

## Bulletin 1694 Electronic circuit protection for 24V DC



**WARNING:** Electrostatically sensitive sub-assemblies can be destroyed by voltages far below the human perception threshold. These voltages already occur if you touch a component or electrical terminals of a sub-assembly without being electrostatically discharged. The damage of a sub-assembly caused by an over-voltage is often not immediately recognized, but will be noticed only after a longer operating time.

Mounting or actuation of the 1694 connector arm must only be effected at dead-voltage. For start-up the 1694 connector arm must be closed.

Device to be installed, operated and maintained by trained personnel only.

To secure device properly against unintended access, product shall be mounted in locked cabinet with remote tamper notification mechanism. Periodical security audit is recommended.

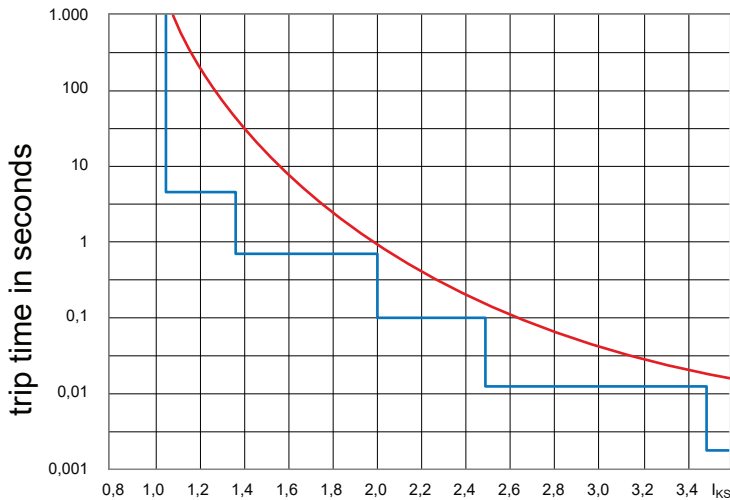
The device can't be serviced or repaired.

Do not open device's enclosure.

### Bulletin 1694 Electronic circuit protection for 24V DC

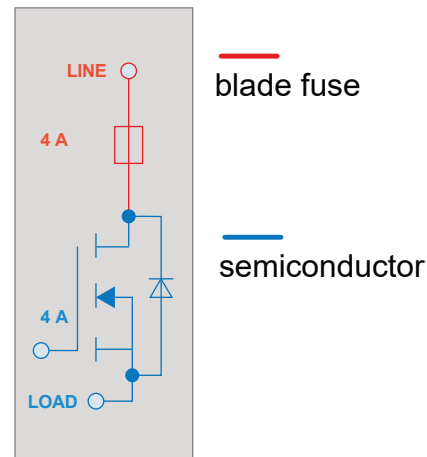
Bulletin 1694 Electronic Circuit Protection is a modular solution with a max. system capacity of 40A. The protection modules come in a fix current rating in a range from 1A...10A. Designed for 24V DC circuits, the 1694 provides comprehensive protection against short circuit and overcurrent conditions while allowing for inrush current.

#### Basic trip curve and schematic diagram 1694-PM



times rated current trip curve

#### Schematic diagram



#### Features

- Combination of supply modules, circuit protection and power distribution
- Selective load protection by means of electronic trip curve
- No accessories required for connecting the components
- Width per channel only 12.5 mm (1-channel) or 6.25mm (2-channel)
- Integral fail-safe element, adjusted to current rating
- Switching capacitive loads up to 20,000  $\mu$ F (at  $I_N > 6A$ )
- Manual ON/OFF/reset momentary switch
- Clear status indication by means of LED and auxiliary contact (1694-PF supply module)
- Connection via push-in terminals
- 1694-PMx available in Class 2 version with nominal currents: 1A, 2A, 3A, 4A

#### Notes

- Connection to a higher or not reliably disconnected voltage can cause hazardous conditions or damages
- Only the intended circuit protectors must be used
- The technical data of the circuit protectors used have to be observed
- The entire power distribution system must only be installed by qualified personnel
- Only after expert installation must the device be supplied with power
- After tripping of the circuit protector and before reset, the cause of the failure (short circuit or overload) must be remedied
- The national standards have to be observed for installation and selection of feed and return cables.

### Technical data ( $T_{amb} = +23\text{ °C}$ , $U_B = \text{DC } 24\text{ V}$ )

#### 1694-PM Circuit Protection Module

Operating voltage  $U_B$  DC 24 V (min. 18 V, max. 30 V)  
(no battery-buffered applications)

Closed current  $I_0$   
1694-PM1 (1-channel) in ON condition:  
typically 5 mA  
1694-PM2 (2-channel) typically 8 mA

Reverse polarity protection Yes, without load

Rated current  $I_N$  current ratings:  
1694-PM1 (1-channel) 1 A, 2 A, 3 A, 4 A, 6 A, 8 A, 10 A  
1694-PM2 (2-channel) 1A/1A, 2A/2A, 3A/3A, 4A/4A, 6A/6A

Visual status indication by means of LED:

- Green: ● Load circuit connected
- flashing orange ● green Load current warning limit reached
- orange: ● Overload or short circuit until disconnection
- red: ● After disconnection (trip condition) due to overload or short circuit after undervoltage release of operating voltage in ON condition with autoreset
- OFF: ● Device switched off by means of ON/OFF momentary switch or no operating voltage
- Non Illuminated

Load circuit  
Load current warning limit ( $I_{WLimit}$ ) typically  $0.9 \times I_N$   
1694-PM  
Hysteresis typically 5%

Status of auxiliary contact is not affected by 90% load current warning

Overload disconnection ( $I_{OL}$ ) with trip times ( $t_{OL}$ )	typically $I_{OL}: I_N \times 1.05$	$t_{OL}: 3\text{ s}$
	typically $I_{OL}: I_N \times 1.35$	$t_{OL}: 0.5\text{ s}$
	typically $I_{OL}: I_N \times 2.00$	$t_{OL}: 0.1\text{ s}$
	typically $I_{OL}: I_N \times 2.50$	$t_{OL}: 0.012\text{ s}$
short circuit trip time ( $t_{KS}$ )	typically at ( $I_{KS}$ ) see time/current characteristics	$t_{KS}: 0.002\text{ s}^1$

<sup>1</sup> depending on power source

Influence of ambient temperature on overload trip and load current warning limit see temperature factor table

Leakage current in load circuit in OFF condition typically <1 mA

Voltage drop in load circuit at $I_N$ for 1694-PM between LINE+ and LOAD+	• $I_N: 1\text{ A (CL2)}$	typically 180 mV
	• $I_N: 2\text{ A (CL2)}$	typically 110 mV
	• $I_N: 3\text{ A}$	typically 120 mV
	• $I_N: 3\text{ A- CL2}$	typically 130 mV
	• $I_N: 4\text{ A}$	typically 115 mV
	• $I_N: 4\text{ A- CL2}$	typically 180 mV
	• $I_N: 6\text{ A}$	typically 170 mV
	• $I_N: 8\text{ A}$	typically 160 mV
	• $I_N: 10\text{ A}$	typically 180 mV

### 3 Installation Instructions: Bulletin 1694 Electronic circuit protection for 24V DC

Fail-safe element integrated fuse	Adjusted to the corresponding rated current $I_N$																
	<ul style="list-style-type: none"> <li>• <math>I_N</math>: 1A (CL2)      fail-safe <math>I_N</math>: 1A</li> <li>• <math>I_N</math>: 2A (CL2)      fail-safe <math>I_N</math>: 2A</li> <li>• <math>I_N</math>: 3A              fail-safe <math>I_N</math>: 3.15A</li> <li>• <math>I_N</math>: 3A-CL2)      fail-safe <math>I_N</math>: 4A</li> <li>• <math>I_N</math>: 4A              fail-safe <math>I_N</math>: 4A</li> <li>• <math>I_N</math>: 4A-CL2      fail-safe <math>I_N</math>: 4A</li> <li>• <math>I_N</math>: 6A              fail-safe <math>I_N</math>: 6.3A</li> <li>• <math>I_N</math>: 8A              fail-safe <math>I_N</math>: 8A</li> <li>• <math>I_N</math>: 10A            fail-safe <math>I_N</math>: 10A</li> </ul>																
Low voltage monitoring of operating voltage	OFF at typically $U_B < 16.0\text{ V}$ ON at typically $U_B > 19.0\text{ V}$ Hysteresis      typically 2 V with automatic OFF and ON operation																
ON delay - with power ON	channel 1: typically 100ms (1694-PM) channel 2: typically 200ms (1694-PM)																
- when switching on via ON/OFF momentary switch	channel 1: typically 5 ms channel 2: typically 100 ms																
- after an undervoltage	channel 1: typically 5 ms channel 2: typically 5 ms																
Disconnection of the load circuit	<ul style="list-style-type: none"> <li>• manually on the device with the ON/OFF momentary switch</li> <li>• after an overload / short circuit disconnection with storage (no automatic reset)</li> <li>• temporarily at undervoltage</li> <li>• at no operating voltage</li> </ul>																
Switching on the load circuit - Momentary switch ON/OFF - Apply operating voltage	Unit can only be switched on when operating voltage was applied The device re-starts with the last stored condition.																
Reset function	A blocked load output (blocked by overload / short circuit) can be reset or switched on manually by the momentary ON/OFF switch (LED button).																
Capacitive loads (Depending on: cable attenuation, power supply used, load current and current rating)	<table style="border: none;"> <tr> <td>at <math>I_N</math>:</td> <td>1A</td> <td>DC24V</td> <td>up to 5,000<math>\mu</math>F</td> </tr> <tr> <td>at <math>I_N</math>:</td> <td>2A, 3A</td> <td>DC24V</td> <td>up to 10,000<math>\mu</math>F</td> </tr> <tr> <td>at <math>I_N</math>:</td> <td>4A</td> <td>DC24V</td> <td>up to 12,000<math>\mu</math>F</td> </tr> <tr> <td>at <math>I_N</math>:</td> <td>&gt; 6A</td> <td>DC24V</td> <td>up to 20,000<math>\mu</math>F</td> </tr> </table>	at $I_N$ :	1A	DC24V	up to 5,000 $\mu$ F	at $I_N$ :	2A, 3A	DC24V	up to 10,000 $\mu$ F	at $I_N$ :	4A	DC24V	up to 12,000 $\mu$ F	at $I_N$ :	> 6A	DC24V	up to 20,000 $\mu$ F
at $I_N$ :	1A	DC24V	up to 5,000 $\mu$ F														
at $I_N$ :	2A, 3A	DC24V	up to 10,000 $\mu$ F														
at $I_N$ :	4A	DC24V	up to 12,000 $\mu$ F														
at $I_N$ :	> 6A	DC24V	up to 20,000 $\mu$ F														
Free-wheeling circuit	external free-wheeling circuit at inductive load (rating according to load) is recommended.																
Parallel connection of several load outputs	not permitted																

## 4 Installation Instructions: Bulletin 1694 Electronic circuit protection for 24V DC

### General Data

Ambient temperature (T <sub>amb</sub> )	-25°...+60 °C (without condensation, cf. EN 60204-1)		
Storage temperature	-30°...+70 °C		
Mounting temperature	+5°... +60°C		
Humidity:	96 hrs / 95% RH RH/40 °C to IEC 60068-2-78-Cab climate class 3K3 to EN 60721		
Corrosion Only 1694-DM and 1694-PF accessories	96hrs. in 5% salt mist to IEC 60068-2-11 test Ka		
Vibration resistance	3 g, test to IEC 60068-2-6 test Fc		
Degree of protection Operating area 1694-PM:	IEC 60529, DIN VDE 0470 IP30		
EMC requirements (EMC Directive, CE Logo)	Emitted interference:	EN 61000-6-3	
	Noise immunity:	EN 61000-6-2	
Insulation co-ordination (IEC 60934)	0.5 kV / pollution degree 2		
Dielectric strength	max. DC 30 V (load circuit)		
Insulation resistance (OFF condition)	n/a, only electronic disconnection		
Modules mountable side by side	max. 36 channels allowed. Total current value shall be below 40 Amps. (sample case: 36 channels refer to 1 Amp nominal current channels)		
Terminals Push-in terminal PT 2.5	LOAD+ 0.14mm <sup>2</sup> to 2.5mm <sup>2</sup> , flexible AWG24 – AWG14 str. <sup>2</sup>		
wire stripping length	8mm to 10mm		
<sup>2</sup> Rockwell Automation recommends to use ferrules for smaller diameter cables.			
Dimensions (h x w x d)	12.5 x 80 x 98.5 mm		
Weight	approx. 60 g		
1694-PMD2A10 – Adjustable Module	This protection adjustable module can be used with standard and IO-Link version of Power Feed. For details, see the Installation Instruction dedicated for IO-Link version of bulletin 1694: 1694-IN002x-EN-E. (x-document revision letter)		

### Conformity and approvals for 1694-PM with 1694-PF

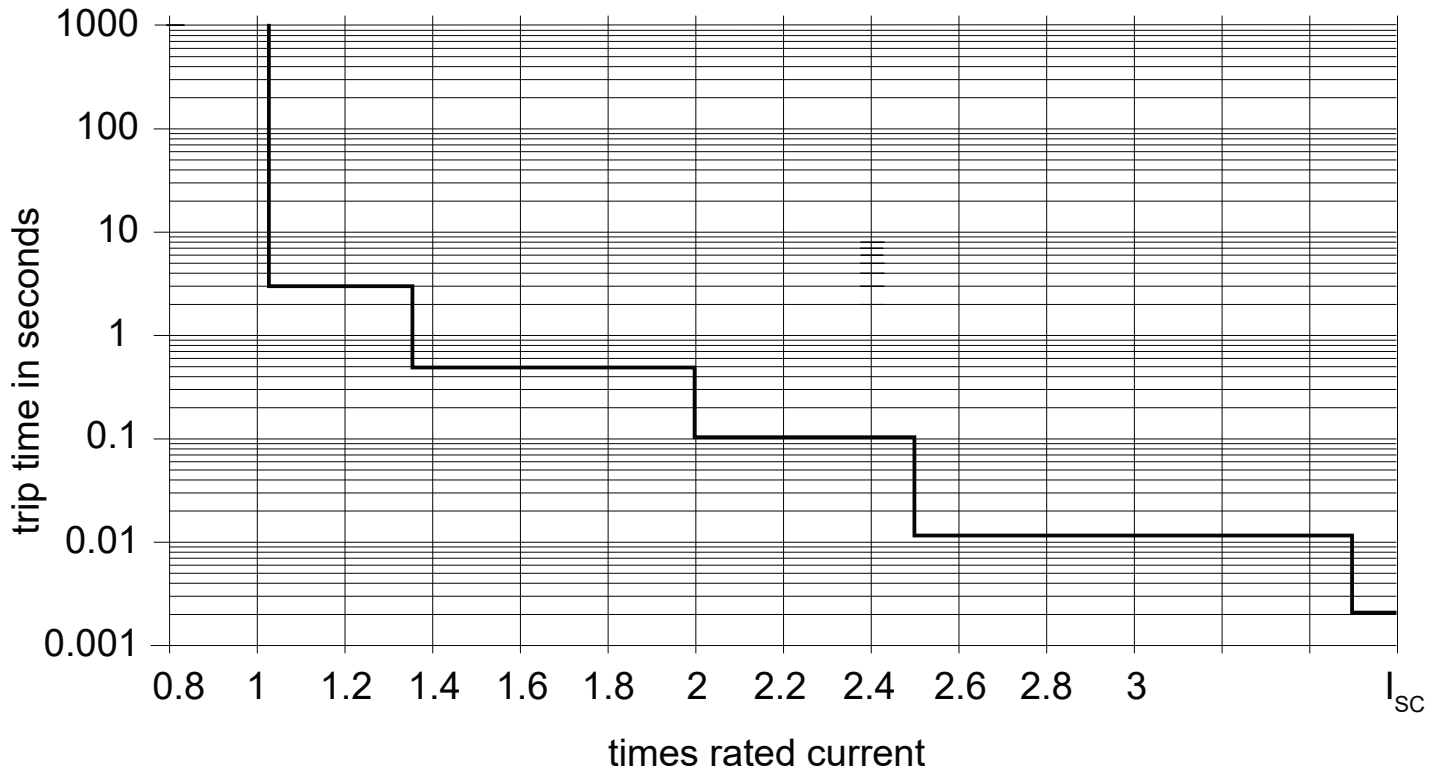
Conformity	CE Marking	UKCA	
	RoHS compliant	EAC	
	China RoHS	RCM	
	WEEE		
	Morocco EMC		
Approvals	UL 2367 RA	File # E350272	current rating range:1A... 10A
	UL 1310 RA NEC Class2 <sup>3</sup>	File # E350272	current rating range: 1A, 2A, 3A, 4A
	cULus508RA listed	File # E56639	current rating range:1A... 10A

<sup>3</sup> Class 2 only for Protection Modules



At the End of its life, this equipment should be collected separately from any unsorted municipal

Typical time/current characteristic ( $T_{amb} = +23\text{ }^{\circ}\text{C}$ ,  $UB = \text{DC } 24\text{ V}$ )



$I_{sc}$  - short circuit current

**Temperature factor / continuous duty**

Electronic components are generally temperature sensitive. Ambient temperature must be taken into consideration during the design phase. Bulletin 1694 time/current characteristic depends on the ambient temperature.

To determine derated threshold current for Protection Module (derated by temperature factors), please use below mathematical formula:

$$I_{dn} = I_n \times T_{factor} \times T_{ambient}$$

$I_{dn}$  – threshold current derated by temperature factors.

$I_n$  – Nominal threshold current.

$T_{factor}$  – Temperature factor.

- For single protection module (one or two channel) = 1.
- For side-by-side mounted protection modules (two or more modules in one setup) =  $T_{factor} = 0.8$ .

$T_{ambient}$  – Ambient temperature factor. This value shall be taken from the table (Figure 03) for corresponding ambient temperature.

Figure 03 - Temperature derating factor

Ambient temperature	-20°C	0°C	10°C	23°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
	-4°F	23°F	50°F	73.4°F	86°F	95°F	104°F	113°F	122°F	131°F	140°F
Temperature factor	1	1	1	1	1	0.975	0.95	0.925	0.9	0.875	0.85

Please note

- Warning limit will be automatically adjusted to derated nominal threshold current value.
- Selection of current rating of the circuit protector  $\leq$  rating of power supply.
- Mathematical formula above is an approximation.
- Please refer to Temperature derating calculator for bulletin 1694 (Electronic Circuit Protection) in online catalog: <https://www.rockwellautomation.com/content/dam/rockwell-automation/sites/downloads/zip/1694-temp-derating.zip>

**Examples**

**Calculation example 1)**

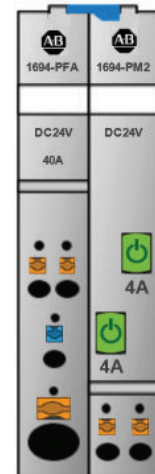
Assumptions:

- Single protection module (two channels) used in the setup
- Ambient Temperature = 40°C
- Nominal threshold current  $I_n = 4\text{ A}$
- $T_{factor} = 1$  (single protection module in the setup)
- $T_{ambient} = 0.95$  (value for 40°C taken from table (Figure 3))

$$I_{dn} = 4\text{ A} \times 1 \times 0.95 = 3.8\text{ A}$$

Derated threshold current for 4A 2-channels module is 3.8A

Note:  $I_{dn}$  value is same for both channels (single module in the setup)



**Calculation example 2) – Extreme scenario**

Assumptions:

- Two protection modules:
  - 4A, 2-channels Protection Module
  - 8A, single channel Protection Module
- Ambient Temperature = 60°C
- Nominal threshold current  $I_n = 4A$  and  $8A$
- $T_{factor} = 0.8$  (more than one protection module in the setup)
- $T_{ambient} = 0.85$  (value for 60°C taken from table (Figure 3))

For first module (2 Ch., 4A)

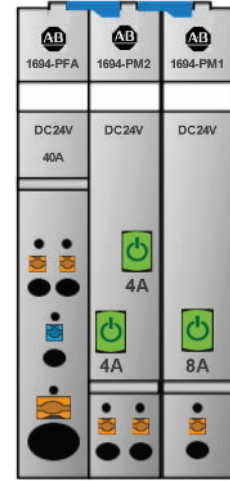
$$I_{dn} = 4A \times 0.8 \times 0.85 = 2.72A$$

For second module (1 Ch., 8A)

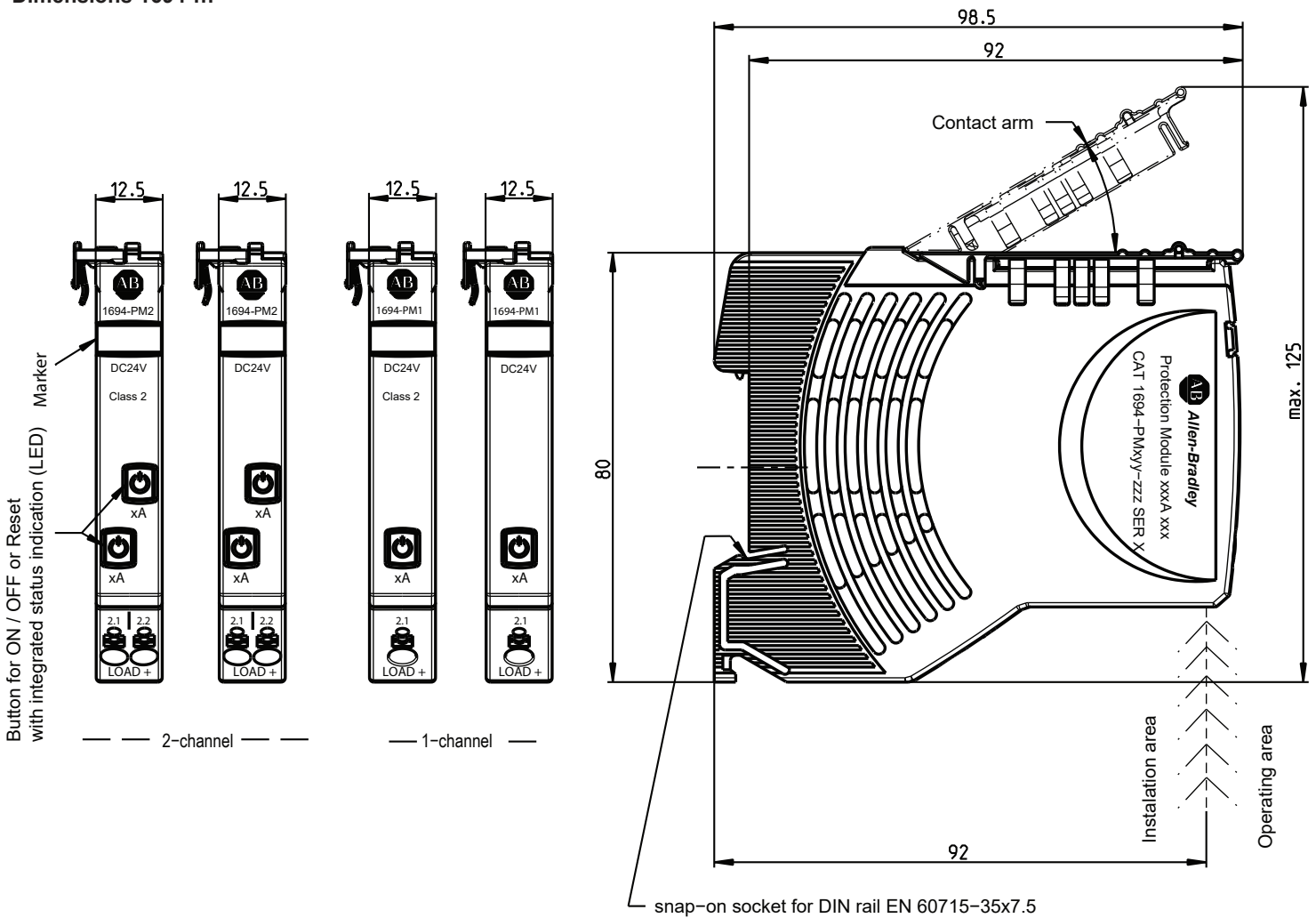
$$I_{dn} = 4A \times 0.8 \times 0.85 = 2.72A$$

Derated threshold current for

- 4A 2-channels module is 2.72A
- 8A single channel module is 5.44A



**Dimensions 1694-...**



Small opening above the screwdriver insert (marked as 2.1 and 2.2) = voltage measuring point.  
 Larger opening under the screwdriver insert (marked as LOAD +) = wire connection area.

**General recommendation for all 1694 modules installation.**

Screwdriver for installation: blade-style screwdriver size 1 for smaller Push-in terminal (PT 2.5) inserts.

Mounting position: horizontal mounting position is preferred.

## Product selection list - 1694-PMx

Catalog Code	Description
1694-PM110	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 10A
1694-PM11	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 1A
1694-PM11-CL2	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 1A, Class 2
1694-PM12	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 2A
1694-PM12-CL2	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 2A, Class 2
1694-PM13	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 3A
1694-PM13-CL2	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 3A, Class 2
1694-PM14	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 4A
1694-PM14-CL2	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 4A, Class 2
1694-PM16	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 6A
1694-PM18	Electronic Circuit Protection, Protection Module, 1-Channel, Fix Current, In 8A
1694-PM211	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 1A, 1A
1694-PM211-CL2	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 1A, 1A, Class 2
1694-PM222	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 2A, 2A
1694-PM222-CL2	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 2A, 2A, Class 2
1694-PM233	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 3A, 3A
1694-PM233-CL2	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 3A, 3A, Class 2
1694-PM244	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 4A, 4A
1694-PM244-CL2	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 4A, 4A, Class 2
1694-PM266	Electronic Circuit Protection, Protection Module, 2-Channels, Fix Current, 6A, 6A
1694-PMD2A10	Electronic Circuit Protection, Protection Module, IO-Link, 2-Channels, Adjustable Current, 1A to 10A

## Bulletin 1694. Power Feed 1694-PFx and Distribution Modules 1694-DMx

### Temperature

Power Feed 1694-PFx: Power Feed Module receives the DC 24 V supply voltage, e.g. from a switched mode power supply, and distributes it to the mounted circuit protectors via the integral connector arm of the 1694-PM.

(The potential-free auxiliary contact in the 1694-PFA1244 indicates any detected failures through the circuit protector, e.g. to the superordinate control unit (CPU).)

Distribution Modules 1694-DMx: For terminal multiplication to add multiple wires for + and – 24VDC

### Notes

Please refer to notes section for Electronic circuit protection for 24V DC

### Technical data ( $T_{amb} = +23\text{ °C}$ , $U_b = \text{DC } 24\text{ V}$ )

### General data - common for 1694-PFx / 1694-DMx

Mounting method	symmetrical rail to EN 60715-35x7.5
Ambient temperature ( $T_{amb}$ )	-25°...+60 °C (without condensation, cf. EN 60204-1)
Storage temperature	-30°...+70 °C
Mounting temperature	+5°... +60°C
Humidity:	96 hrs / 95% RH RH/40 °C to IEC 60068-2-78-Cab climate class 3K3 to EN 60721
Corrosion Only 1694-DM and 1694-PF accessories	96hrs. in 5% salt mist to IEC 60068-2-11 test Ka

## 8 Installation Instructions: Bulletin 1694 Electronic circuit protection for 24V DC

Vibration resistance 3 g, test to IEC 60068-2-6 test Fc

Degree of protection IEC 60529, DIN VDE 0470  
terminal area 1694-PF, 1694-DM: IP20

EMC requirements (EMC Directive, CE Logo)      Emitted interference: EN 61000-6-3  
Noise immunity: EN 61000-6-2

Insulation co-ordination (IEC 60934) 0.5 kV / pollution degree 2

Dielectric strength max. DC 30 V (load circuit)

Dimensions 12.5 x 80 x 98 mm

### Data for Distribution Module 1694-DMx

Operational Current Max. 20 A in total. Max. 10 A per terminal

Operating voltage  $U_b$  0V - DC 24V (0 ... 30 V)

Dimensions (h x w x d) 12.5 x 80 x 98.5 mm

Weight approx. 60 g

Insulation coordination 0.5 kV / pollution degree 2  
For 1694-DM1L2, 1694-DM2L2: 0.8 kV / pollution degree 2

### Data for Power Feed Module 1694-PFx

Operating voltage  $U_b$  DC 24 V (min. 18 V, max. 30 V)  
(no battery-buffered applications)

Operating current  $I_b$  1694-PFx: Max. 40 A

Dimensions (h x w x d) 12.5 x 80 x 98 mm

Reverse polarity protection Yes, without load

Closed current  $I_o$  normal condition: typically 10 mA (min. 6,5 mA; max. 11,8 mA)

Auxiliary contact potential-free only in 1694-PFA1244  
max. DC 30 V/0.5 A, min. 10 V/1 mA

Group signalling Si terminal:  
Si (13) / Si (14) Auxiliary contact N/O

Normal condition: Auxiliary contact closed

Trip condition: coming from all protection modules  
- when ON, load output ON  
- when OFF, load output OFF  
  
auxiliary contact open  
Coming from one or more protection modules  
- after disconnection due to overload or short circuit  
- after undervoltage release of operating voltage in ON condition with auto reset  
- at no operating voltage  $U_b$  in supply module

Insulation coordination 0.5 kV / pollution degree 2  
For 1694-PF3L4C, 1694-PF2L4S: 0.8 kV / pollution degree 2

**Terminals 1694-PFx: LINE+1, 1694-PF3G4: 0V**

Push-in terminal PT 10	0.5mm <sup>2</sup> to 10mm <sup>2</sup> , flexible
	AWG20 – AWG8 str. <sup>4</sup>
wire stripping length	18mm

<sup>4</sup> Rockwell Automation recommends to use ferrules for smaller diameter cables

**Terminals 1694-PFx: 0 V / Si 13 / Si 14**

Push-in terminal PT 2.5	0.14mm <sup>2</sup> to 2.5mm <sup>2</sup> , flexible
	AWG24 – AWG14 str. <sup>5</sup>
wire stripping length	8mm to 10mm

<sup>5</sup> Rockwell Automation recommends to use ferrules for smaller diameter cables

**Terminals 1694-DMx: LOAD+, 1694-DM3G2: 0V**

Push-in terminal PT 2.5	0.14mm <sup>2</sup> to 2.5mm <sup>2</sup> , flexible
	AWG24 – AWG14 str. <sup>5</sup>
wire stripping length	8mm to 10mm

<sup>5</sup> Rockwell Automation recommends to use ferrules for smaller diameter cables

Dimensions (h x w x d) 12.5 x 80 x 98.5 mm

Weight approx. 60 g

**Terminals 1694-DM and 1694-PF**

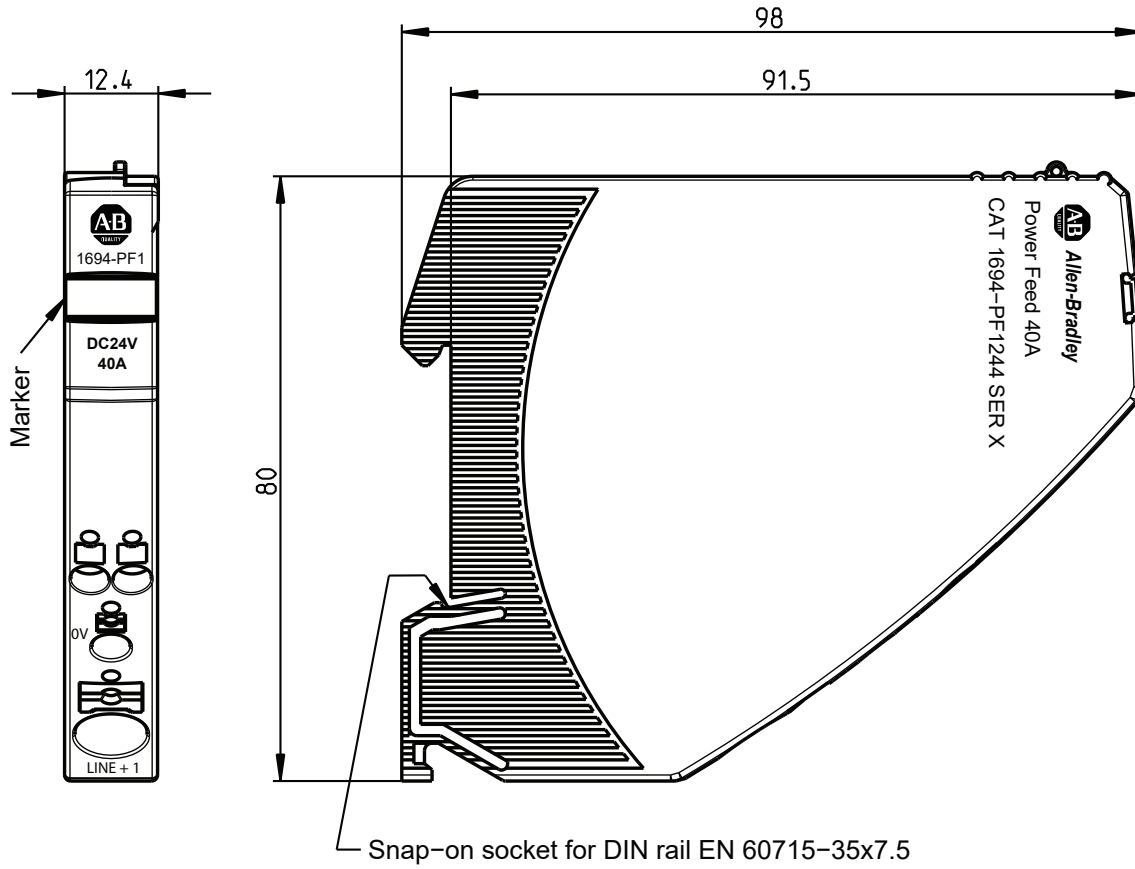
Conformity	<b>1694-DM*</b>	CE Marking RoHS compliant China RoHS WEEE	UKCA EAC
	<b>1694-PF1G4, 1694-PF3G4, 1694-PF3L4C</b>	CE Marking RoHS compliant China RoHS WEEE	UKCA EAC
	<b>1694-PF1244, 1694-PF2L4S, 1694-PFA1244</b>	CE Marking RoHS compliant China RoHS WEEE Morocco EMC	UKCA EAC RCM

Approvals: **1694-PF3L4C, 1694-PF1G4, 1694-PF3G4:**  
 UL 1059, RA File # E40735  
**1694-PF2L4S:**  
 UL 2367, RA File # E350272  
 cULus508listed, RA File # E56639  
**1694-DM1L2, 1694-DM2L2, 1694-DM3G2:**  
 UL 1059, RA File # E40735

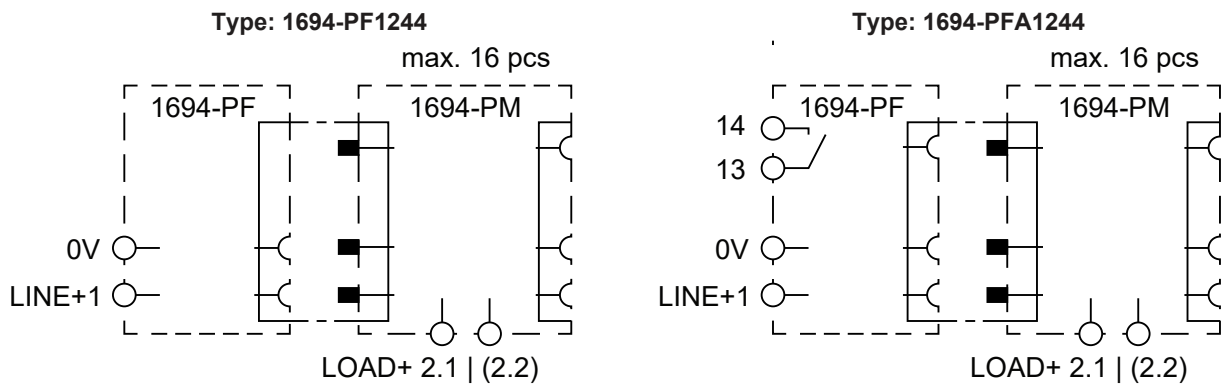


At the End of its life, this equipment should be collected separately from any unsorted municipal waste.

Dimensions: 1694-PF1244 Power Feed Left Mount

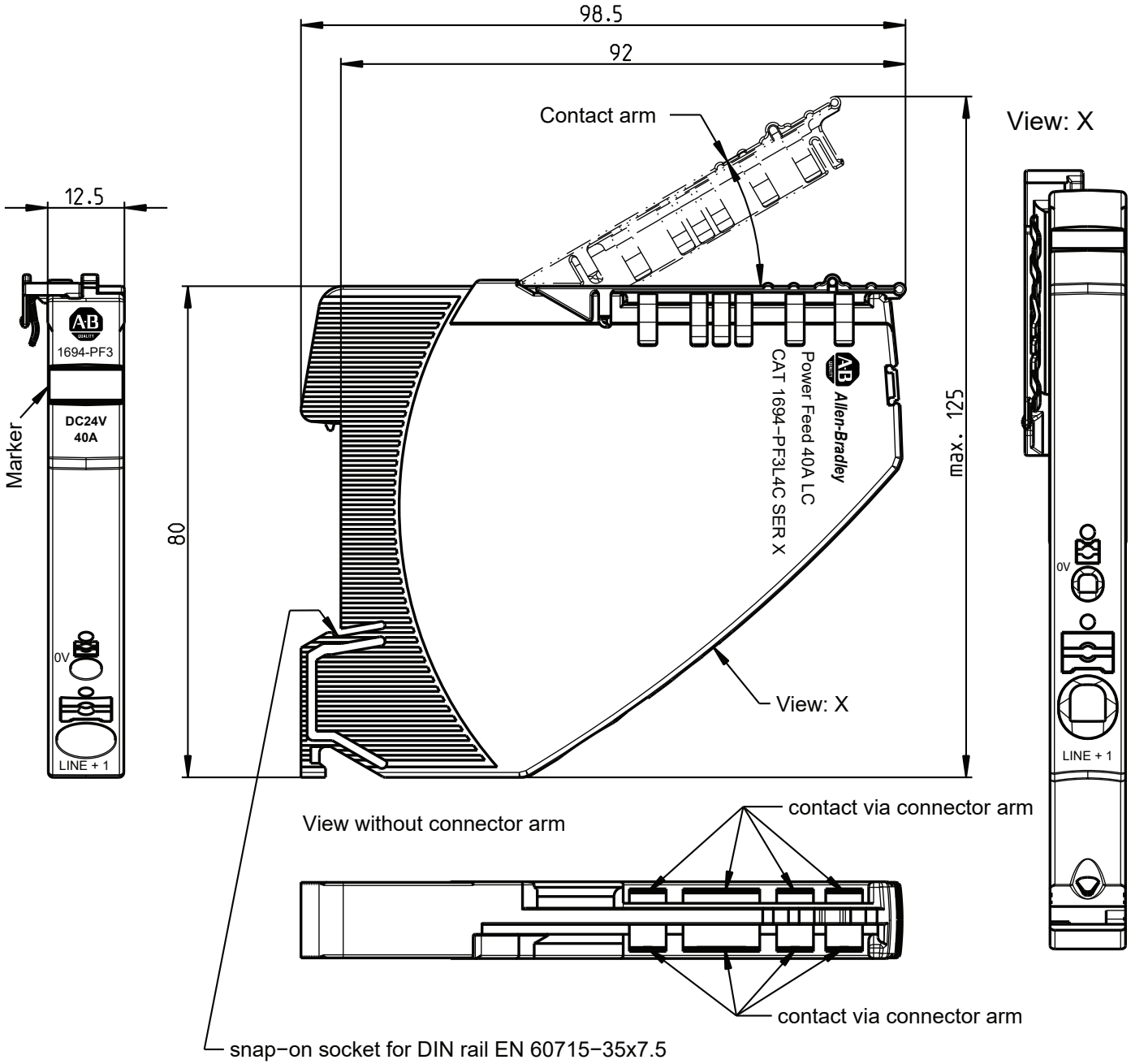


Schematic diagram: 1694-PF1244 (with 1694-PM). Left Mount

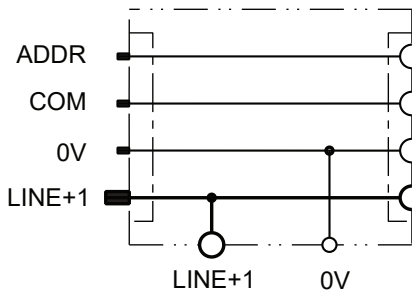


The meaning of diagram is symbolic (there is electrical connection between output and input connections for Line +1 and 0V done by semiconductor element).

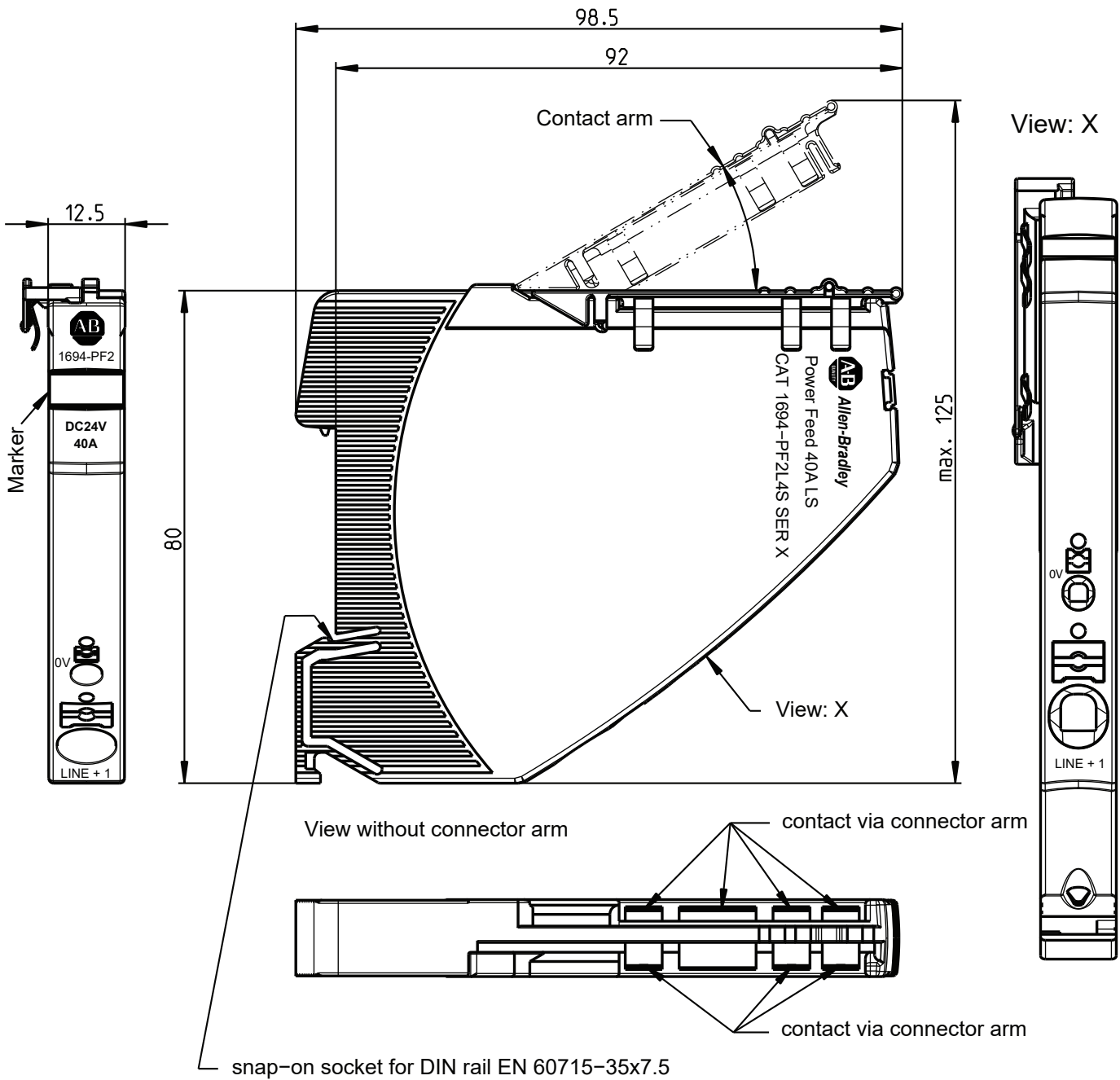
Dimensions: 1694-PF3L4C Power Feed. Centre/Right Mount, LINE Connected



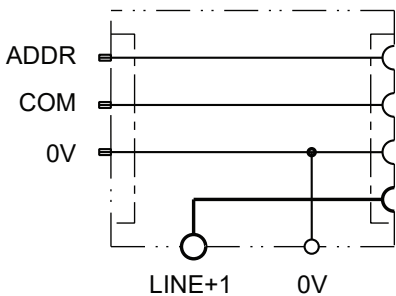
Schematic diagram: 1694-PF3L4C. Centre/Right Mount, LINE Connected



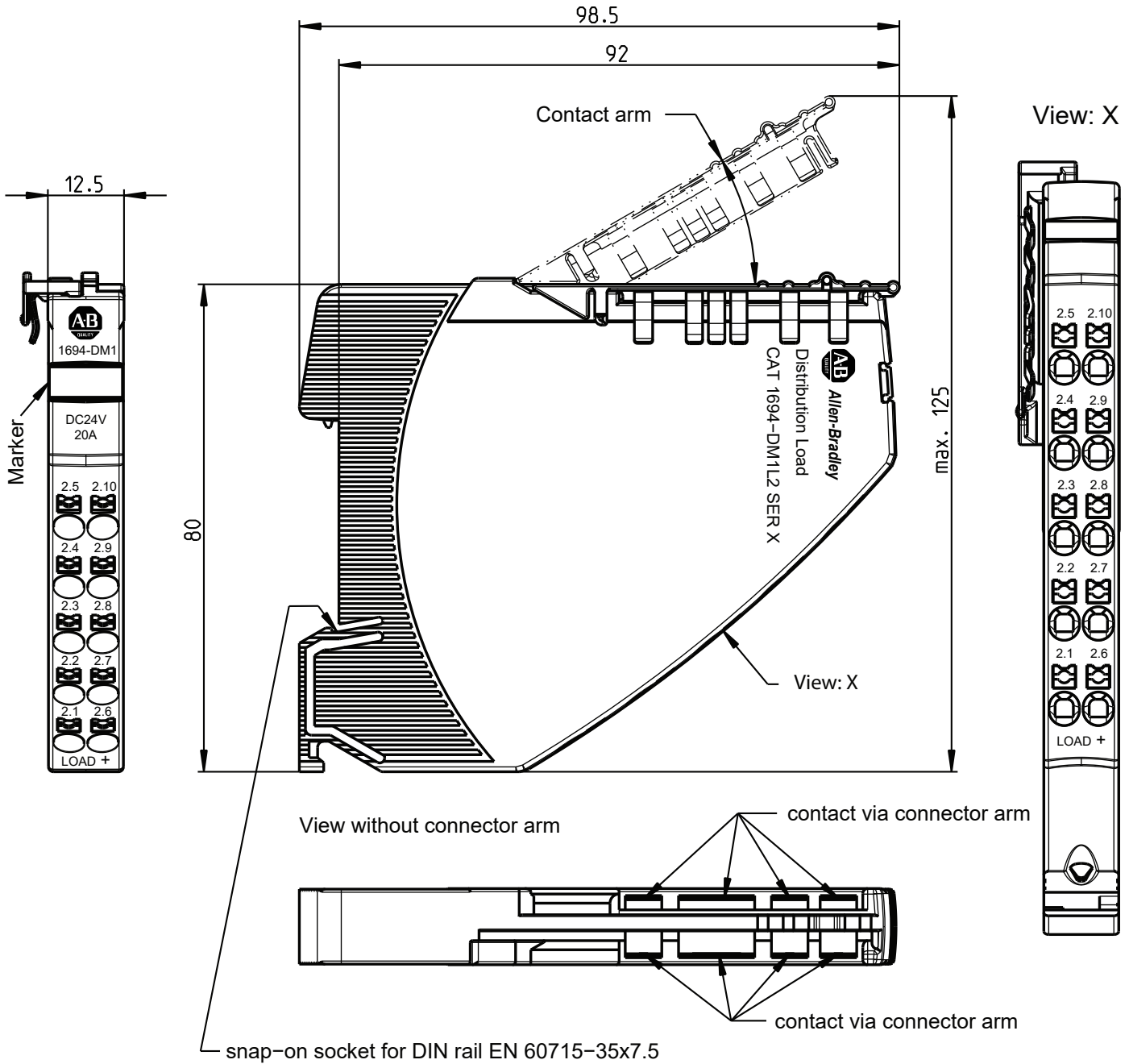
Dimensions: 1694-PF2L4S Power Feed Center Mount, LINE Separated



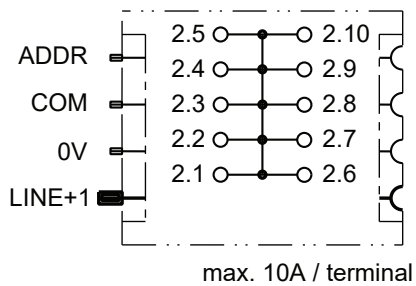
Schematic diagram: 1694-PF2L4S Power Feed Center Mount, LINE Separated



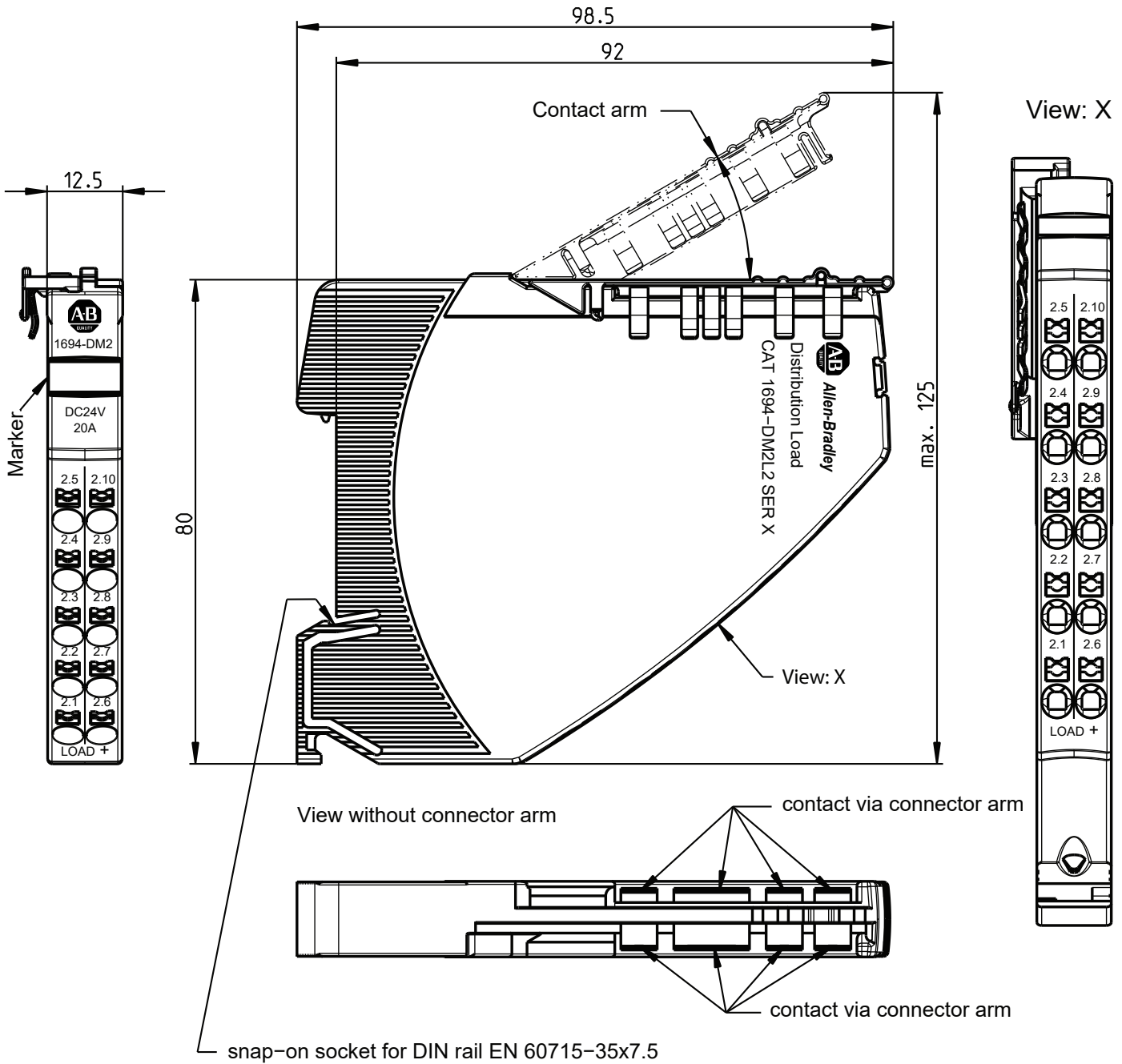
Dimensions: 1694-DM1L2 Distribution Load 10 Terminals, 1xLINE, 9xLOAD, I<sub>max</sub> 20A



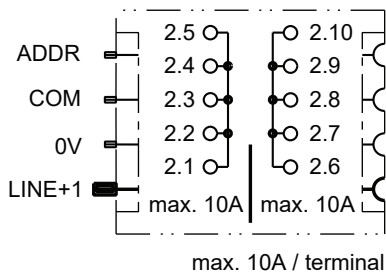
Schematic diagram: 1694-DM1L2 Distribution Load, 10 Terminals, 1xLINE, 9xLOAD, I<sub>max</sub> 20A



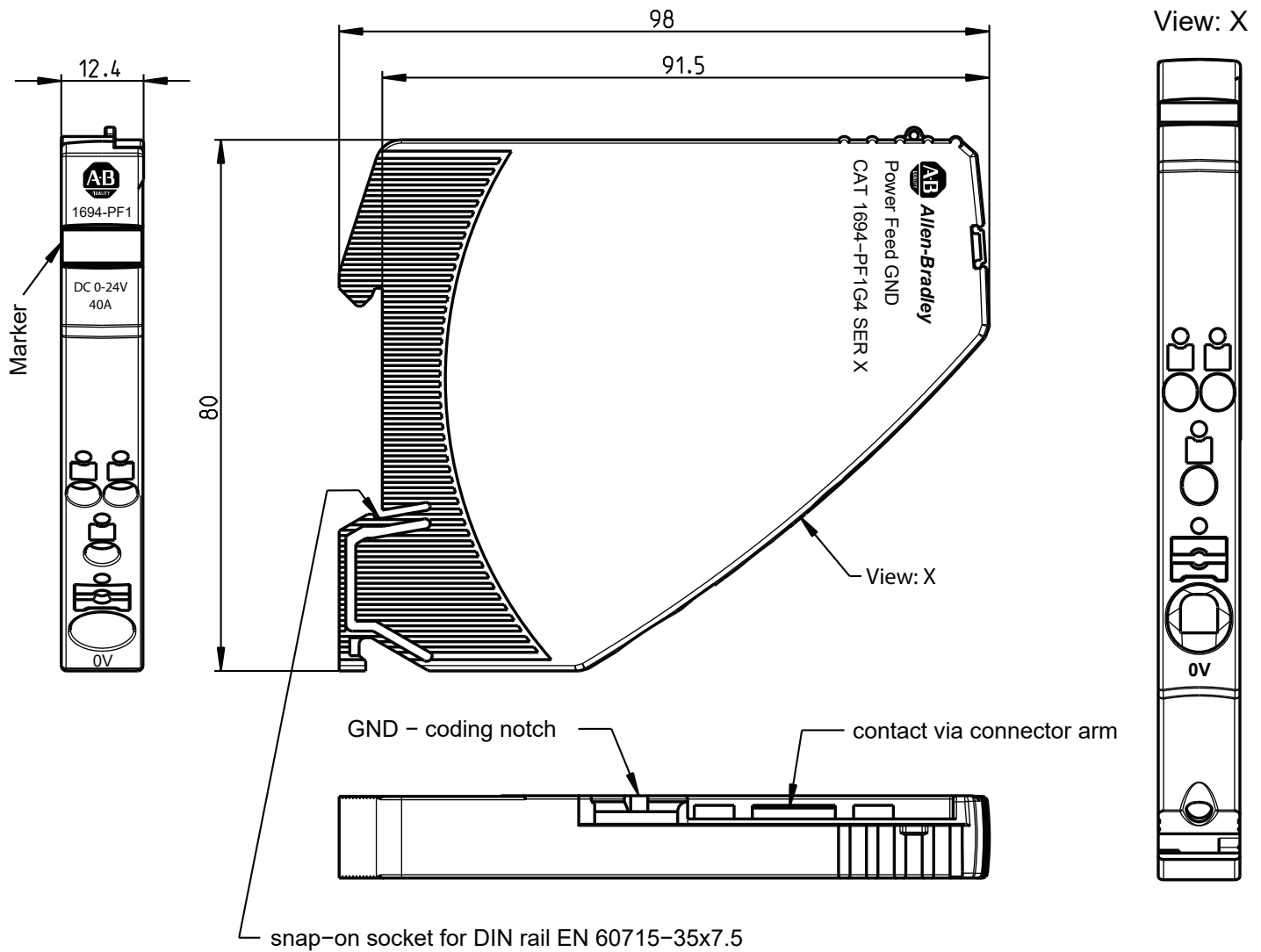
Dimensions: 1694-DM2L2 Distribution Load, 10 Terminals, 2xLINE separated, 4xLOAD each, I<sub>max</sub> 20A



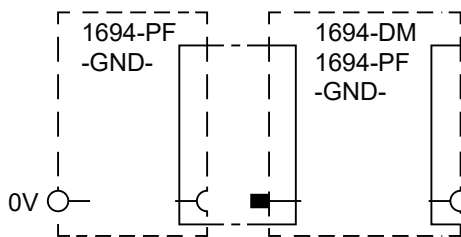
Schematic diagram: 1694-DM2L2 Distribution Load, 10 Terminals, 2xLINE separated, 4xLOAD each, I<sub>max</sub> 20A



Dimensions: 1694-PF1G4 Power Feed GND, 0V Ground, I<sub>max</sub> 40A

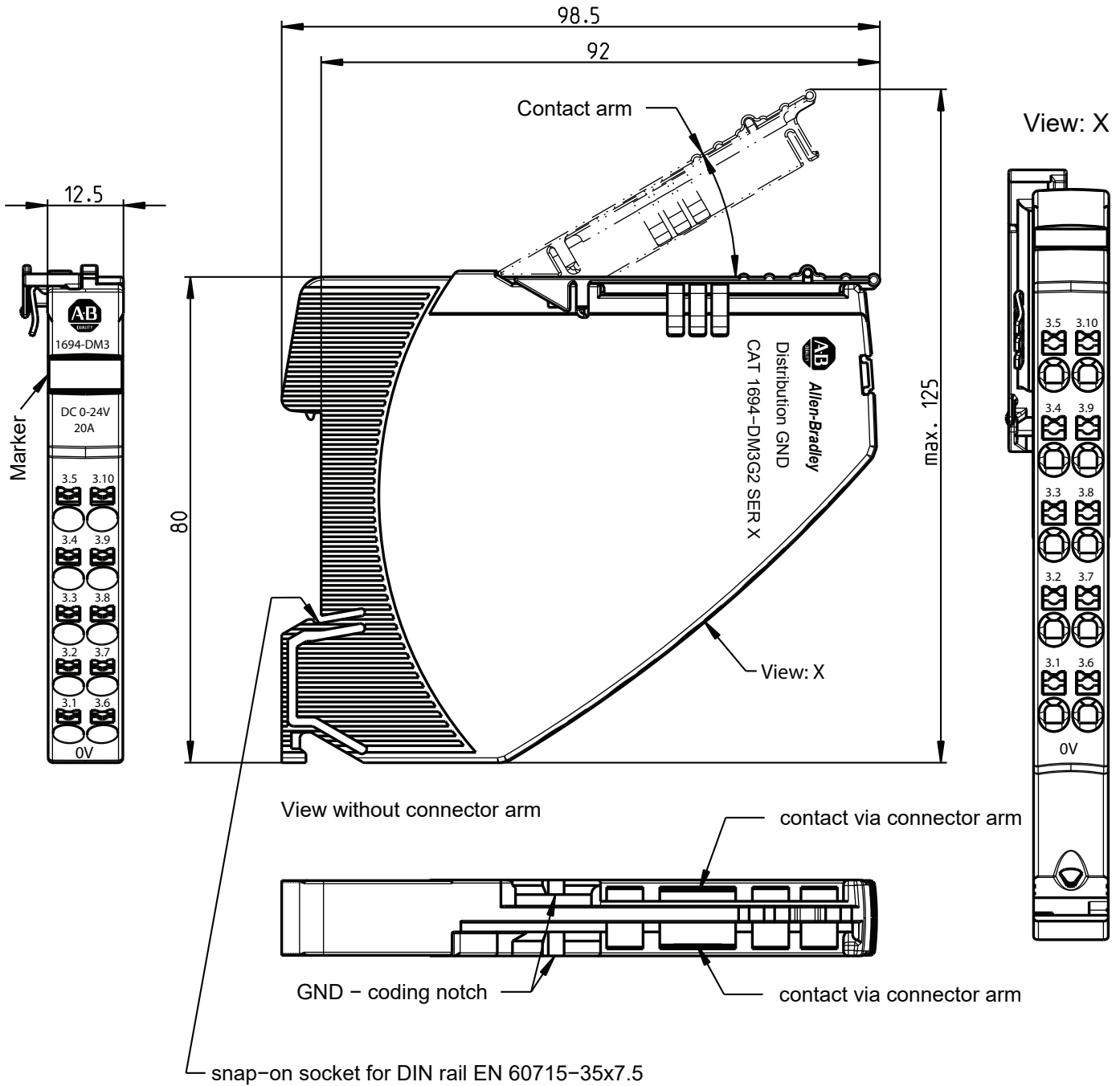


Schematic diagram: 1694-PF1G4 Power Feed GND, 0V Groud, I<sub>max</sub> 40A

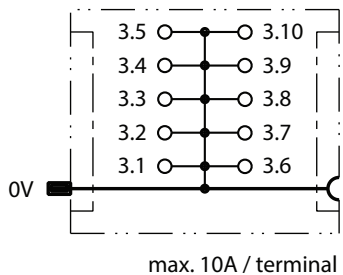


The meaning of diagram is symbolic (there is electrical connection between output and input connections for Line +1 and 0V done by semiconductor element).

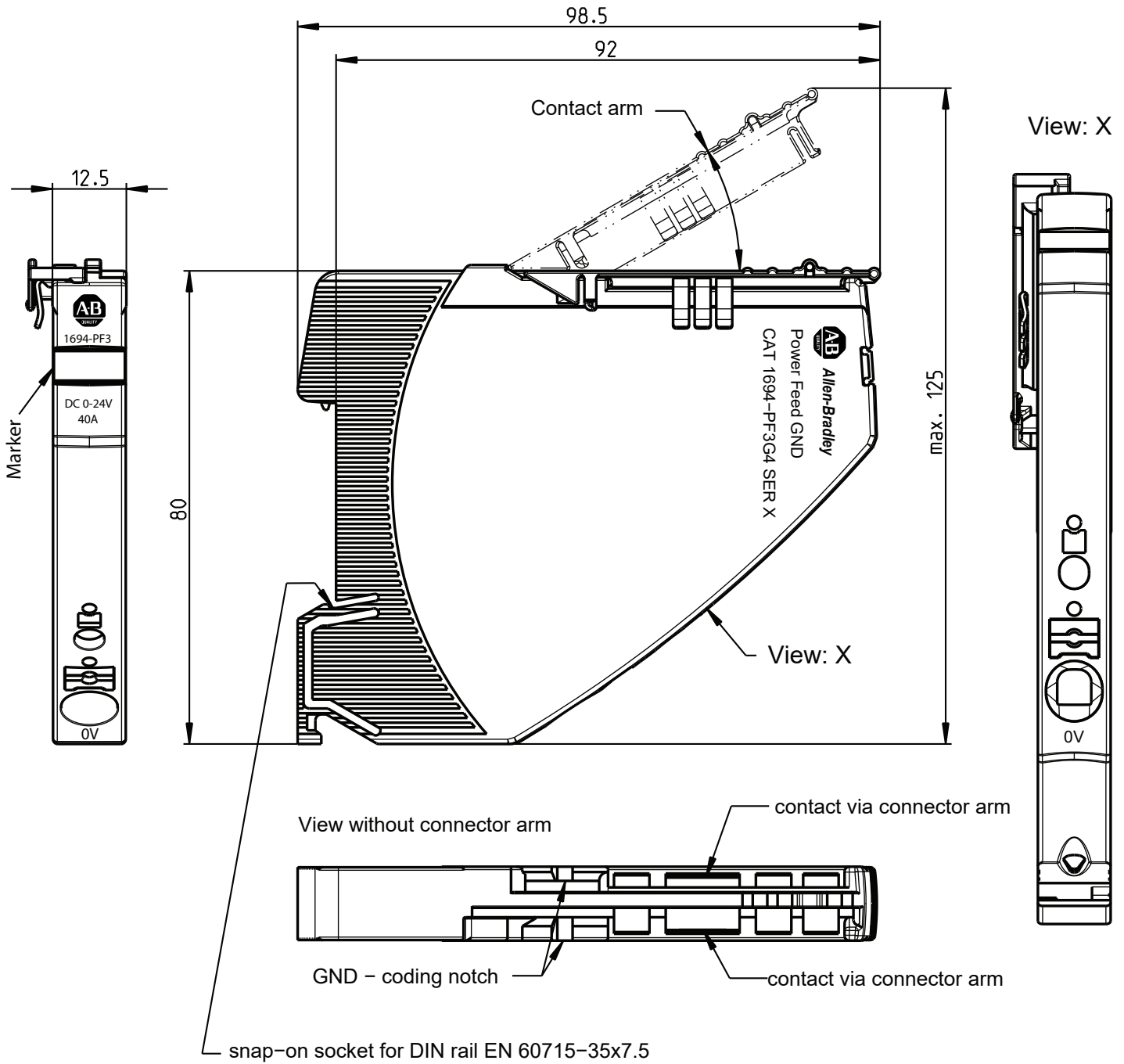
Dimensions: 1694-DM3G2 Distribution GND, 10 Terminals, Ground, I<sub>max</sub> 20A



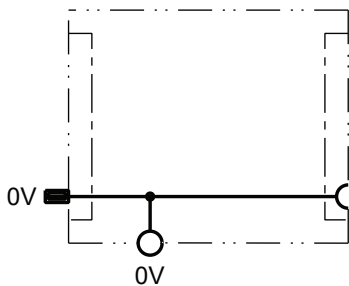
Schematic diagram: 1694-DM3G2 Distribution GND, 10 Terminals, Ground, I<sub>max</sub> 20A



Dimensions: 1694-PF3G4 Power Feed GND Middle or Right Mount, 0V Ground, I<sub>max</sub> 40A

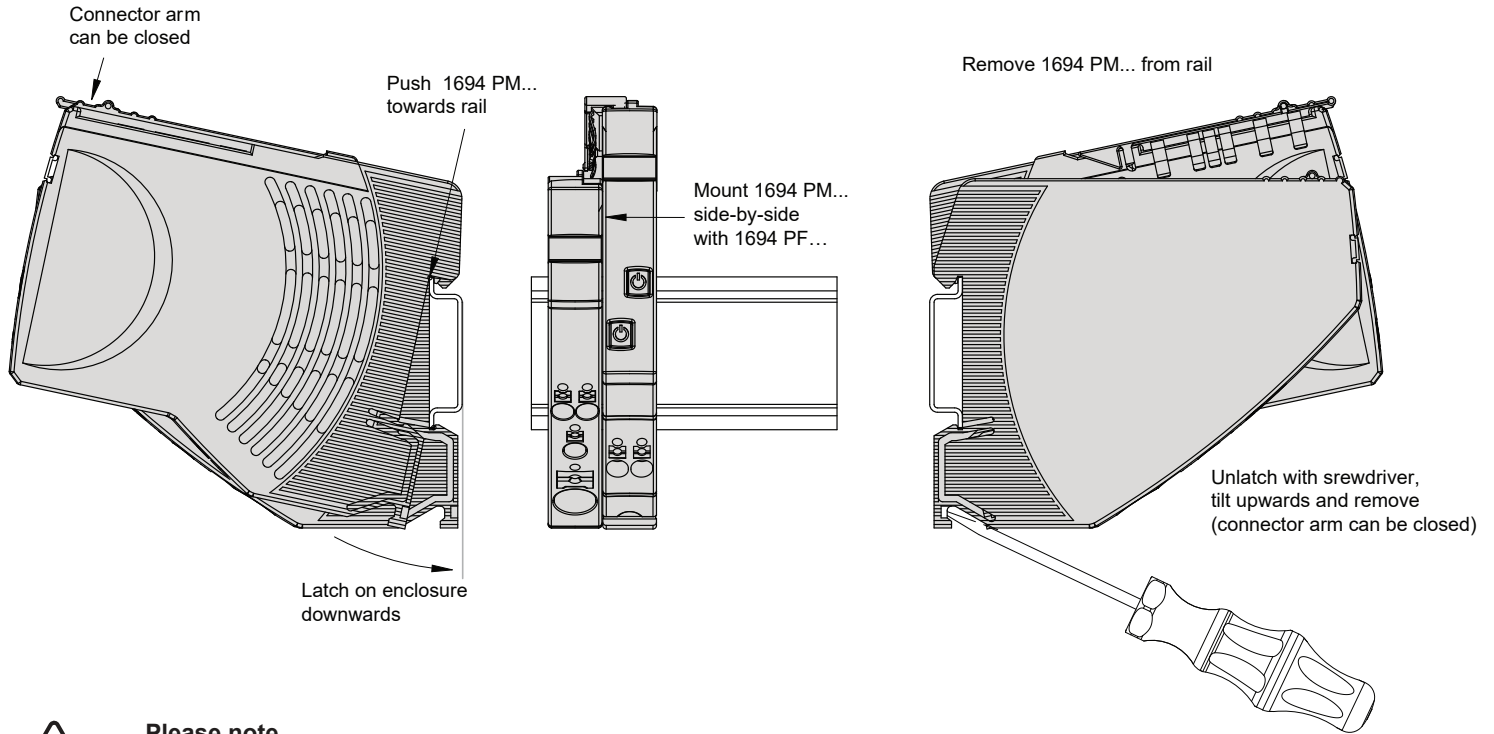


Schematic diagram: 1694-PF3G4 Power Feed GND Middle or Right Mount, 0V Ground, I<sub>max</sub> 40A





**Mounting on or removing of 1694-... from symmetrical rail**



**Please note**

- Sliding on DIN rail is not permitted.
- Open connector arm carefully to avoid damage

**General recommendation for all 1694 modules installation.**

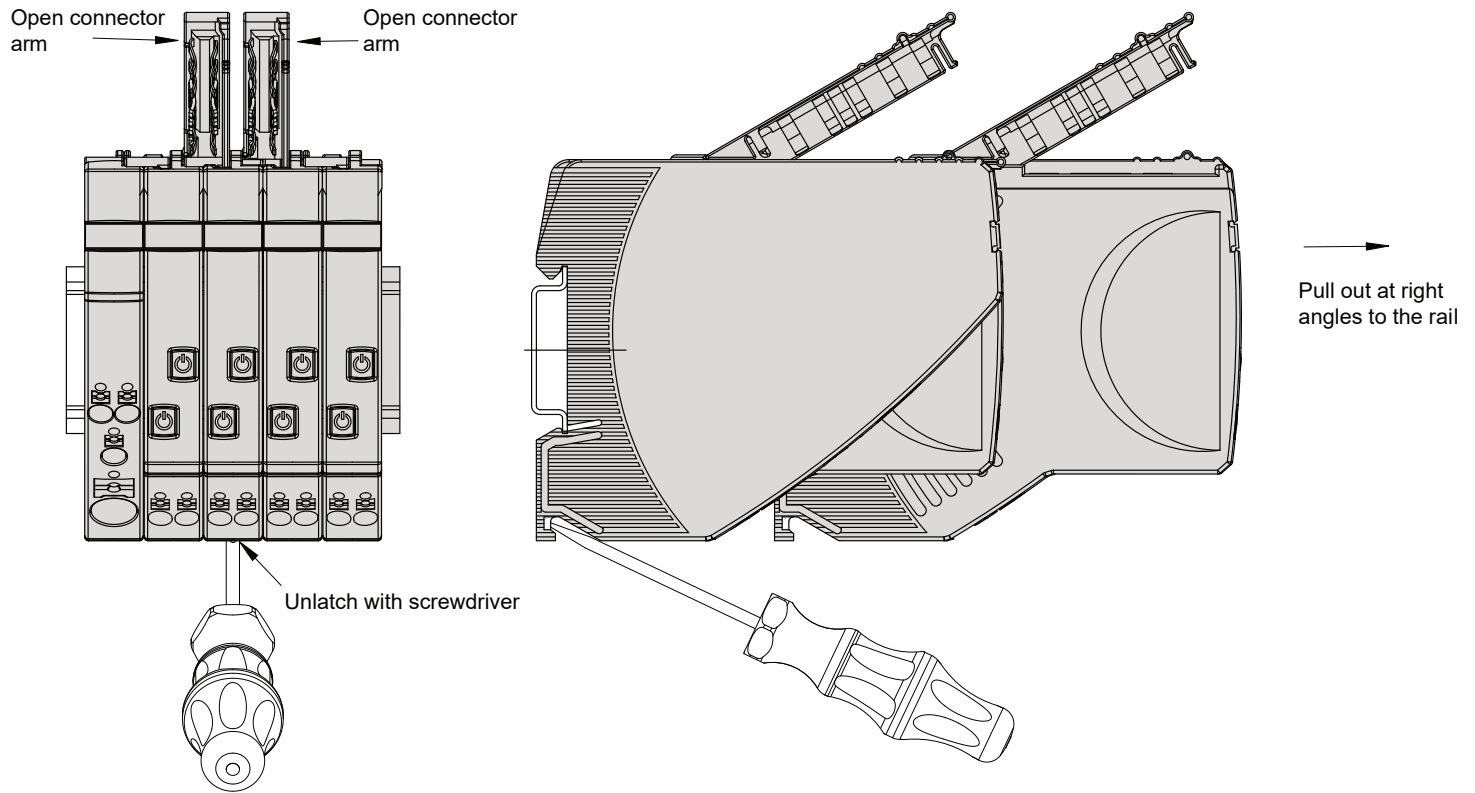
Screwdriver for installation:

- blade-style screwdriver size 1 for smaller Push-in terminal (PT 2.5) inserts
- blade-style screwdriver size 4 for larger Push-in terminal (PT 10) inserts

Mounting position:

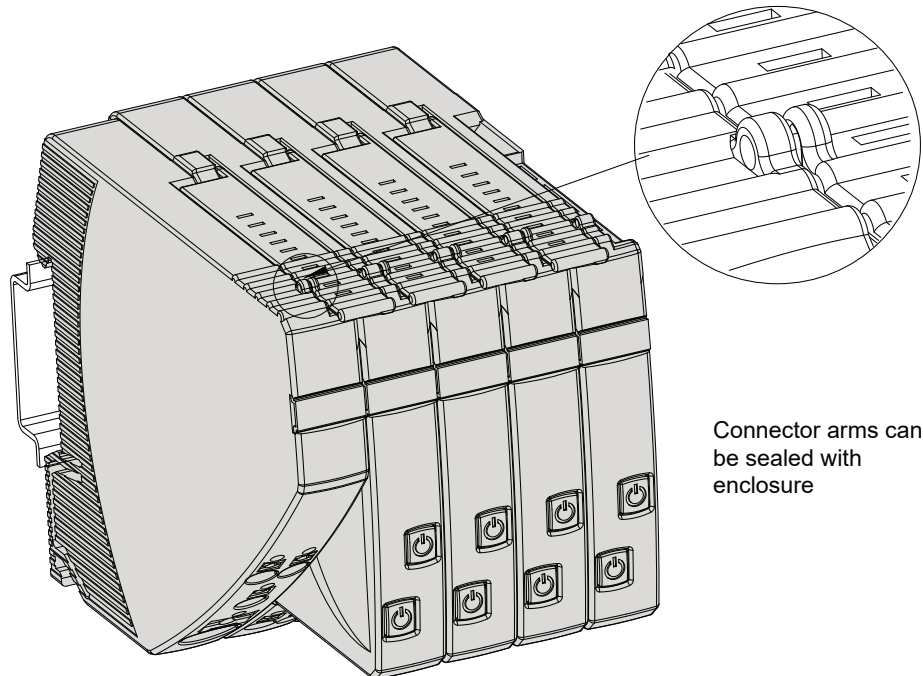
- horizontal mounting position is preferred

**Application example: Latch on housing Replacement or disassembly**

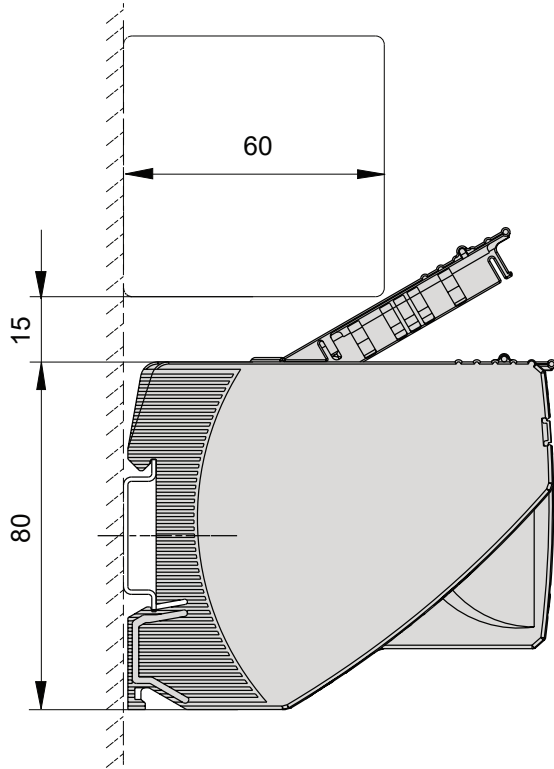


**Caution:** Exchange/disassembly only in dead-voltage condition! Potentials will be interrupted.

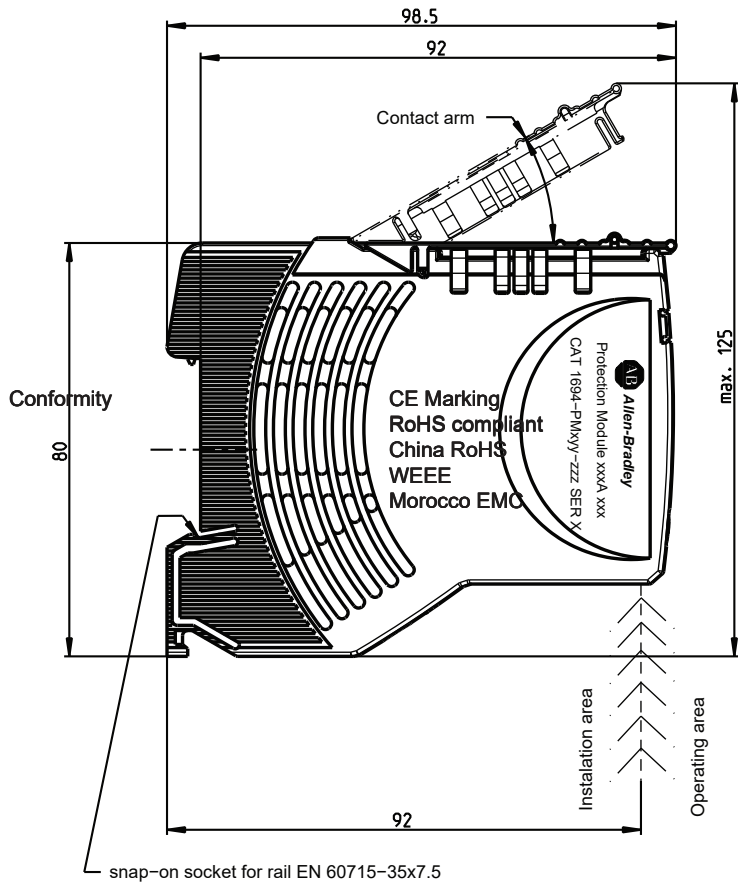
**Locked connector arms of 1694-PM...**



Distance between cable duct and connector arm of 1694-...



Application example: 1694-... installation area – operating area



## Rockwell Automation Support





Rockwell Automation maintains current product certification documents on its website at <https://rok.auto/certifications>

Rockwell Automation maintains current product environmental information on its website at <https://rok.auto/pec>

Installation Instructions, Manuals, Brochures, and Technical Data:  
<https://www.rockwellautomation.com/global/literature-library/overview.page>

Bulletin 1694 web page:  
<https://rok.auto/1694-ECP>

For the latest product information updates please check above links or [www.rockwellautomation.com](http://www.rockwellautomation.com)

Connect with us.    

For Technical Support, visit [ROK.AUTO/SUPPORT](http://ROK.AUTO/SUPPORT).

Rockwell Automation maintains current product environmental compliance information on its website at [rok.auto/pec](http://rok.auto/pec).

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