

## Description

Single pole thermal circuit breaker with push-to-reset, tease-free, trip-free, snap action mechanism (R-type TO CBE to EN 60934). Options include an additional unprotected circuit tap (-A3) and -KF housing particularly suited to high humidity and other damp conditions. Designed for threadneck panel mounting. Approved to CBE standard EN 60934 (IEC 60934).

## Typical applications

Motors, transformers, solenoids, hand tools, appliances.

## Ordering information

### Type No.

**2-4100** threadneck panel mounting  
(hardware bulk shipped)

### Terminal design

**L10** solder terminals

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

**P50** blade terminals A4.8-0.8 mm (QC .190)

### Shunt terminal (optional)

**A3** shunt terminal (3 A max. load)

### Current ratings

**0.05...10 A**

**2-4100 - L10 - .. - .. - 5 A** ordering example

The exact part number required can be built up from the table of choices shown above. Ordering references for optional features should be omitted if not required.

## Standard current ratings and typical internal resistance values

| Current rating (A) | Internal resistance (Ω) | Current rating (A) | Internal resistance (Ω) |
|--------------------|-------------------------|--------------------|-------------------------|
| 0.05               | 322                     | 1.8                | 0.34                    |
| 0.08               | 125                     | 2                  | 0.29                    |
| 0.1                | 101                     | 2.5                | 0.18                    |
| 0.2                | 25                      | 3                  | 0.14                    |
| 0.3                | 11                      | 3.5                | 0.1                     |
| 0.4                | 6.3                     | 4                  | 0.08                    |
| 0.5                | 4.1                     | 4.5                | 0.069                   |
| 0.6                | 2.8                     | 5                  | 0.053                   |
| 0.7                | 2.1                     | 6                  | < 0.05                  |
| 0.8                | 1.6                     | 7                  | < 0.05                  |
| 1                  | 0.97                    | 8                  | < 0.05                  |
| 1.2                | 0.66                    | 10                 | < 0.05                  |
| 1.5                | 0.4                     |                    |                         |

## Approvals

| Authority                        | Voltage rating    | Current rating |
|----------------------------------|-------------------|----------------|
| VDE (EN 60934)                   | AC 250 V; DC 28 V | 0.05...10 A    |
| CSA                              | AC 250 V          | 0.05...3.5A    |
| UL                               | AC 250 V          | 0.05... 5 A    |
| Semko (EN 60934)                 | AC 250 V; DC 28 V | 0.1...10 A     |
| -A3 versions are not UL approved |                   |                |



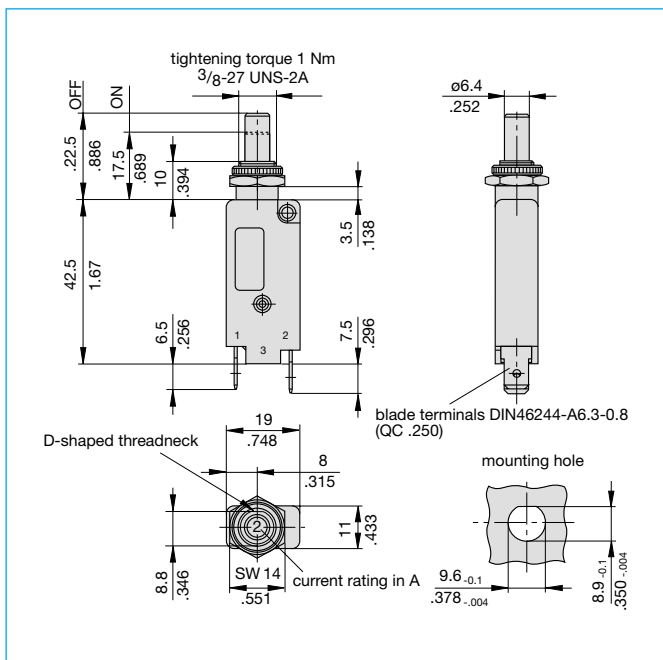
**2-4100-...**

## Technical data

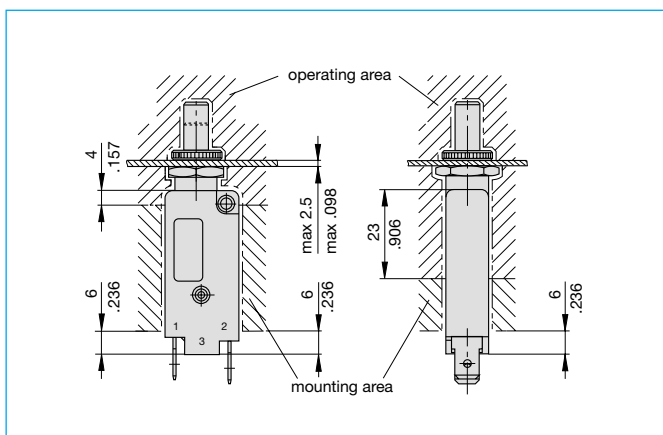
|                                                                  |                                                                                                 |                                                                 |                  |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------|
| Voltage rating                                                   | AC 250 V; DC 28 V                                                                               |                                                                 |                  |
| Current rating range                                             | 0.05...10 A                                                                                     |                                                                 |                  |
| Typical life                                                     | 2,000 operations at 2 x I <sub>N</sub>                                                          |                                                                 |                  |
| Ambient temperature                                              | -20...+60 °C (-4...+140 °F)                                                                     |                                                                 |                  |
| Insulation co-ordination<br>(IEC 60664 and 60664 A)              | rated impulse<br>withstand voltage<br>2.5 kV<br>reinforced insulation in operating area         | pollution<br>degree<br>2                                        |                  |
| Dielectric strength<br>(IEC 60664 and 60664 A)<br>operating area | test voltage<br>AC 3,000 V                                                                      |                                                                 |                  |
| Insulation resistance                                            | > 100 MΩ (DC 500 V)                                                                             |                                                                 |                  |
| Interrupting capacity I <sub>cn</sub>                            | 0.05...2 A<br>2.5... 6 A<br>7 ... 10 A                                                          | 10 x I <sub>N</sub><br>8 x I <sub>N</sub><br>6 x I <sub>N</sub> |                  |
| Interrupting capacity<br>(UL 1077)                               | I <sub>N</sub><br>0.05...4.5 A<br>5 A                                                           | U <sub>N</sub><br>AC 250 V<br>AC 250 V                          | 200 A<br>1,000 A |
| Degree of protection<br>(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                                                            | 25 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 60068-2-3, test Ca                                               |                                                                 |                  |
| Mass                                                             | approx. 15 g                                                                                    |                                                                 |                  |

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.

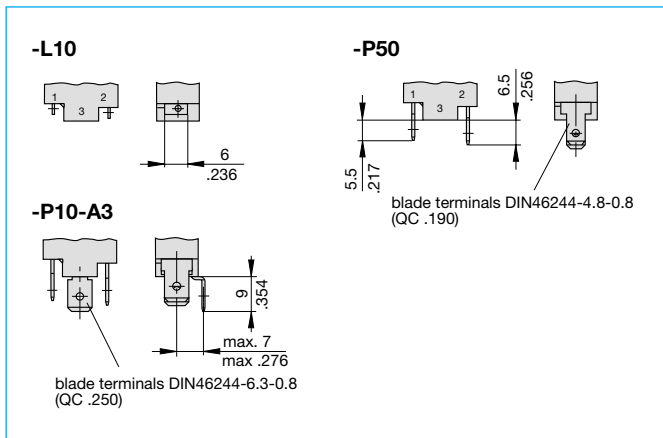
## Dimensions



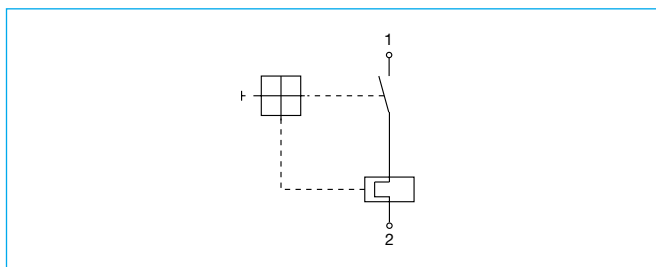
## Installation drawing



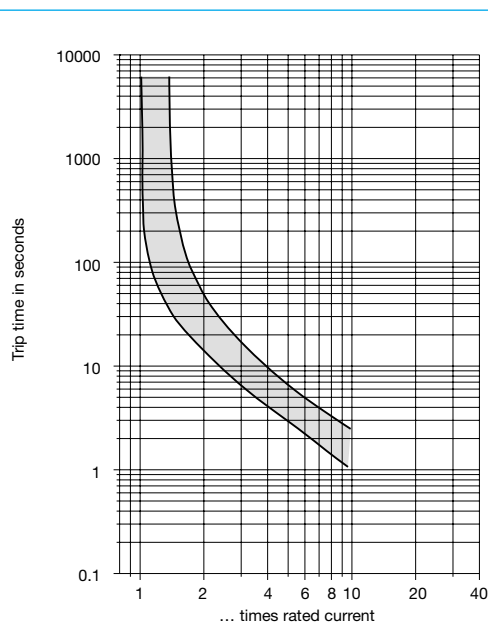
## Terminal design



## Internal connection diagram



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

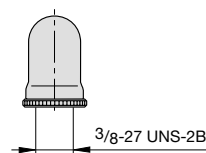


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 – Technical information.

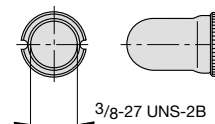
|                        |      |      |      |       |      |      |      |
|------------------------|------|------|------|-------|------|------|------|
| Ambient temperature °F | -4   | +14  | +32  | +73.4 | +104 | +122 | +140 |
| °C                     | -20  | -10  | 0    | +23   | +40  | +50  | +60  |
| Derating factor        | 0.76 | 0.84 | 0.92 | 1     | 1.08 | 1.16 | 1.24 |

## Accessories

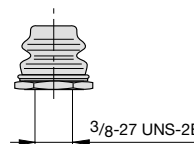
**Water splash cover, transparent Y 300 538 01,  
bonded to knurled nut Y 300 628 01  
X 200 799 01 (IP64)**



**Water splash cover, transparent  
bonded to special knurled nut  
X 200 798 02 (IP64)**



**Hex nut with splash cover,  
black X 210 739 01 (IP64)  
Water splash cover,  
transparent with hex nut  
X 201 296 03 (IP64)**



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