

Thermal Circuit Breaker, rocker actuated, 1-, 2- or 3-pole

**NEW**



TA35 1-pole



TA35 2-pole with CZM25  
IP 65, antibacterial cover according  
ISO 22196



TA35 3-pole



(pending)

**Description**

- Thermal circuit breaker 1-, 2- or 3-pole
- Supplementary protector for general industrial use
- Positively trip-free release
- Snap-in mounting
- Version with illuminated rocker
- Different rocker colours
- Antibacterial cover IP65 CZM25
- «Dead-Man»-version (Momentary switch)

**Standards**

- IEC 60934
- UL 1077
- CSA C22.2 235
- GB 17701 (pending)

**Applications**

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

**Weblinks**

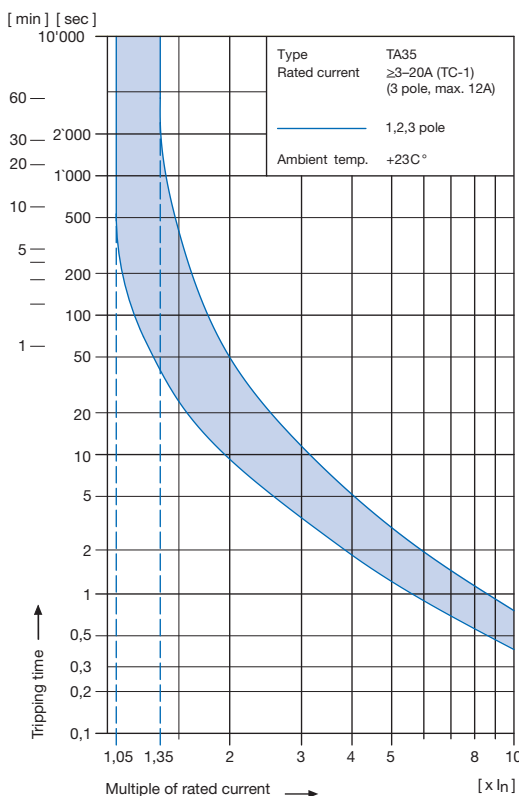
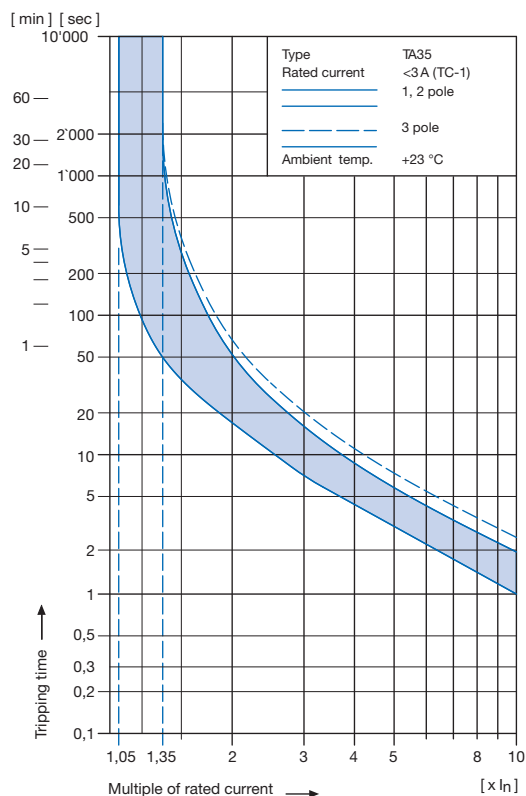
Approvals: <http://www.schurter.com/approvals>  
RoHS: <http://www.schurter.com/rohs>

**TECHNICAL DATA**

|                                    |                               |                                |
|------------------------------------|-------------------------------|--------------------------------|
| Rated voltage $U_g$                | 1-pole                        | AC 240 V / 50/60 Hz<br>DC 32 V |
|                                    | 2-pole                        | AC 240 V / 50/60 Hz<br>DC 60 V |
|                                    | 3-pole                        | AC 415 Y/240 V / 50/60 Hz      |
| Rated current $I_n$                | 1- / 2-pole                   | 0.05 – 20 A                    |
|                                    | 3-pole                        | 0.05 – 12 A                    |
| Conditional short circuit $I_{nc}$ | 1- / 2-pole, AC 240 V         | 0.05...20 A: 2000 A, SC (C1)   |
|                                    | 3-pole, AC 415 V              | 0.05...12 A: 2000 A            |
| Degree of protection               | Accessible range              | IP 40                          |
|                                    | Terminal side                 | IP 00                          |
| Dielectric strength                | 50 Hz                         | > 2500 V                       |
|                                    | Impulse 1.2/50 $\mu$ s        | > 4000 V                       |
| Insulation resistance              | DC 500 V                      | > 100 M $\Omega$ m             |
| Endurance (typical)                | Mechanical                    | 50'000 cycles                  |
|                                    | AC: 1 x $I_n$ , cos phi 0.6   | 50'000 cycles                  |
|                                    | DC: 1 x $I_n$ , L/R = 2...3ms | 50'000 cycles                  |

|   |                         |  |
|---|-------------------------|--|
| Overload  | IEC 60934               | min. 40 cycles @ 6 x $I_n$ ,<br>cos phi 0.6                      |
|   | UL 1077                 | min. 50 cycles @ 1.5 x $I_n$ ,<br>cos phi 0.75 (OL $\emptyset$ ) |
| Admissible ambient air temperature                              |                         | -30 °C to +60 °C   |
| Resistance to vibration   | IEC 60068-2-6, Test Tc  | 10...60 Hz: $\pm$ 0.75 mm  |
|   |                         | 60...500 Hz: 10 G  |
| Shock resistance  | IEC 60068-2-27, Test Ea | 30 G / 18 ms   |
| Type of tripping  |                         | Thermal positively trip free                                     |
| Weight  | 1-pole                  | 19 g   |
|   | 2-pole                  | 32 g   |
|   | 3-pole                  | 45 g   |
| Max. switching capacity for switch only types (without bimetal) | 1-, 2-pole              | 20 A   |
|   | 3-pole                  | 12 A   |

## TRIPPING CHARACTERISTICS



The above tripping characteristics apply to symmetrical overloads on all poles on the TA35 only.

At asymmetric overloads on multi-pole types, the tripping characteristic will change.

- If a 2-pole type TA35 is loaded at one pole only, the tripping current will be shifted by factor **1.05** (TC-2).
- If a 3-pole type TA35 is loaded at one pole only, the tripping current will be shifted by factor **1.10** (TC-2).

To meet the above tripping characteristic at asymmetric overloads on multi-pole types, the value of the rated current of the CBE has to be multiplied by the factor mentioned above.

### Effect of ambient temperature

The unit is calibrated for an ambient temperature of +23 °C. To determine the rated current for lower or higher ambient temperature, use a correction factor from the table below.

| Ambient temperature [°C] | Correction factor |        |        |
|--------------------------|-------------------|--------|--------|
|                          | 1-pole            | 2-pole | 3-pole |
| -30                      | 0.77              | 0.76   | 0.76   |
| -20                      | 0.81              | 0.81   | 0.81   |
| 0                        | 0.90              | 0.90   | 0.90   |
| +23                      | 1.00              | 1.00   | 1.00   |
| +40                      | 1.03              | 1.03   | 1.06   |
| +50                      | 1.04              | 1.04   | 1.10   |
| +60                      | 1.06              | 1.06   | 1.14   |

### Example for 2-pole type:




Rated current at +23 °C                    5.0 A  
 Ambient temperature                    +50 °C  
 Correction factor                        1.04  
 Chosen rated current at +40 °C  
 ambient temperature:                    **5 A x 1.04 = 5.2 A**

## Standard rated currents and typical internal resistance

| Code | In   | Ri [Ohm] |
|------|------|----------|
| J01  | 0.1  | 70.000   |
| J05  | 0.5  | 2.750    |
| J10  | 1.0  | 0.720    |
| J15  | 1.5  | 0.340    |
| J20  | 2.0  | 0.187    |
| J25  | 2.5  | 0.115    |
| J28  | 2.8  | 0.089    |
| 030  | 3.0  | 0.059    |
| 040  | 4.0  | 0.059    |
| 050  | 5.0  | 0.044    |
| 060  | 6.0  | 0.028    |
| 070  | 7.0  | 0.0142   |
| 080  | 8.0  | 0.0142   |
| 100  | 10.0 | 0.0109   |
| 120  | 12.0 | 0.0086   |
| 140  | 14.0 | 0.0072   |
| 150  | 15.0 | 0.0056   |
| 160  | 16.0 | 0.0056   |
| 180  | 18.0 | 0.0052   |
| 200  | 20.0 | 0.0052   |

Unprotected poles (without bimetal) 2.2 mΩ

## APPROVALS

|  |     |               | # of poles | Rated currents | Rated voltage AC | Rated voltage DC |
|--|-----|---------------|------------|----------------|------------------|------------------|
|  | UL  | UL 1077       | 1          | 0.05...20 A    | 240 V            | 32 V             |
|  |     |               | 2          | 0.05...20 A    | 240 V            | 60 V             |
|  |     |               | 3          | 0.05...12 A    | 415 Y/240 V      | —                |
|  | UL  | CSA C22.2 235 | 1          | 0.05...20 A    | 240 V            | 32 V             |
|  |     |               | 2          | 0.05...20 A    | 240 V            | 60 V             |
|  |     |               | 3          | 0.05...12 A    | 415 Y/240 V      | —                |
|  | VDE | IEC 60934     | 1          | 0.05...20 A    | 240 V            | 32 V             |
|  |     |               | 2          | 0.05...20 A    | 240 V            | 60 V             |
|  |     |               | 3          | 0.05...12 A    | 415 Y/240 V      | —                |
|  | CQC | GB 17701      | 1 *        | 0.05...20 A    | 240 V            | 32 V             |
|  |     |               | 2 *        | 0.05...20 A    | 240 V            | 60 V             |
|  |     |               | 3 *        | 0.05...12 A    | 415 Y/240 V      | —                |

\* Approvals pending

Actual information about approvals can be found on: [www.schurter.com/approvals](http://www.schurter.com/approvals).

## ORDER CODE

| Number of switched poles<br>Number of protected poles |                      | 1-pole   |  | 2-pole   |  |  | 3-pole   |                          |
|---|----------------------|--|--|--|--|--|--|--------------------------|
|   |                      | 0  | 1  | 0  | 1  | 2  | 0  | 3                        |
|   |                      |  |  |  |  |  |  |                          |
| Switch  | without illumination | <b>CFC</b>                                     | <b>CFT</b>   | <b>CBC</b>   | <b>CBT</b>   | <b>CBD</b>   | <b>CKC</b>   | <b>CKD</b>               |
| Switch  | illuminated          | 415 V<br>240 V<br>120 V<br>24 V<br>12 V<br>5 V | <b>CF2</b><br><b>CF4</b><br><b>CF7</b><br><b>CF8</b><br><b>CF9</b> | <b>C2F</b><br><b>C4F</b><br><b>C7F</b><br><b>C8F</b><br><b>C9F</b> | <b>C02</b><br><b>C04</b><br><b>C07</b><br><b>C08</b><br><b>C09</b> | <b>C12</b><br><b>C14</b><br><b>C17</b><br><b>C18</b><br><b>C19</b> | <b>C32</b><br><b>C34</b><br><b>C37</b><br><b>C38</b><br><b>C39</b> | <b>CK1</b><br><b>CD1</b> |
| Momentary   | without illumination | <b>CGC</b>                                     | <b>CGT</b>   | <b>CEC</b>   | <b>CET</b>   | <b>CED</b>   | <b>CLC</b>   | <b>CLD</b>               |

Other versions on request

TA35- **CBD** **W** **F** **120** **C0** - **CZM21**

Only factory mounted accessories are integrated in the Order Code.

### Colours

|          | Switch front | Rocker          |                    |
|----------|--------------|-----------------|--------------------|
|          |              | non-illuminated | illuminated        |
| <b>W</b> | black        | white           | -                  |
| <b>B</b> | black        | black           | -                  |
| <b>R</b> | black        | red             | -                  |
| <b>G</b> | black        | green           | -                  |
| <b>Y</b> | black        | yellow          | -                  |
| <b>X</b> | black        | orange          | -                  |
| <b>1</b> | black        | -               | clear transparent  |
| <b>3</b> | black        | -               | red transparent    |
| <b>4</b> | black        | -               | green transparent  |
| <b>6</b> | black        | -               | orange transparent |
| <b>7</b> | black        | -               | blue transparent   |

Other colours on request

### Accessories, factory mounted (optional)

|  |              |   |
|--|--------------|---|
|  | <b>CZM21</b> | Transparent cover, 2-pole, IP65   |
|  | <b>CZM23</b> | Raised collar with transparent cover, 2-pole, IP65                              |
|  | <b>CZM24</b> | Raised collar without cover, 2-pole, IP40                                       |
|  | <b>CZM25</b> | Transparent cover antibacterial, 2-pole, IP65 antibacterial according ISO 22196 |

### Rocker legend

|          | Surface  | Illustration | Colour of print |
|----------|----------|--------------|-----------------|
| <b>F</b> | embossed | - 0          |                 |
| <b>H</b> | printed  | ON OFF       | white           |
| <b>K</b> | printed  | ON OFF       | black           |
| <b>L</b> | printed  | - 0          | white           |
| <b>M</b> | printed  | - 0          | black           |

Other legends on request

### Without thermal overload protection: code C00

### With thermal overload protection: rated current I<sub>n</sub> (A)

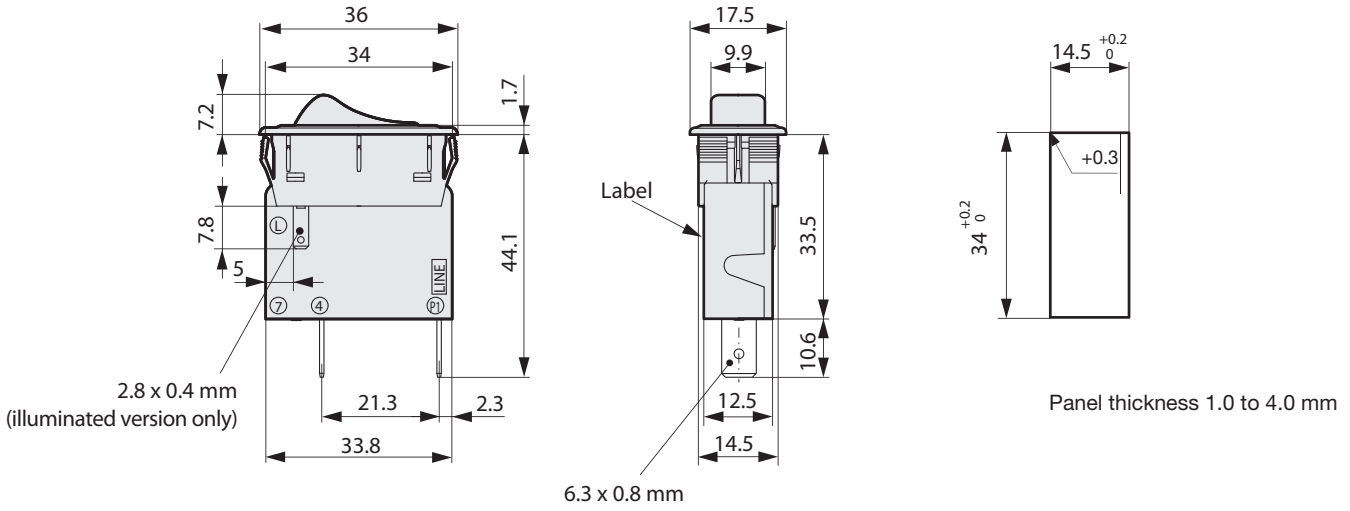
| I <sub>n</sub> | Code       | I <sub>n</sub> | Code       | I <sub>n</sub> | Code       | I <sub>n</sub> | Code         |
|----------------|------------|----------------|------------|----------------|------------|----------------|--------------|
| 0.05           | <b>Z05</b> | 1.0            | <b>J10</b> | 4.0            | <b>040</b> | 14.0           | <b>140 *</b> |
| 0.1            | <b>J01</b> | 1.2            | <b>J12</b> | 5.0            | <b>050</b> | 15.0           | <b>150 *</b> |
| 0.2            | <b>J02</b> | 1.5            | <b>J15</b> | 6.0            | <b>060</b> | 16.0           | <b>160 *</b> |
| 0.3            | <b>J03</b> | 2.0            | <b>J20</b> | 7.0            | <b>070</b> | 18.0           | <b>180 *</b> |
| 0.4            | <b>J04</b> | 2.5            | <b>J25</b> | 8.0            | <b>080</b> | 20.0           | <b>200 *</b> |
| 0.5            | <b>J05</b> | 3.0            | <b>030</b> | 10.0           | <b>100</b> |                |              |
| 0.8            | <b>J08</b> | 3.5            | <b>035</b> | 12.0           | <b>120</b> |                |              |

Other rated currents on request

\* 3-pole max. 12A

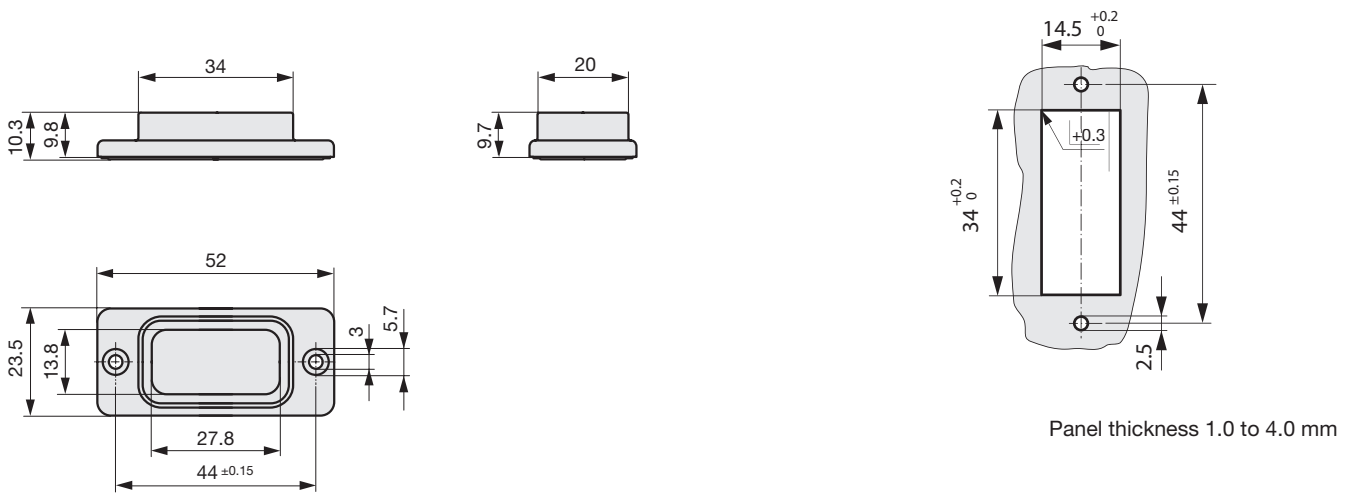
**DIMENSIONS**

**TA35, 1-Pole**

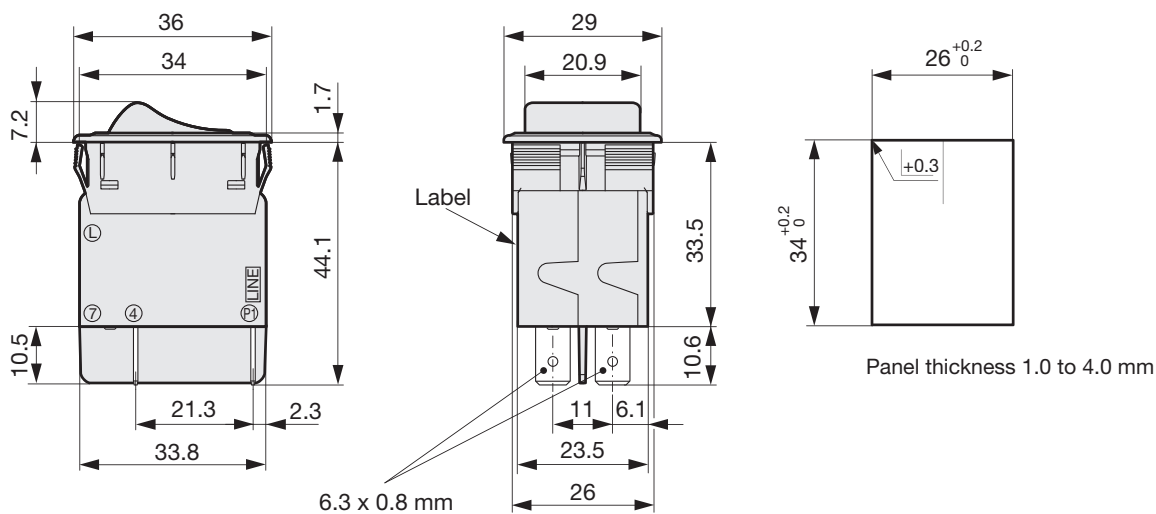


**TA35, 1-Pole, Accessories**

CZZ11, Screw-on Collar with Cover, IP65  
Part. No. 4435.0052

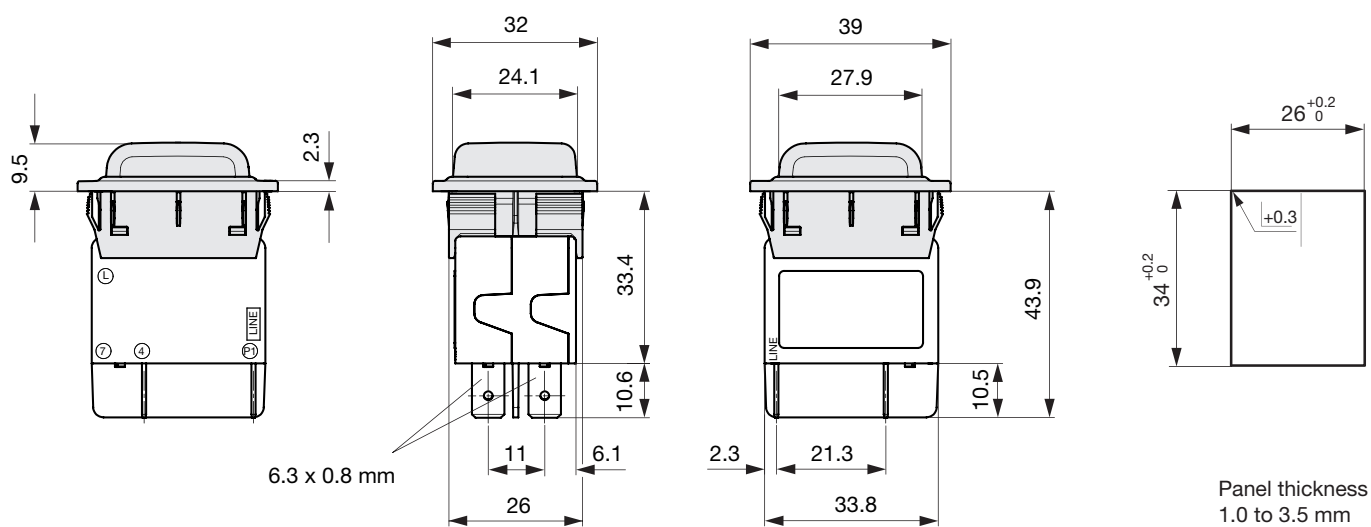


## TA35, 2-Pole

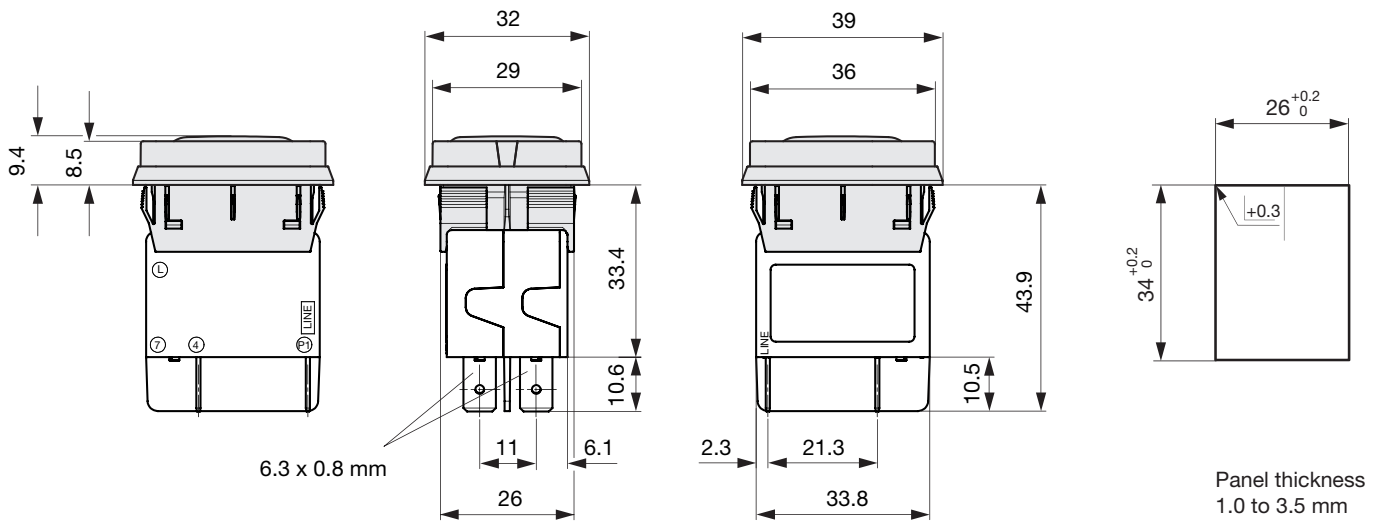


## TA35, 2-Pole, Accessories

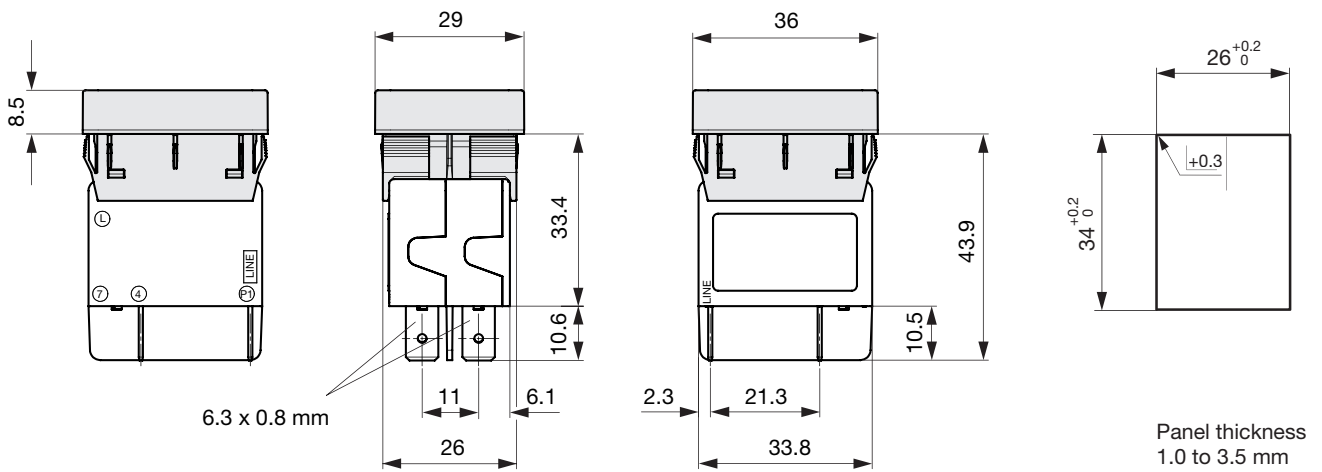
CZM21 / CZM25, Factory Mounted Transparent Cover, IP65



CZM23, Factory Mounted Raised Collar with Transparent Cover, IP65

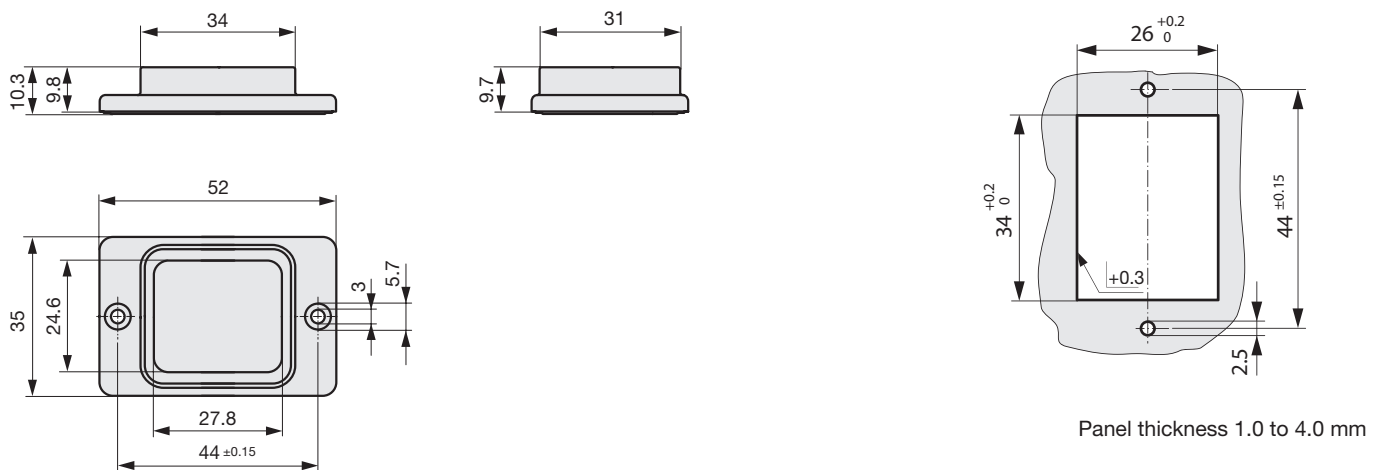


CZM24, Factory Mounted Raised Collar without Cover, IP40

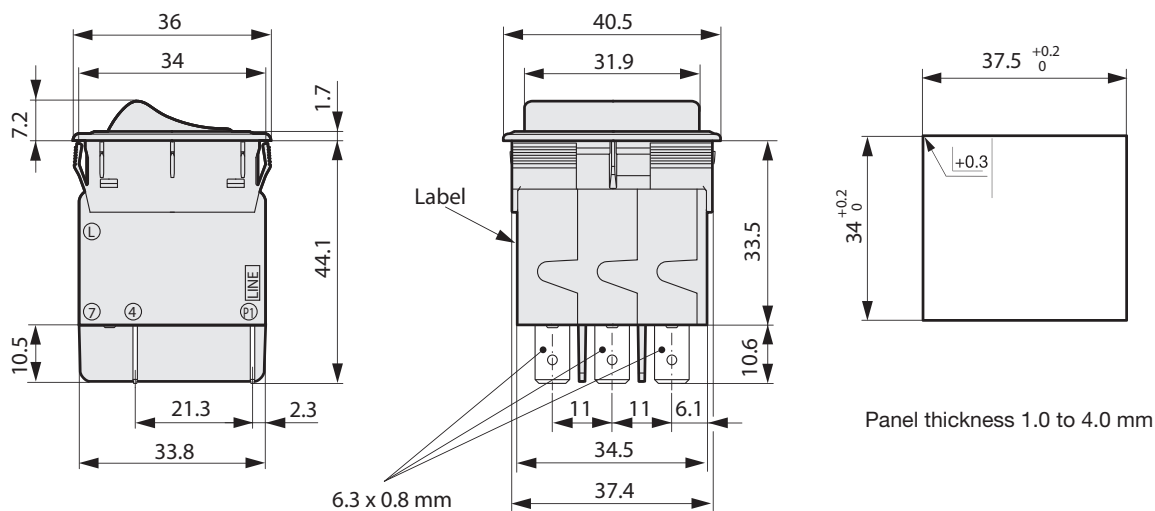


CZZ21, Screw-on Collar with Cover, IP65

Part. No. 4435.0053

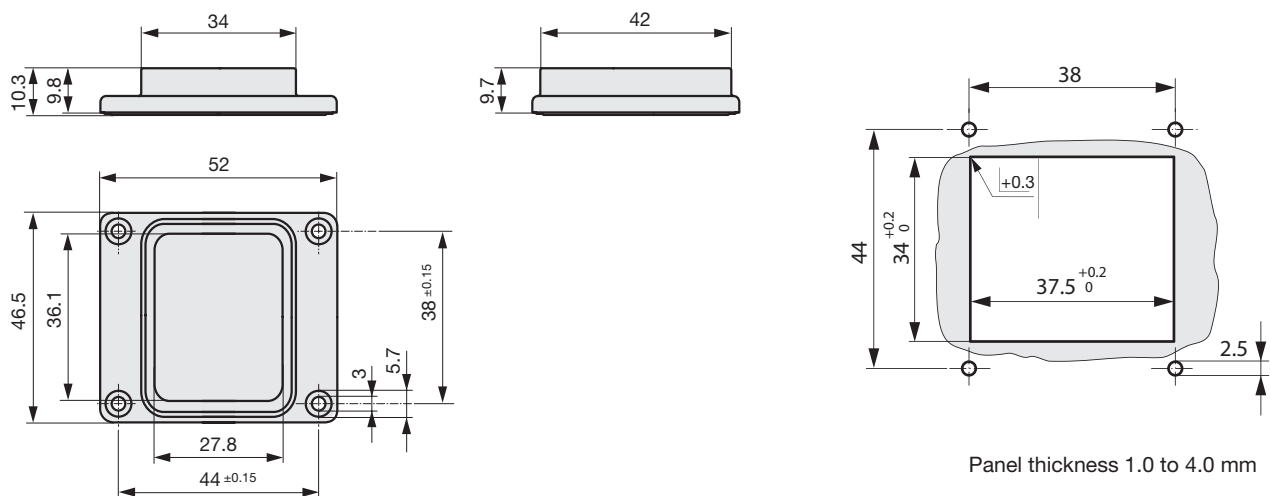


## TA35, 3-Pole



## TA35, 3-Pole, Accessories

CZZ31, Screw-on Collar with Cover, IP65  
Part. No. 4435.0054





## Данный компонент на территории Российской Федерации

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