

## 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, to DIN 72581, part 3

22 blade terminals for automotive fuse blocks, without retaining clips, to DIN 72581, part 3

### Current ratings

3...25 A

1170 - 21 - 15 A ordering example

Please be informed that we have minimum ordering quantities to be observed.

## Preferred types

| Preferred types | Standard current ratings (A) |   |   |   |     |   |    |    |    |    |
|-----------------|------------------------------|---|---|---|-----|---|----|----|----|----|
|                 | 3                            | 4 | 5 | 6 | 7.5 | 8 | 10 | 15 | 20 | 25 |
| 1170-21-        | x                            | x | x | x | x   | x | x  | x  | x  | x  |
| 1170-22-        | x                            | x | x | x | x   | x | x  | x  | x  | x  |

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

| Current rating (A) | Voltage drop (mV) | Actuator colour |
|--------------------|-------------------|-----------------|
| 3                  | < 300             | violet          |
| 4                  | < 300             | pink            |
| 5                  | < 300             | light brown     |
| 6                  | < 150             | mossy-green     |
| 7.5                | < 150             | brown           |
| 8                  | < 150             | honey           |
| 10                 | < 150             | red             |
| 15                 | < 150             | blue            |
| 20                 | < 150             | yellow          |
| 25                 | < 150             | white           |



1170-...

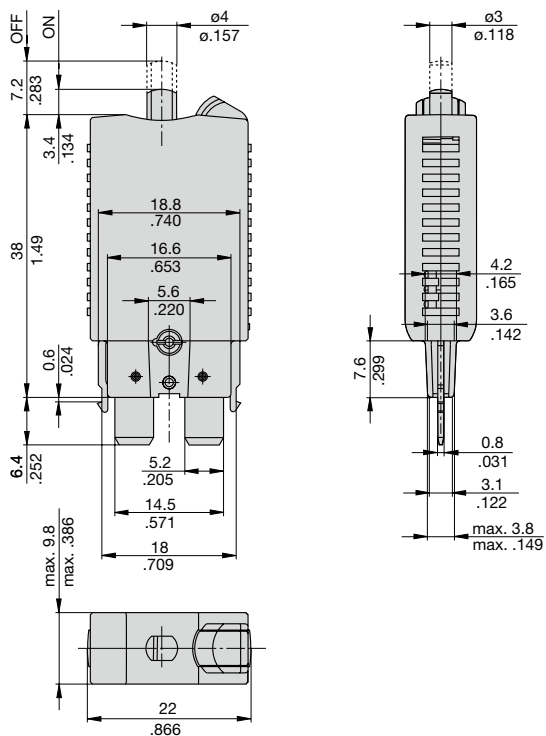
## Technical data

For further details please see: [www.e-t-a.de/ti\\_e](http://www.e-t-a.de/ti_e)

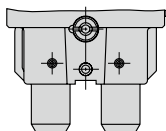
|                                               |                                                                                            |                 |                               |                |
|-----------------------------------------------|--------------------------------------------------------------------------------------------|-----------------|-------------------------------|----------------|
| Voltage rating ( $U_N$ )                      | DC 12 V / 24 V / 48 V                                                                      |                 |                               |                |
| Max. voltage ( $U_{smax}$ )                   | DC 58 V                                                                                    |                 |                               |                |
| Current ratings                               | 3...25 A                                                                                   |                 |                               |                |
| Typical life                                  | at rated current:                                                                          |                 |                               |                |
|                                               | $U_N$ DC 24 V                                                                              | 3...25 A        | 6 000 operations at 1 x $I_N$ |                |
|                                               | $U_N$ DC 24 V                                                                              | 3...20 A        | 3 000 operations at 2 x $I_N$ |                |
|                                               | $U_N$ DC 24 V                                                                              | 25 A            | 1 000 operations at 2 x $I_N$ |                |
|                                               | $U_N$ DC 48 V                                                                              | 3...25 A        | 500 operations at 1 x $I_N$   |                |
| Ambient temperature                           | -40...85 °C (-40...+185 °F)                                                                |                 |                               |                |
| Interrupting capacity<br>$I_{cn}$ to ISO10924 | $I_N$                                                                                      | 3...10 A        | 15 A                          | 20 A           |
|                                               | $U_N$ DC 24 V                                                                              | 400 A (0-C0-C0) |                               |                |
|                                               | $U_N$ DC 48 V                                                                              | >100x at 75 A   | >100x at 100 A                | >100x at 135 A |
| Absolute breaking capacity to ISO 10924       | ≥ 1 break operation at 2 000 A (L/R = 2,5 ms)                                              |                 |                               |                |
| Degree of protection (IEC 60529)              | operating area IP40<br>terminal area IP00                                                  |                 |                               |                |
| Vibration                                     | 10 g (57-500 Hz) ± 0.76 mm (10-57 Hz), to IEC 60068-2-6, test Fc, 10 frequency cycles/axis |                 |                               |                |
| Shock                                         | 50 g (11 ms), to IEC 60068-2-27, test Ea                                                   |                 |                               |                |
| Corrosion                                     | 96 hours at 5 % salt mist, to IEC 60068-2-11, test Ka                                      |                 |                               |                |
| Humidity                                      | 240 hours at 95 % RH to IEC 60068-2-78, test Cab                                           |                 |                               |                |
| Mass                                          | approx. 10 g                                                                               |                 |                               |                |

## Dimensions

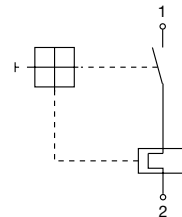
### 1170-21



### 1170-22

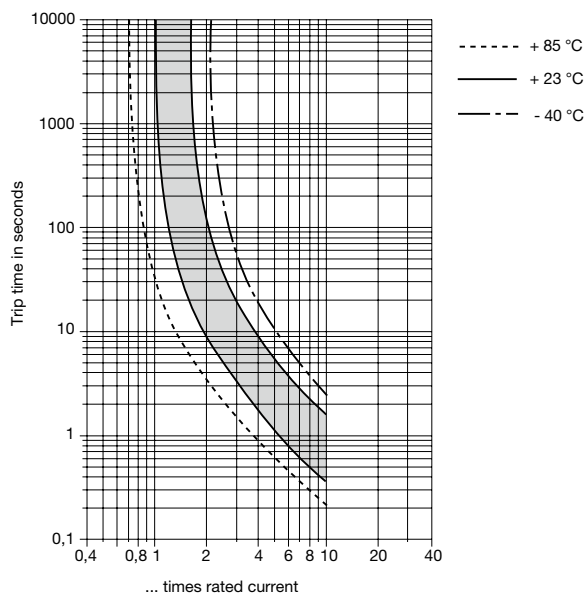


## Internal connection diagram



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

### 3...25 A



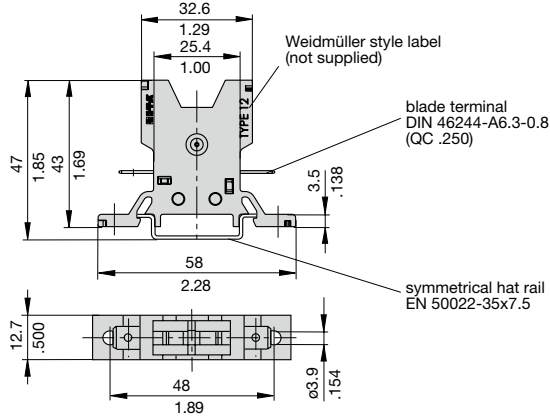
The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

|                        |       |      |      |      |      |      |
|------------------------|-------|------|------|------|------|------|
| 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 |

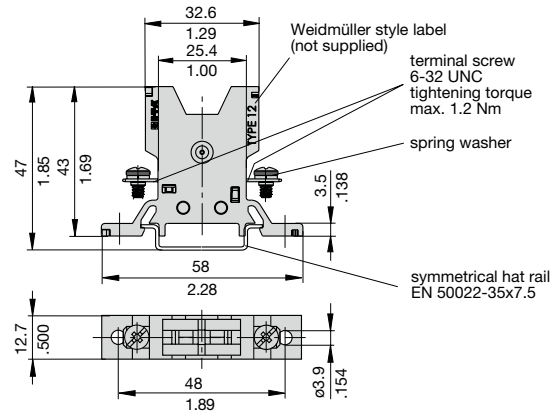
This is a metric design and millimeter dimensions take precedence ( $\frac{\text{mm}}{\text{inch}}$ )

## Accessories

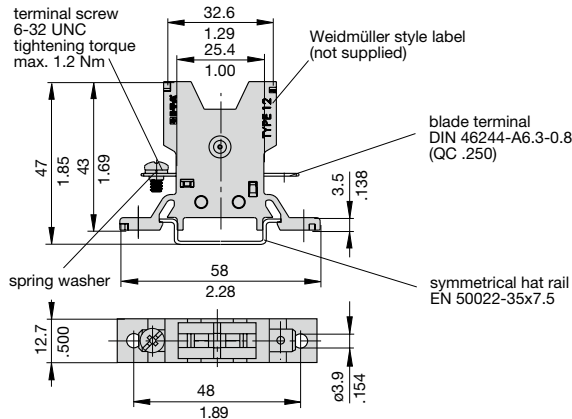
### Socket 12-P10



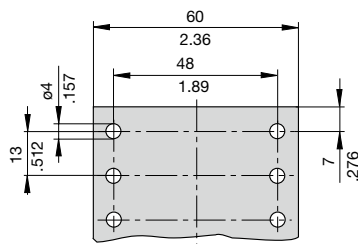
### Socket 12-J20



### 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

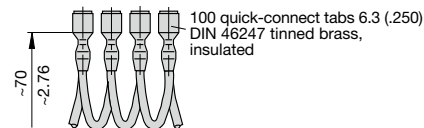
### Connector bus links -P10

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)

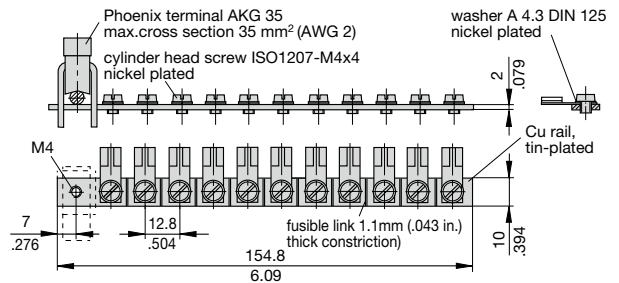


### Bus bar (supplied as a complete package)

(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 ( $\frac{\text{mm}}{\text{inch}}$ )

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.