

Circuit Breaker for Equipment thermal, Rotary knob actuation, 2 pole



Thermal circuit breaker  
Rotary Switch, 2-pole  
Standard version

See below:

## Approvals and Compliances

### Description

- Thermal circuit breaker ,
- 2-pole
- Supplementary protector for general industrial use
- Positively trip-free release
- Method of operation acc. to IEC: S-type
- Bezel / knob snap-on

### Unique Selling Proposition

- Easy actuation with gloves

### Applications

- Power tools
- Industrial appliances
- Equipment for construction
- Cleaning equipment
- Commercial and household kitchen appliances

### References

Available without bezel/knob for customized front panel design

Last order date: 31.01.2024

Last order date: 15.12.2023

### Weblinks

[pdf data sheet](#), [html datasheet](#), [General Product Information](#), [Distributor-Stock-Check](#), [Detailed request for product](#), [Product News](#)

### Technical Data

|                                        |                                                                                                                                                                 |                           |                                                                                                                  |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------|
| Rated Voltage AC                       | IEC: 240 VAC<br>UL/CSA : 277 VAC                                                                                                                                | Overload                  | IEC: min. 40 trips@ 6 x I <sub>r</sub> , cos φ 0.6<br>: min. 50 trips@ 1.5 x I <sub>r</sub> , cos φ 0.75         |
| Rated Voltage DC                       | 60 VDC                                                                                                                                                          | Allowable Operation Temp. | -30 °C to 60 °C                                                                                                  |
| Rated current range AC                 | 0.05 - 20 A                                                                                                                                                     | Storage Temperature       | -40 °C to 60 °C                                                                                                  |
| Conditional short circuit capacity Inc | IEC 60934: 0.05...20 A: 2 kA, SC (C1) @ 240 VAC                                                                                                                 | Vibration Resistance      | ± 0.75 mm @ 10 - 60 Hz<br>acc. to IEC 60068-2-6, test Tc<br>10 G @ 60 - 500 Hz<br>acc. to IEC 60068-2-6, test Tc |
| Degree of Protection                   | front side IP40 acc. to IEC 60529                                                                                                                               | Shock Resistance          | 30 G / 18 ms<br>acc. to IEC 60068-2-27, test Ea                                                                  |
| Dielectric Strength                    | 50 Hz: > 2.5 kV<br>Impulse 1.2/50 μs: > 4 kV                                                                                                                    | Tripping Type             | Thermal                                                                                                          |
| Insulation Resistance                  | 500 VDC > 100 MΩ                                                                                                                                                | Actuation Type            | Rotary Knob                                                                                                      |
| Lifetime                               | mechanical 50'000 switching cycles<br>AC: 1.0 x I <sub>r</sub> , cos φ 0.6:<br>50'000 switching cycles<br>DC: 1.0 x I <sub>r</sub> :<br>50'000 switching cycles | Weight                    | 60 g                                                                                                             |

### Approvals and Compliances

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [Details about Approvals](#)

SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical technology according to ISO 13485 or in the aerospace industry can be offered exclusively with customer-specific, individual agreements by SCHURTER.

## Approvals

The approval mark is used by the testing authorities to certify compliance with the safety requirements placed on electronic products.  
Approval Reference Type: TA35

| Approval Logo                                                                    | Certificates  | Certification Body | Description                              |
|----------------------------------------------------------------------------------|---------------|--------------------|------------------------------------------|
|  | VDE Approvals | VDE                | VDE Certificate Number: 40019754         |
|  | UL Approvals  | UL                 | UR File Number: E71572                   |
|  | CCC Approvals | CCC                | CCC Certificate Number: 2020970307001846 |

## Product standards

Product standards that are referenced

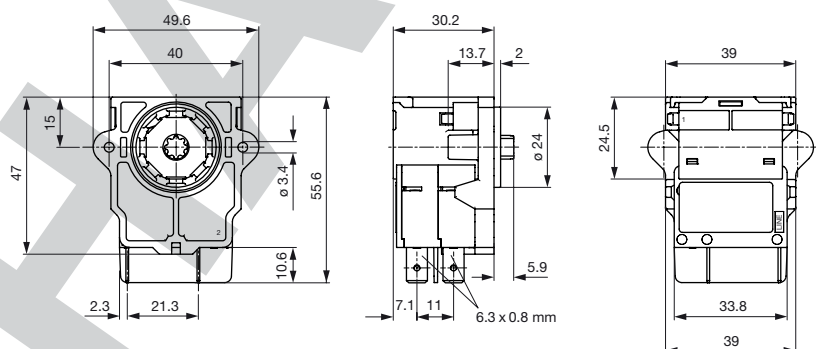
| Organization                                                                     | Design                | Standard          | Description                                                           |
|----------------------------------------------------------------------------------|-----------------------|-------------------|-----------------------------------------------------------------------|
|  | Designed according to | IEC 60934         | Circuit-breakers for equipment (CBE)                                  |
|  | Designed according to | UL 1077           | Standard for Supplementary Protectors for Use in Electrical Equipment |
|  | Designed according to | CSA C22.2 No. 235 | Supplementary Protectors                                              |
|  | Designed according to | GB 17701          | Circuit-breaker for equipment                                         |

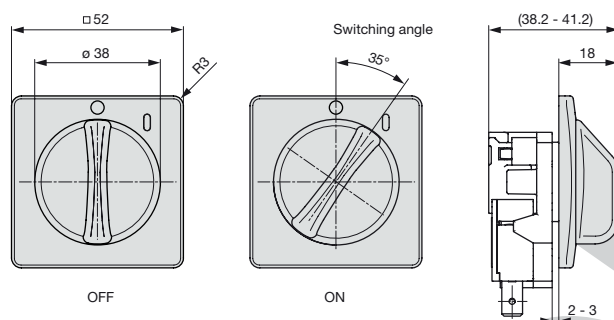
## Compliances

The product complies with following Guide Lines

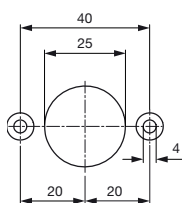
| Identification                                                                     | Details                        | Initiator   | Description                                                                                                                                                                                           |
|------------------------------------------------------------------------------------|--------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | CE declaration of conformity   | SCHURTER AG | The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008. |
|  | UKCA declaration of conformity | SCHURTER AG | The UKCA marking declares that the product complies with the applicable requirements laid down in the British Amendment of Regulation (EC) 765/2008.                                                  |
|  | RoHS                           | SCHURTER AG | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863                                                                                                                                                    |
|  | China RoHS                     | SCHURTER AG | The law SJ / T 11363-2006 (China RoHS) has been in force since 1 March 2007. It is similar to the EU directive RoHS.                                                                                  |
|  | REACH                          | SCHURTER AG | On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.                               |

## Dimension [mm]





Cut out



## Assembly Instructions



| Approval                                                                            |               | Rated current | Rated Voltage AC | Rated Voltage DC |
|-------------------------------------------------------------------------------------|---------------|---------------|------------------|------------------|
|                                                                                     | UL 1077       | 0.05...20 A   | 277 V            | 32/60 V          |
|                                                                                     | CSA C22.2 235 | 0.05...20 A   | 277 V            | 32/60 V          |
|                                                                                     | IEC 60934     | 0.05...20 A   | 240 V            | 32/60 V          |
|  | GB 17701      | 0.05...20 A   | 240 V            | 60 V             |

**Typical internal resistance per pole**

| Rated Current [A] | Internal Resistance [ $\Omega$ ] |
|-------------------|----------------------------------|
| 0.05              | 200.000                          |
| 0.1               | 70.000                           |
| 0.5               | 2.750                            |
| 1.0               | 0.720                            |
| 1.5               | 0.340                            |
| 2.0               | 0.187                            |
| 2.5               | 0.115                            |
| 2.8               | 0.089                            |
| 3.0               | 0.059                            |
| 4.0               | 0.059                            |
| 5.0               | 0.044                            |
| 6.0               | 0.028                            |
| 7.0               | 0.0142                           |
| 8.0               | 0.0142                           |
| 10.0              | 0.0109                           |
| 12.0              | 0.0086                           |
| 13.0 *            | 0.0072                           |
| 14.0 *            | 0.0072                           |
| 15.0 *            | 0.0056                           |
| 16.0 *            | 0.0056                           |
| 18.0 *            | 0.0052                           |
| 20.0 *            | 0.0052                           |

\* 3-Pole max. 12 A

**Effect of ambient temperature**

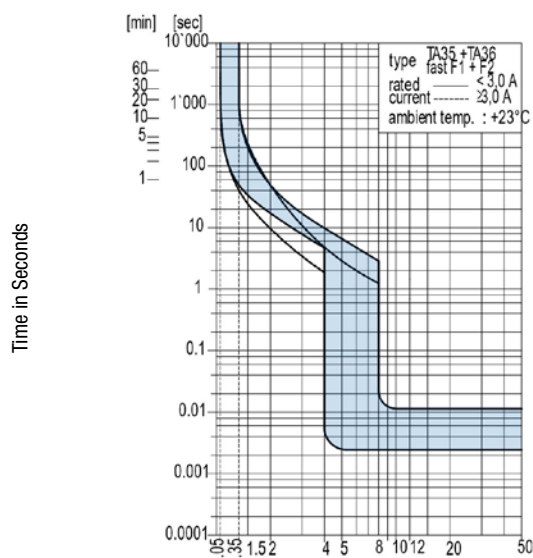
The units are calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor (typical value) from the table below:

| Ambient Temperature [°C] | Correction factor |
|--------------------------|-------------------|
| -30                      | 0.76              |
| -20                      | 0.81              |
| 0                        | 0.90              |
| +23                      | 1.00              |
| +40                      | 1.03              |
| +50                      | 1.04              |
| +60                      | 1.06              |

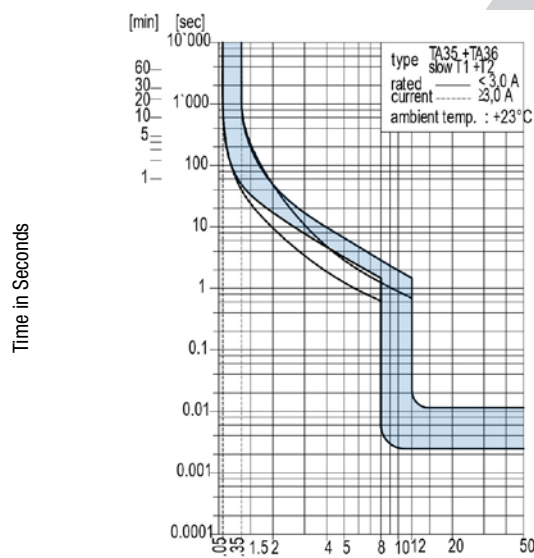
Example: Rated current = 5 A, Environmental temperature = 50 °C --> Correction factor = 1.04, Resulting current = 5.2 A --> Round to next higher rated current: 6 A

## Time-Current-Curves

Tripping Characteristics thermal magnetic fast acting



Tripping Characteristics thermal magnetic time lag



## Order number key

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | A | 3 | 5 | - | E | B | T | T | F | 1 | 2 | 0 | C | 0 | - | 0 | 0 | 0 |
|   |   |   |   |   | 1 |   | 2 | 3 |   | 4 |   | 5 |   |   |   | 6 |   |   |

| Basic function              |     |     |     | 1   |
|-----------------------------|-----|-----|-----|-----|
| Poles                       | 1   | 2   | 3   |     |
| Thermal overload protection |     |     |     |     |
| Illumination                |     |     |     |     |
| Rotary Knob                 |     |     |     |     |
| Without illumination        | EFT | EBT | EBD | EKD |

| Front- & Actuation color |              |   |  | 2 |
|--------------------------|--------------|---|--|---|
| Front Bezel              | Rotary Knob  |   |  |   |
| black                    | black        | = |  | T |
| without bezel            | without knob | = |  | N |

| Front bezel legend, marking |           |   |  | 3 |
|-----------------------------|-----------|---|--|---|
| Surface                     | Symbol    |   |  |   |
| relief recessed             | I 0       | = |  | F |
| no marking                  | no symbol | = |  | N |

| Rated current [A]           |  |             |  |              |  |               |  | 4 |
|-----------------------------|--|-------------|--|--------------|--|---------------|--|---|
| Thermal overload protection |  |             |  |              |  |               |  |   |
| In                          |  | In          |  | In           |  | In            |  |   |
| 0.05 A = Z05                |  | 1.0 A = J10 |  | 4.0 A = 040  |  | 14.0 A* = 140 |  |   |
| 0.10 A = J01                |  | 1.2 A = J12 |  | 5.0 A = 050  |  | 15.0 A* = 150 |  |   |
| 0.20 A = J02                |  | 1.5 A = J15 |  | 6.0 A = 060  |  | 16.0 A* = 160 |  |   |
| 0.30 A = J03                |  | 2.0 A = J20 |  | 7.0 A = 070  |  | 18.0 A* = 180 |  |   |
| 0.40 A = J04                |  | 2.5 A = J25 |  | 8.0 A = 080  |  | 20.0 A* = 200 |  |   |
| 0.50 A = J05                |  | 3.0 A = 030 |  | 10.0 A = 100 |  |               |  |   |
| 0.80 A = J08                |  | 3.5 A = 035 |  | 12.0 A = 120 |  |               |  |   |

\* 3-Pole max. 12 A

| Features              |  |   |  | 5  |
|-----------------------|--|---|--|----|
| Standard/ no features |  | = |  | C0 |

| Special marking                     |  |   |  | 6   |
|-------------------------------------|--|---|--|-----|
| Standard/ no special marking        |  | = |  | 000 |
| Special marking (XXX = placeholder) |  | = |  | XXX |

## Variants

| Designation                                                                                                         | Order Number |
|---------------------------------------------------------------------------------------------------------------------|--------------|
| TA35 Drehknopf 2Pol, 20 A, Snap-in version, Quick connect terminals 6.3 x 0.8 mm, 240 VAC, 2-pole, Circuit Breakers | 4435.0074    |
| TA35 Drehknopf 2Pol, 10 A, Snap-in version, Quick connect terminals 6.3 x 0.8 mm, 240 VAC, 2-pole, Circuit Breakers | 4435.0086    |

Availability for all products can be searched real-time: <https://www.schurter.com/en/info-center/support-tools/stock-check-distributors>