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

Catalog symbol:
- CHCC_ (Class CC)
- CHM_ (UL® supplemental/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 supplemental 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.

<table>
<thead>
<tr>
<th>Fuse class</th>
<th>Fuse size</th>
<th>Data sheet No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class J</td>
<td>30 and 60 A</td>
<td>2144</td>
</tr>
<tr>
<td>IEC</td>
<td>8 x 32 mm</td>
<td>720147</td>
</tr>
<tr>
<td></td>
<td>14 x 51 mm</td>
<td>10080</td>
</tr>
<tr>
<td></td>
<td>22 x 58 mm</td>
<td>10015</td>
</tr>
</tbody>
</table>

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:
- Class CC version: UL Listed File E14853, Guide IZLT, Recognized IZLT2
- PV version: 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:
- 35 mm DIN-Rail

Wire range (see conductor table on page 3 for details):
- 75°C and 90°C Cu
- #18 to #4 (0.8 mm² to 21.1 mm²)
  - Solid
  - Stranded
  - Fine stranded

Terminals:
- Single or dual conductors
- Comb busbar
- Terminal screws
  - Standard phi-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
- \(-4^\circ\text{F} (-20^\circ\text{C})\) to \(194^\circ\text{F} (90^\circ\text{C})\) indicating
- \(-4^\circ\text{F} (-20^\circ\text{C})\) to \(248^\circ\text{F} (120^\circ\text{C})\) non-indicating

Features and benefits:
- High SCCR rated, UL Listed Class CC holder with optional open fuse indication for 600 Vac/dc and 48 V 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 fuse 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 busbars. (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 busbars and power feed lugs
- Optional hex head terminal screw makes it easier to achieve necessary torque values

Features:
- Toolless ganging for multiple poles
- Dual conductor rated box lug clamp
- Toolless 35 mm DIN-Rail mounting
- Wire strip gauge
- Fork lug terminal
- Captive phil-slot or optional hex head terminal screw
- Optional open fuse indicator
- Fuse access door accommodates 4 mm lockout/tagout device

Dimensions - mm (in):

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Gang multiple poles to meet application requirements using kit catalog number JV-L (gangs up to four poles).
CH modular, IP20 finger-safe DIN-Rail holders for Class CC, supplemental and PV fuses

Technical Data 10430
Effective September 2018

CH modular, IP20 finger-safe DIN-Rail holders for Class CC, supplemental and PV fuses
Eaton.com/bussmannseries

UL midget and IEC 10x38 CHM holder catalog numbers

<table>
<thead>
<tr>
<th>Catalog number†</th>
<th>Volts and amps</th>
<th>Agency marks</th>
<th>Poles</th>
<th>SCCR</th>
<th>Recommended Bussmann series fuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM1DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>1</td>
<td>200 kA RMS Sym.††</td>
<td>BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_, 1000Vdc PV-(amp)A10F, PV10M-(amp)</td>
</tr>
<tr>
<td>CHM2DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>2</td>
<td>200 kA RMS Sym.††</td>
<td>BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_, 1000Vdc PV-(amp)A10F, PV10M-(amp)</td>
</tr>
<tr>
<td>CHM3DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>3</td>
<td>200 kA RMS Sym.††</td>
<td>BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_, 1000Vdc PV-(amp)A10F, PV10M-(amp)</td>
</tr>
<tr>
<td>CHM4DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>4</td>
<td>200 kA RMS Sym.††</td>
<td>BAF, BAN, FNM, FNQ, FWA, FWC, KLM, KTK, AGU, C10G_, C10M_, 1000Vdc PV-(amp)A10F, PV10M-(amp)</td>
</tr>
<tr>
<td>CHM1DI-48U</td>
<td>48 Vdc/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>1</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CHM1DCU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>2</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CHM2DCU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CHM3DCU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CHM4DCU</td>
<td>600 V/30 A</td>
<td>UL, CSA, IEC 60269-2, CCC</td>
<td>5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

† 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, whichever is less.
* All models require 90 V minimum for illumination, except CHM1DI-48U that requires 15 V minimum.
** SCCR is limited to the interrupting rating of the installed fuse or 200 kA, whichever is less.

UL Class CC CHCC holder catalog numbers

<table>
<thead>
<tr>
<th>Catalog number†</th>
<th>Volts / amps</th>
<th>Agency marks</th>
<th>Poles</th>
<th>SCCR</th>
<th>Recommended Bussmann series fuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHCC1DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, CCC</td>
<td>1</td>
<td>200 kA RMS Sym.</td>
<td>LP-CC, FNQ-R, KTK-R</td>
</tr>
<tr>
<td>CHCC2DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, CCC</td>
<td>2</td>
<td>200 kA RMS Sym.</td>
<td>LP-CC, FNQ-R, KTK-R</td>
</tr>
<tr>
<td>CHCC3DIU</td>
<td>600 V/30 A</td>
<td>UL, CSA, CCC</td>
<td>3</td>
<td>200 kA RMS Sym.</td>
<td>LP-CC, FNQ-R, KTK-R</td>
</tr>
<tr>
<td>CHCC1DI-48U</td>
<td>48 Vdc/30 A</td>
<td>UL, CSA, CCC</td>
<td>1</td>
<td>33 kA DC</td>
<td>PV-(amp)A10F, PV10M-(amp)</td>
</tr>
</tbody>
</table>

† Available with optional hex head terminal screws. To order, add “-H” suffix to the desired catalog number.
* All models require 90 V minimum for illumination.

UL and IEC photovoltaic CHPV holder catalog numbers

<table>
<thead>
<tr>
<th>Catalog number†</th>
<th>Volts / amps</th>
<th>Agency marks</th>
<th>Poles</th>
<th>SCCR</th>
<th>Recommended Bussmann series fuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHPV1IU</td>
<td>1000 Vdc/30 A</td>
<td>UL, CSA, , UL 4248-18, IEC 60269-1, CCC</td>
<td>1</td>
<td>33 kA DC</td>
<td>PV-(amp)A10F, PV10M-(amp)</td>
</tr>
<tr>
<td>CHPV2IU</td>
<td>1000 Vdc/30 A</td>
<td>UL, CSA, , UL 4248-18, IEC 60269-1, CCC</td>
<td>2</td>
<td>33 kA DC</td>
<td>PV-(amp)A10F, PV10M-(amp)</td>
</tr>
</tbody>
</table>

† Available with optional hex head terminal screws. To order, add “-H” suffix to the desired catalog number.
* All models require 90 V minimum for illumination.

Conductor information

<table>
<thead>
<tr>
<th>AWG wire range</th>
<th>Wire type</th>
<th>Wire rating</th>
<th>Terminal torque N-m (lb-in)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-12</td>
<td>Solid/Stranded/compact/Class K</td>
<td>75°C or 90°C Cu</td>
<td>3.4 (30)</td>
</tr>
<tr>
<td>14-18</td>
<td>Solid/Stranded/Class K</td>
<td>75°C or 90°C Cu</td>
<td>2.3 (20)</td>
</tr>
<tr>
<td>(2) 10-12</td>
<td>Stranded</td>
<td>75°C or 90°C Cu</td>
<td>3.4 (30)</td>
</tr>
<tr>
<td>(2) 14</td>
<td>Solid/Stranded</td>
<td>75°C or 90°C Cu</td>
<td>2.8 (25)</td>
</tr>
<tr>
<td>(2) 16-18</td>
<td>Solid/Stranded</td>
<td>75°C or 90°C Cu</td>
<td>3.4 (30)</td>
</tr>
<tr>
<td>Fork terminals</td>
<td>N/A</td>
<td>75°C or 90°C Cu</td>
<td>3.4 (30)</td>
</tr>
<tr>
<td>Comb busbar</td>
<td>N/A</td>
<td>75°C or 90°C Cu</td>
<td>3.4 (30)</td>
</tr>
</tbody>
</table>

* Use a phil-slot bit designed for high torque, or specify hex head terminal screw option.
Accessories:
Bussmann series CH modular fuse holders can be applied using a variety of accessories that facilitate or simplify installation.

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

<table>
<thead>
<tr>
<th>Catalog numbers</th>
<th>Profile</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRL35MMLO</td>
<td>Low</td>
<td>75 mm</td>
</tr>
<tr>
<td>DRL35MMHI</td>
<td>High</td>
<td>15 mm</td>
</tr>
</tbody>
</table>

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
- 178 mm

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

Available in 3, 6, 9, 12,15 and 57 pin constructions.
CH modular, IP20 finger-safe DIN-Rail holders for Class CC, supplemental and PV fuses

**Comb busbar dimensions - mm:**

### Single-phase

![Single-phase diagram]

### Three-phase

![Three-phase diagram]

**Comb busbar catalog numbers:**

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

35 mm² 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**

50 mm² direct feed power terminal

Ratings
- Volts 1000 Vac/dc
- Amps 115 A
- Wire range 1-14 AWG 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.
CH modular, IP20 finger-safe DIN-Rail holders for Class CC, supplemental and PV fuses

Effective September 2018

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

<table>
<thead>
<tr>
<th>Catalog no.</th>
<th>Description</th>
<th>Carton quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR1PLP</td>
<td>Single-phase low-profile power feed terminal (115 A, 1000 Vac/dc)</td>
<td>10</td>
</tr>
<tr>
<td>PWR35MM</td>
<td>35 mm² power feed terminal for three-phase busbar (115 A, 1000 Vac/dc)</td>
<td>10</td>
</tr>
<tr>
<td>PWR50MM</td>
<td>50 mm² direct power feed terminal (1000 Vac/dc)</td>
<td>10</td>
</tr>
<tr>
<td>ECAP1P</td>
<td>Single-phase busbar endcap</td>
<td>50</td>
</tr>
<tr>
<td>ECAPMP</td>
<td>Three-phase comb busbar end cap</td>
<td>50</td>
</tr>
<tr>
<td>FSCVR</td>
<td>Spare comb busbar pin safety protection covers</td>
<td>10 strips of five covers each, total 50 individual covers</td>
</tr>
</tbody>
</table>
PLC fuse monitor

The Bussmann series resettable PLC fuse monitor permits easy integration with a Programmable Logic Controller (PLC) or other monitoring and control equipment. Signals up to three-phases. Includes 0.11” (2.8 mm) quick-connects for power, signal and ground connections.

**Ratings**
- Signal output to PLC*
  - +24 Vdc, 10 mA max
- Output signals
  - Digital 0 Vdc (low), 24 Vdc max (high)
  - 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.

**Agency information**
- UL 508 Listed, Guide NKCR, File E170168

**IEC and immunity testing**
- IEC 60947-1: Voltage Switchgear and Control Gear
- IEC 61000-6-2: Electromagnetic Compatibility (EMC)
  - IEC 61000-4-2: Electrostatic Discharge Immunity - Test at level 3 (6 kV-Contact Discharge) and level 2 (4 kV-Air Discharge)
  - IEC 61000-4-3: Electromagnetic Compatibility - Radiated, Radio-frequency, Electromagnetic Field Immunity test at level x (20 V/m)
  - IEC 61000-4-4: Electromagnetic Compatibility - Testing and Measurement Techniques at level 3 (± 2kV - Power Port and ±1 kV - I/O Ports)
  - IEC 61000-4-5: Electromagnetic Compatibility - Surge Immunity test at level 4 (±4 kV)
  - IEC 61000-4-6: Immunity to Conducted Disturbances at level 3 (10 V)

**Flammability rating UL 94V0**

**Local indication**
- Two distinct LEDs indicate unit power (green) and open fuse (red). Open fuse LED is resettable upon fuse replacement and the actuating the reset switch

**Wiring**
- For power, signal and ground connections use shielded twisted pair 22-24 AWG (0.34-0.25 mm²) 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 IP20 finger-safe**

**Storage and operating temperature**
- -4°F (-20°C) to +167°F (+75°C)

**PLC programming**
- The CH-PLC2 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

**To order**
- Specify catalog number CH-PLC2 (one unit)

**PLC wiring schematic**

- The CH-PLC2 needs to be powered by the same +24Vdc and ground (0Vdc/Gnd return) terminals that are feeding the PLC input card. If it is not, it may signal improperly.
- If feeding multiple CH-PLC2s from different power supplies, there must be multiple input cards being powered by those same power supplies as well.
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