

## Description

Compact single pole thermal circuit breaker with push-to-reset, tease free, trip free, snap action mechanism and separate (colour coded) manual release. Combining full feature circuit breaker protection and convenience with low cost of ownership benefits. Fitted with blade terminals for plug-in mounting.

Type III to SAE J 553.

Version 1176 is available especially for the automotive industry (current ratings correspond to those of blade fuses).

## Typical applications

Extra low voltage wiring systems on all types of vehicles and marine craft.

## Ordering information

### Type No.

**1170** plug-in

### Design standard

**21** blade terminals for automotive fuse blocks (standard) with retaining clips

**22** blade terminals for automotive fuse blocks, without retaining clips

### Current ratings

**3...25 A**

**1170 - 21 - 15 A** ordering example

## Standard current ratings, typical voltage drop values and actuator colours (manual release)

| Current rating (A) | Voltage drop (mV) | Actuator colour                       |
|--------------------|-------------------|---------------------------------------|
| 3                  | < 300             | violet (approximating RAL 4008)       |
| 4                  | < 300             | pink (approximating RAL 3015)         |
| 5                  | < 300             | orange-brown (approximating RAL 8023) |
| 6                  | < 150             | mossy-green (approximating RAL 6005)  |
| 7.5                | < 150             | hazel (approximating RAL 8011)        |
| 8                  | < 150             | honey (approximating RAL 1005)        |
| 10                 | < 150             | red (approximating RAL 3020)          |
| 15                 | < 150             | blue (approximating RAL 5012)         |
| 20                 | < 150             | yellow (approximating RAL 1018)       |
| 25                 | < 150             | pearl (approximating RAL 1013)        |



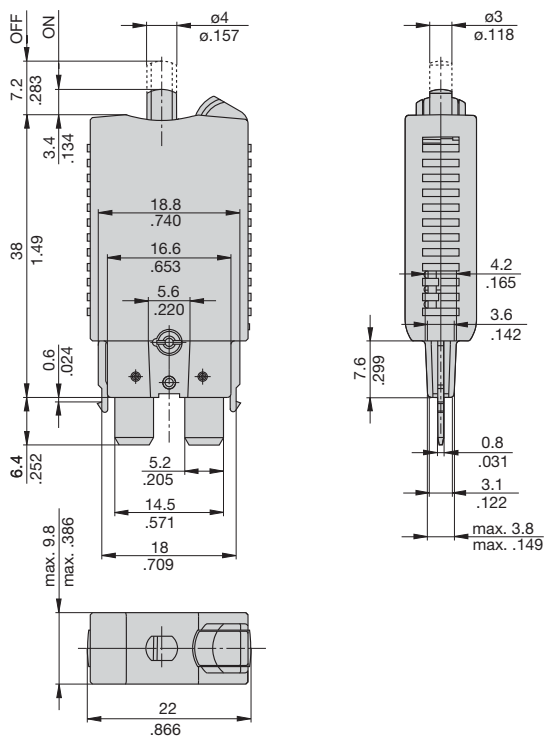
**1170-...**

## Technical data

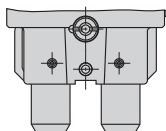
|                                            |                                                                                                                                                   |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage rating                             | DC 28 V                                                                                                                                           |
| Current ratings                            | 3...25 A (30 A upon request)                                                                                                                      |
| Typical life                               | at rated current:<br>3...25 A 6,000 operations at $I_N$<br>3...20 A 3,000 operations at $2 \times I_N$<br>25 A 1,000 operations at $2 \times I_N$ |
| Ambient temperature                        | -40...+85 °C (-40...+185 °F)                                                                                                                      |
| Interrupting capacity $I_{cn}$             | 400 A                                                                                                                                             |
| Ultimate short-circuit breaking capacity   | ≥ 1 break operation at 2,000 A                                                                                                                    |
| Degree of protection (IEC 60529/DIN 40050) | operating area IP40<br>terminal area IP00                                                                                                         |
| Vibration                                  | 10 g (57-500 Hz) ± 0.76 mm (10-57 Hz),<br>to IEC 60068-2-6, test Fc,<br>10 frequency cycles/axis                                                  |
| Shock                                      | 50 g (11 ms)<br>to IEC 60068-2-27, test Ea                                                                                                        |
| Corrosion                                  | 96 hours at 5 % salt mist,<br>to IEC 60068-2-11, test Ka                                                                                          |
| Humidity                                   | 240 hours at 95 % RH<br>to IEC 60068-2-78, test Cab                                                                                               |
| Mass                                       | approx. 13 g                                                                                                                                      |

## Dimensions

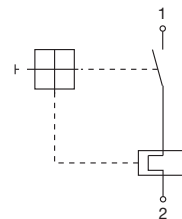
### 1170-21



### 1170-22

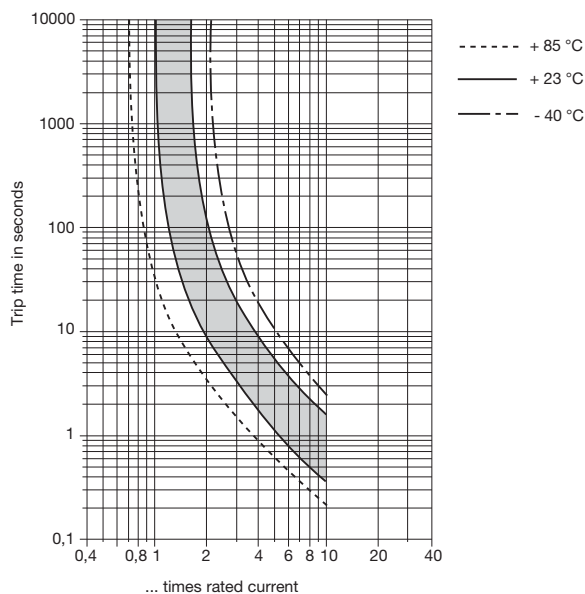


## Internal connection diagram



## Typical time/current characteristics at +23°C/73.4°F

### 3...25 A

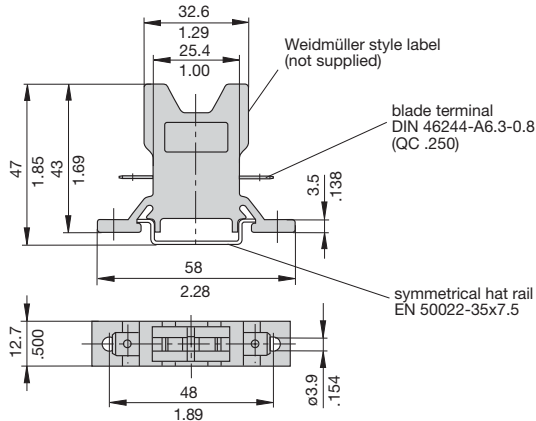


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

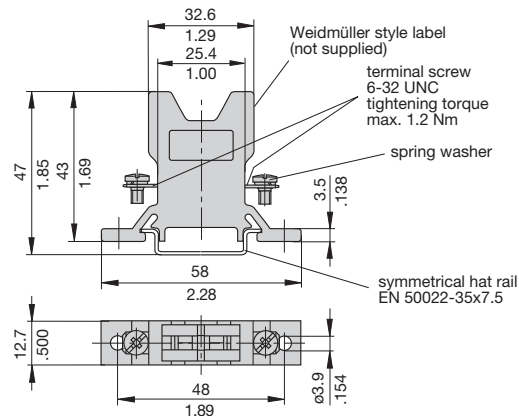
|                        |       |      |      |      |      |      |
|------------------------|-------|------|------|------|------|------|
| Ambient temperature °F | -40   | -22  | -4   | +14  | +32  | +50  |
| Ambient temperature °C | -40   | -30  | -20  | -10  | 0    | +10  |
| Derating factor        | 0,77  | 0,80 | 0,84 | 0,89 | 0,94 | 0,96 |
| Ambient temperature °F | +73.4 | +104 | +122 | +140 | +158 | +185 |
| Ambient temperature °C | +23   | +40  | +50  | +60  | +70  | +85  |
| Derating factor        | 1     | 1,08 | 1,16 | 1,24 | 1,33 | 1,42 |

## Accessories

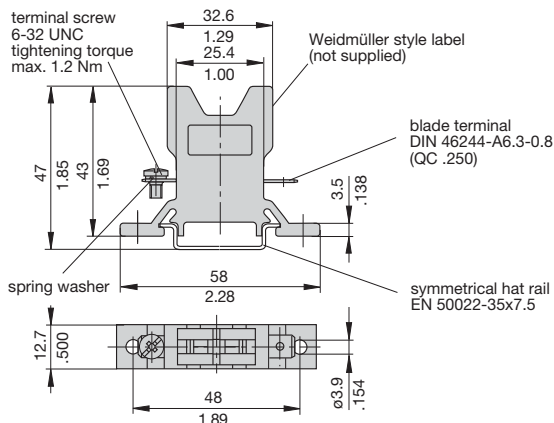
### Socket 12-P10



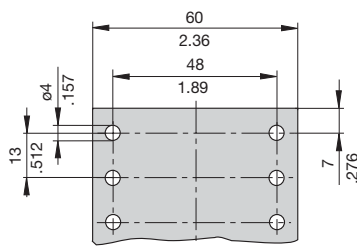
### Socket 12-J20



### Socket 12-A10



### Dimensions for surface mounting



Other sockets available to special order  
Labels: Weidmüller, D-33102 Paderborn

## Ordering information Mounting socket 12

### Type No.

12 Mounting socket

### Terminal design

P10 blade terminals A6.3-0.8 (QC .250)

J20 screw terminals 6-32 UNC

A10 1 blade terminal A6.3-0.8 (QC .250)/1 screw terminal 6-32 UNC

### Version

(blank) single socket

20 two-way

30 three-way

40 four-way

60 six-way

12 - P10 - 20 ordering example

## Accessories for mounting socket 12

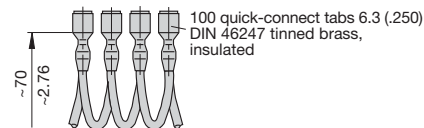
### Connector bus links -P10

X 210 588 01/ 1.5 mm<sup>2</sup> (AWG 16), brown (up to 13 A max. load)

X 210 588 02/ 2.5 mm<sup>2</sup> (AWG 14), black (up to 20 A max. load)

X 210 588 03/ 2.5 mm<sup>2</sup> (AWG 14), red (up to 20 A max. load)

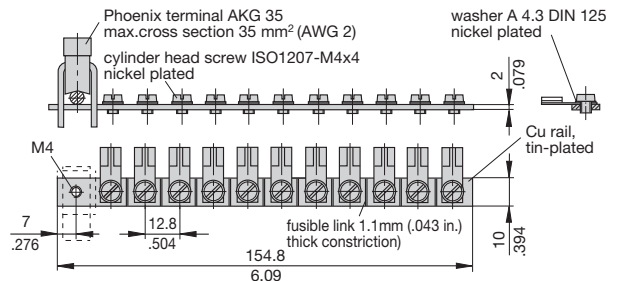
X 210 588 04/ 2.5 mm<sup>2</sup> (AWG 14), blue (up to 20 A max. load)



Bus bar (supplied as a complete package)  
(up to 100 A max. load)

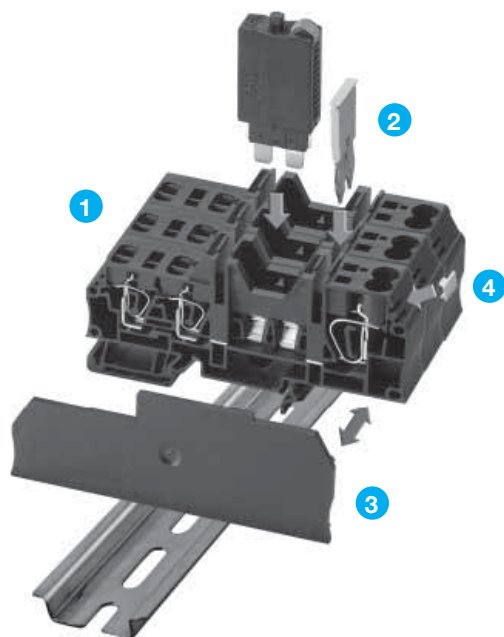
X 211 157 01 with terminal

X 211 157 02 without terminal



This is a metric design and millimeter dimensions take precedence (mm/inch)

## Accessories – Power Distribution System



### 1 SocketPlus 12 – X 223 076 02

Packaging unit 10 pcs  
Power distribution system for rail mounting TS 35 with spring-loaded terminals (2 on input side, 4 on output side) for rigid and flexible conductors with and without wire end ferrule. Can be bridged on input and output side. Please use the recommended screw driver size (SD) for releasing the tension spring.

#### Connectable conductors (2 terminals) - input

Cross sections:

|                                                        |                          |
|--------------------------------------------------------|--------------------------|
| unifilar                                               | 0.5...10 mm <sup>2</sup> |
| multi-strand                                           | 0.5...6 mm <sup>2</sup>  |
| multi-strand with wire end ferrule with moulded collar |                          |
| DIN 46228/4                                            | 0.5...6 mm <sup>2</sup>  |
| SD 1 (0,6x3,5)                                         |                          |

#### Connectable conductors (4 terminals) - output

Cross sections:

|                                                        |                           |
|--------------------------------------------------------|---------------------------|
| unifilar                                               | 0.5...4 mm <sup>2</sup>   |
| multi-strand                                           | 0.5...2.5 mm <sup>2</sup> |
| multi-strand with wire end ferrule with moulded collar |                           |
| DIN 46228/4                                            | 0.5...2.5 mm <sup>2</sup> |
| SD 1 (0,6x3,5)                                         |                           |

stripped length 10 mm  
dimensions without circuit breaker 93 x 47.5 x 16 mm  
with circuit breaker type 1170  
93 x 74.9 x 16 mm (OFF condition)  
I<sub>max</sub> = 57 A, U<sub>max</sub> = 230 V  
temperature range -50...120 °C  
approvals: UL

### 2 Cross connector 2-pole – Y 309 578 01

packaging unit 10 pcs  
I<sub>max</sub> = 41 A, width 3.1 mm

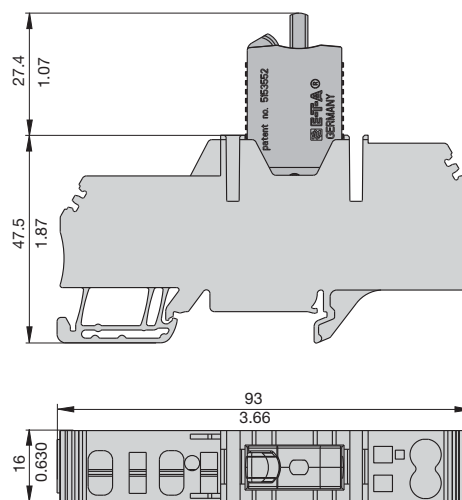
### 3 End piece – Y 309 580 02

packaging unit 1 piece  
For closing the open side at the end of a mounting row

### 4 Label – Y 309 579 11

packaging unit 160 pcs = 1 sheet  
marking area 5 x 8 mm,  
suitable for plotters and pens

## Dimensions



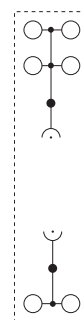
## Vibration

test to DIN EN 60068-2-6 / 05.96  
frequency range: 10 - 500Hz  
three axes at right angles to each other,  
10 crossings  
1 octave / min. at 23 °C...25 °C  
acceleration: 50 m/s<sup>2</sup> (5 g) or 0.35 mm

## Shock

test to DIN EN 60068-2-6 / 05.96  
number of shocks: 3 shocks per axis  
and direction  
shock duration: 11 ms  
peak acceleration: 40 g  
shape: half-sine

## Internal connection diagram



This is a metric design and millimeter dimensions take precedence ( $\frac{\text{mm}}{\text{inch}}$ )

All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.