

# ETA® Thermal Overcurrent Circuit Breaker 1110-...

## Description

Single pole switch/thermal circuit breaker (S-type TO CBE to EN 60934) with tease-free, trip-free, snap action mechanism. Designed for snap-in panel mounting utilising keyed round hole or industry standard fuse-holder cut-out dimensions. Featuring an ergonomically styled two colour actuator with indicator band clearly showing the tripped/OFF position. Available with square or circular bezels.

## Typical applications

Motors, transformers, solenoids, extra low voltage systems, household and office machines, instrumentation.

## Accessories

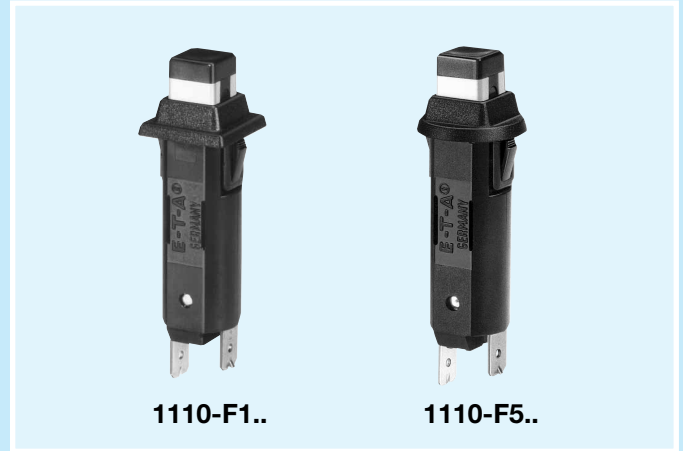
Y 304 745 01 Water splash cover for use with square bezels.  
Y 305 602 01 Terminal shroud, for insulation or dust protection

## Ordering information

| Type No.  |   |
|---|---|
| 1110  | snap in panel mounting                          |
| <b>Mounting</b>   |   |
|   | black square bezel                              |
| F1  | panel thickness 0.8...1.6 mm                    |
| F2  | panel thickness 1.8...3 mm                      |
| F3  | with location pin; panel thickness 0.8...1.6 mm |
| F4  | with location pin, panel thickness 1.8...3 mm   |
| black circular bezel  |   |
| F5  | panel thickness 0.8...1.6 mm                    |
| F6  | panel thickness 1.8...3 mm                      |
| F7  | with location pin; panel thickness 0.8...1.6 mm |
| F8  | with location pin; panel thickness 1.8...3 mm   |
| <b>Number of poles</b>                                      |   |
| 1   | 1 pole protected                                |
| <b>Actuator style</b>                                       |   |
| 2   | black push button/white indicator ring standard |
| Other indicator ring colours are available to special order |   |
| <b>Terminal design</b>                                      |   |
| P1  | blade terminals A6.3-0.8                        |
| <b>Characteristic curve</b>                                 |   |
| M1  | medium delay                                    |
| <b>Current ratings</b>                                      |   |
|   | 0.05...16 A                                     |
| 1110 - F1 1 2 - P1 M1 - 0.5 A ordering example              |   |

## Standard current ratings and typical internal resistance values

| Current rating (A) | Internal resistance (Ω) | Current rating (A) | Internal resistance (Ω) |
|--------------------|-------------------------|--------------------|-------------------------|
| 0.05               | 442                     | 2.5                | 0.19                    |
| 0.1                | 110                     | 3                  | 0.12                    |
| 0.2                | 27.8                    | 3.5                | 0.09                    |
| 0.3                | 12.4                    | 4                  | 0.07                    |
| 0.4                | 7.0                     | 4.5                | 0.07                    |
| 0.5                | 4.5                     | 5                  | 0.05                    |
| 0.6                | 3.1                     | 6                  | 0.04                    |
| 0.7                | 2.3                     | 7                  | ≤ 0.02                  |
| 0.8                | 1.7                     | 8                  | ≤ 0.02                  |
| 1                  | 1.1                     | 10                 | ≤ 0.02                  |
| 1.2                | 0.71                    | 12                 | ≤ 0.02                  |
| 1.5                | 0.41                    | 15                 | ≤ 0.02                  |
| 1.8                | 0.38                    | 16                 | ≤ 0.02                  |
| 2                  | 0.25                    |                    |                         |



## Technical data

|   |  |                  |                     |
|---|--|------------------|---------------------|
| Max. voltage rating                             | AC 250 V; DC 28 V (DC 48 V UL/CSA)   |                  |                     |
| Current ratings                                 | 0.05...16 A  |                  |                     |
| Protection class (IEC 739-1)                    | I (II when mounted to the installation drawing)  |                  |                     |
| Typical life                                    | 0.05...4 A: 10,000 operations at 1 x I <sub>N</sub><br>5 ...16 A: 6,000 operations at 1 x I <sub>N</sub> |                  |                     |
| Temperature range                               | 0 ... +55 °C   |                  |                     |
| Creepage resistance                             | PTI 125 to IEC 112   |                  |                     |
| Insulation co-ordination (IEC 664 and 664 A)    | Rated impulse withstand voltage  | Pollution degree |                     |
|   | operating area   | 2.5 kV 2         |                     |
| Dielectric strength (IEC 664 and 664A)          | Test voltage   | operating area   |                     |
|   | AC 4000 V (double insulation)  |                  |                     |
| Insulation resistance                           | > 100 MΩ (DC 500 V)  |                  |                     |
| Interrupting capacity (VDE 0660, part 101, P-2) | AC 250 V:  | 0.05...16 A      | 8 x I <sub>N</sub>  |
|   | DC 28 V:   | 0.05... 6 A      | 10 x I <sub>N</sub> |
|   |  | 7 ...16 A        | 200 A               |
|   |  | 12 ...16 A       | 300 A               |
| Interrupting capacity (UL 1077/EN60934 PC 1)    | I <sub>N</sub>   | U <sub>N</sub>   |                     |
|   | 0.05...0.8 A   | AC 250 V         | 200 A               |
|   | 1 ... 6 A  | AC 250 V         | 1000 A              |
|   | 7 ...16 A  | AC 125 V         | 1000 A              |
|   | 0.05...16 A  | DC 50 V          | 200 A               |
| Environmental protection (IEC 529/DIN 40050)    | operating area IP 40<br>terminal area IP 00  |                  |                     |
| Vibration                                       | 8 g (57-500 Hz)±0.61 mm (10-57 Hz),<br>to IEC 68-2-6, Test Fc,<br>10 frequency cycles/axis               |                  |                     |
| Shock   | 30 g (11 ms)<br>to IEC 68-2-27, test Ea  |                  |                     |
| Corrosion                                       | 96 hours at 5 % saltspray,<br>to IEC 68-2-11, test Ka  |                  |                     |
| Humidity  | 240 hours at 95 % RH<br>to IEC 68-2-3, test Ca   |                  |                     |
| Mass  | approx. 12 g   |                  |                     |

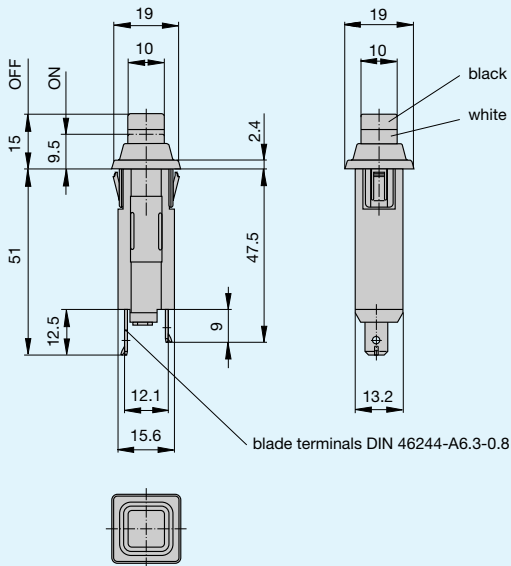
## Approvals

| Authority     | Voltage ratings   | Current ratings |
|---------------|-------------------|-----------------|
| VDE           | AC 250 V; DC 28 V | 0.05...16 A     |
| UL            | AC 250 V          | 0.05... 6 A     |
|               | AC 125 V          | 7 ... 16 A      |
|               | DC 48 V           | 0.05...16 A     |
| CSA           | AC 250 V; DC 48 V | 0.05...16 A     |
| LRoS, ABS, BV | AC 250 V; DC 28 V | 0.5 ...16 A     |
| Semko         | AC 250 V; DC 28 V | 0.05...10 A     |

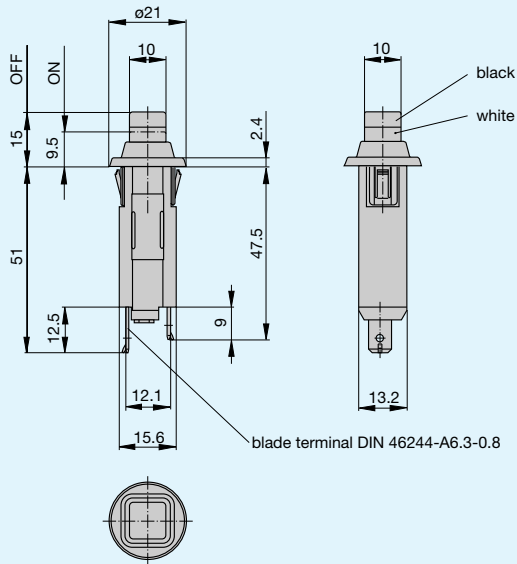
# ETA® Thermal Overcurrent Circuit Breaker 1110-...

## Dimensions

1110-F1.. / -F2.. / -F3.. / -F4..

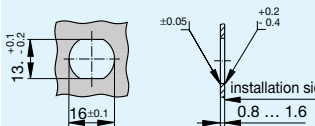


1110-F5.. / -F6.. / -F7.. / -F8..

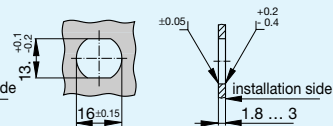


### Panel cut out

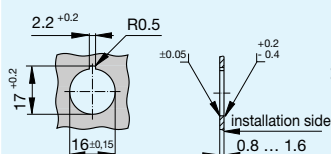
1110-F1../F5..-P.M1-...A



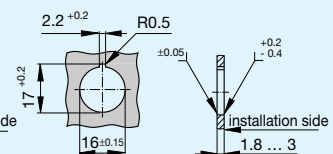
1110-F2../F6..-P.M1-...A



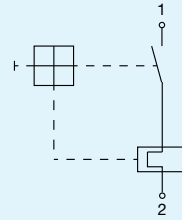
1110-F3../F7..-P.M1-...A



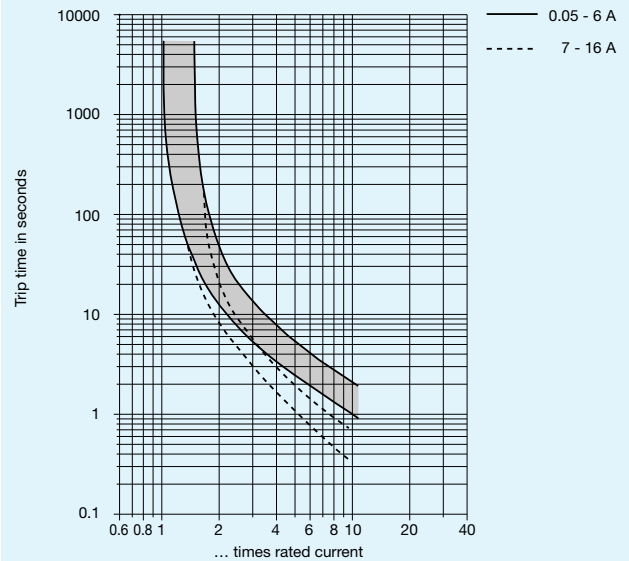
1110-F4../F8..-P.M1-...A



## Internal wiring diagram



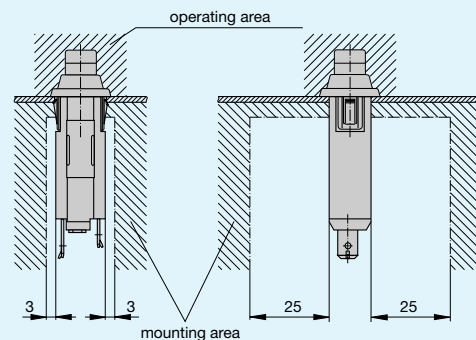
## Typical time/current characteristics at 23 °C



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.

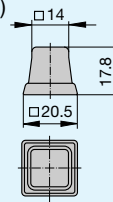
| Ambient temperature °C | -10  | 0    | +10 | +20 | +30 | +40  | +50  | +60  |
|------------------------|------|------|-----|-----|-----|------|------|------|
| Multiplication factor  | 0.84 | 0.92 | 1   | 1   | 1   | 1.08 | 1.16 | 1.23 |

## Installation drawing for protection class II (IEC 730-1)



## Accessories - Water splashcovers

Push button splash cover  
Y 304 745 01 (IP 54)



When using splashcover please note that the max. panel thickness is reduced by 0.5mm

Terminal shroud  
Y 305 602 01

