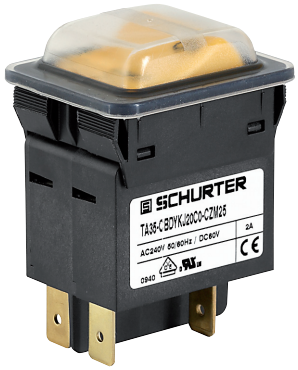
Thermal Circuit Breaker, rocker actuated, 1-, 2- or 3-pole

TA35 1-pole

NEW



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

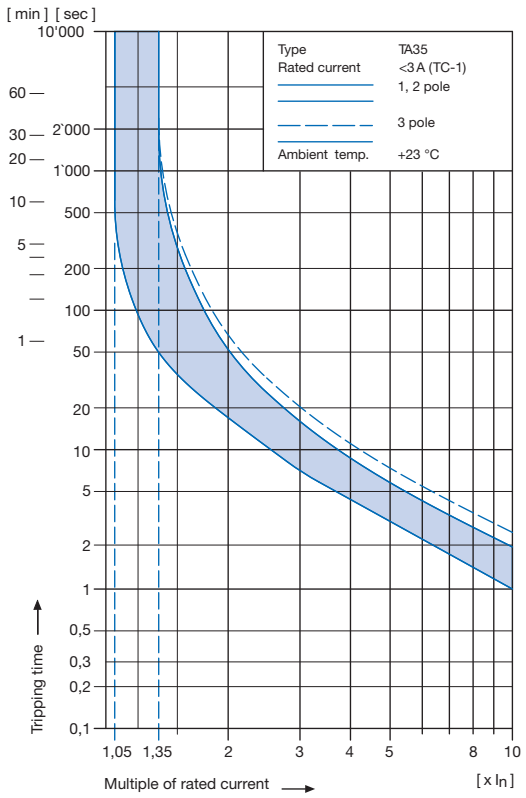
Approvals: http://www.schurter.com/approvals
RoHS: http://www.schurter.com/rohs

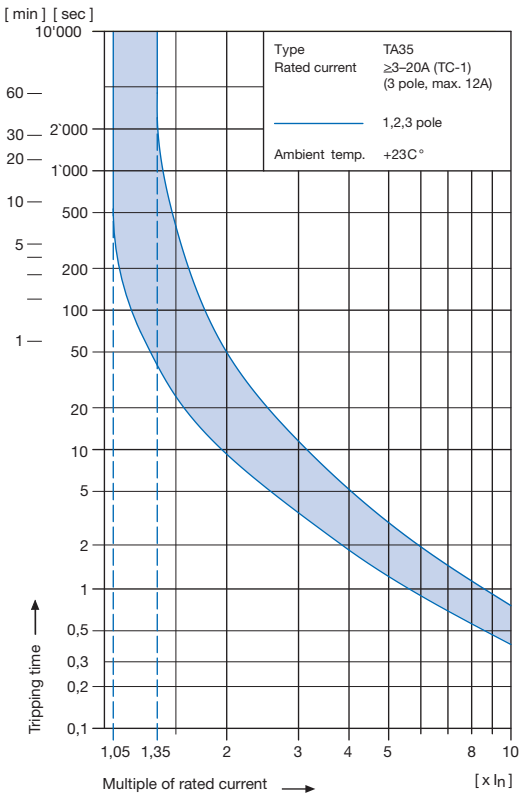
TECHNICAL DATA

Rated voltage U_e	1-pole	AC 240 V / 50/60 Hz DC 32 V
	2-pole	AC 240 V / 50/60 Hz 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 µs	> 4000 V
Insulation resistance	DC 500 V	> 100 MOhm
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, cos phi 0.6
	UL 1077	min. 50 cycles @ 1.5 x I_n, cos phi 0.75 (OLØ)
Admissible ambient air temperature		–30 °C to +60 °C
Resistance to vibration	IEC 60068-2-6, Test Tc	10…60 Hz: ±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

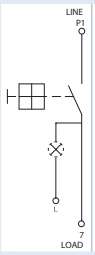
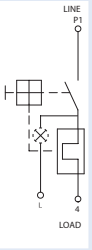
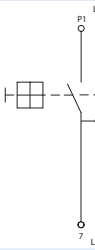
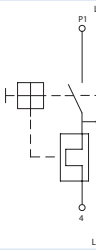
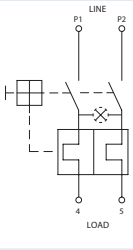
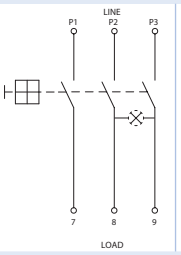
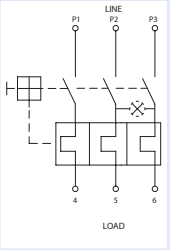
APPROVALS

			# of poles	Rated currents	Rated voltage AC	Rated voltage DC
c UL us	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	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	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.

ORDER CODE

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

Other versions on request

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

No other features

Only factory mounted accessories are integreated in the Order Code.

Colours

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

Other colours on request

Accessories, factory mounted (optional)

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

Rocker legend

	Surface	Illustration		Colour of print
F	embossed	–	0	
H	printed	ON	OFF	white
K	printed	ON	OFF	black
L	printed	–	0	white
M	printed	–	0	black

Other legends on request

Without thermal overload protection: code C00

With thermal overload protection: rated current I_n (A)

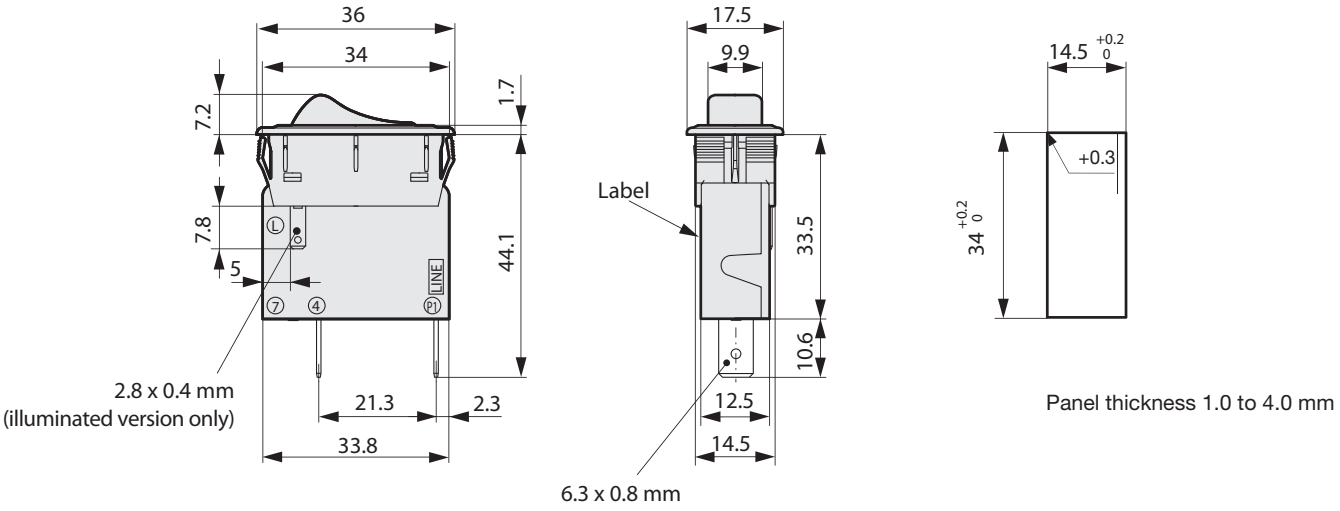
I_n	Code	I_n	Code	I_n	Code	I_n	Code
0.05	**Z05**	1.0	**J10**	4.0	**040**	14.0	**140 ***
0.1	**J01**	1.2	**J12**	5.0	**050**	15.0	**150 ***
0.2	**J02**	1.5	**J15**	6.0	**060**	16.0	**160 ***
0.3	**J03**	2.0	**J20**	7.0	**070**	18.0	**180 ***
0.4	**J04**	2.5	**J25**	8.0	**080**	20.0	**200 ***
0.5	**J05**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

Other rated currents on request

* 3-pole max. 12A

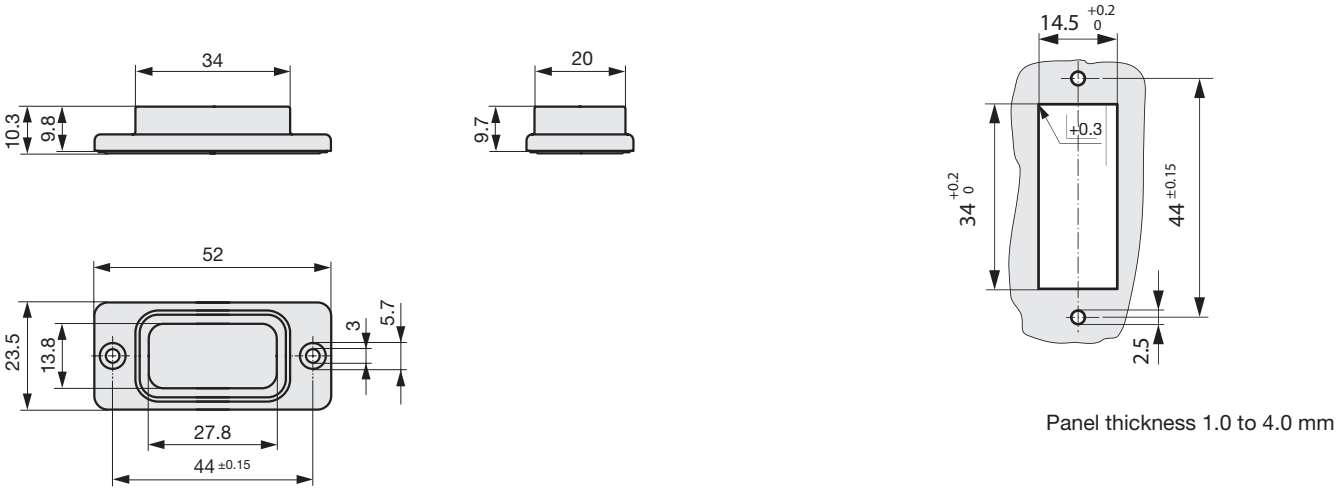
DIMENSIONS

TA35, 1-Pole

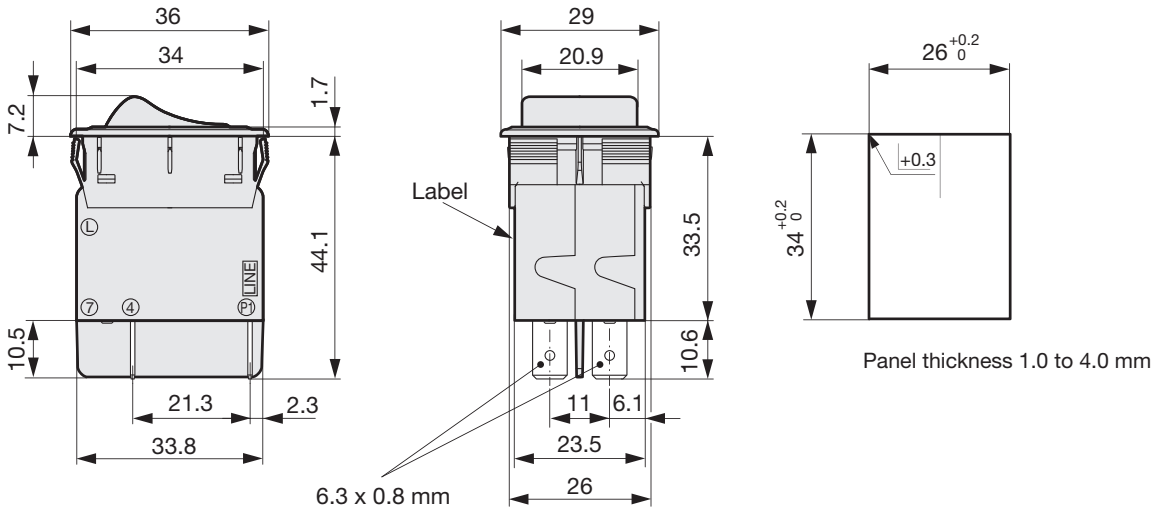


TA35, 1-Pole, Accessories

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

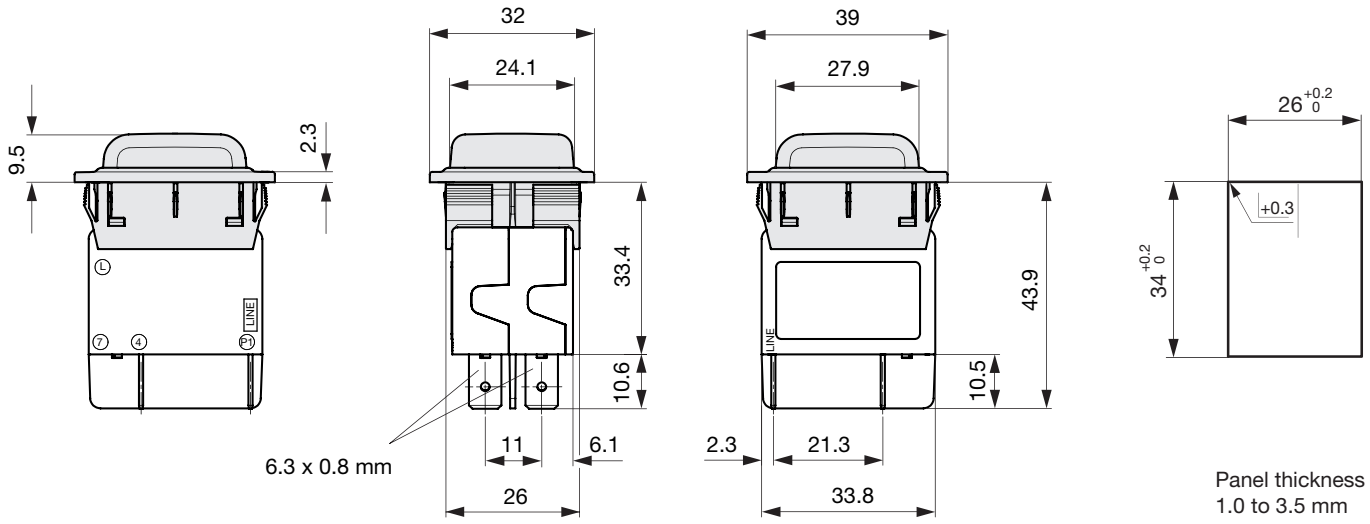


TA35, 2-Pole

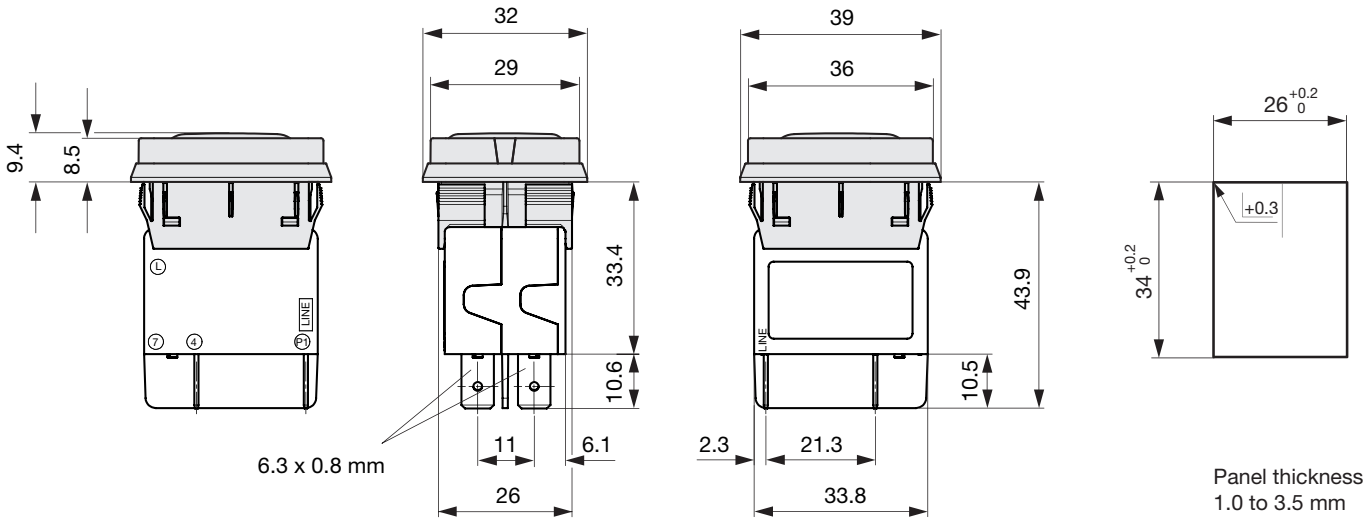


TA35, 2-Pole, Accessories

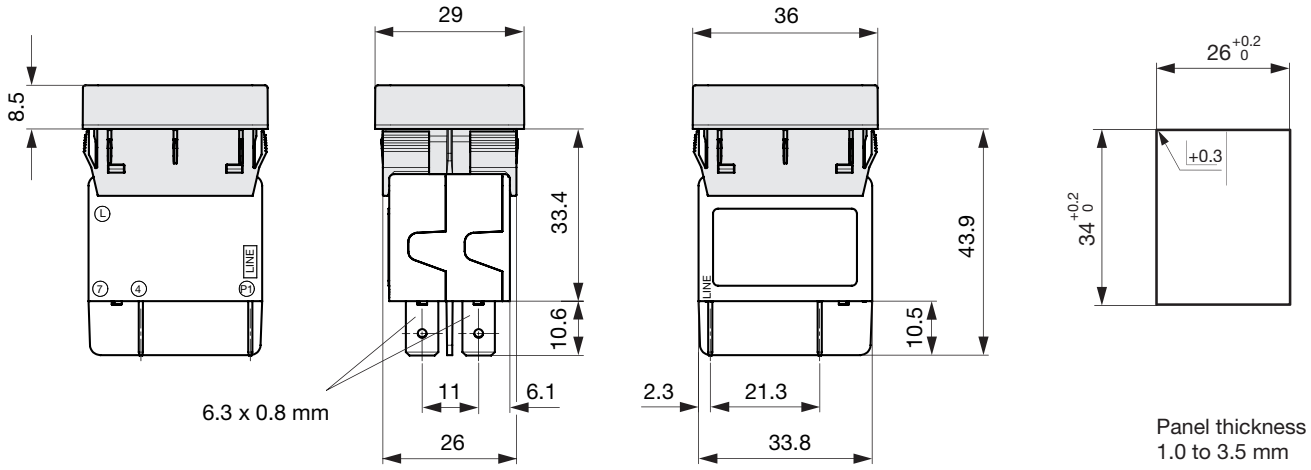
CZM21 / CZM25, Factory Mounted Transparent Cover, IP65



CZM23, Factory Mounted Raised Collar with Transparent Cover, IP65

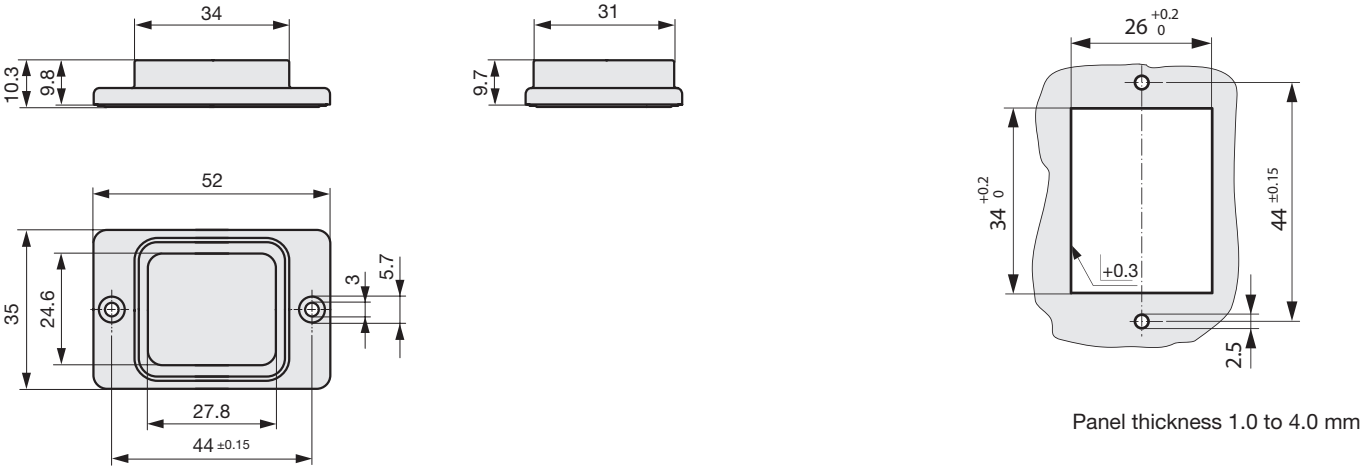


CZM24, Factory Mounted Raised Collar without Cover, IP40

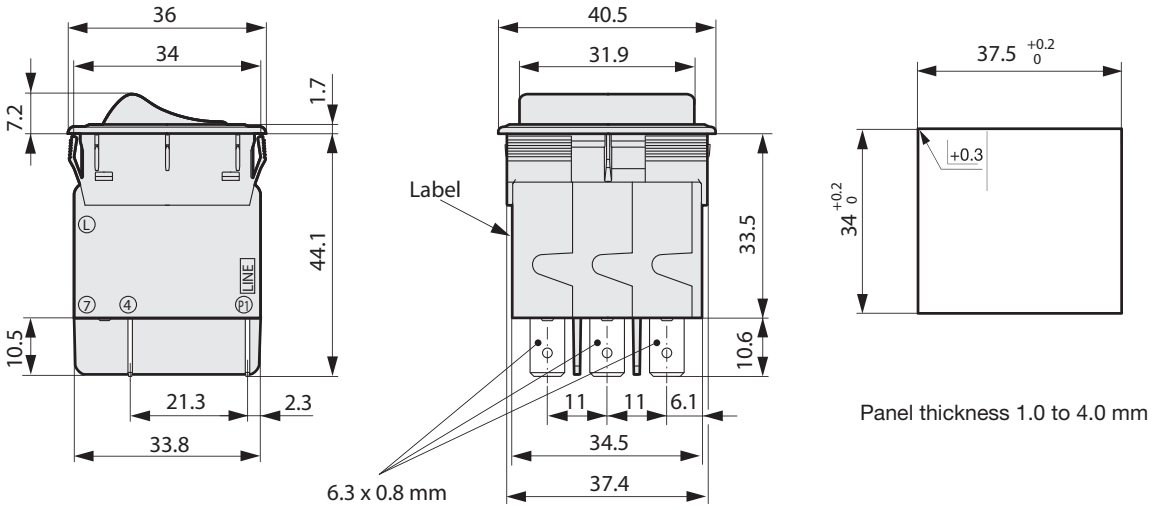


CZZ21, Screw-on Collar with Cover, IP65

Part. No. 4435.0053

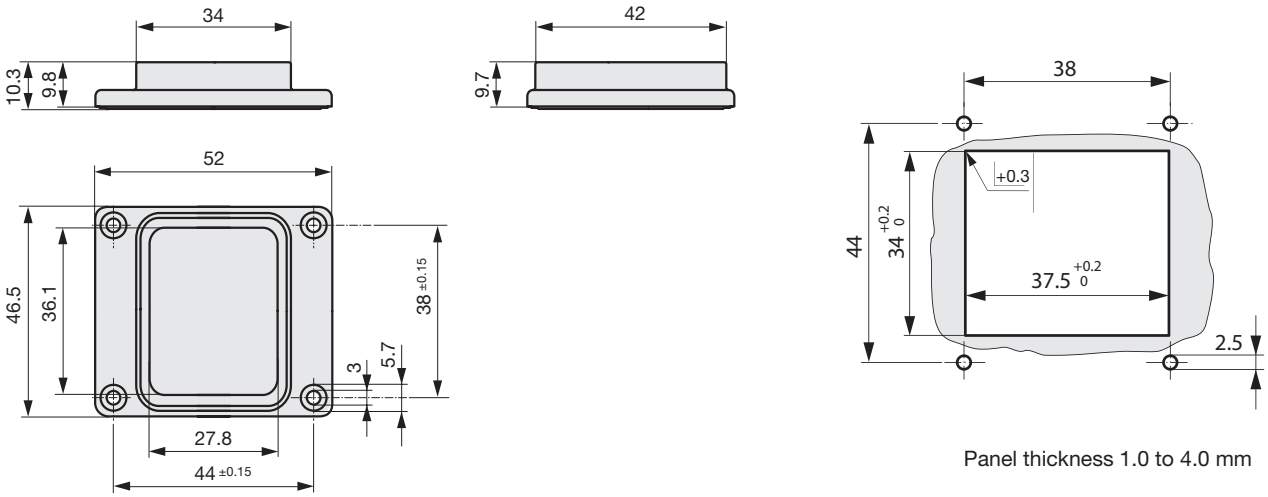


TA35, 3-Pole



TA35, 3-Pole, Accessories

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



LifeElectronics
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ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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