

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



Standards

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

Weblinks

[pdf-datasheet](#), [html-datasheet](#), [General Product Information](#), [Approvals](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [REACH](#), [e-Shop](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#), [Detailed request for product](#), [Product News](#)

circuit breakers

Thermal Circuit Breaker, rotary knob actuation, 1-, 2- or 3-pole

NEW



2-pole standard version



3-pole type without front bezel/knob



standard front bezel/knob



Description

- Thermal circuit breaker 1-, 2- or 3-pole
- Supplementary protector for general industrial use
- Positively trip-free release
- Bezel/knob snap-on
- Easy actuation with gloves
- Available without bezel/knob for customized front panel design

Standards

- IEC 60934
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Applications

- Floor cleaning equipment
- Power tools
- Wood and stone working machines
- Equipment for building construction
- Industrial equipment

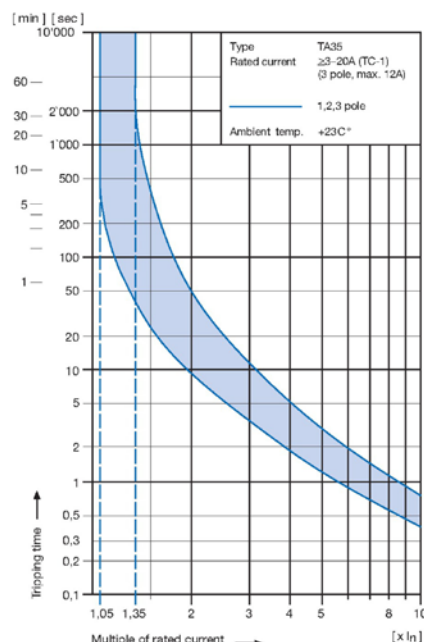
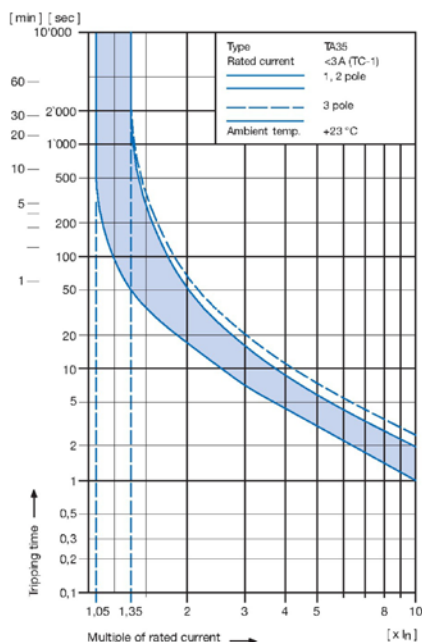
Weblinks

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	Overload	IEC 60934	min. 40 cycles @ 6 x I _n , cos phi 0.6
	2-pole	AC 240 V / 50/60 Hz DC 60 V		UL 1077	min. 50 cycles @ 1.5 x I _n , cos phi 0.75 (OL0)
	3-pole	AC 415 V/240 V / 50/60 Hz			
Rated current I _n	1- / 2-pole	0.05 – 20 A	Admissible ambient air temperature		–30 °C to +60 °C
	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)	Resistance to vibration	IEC 60068-2-6, Test Tc	10...60 Hz: ±0.75 mm 60...500 Hz: 10 G
	3-pole, AC 415 V	0.05...12 A: 2000 A			
Degree of protection	Accessible range	IP 40	Shock resistance	IEC 60068-2-27, Test Ea	30 G / 18 ms
	Terminal side	IP 00			
Dielectric strength	50 Hz	> 2500 V	Type of tripping	Thermal positively trip free	
	Impulse 1.2/50 µs	> 4000 V			
Insulation resistance	DC 500 V	> 100 MΩm	Weight	1-pole	45 g
Endurance (typical)	Mechanical	50'000 cycles		2-pole	60 g
	AC: 1 x I _n , cos phi 0.6	50'000 cycles		3-pole	75 g
	DC: 1 x I _n , L/R = 2...3ms	50'000 cycles			
			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**

circuit breakers

Standard rated currents and typical internal resistance

Code	I _n [A]	R _i [Ω]
Z05	0.05	200.0
J01	0.1	70.0
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	—
 CCC	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	—

Actual information about approvals can be found on: www.schurter.com/approvals.

TA35

www.schurter.com/pg17_18_19

Order Code

Number of switched poles Number of protected poles	1-pole		2-pole		3-pole	
	0	1	0	1	2	3
Basic type	EFC	EFT	EBC	EBT	EBD	EKC

Other versions on request

TA35- EBT T F 120 C0

No other features

Frontbezel and actuation knob

	Bezel	Knob
T	black	black
N	without bezel	without knob

Bezel marking

	Surface	Symbol
F	relief recessed	I 0
N	no marking	no marking

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		

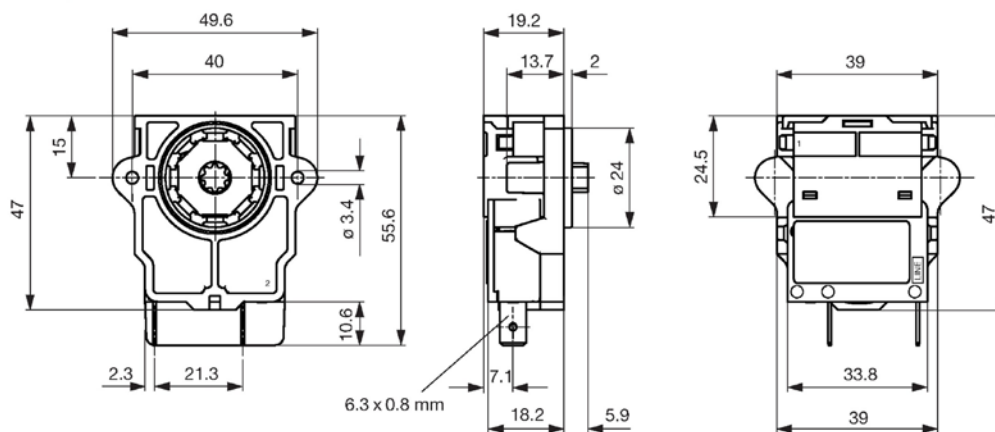
Other rated currents on request.

* 3-pole max. 12A

circuit breakers

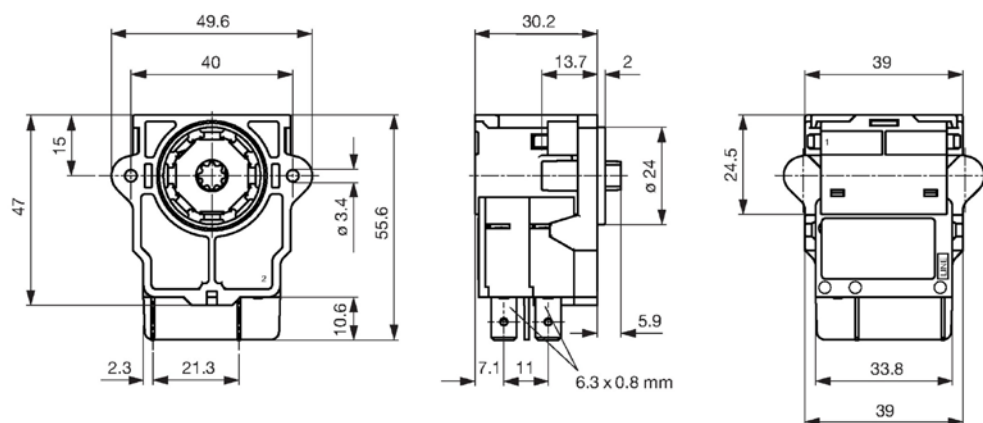
Dimensions

TA35 1-pole



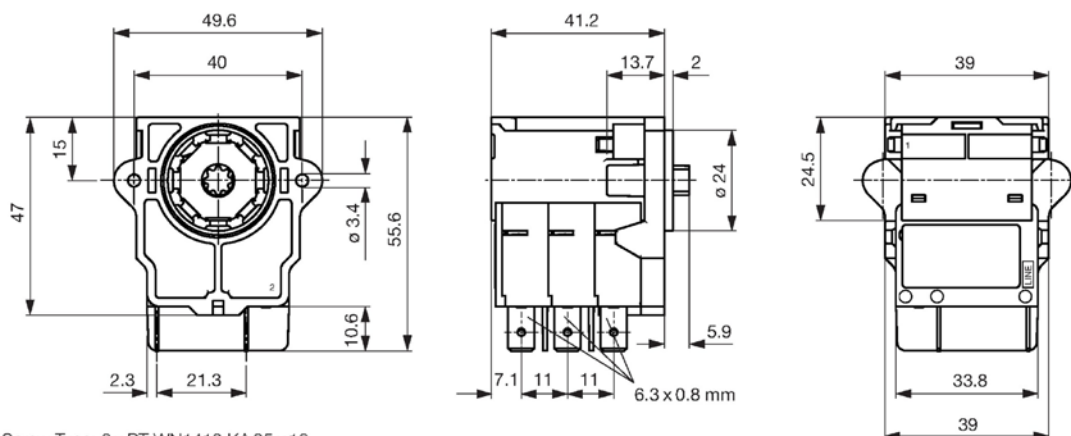
Screw Type: 2 x PT WN1413 KA35 x 12

TA35 2-pole



Screw Type: 2 x PT WN1413 KA35 x 12

TA35 3-pole

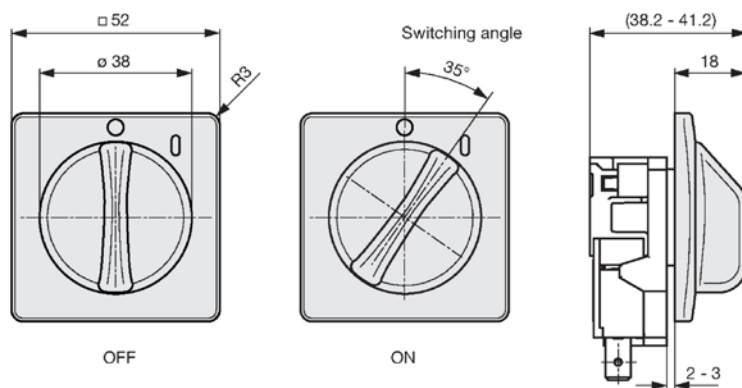


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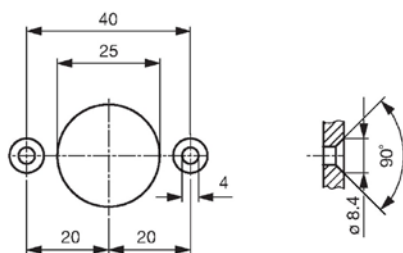
TA35

www.schurter.com/pg17_18_19

Front bezel/knob



Cut-out



Mounting instructions



Customer specific bezels/actuator designs possible

circuit breakers

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3-pole type without front bezel/knob



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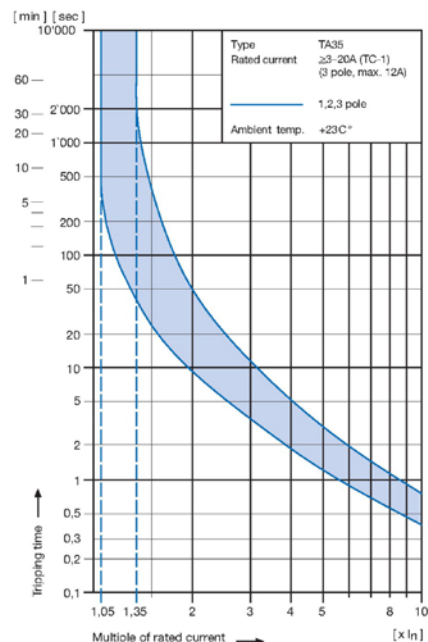
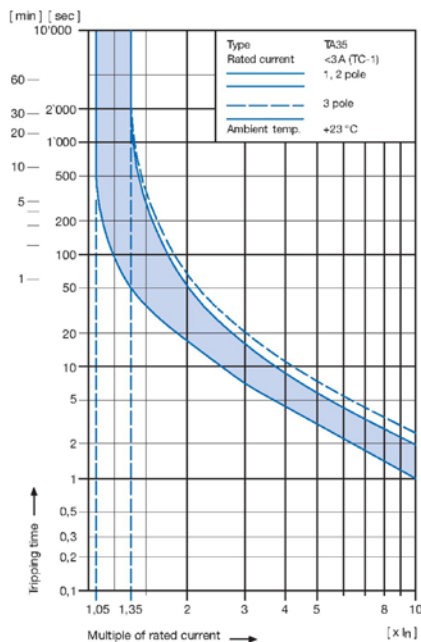
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	3-pole	AC 415 V/240 V / 50/60 Hz				
Rated current I_n	1- / 2-pole	0.05 – 20 A	Admissible ambient air temperature	–30 °C to +60 °C		
	3-pole	0.05 – 12 A				
Conditional short circuit I_{nc}	1- / 2-pole, AC 240 V	0.05...20 A: 2000 A, SC (C1)	Resistance to vibration	IEC 60068-2-6, Test Tc	10...60 Hz: ±0.75 mm 60...500 Hz: 10 G	
	3-pole, AC 415 V	0.05...12 A: 2000 A				
Degree of protection	Accessible range	IP 40	Shock resistance	IEC 60068-2-27, Test Ea	30 G / 18 ms	
	Terminal side	IP 00				
Dielectric strength	50 Hz	> 2500 V	Type of tripping	Thermal positively trip free		
	Impulse 1.2/50 µs	> 4000 V				
Insulation resistance	DC 500 V	> 100 MOhm	Weight	1-pole	45 g	
Endurance (typical)	Mechanical AC: $1 \times I_n$, cos phi 0.6 DC: $1 \times I_n$, L/R = 2...3ms	50'000 cycles 50'000 cycles 50'000 cycles		2-pole	60 g	
				3-pole	75 g	
		Max. switching capacity for switch only types (without bimetal)	1-, 2-pole	20 A		
3-pole	12 A					

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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**

circuit breakers

Standard rated currents and typical internal resistance

Code	In [A]	Ri [Ω]
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J05	0.5	2.750
J10	1.0	0.720
J15	1.5	0.340
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Order Code

Number of switched poles Number of protected poles	1-pole		2-pole			3-pole	
	0	1	0	1	2	0	3
Basic type	EFC	EFT	EBC	EBT	EBD	EKC	EKD

Other versions on request

TA35-

EBT

T

F

120

C0

No other features

Frontbezel and actuation knob

	Bezel	Knob
T	black	black
N	without bezel	without knob

Bezel marking

	Surface	Symbol
F	relief recessed	I 0
N	no marking	no marking

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		

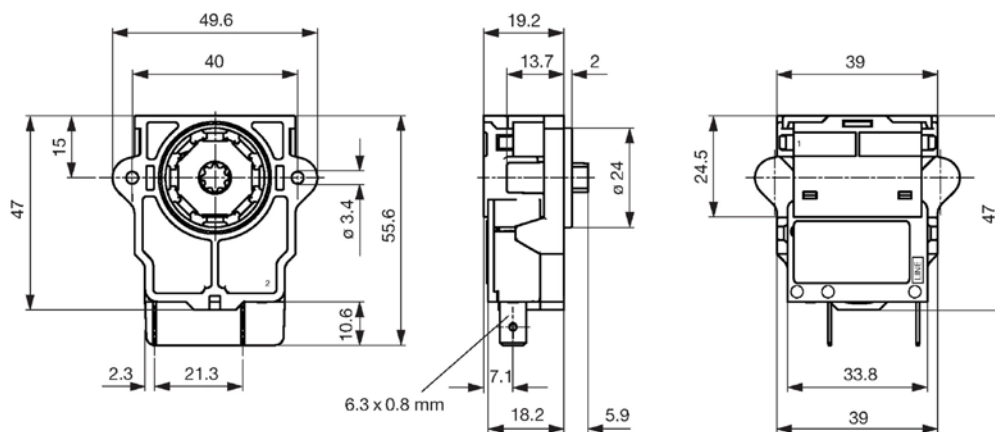
Other rated currents on request.

* 3-pole max. 12A

circuit breakers

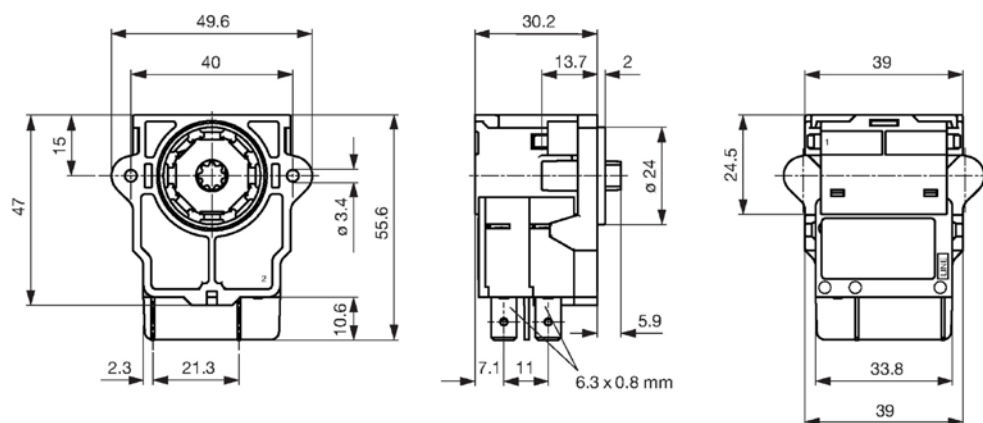
Dimensions

TA35 1-pole



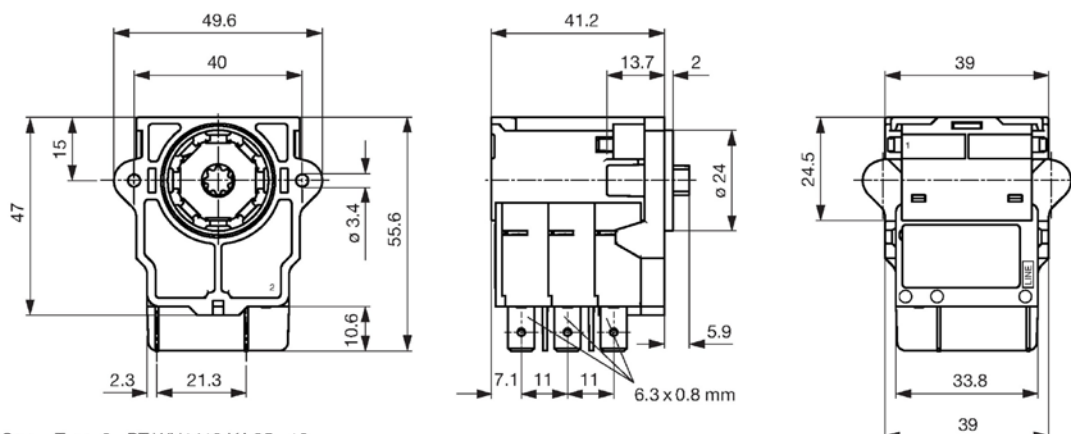
Screw Type: 2 x PT WN1413 KA35 x 12

TA35 2-pole



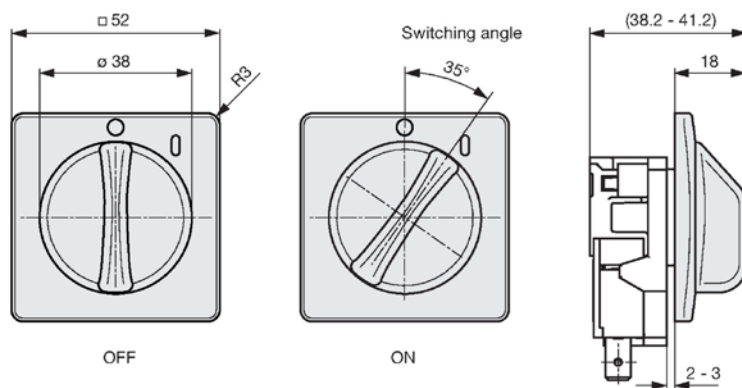
Screw Type: 2 x PT WN1413 KA35 x 12

TA35 3-pole

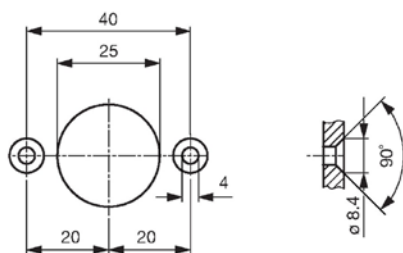


Screw Type: 2 x PT WN1413 KA35 x 12

Front bezel/knob



Cut-out



Mounting instructions



Customer specific bezels/actuator designs possible