144D	CH144DI		•		4-pole	6	1		
CH22 22X58	CH221B	Not Available with local neon indication (remote microswitch only)	UL/cURus 600Vac/dc, 100A (9.5 Watt) IEC 690Vac, 125A	•	†	1-pole	2	6	2.5-50mm^2 (14-1 AWG)	4.0 N•m (35in-lb)
	CH221BMS			•		1-pole + Microswitch	2	6		
	CH221BNX			•		1 Neutral Pole	2	6		
	CH221BN			•		1-pole + Neutral	4	3		
	CH222B			•	†	2-pole	4	3		
	CH223B			•	†	3-pole	6	2		
	CH223BMS			•		3-pole + Microswitch	6	2		
	CH223BN			•	†	3-pole + Neutral	8	1		
	CH223BNMS			•		3-pole + Neutral + Microswitch	8	1		
	CH224B			•		4-pole	8	1		

† UL Recognized (cURus)
†† UL LIsted (cULus)
*Holder width as compared to standard, i.e., 1 = 17.5mm module 2 = 35mm.
**90V miminum required for illumination

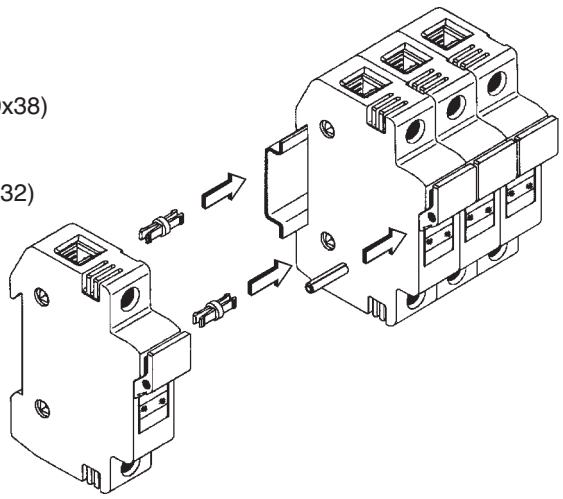
Recommended Cooper Bussmann™ Fuses:

8x32 IEC Cylindrical - C08 Series
10x38 North American Class CC Fuses - LP-CC, FNQ-R, KTK-R
Fuses - FNQ, KTK, AGU, KLM, BAF, FNM, FWA, FWC, C10 Series, PV Series
14x51 Fuses - FWX, FWH, FWP & NON, C14 Series
22x58 Fuses - FWP, C22 Series

Manual Multi-phase Construction *(8x32, 10x38, 14x51mm)*
Additional poles can be added by using the accessories shown on page 2 of this data sheet.The following components are required for each additional pole, up to a maximum of 4-poles.

Part Number	Description
JV-L	Multi-pole Connector Kit (10x38)
CH810-HP	8x32 Handle Pin
CH14-HP	14x51mm Handle Pin
AL-D	Multi-pole Connector Kit (8x32)

Contact Cooper Bussmann Application Engineering for more information.



Accessories for use with the new CH Series of Modular Fuseholders

(For diagram of multi-phase construction, see page 2)

Accessory	For Use with Fuse Holders	Part Number	No. of Poles	Box Quantity
Multi-Phase Connection Links	CH08 and CH14 Series	AL-D	–	12
Multi-Phase Connection Kit*	CHM and CHCC Series	JV-L	–	–
Multi-Phase Handle Pins	CH08 Series CH14 Series	CH810-HP CH14-HP	– –	12
Neutral Links	CH08 Series CH14 Series CH22 Series	C08NL C14NL C22NL	– – –	10
Operated-Fuse Micro-Switches	CH141 Series CH143 Series	CH14MS-1D CH14MS-3D	1 3	5 2
PLC Module (see page 6 for details)	CHM and CHCC Series	CH-PLC†	1	1
IP20 Kit	CH22 Series	CH22IP20	–	12
Lock Support	CH22 Series	CH22LS	–	5

*Kit contains 3-Spring pins and 6-connection links
†UL Listed (cULus)



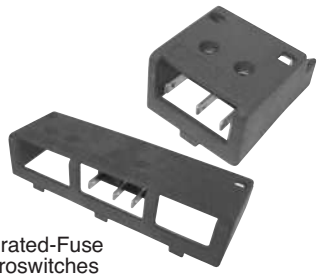
Multi-Phase
Connection Links



Neutral Links



Multi-Phase
Handle Pins



Operated-Fuse
Microswitches



Programmable Logic
Controller
(PLC)



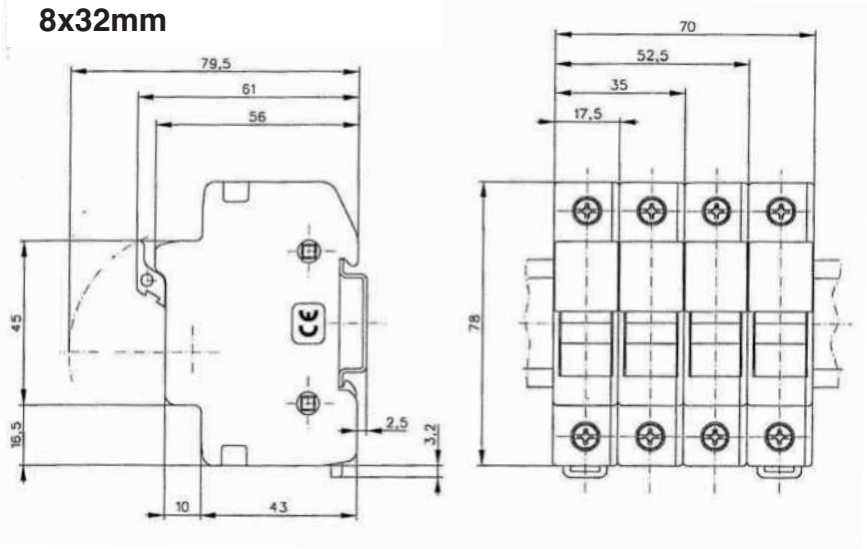
Lock Support



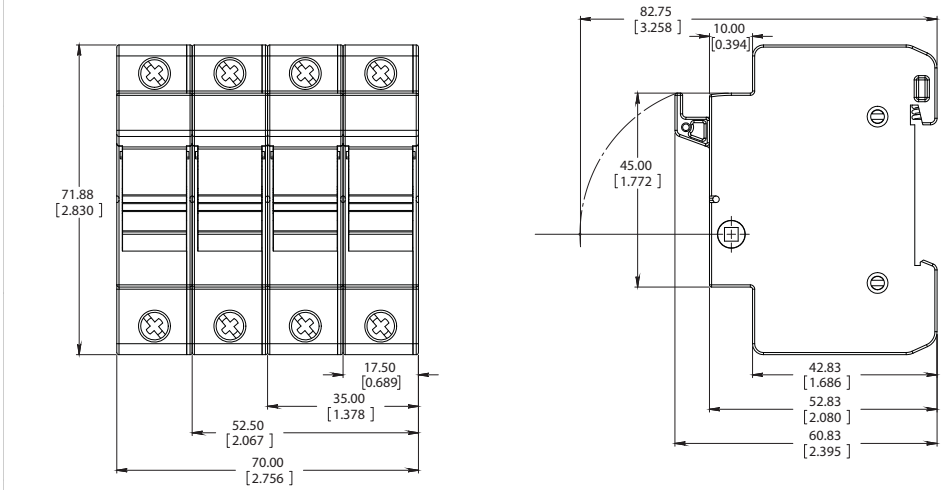
IP20 Kit

Dimensions - mm (in)

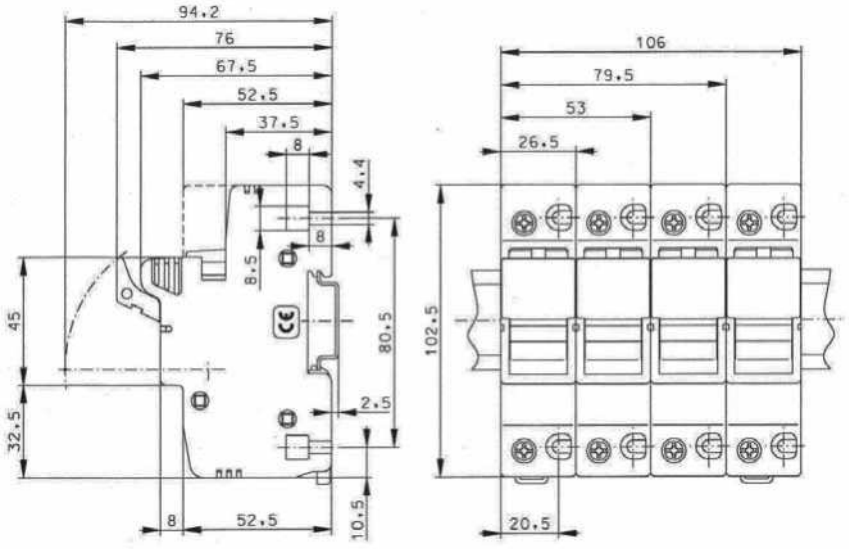
8x32mm



10x38mm

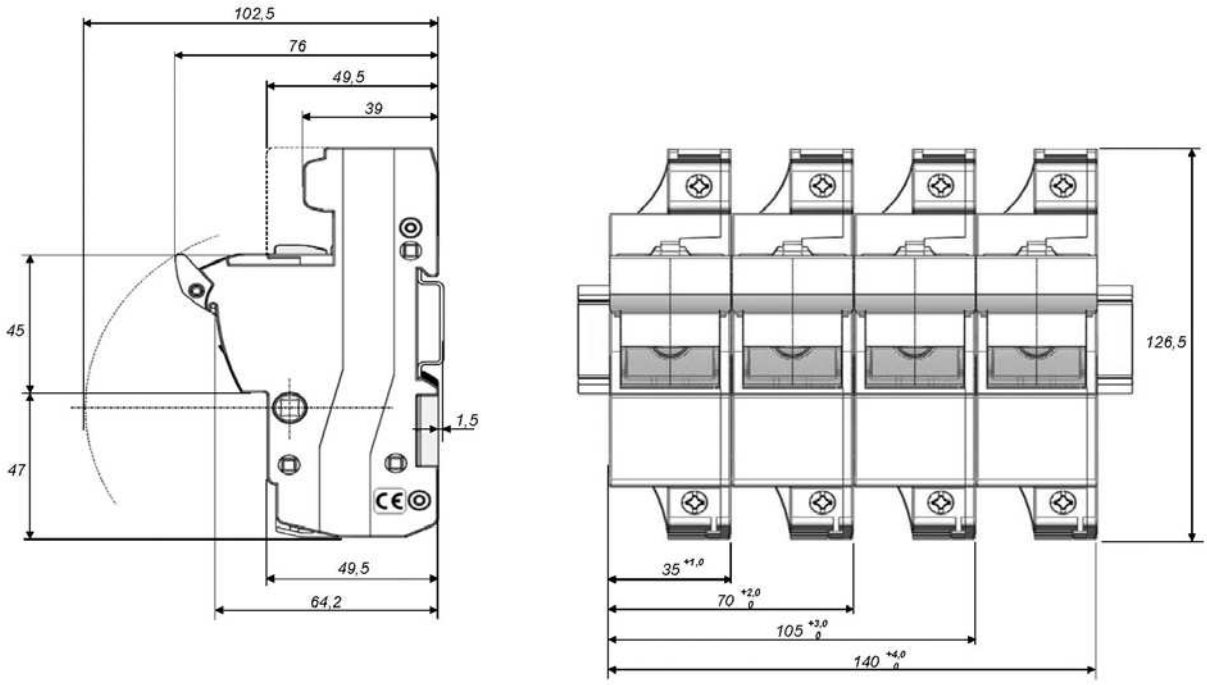


14x51mm



Dimensions - mm (in)

22x58mm



Using High Speed Fuses (Semiconductor Protection)

The CH Series of modular fuse holders may be used in conjunction with Class gR and aR high speed fuses. The continuous load current should not exceed that shown in the tables below for specific high speed fuse types/amp ratings so that the watts loss of the fuse does not exceed the watts loss capability of the holder. High speed fuses may also need to be derated based on specific application and ambient temperature.

CHM Series (10x38)

High Speed Fuse	Maximum Continuous Amps	High Speed Fuse	Maximum Continuous Amps
FWA-5A10F	5	FWC-6A10F	6
FWA-10A10F	10	FWC-8A10F	8
FWA-15A10F	14	FWC-10A10F	10
FWA-20A10F	18	FWC-12A10F	12
FWA-25A10F	20	FWC-16A10F	15
FWA-30A10F	24	FWC-20A10F	16
-	-	FWC-25A10F	19
-	-	FWC-32A10F	21

CH22 Series (22x58)

High Speed Fuse	Maximum Continuous Amps
FWP-20A22F	20
FWP-25A22F	25
FWP-32A22F	32
FWP-40A22F	40
FWP-50A22F	50
FWP-63A22F	58
FWP-80A22F	66
FWP-100A22F	78

CH14 Series (14x51)

High Speed Fuse	Maximum Continuous Amps	High Speed Fuse	Maximum Continuous Amps	High Speed Fuse	Maximum Continuous Amps	High Speed Fuse	Maximum Continuous Amps
FWX-5A14F	5	FWH-5A14F	5	FWP-5A14F	5	FWP-32A14F	27
FWX-10A14F	10	FWH-10A14F	10	FWP-10A14F	10	FWP-40A14F	32
FWX-15A14F	15	FWH-15A14F	14	FWP-15A14F	14	FWP-50A14F	38
FWX-20A14F	20	FWH-20A14F	18	FWP-20A14F	18	-	-
FWX-25A14F	24	FWH-25A14F	21	FWP-25A14F	21	-	-
FWX-30A14F	27	FWH-30A14F	22	FWP-30A14F	22	-	-

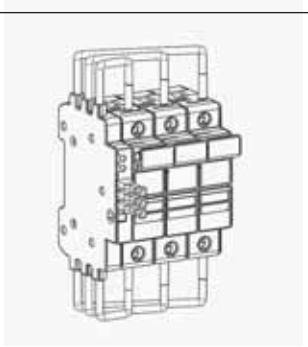
Please contact Cooper Bussmann Application Engineering for more information regarding high speed fuse application.

Remote Fuse Monitoring Accessory – CH-PLC

UL Class CC, Midget and IEC 10x38 fuses



RoHS 2002/95/EC



Description

A resetable three-phase remote fuse monitor that integrates with a Programmable Logic Controller (PLC) or other monitoring and control equipment.

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 opened

  When 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 ($0.25mm^2$) 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.

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