

4435.0510 Datasheet



| | |
|------------------------------|---------------------------------|
| DiGi Electronics Part Number | 4435.0510-DG |
| Manufacturer | SCHURTER Inc. |
| Manufacturer Product Number | 4435.0510 |
| Description | TA35 CIRCUIT BREAKER 1P RO 1.5A |
| Detailed Description | Circuit Breaker AC DC |

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DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

4435.0510

Series:

-

Manufacturer:

SCHURTER Inc.

Product Status:

Active

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

Not Applicable

HTSUS:

8536.20.0020

Circuit Breaker for Equipment thermal, Rocker actuation, 1 pole



Non-illuminated
black



illuminated
Green transparent

See below:

Approvals and Compliances

Description

- Thermal circuit breaker
- 1-pole
- Snap-in version
- Positively trip-free release
- Method of operation acc. to IEC: S-type
- Different rocker colours
- Wide current range

Unique Selling Proposition

- Unique UL rating of 277 VAC
- Finely graded rated currents
- High configurability (rocker colours, lettering, illumination)
- IP65 with optional cover

Applications

- Power tools
- Medical and laboratory equipment
- Industrial appliances
- Equipment for construction
- Cleaning equipment
- Commercial and household kitchen appliances
- Industrial Power
- Industrial lighting arrays

Other versions on request

- White front cover

References

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 UL/CSA : 277 VAC | Overload | IEC: min. 40 trips @ 6 x I _r , cos φ 0.6 |
| Rated Voltage DC | 32 VDC | | UL / CSA: min. 50 trips @ 1.5 x I _r , cos φ 0.75 |
| Rated current range AC | 0.05 - 20 A | Allowable Operation Temp. | -30°C to 60°C |
| Conditional short circuit capacity Inc | IEC 60934: 0.05...20 A: 2 kA, SC (C1) @ 240 VAC | Storage Temperature | -40°C to 60°C |
| Degree of Protection | front side IP40 acc. to IEC 60529 | Vibration Resistance | ± 0.75 mm @ 10 - 60 Hz acc. to IEC 60068-2-6, test Tc 10 G @ 60 - 500 Hz acc. to IEC 60068-2-6, test Tc |
| Dielectric Strength | 50Hz: > 2.5 kV Impulse 1.2/50 μs: > 4 kV | Shock Resistance | 30 G / 18ms acc. to IEC 60068-2-27, test Ea |
| Insulation Resistance | 500VDC > 100 MΩ | Tripping Type | Thermal |
| Lifetime | mechanical: 50'000 switching cycles AC: 1 x I _r , cos φ 0.6: 30'000 switching cycles DC: 1 x I _r , L/R = 2 - 3 ms: 50'000 switching cycles | Actuation Type | Rocker |
| | | Weight | 16.5 - 18.5g |

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: 2024010307676639 |

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 |

Application standards

Application standards where the product can be used

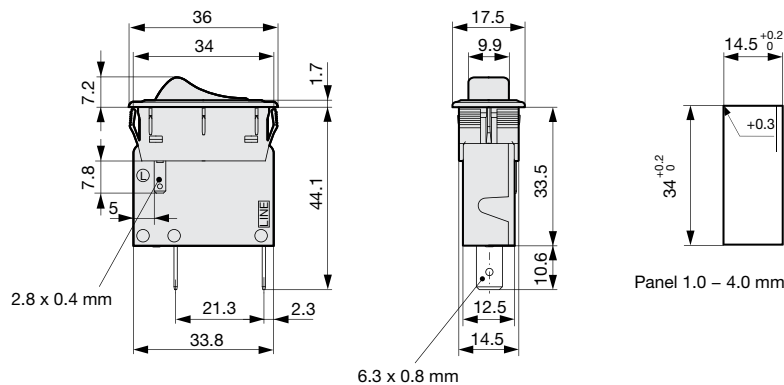
| Organization | Design | Standard | Description |
|--------------|--------------------------------|----------------|---|
| | Suitable for applications acc. | IEC/UL 62368-1 | Audio/video, information and communication technology equipment - Part 1: Safety requirements |

Compliances

The product complies with following Guide Lines

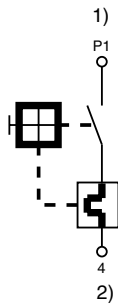
| Identification | Details | Initiator | Description |
|----------------|--------------------------------|-------------|---|
| | CE declaration of conformity | SCHURTER AG | The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community 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]



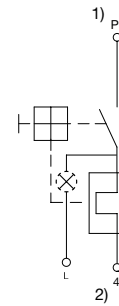
Diagrams

1-pole, 1 bimetal



1) Line, 2) Load
 Codepos AAA = CFT, CGT

1-pole, 1 bimetal, illuminated



1) Line, 2) Load
 Codepos AAA = C2F, C4F, C7F, C8F, C9F

The keys / codepos are listed in the key table of the basic function for selection.

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

Typical internal resistance per pole

| Rated Current [A] | Internal Resistance [Ω] |
|-------------------|----------------------------------|
| 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

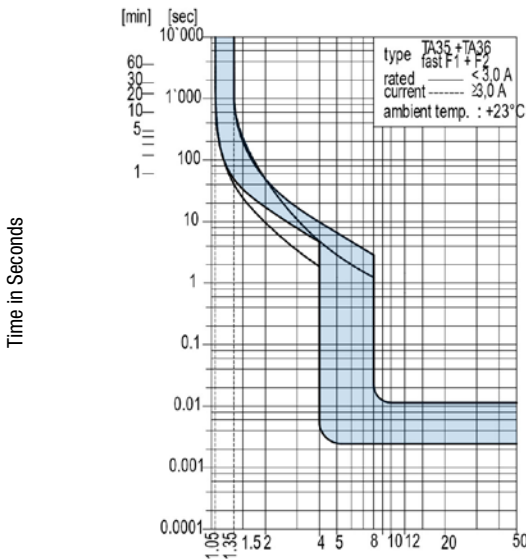
The units are calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor (typical value) from the table below:

| Ambient Temperature [°C] | Correction factor |
|--------------------------|-------------------|
| -30 | 0.77 |
| -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

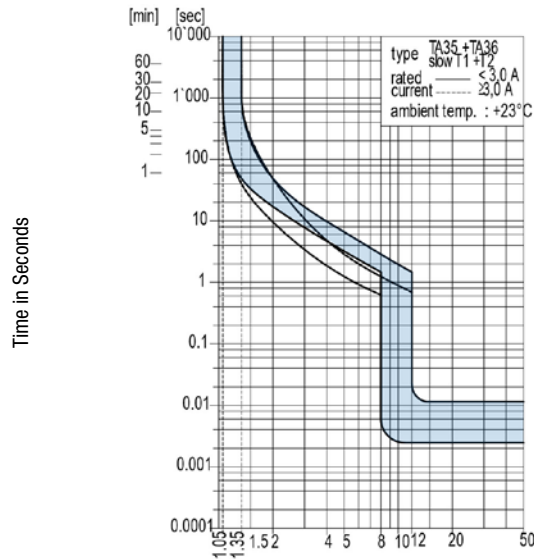
Tripping Characteristics thermal magnetic fast acting



Multiple of Rated Current In

Ambient temperature +23°

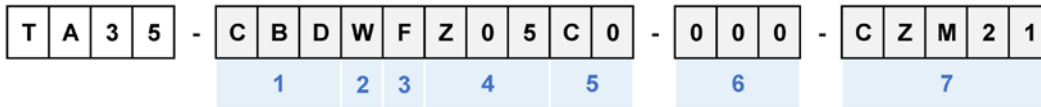
Tripping Characteristics thermal magnetic time lag



Multiple of Rated Current In

Ambient temperature +23°

Order number key



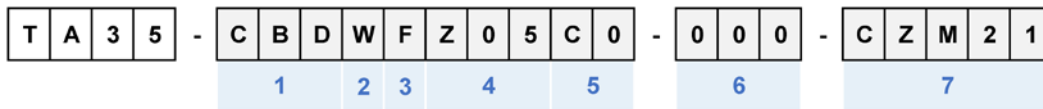
Basic function 🔑 1

| Poles | | 1 | 2 | 3 |
|----------------------|-----------------------------|-----|-----|-----|
| | Thermal overload protection | | | |
| | Illumination | | | |
| Rocker | | | | |
| Without illumination | | CFT | CBT | CBD |
| | 380...400 V | - | - | CD1 |
| | 220...240 V | C2F | C12 | - |
| | 110...120 V | C4F | C14 | - |
| | 20...26 V | C7F | C17 | - |
| | 10...13 V | C8F | C18 | - |
| | 4...7 V | C9F | C19 | - |
| Momentary | | | | |
| Without illumination | | CGT | CET | CED |

* grey highlighted fields: configuration is not offered anymore

Front- & Actuation color 🔑 2

| Front Bezel | Rocker without illumination | Rocker with illumination | = | |
|-------------|-----------------------------|--------------------------|---|---|
| black | - | clear transparent | = | 1 |
| black | - | red transparent | = | 3 |
| black | - | green transparent | = | 4 |
| black | - | orange transparent | = | 6 |
| black | black | - | = | B |
| black | green | - | = | G |
| black | red | - | = | R |
| black | white | - | = | W |
| black | orange | - | = | X |
| black | yellow | - | = | Y |



Rocker legend, marking 🔑 3

| | | | |
|-----------|---------------|---|---|
| - 0 | Embossed | = | F |
| ON OFF | Printed white | = | H |
| | Printed black | = | K |
| - 0 | Printed white | = | L |
| | Printed black | = | M |

Rated current [A] 🔑 4

Thermal overload protection

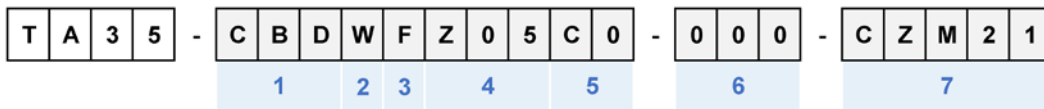
| In | 🔑 | In | 🔑 | In | 🔑 | In | 🔑 | | | | |
|--------|---|-----|-------|----|-----|-------|---|-----|---------|---|-----|
| 0.05 A | = | Z05 | 1.1 A | = | J11 | 3.0 A | = | 030 | 8.0 A | = | 080 |
| 0.10 A | = | J01 | 1.2 A | = | J12 | 3.2 A | = | 032 | 8.5 A | = | 085 |
| 0.15 A | = | Z15 | 1.3 A | = | J13 | 3.5 A | = | 035 | 9.0 A | = | 090 |
| 0.20 A | = | J02 | 1.4 A | = | J14 | 3.7 A | = | 037 | 10.0 A | = | 100 |
| 0.25 A | = | Z25 | 1.5 A | = | J15 | 4.0 A | = | 040 | 10.5 A | = | 105 |
| 0.30 A | = | J03 | 1.6 A | = | J16 | 4.2 A | = | 042 | 11.0 A | = | 110 |
| 0.35 A | = | Z35 | 1.7 A | = | J17 | 4.5 A | = | 045 | 11.5 A | = | 115 |
| 0.40 A | = | J04 | 1.8 A | = | J18 | 4.7 A | = | 047 | 12.0 A | = | 120 |
| 0.45 A | = | Z45 | 1.9 A | = | J19 | 5.0 A | = | 050 | 13.0 A* | = | 130 |
| 0.50 A | = | J05 | 2.0 A | = | J20 | 5.2 A | = | 052 | 14.0 A* | = | 140 |
| 0.60 A | = | J06 | 2.1 A | = | J21 | 5.5 A | = | 055 | 15.0 A* | = | 150 |
| 0.70 A | = | J07 | 2.2 A | = | J22 | 5.7 A | = | 057 | 16.0 A* | = | 160 |
| 0.80 A | = | J08 | 2.3 A | = | J23 | 6.0 A | = | 060 | 17.0 A* | = | 170 |
| 0.90 A | = | J09 | 2.5 A | = | J25 | 6.5 A | = | 065 | 18.0 A* | = | 180 |
| 1.00 A | = | J10 | 2.8 A | = | J28 | 7.0 A | = | 070 | 19.0 A* | = | 190 |
| | | | | | | 7.5 A | = | 075 | 20.0 A* | = | 200 |

(additional current ratings on request)

* 3-Pole max. 12 A

Features 🔑 5

| | | |
|-----------------------------|---|----|
| Standard, no other features | = | C0 |
|-----------------------------|---|----|



Special marking 🔑 6

| | | |
|-------------------------------------|---|-----|
| Standard | = | 000 |
| Special marking (XXX = placeholder) | = | XXX |

Accessories, factory-mounted (optional) 🔑 7

No accessory = (blank)

Transparent protection cover, 2-pole, IP65



= CZM21

Transparent protection cover with raised collar, 2-pole, IP65



= CZM23

Raised collar, 2-pole, IP40



= CZM24

Transparent antibacterial protection cover, 2-pole, IP65



= CZM25

Variants

| Basic function | Rocker colour | Legend | Rated current | Accessories | Config. Code | Order Number |
|---|-----------------|---------------|---------------|---------------|---------------------|--------------|
| 1-pole, 1 bimetal, without illumination | White | black printed | 2.0 A | Without cover | TA35-CFTWKJ20C0-000 | 4435.0029 |
| 1-pole, 1 bimetal, without illumination | White | embossed | 3.0 A | Without cover | TA35-CFTWF030C0-000 | 4435.0019 |
| 1-pole, 1 bimetal, without illumination | White | black printed | 3.0 A | Without cover | TA35-CFTWM030C0-000 | 4435.0082 |
| 1-pole, 1 bimetal, illuminated 120 V | Red transparent | white printed | 3.0 A | Without cover | TA35-C4F3H030C0-000 | 4435.0431 |
| 1-pole, 1 bimetal, without illumination | Red | black printed | 3.0 A | Without cover | TA35-CFTRM030C0-000 | 4435.0481 |
| 1-pole, 1 bimetal, without illumination | Black | embossed | 4.0 A | Without cover | TA35-CFTBF040C0-000 | 4435.0028 |
| 1-pole, 1 bimetal, without illumination | Black | embossed | 5.0 A | Without cover | TA35-CFTBF050C0-000 | 4435.0173 |
| 1-pole, 1 bimetal, without illumination | Black | white printed | 5.0 A | Without cover | TA35-CFTBH050C0-000 | 4435.0204 |
| 1-pole, 1 bimetal, without illumination | Black | white printed | 6.0 A | Without cover | TA35-CFTBH060C0-000 | 4435.0205 |
| 1-pole, 1 bimetal, without illumination | Red | embossed | 10.0 A | Without cover | TA35-CFTRF100C0-000 | 4435.0056 |
| 1-pole, 1 bimetal, without illumination | Black | embossed | 10.0 A | Without cover | TA35-CFTBF100C0-000 | 4435.0174 |
| 1-pole, 1 bimetal, momentary switch, without illumination | Black | embossed | 10.0 A | Without cover | TA35-CGTBF100C0-000 | 4435.0471 |
| 1-pole, 1 bimetal, without illumination | White | embossed | 13.0 A | Without cover | TA35-CFTWF130C0-000 | 4435.0049 |
| 1-pole, 1 bimetal, without illumination | White | embossed | 15.0 A | Without cover | TA35-CFTWF150C0-000 | 4435.0037 |
| 1-pole, 1 bimetal, without illumination | Black | embossed | 15.0 A | Without cover | TA35-CFTBF150C0-000 | 4435.0137 |
| 1-pole, 1 bimetal, without illumination | Black | white printed | 16.0 A | Without cover | TA35-CFTBH160C0-000 | 4435.0209 |
| 1-pole, 1 bimetal, without illumination | Black | embossed | 16.0 A | Without cover | TA35-CFTBF160C0-000 | 4435.0300 |
| 1-pole, 1 bimetal, without illumination | Black | white printed | 20.0 A | Without cover | TA35-CFTBL200C0-000 | 4435.0256 |

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

Packaging Unit

20 Pcs

Accessories

Description



[TA35_Accessories](#)
 Screw-on collar with cover, IP65

OUR CERTIFICATE

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