TA45 2 pole Push button

Circuit Breaker for Equipment thermal, 2 pole, Push button actuation

Basic type

With undervoltage protection

With IP65 protection cover (accessory)

See below:
Approvals and Compliances

Description

- Thermal circuit breaker
- 1 or 2 pole thermal overload protection
- Positively trip-free release
- High configurability
- Snap-in or flange mounted
- Quick connect terminal 6.3 x 0.8 mm or screw clamp terminal M3.5 x 6 mm (lineside P1, P2)

Applications

- Power tools
- Industrial appliances
- Power supplies
- Equipment for construction
- Cleaning equipment

Weblinks

pdf data sheet, html datasheet, General Product Information, Distributor-Stock-Check, Detailed request for product, Product News

Technical Data

Rated Voltage AC	240 VAC
Rated Voltage DC	60 VDC
Rated current range AC	0.05 - 20 A
Conditional short circuit capacity Inc	IEC 60934: PC1, AC 240 V: 1 kA
Short circuit capacity Icn	IEC 60934: At In < 3 A/ 240 VAC: 10xIn (max. 3 cycles) At In ≥ 3 A/ 240 VAC: 300A (max. 3 cycles) At In < 3 A/ 60 VDC: 10xIn (max. 3 cycles) At In ≥ 3 A/ 48 VDC: 120A (max. 3 cycles)
Degree of Protection	front side IP40 acc. to IEC 60529
Dielectric Strength	4 kV
Insulation Resistance	500 VDC > 100 MΩ
Lifetime	mechanical: 50'000 switching cycles
	AC: 1 x Ir: 50'000 switching cycles
	DC: 1 x Ir: 50'000 switching cycles
Overload	AC: min. 40 trips @ 6 x Ir
	DC: min. 50 trips @ 4 x Ir
Allowable Operation Temp.	-10 °C to 55 °C
Storage Temperature	-10 °C to 55 °C
Vibration Resistance	± 0.75 mm @ 5 - 60 Hz acc. to IEC 60068-2-6, test Fc 10 G @ 60 - 500 Hz acc. to IEC 60068-2-6, test Fc
Shock Resistance	30 G / 18 ms acc. to IEC 60068-2-27, test Ea
Tripping Type	Thermal
Actuation Type	Pushbutton
Weight	35 g - 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: TA45

Approval Logo	Certificates	Certification Body	Description
	VDE Approvals	VDE	VDE Certificate Number: 40019880
	UL Approvals	UL	UR File Number: E71572
	CCC Approvals	CCC	CCC Certificate Number: 2024010307710411

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

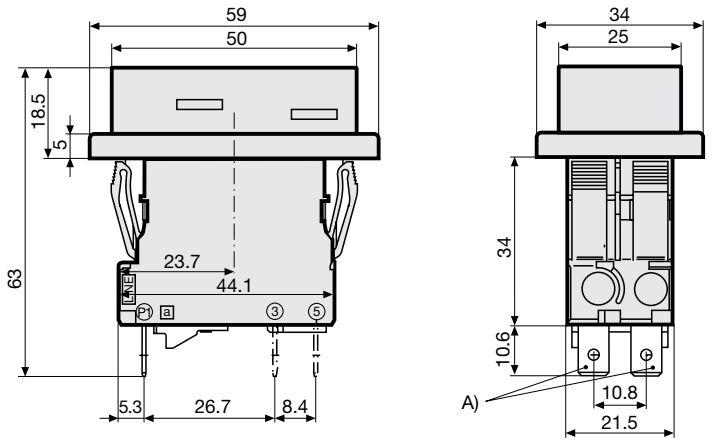
Compliances

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.

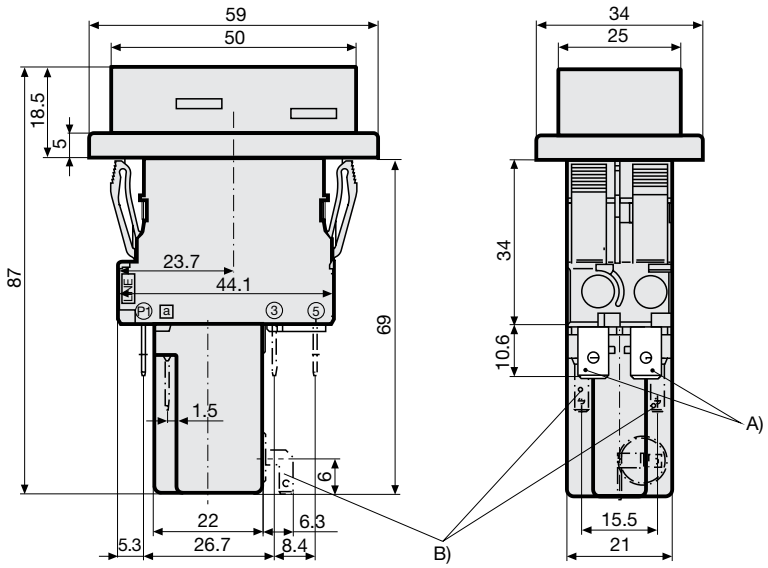
TA45 2 pole Push button

Dimension [mm]
Snap-in type and quick connect terminal



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

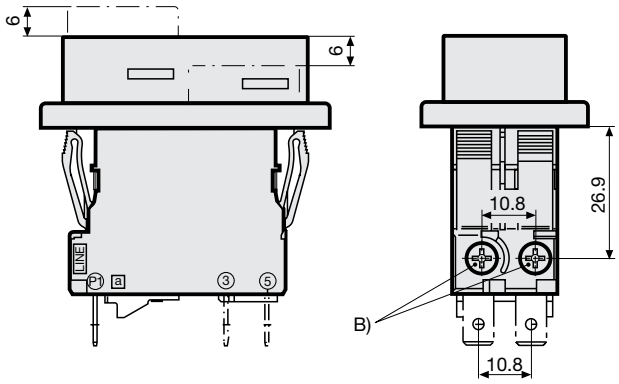
Snap-in type and quick connect terminal
Undervoltage release, remote trip release



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

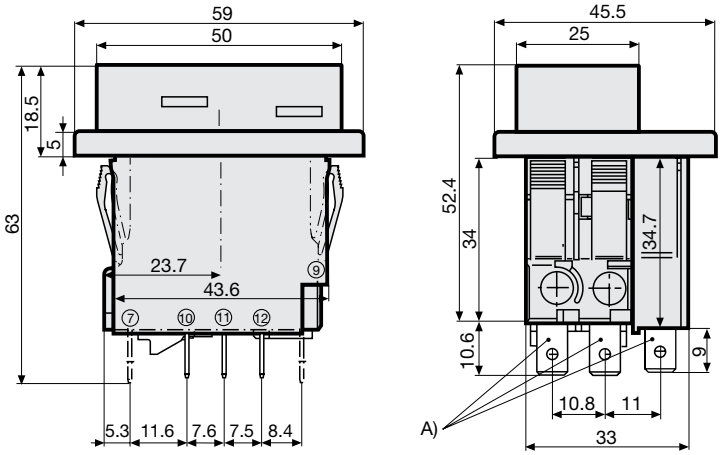
B) Quick connect terminal, IEC 61210, A2.8-0.8 mm

Snap-in type and screw clamp terminal



B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

Snap-in type and quick connect terminal with auxiliary contact



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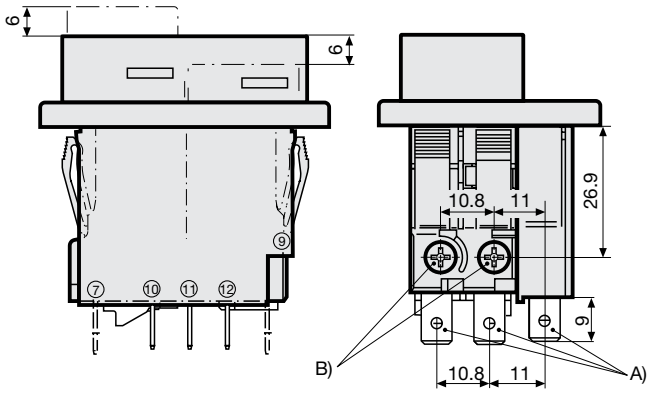
TA45 2 pole Push button

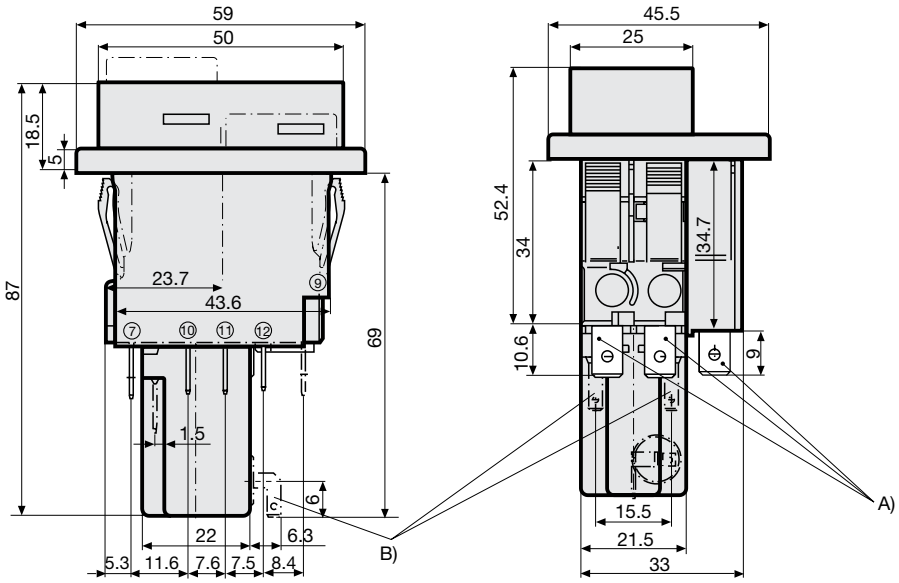
Snap-in type and screw clamp terminal with auxiliary contact



A) Quick connect terminal, DIN 46244, A6.3-0.8 mm

B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

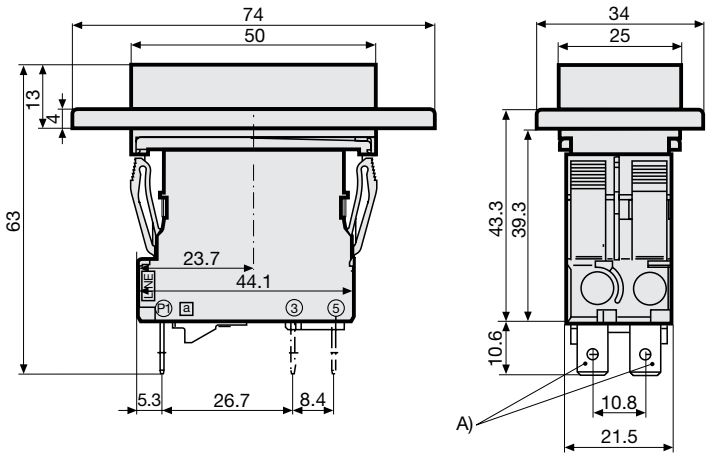
Snap-in type and quick connect terminal with auxiliary contact
Undervoltage release, remote trip release



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

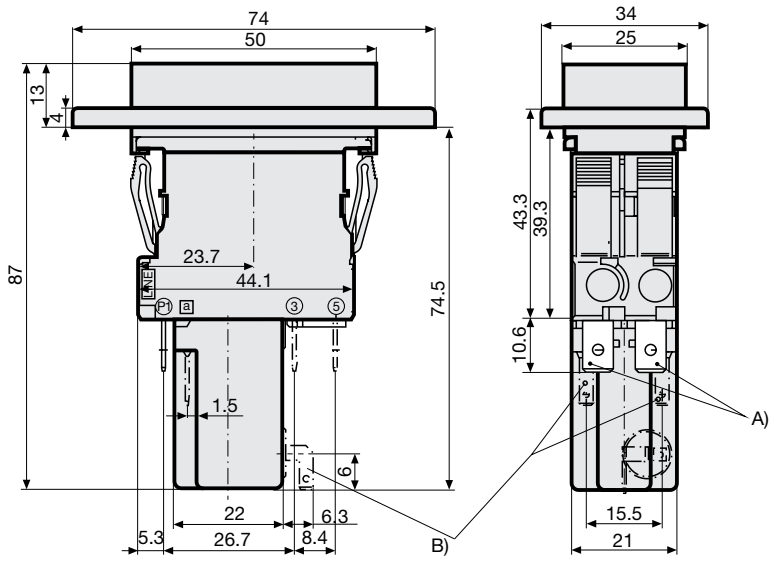
B) Quick connect terminal, IEC 61210, A2.8-0.8 mm

Flange type and quick connect terminal



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

Flange type and quick connect terminal
Undervoltage release, remote trip release



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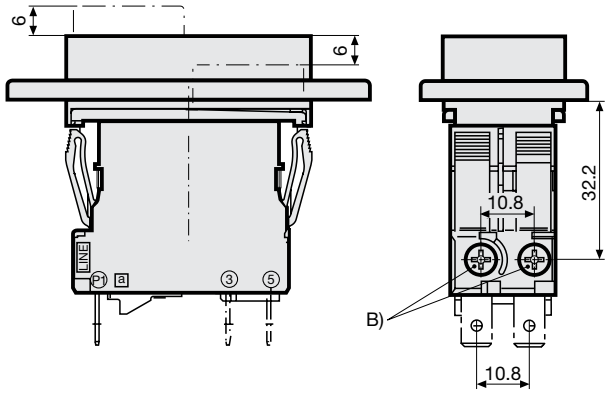
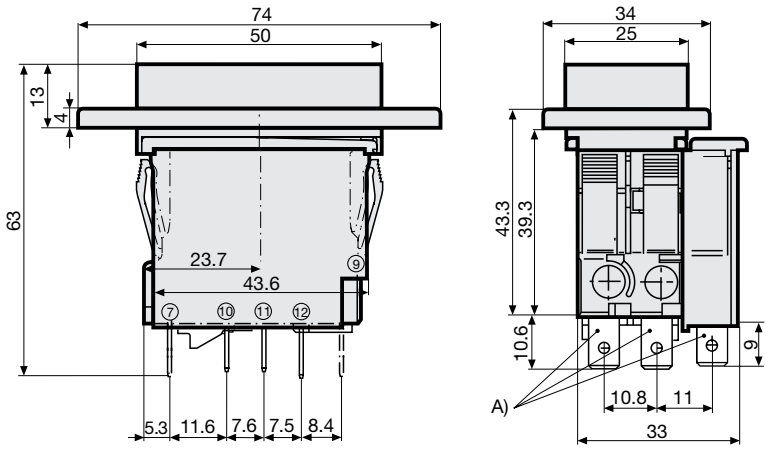
TA45 2 pole Push button

Flange type and screw clamp terminal



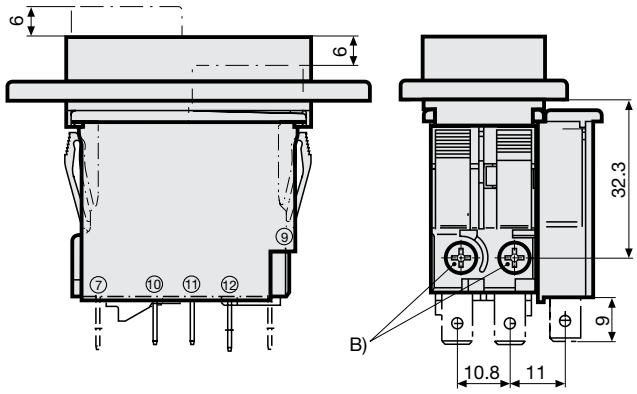
B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

Flange type and quick connect terminal with auxiliary contact



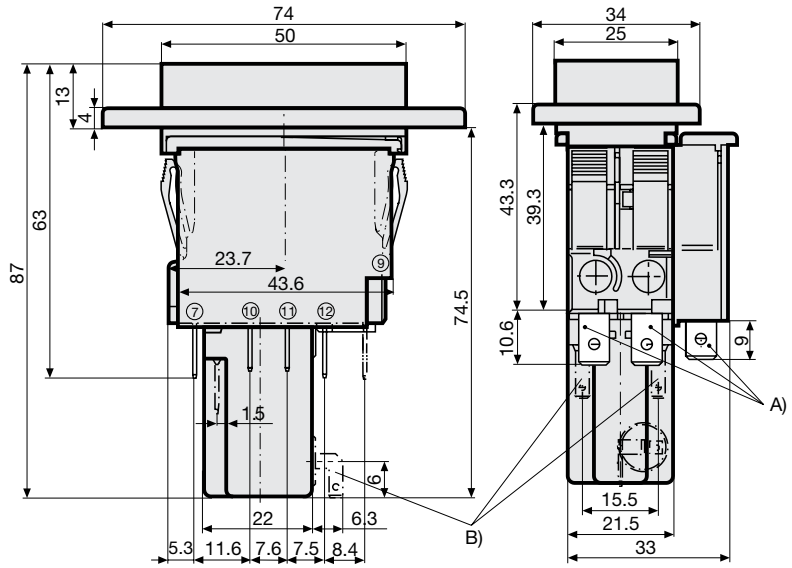
A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

Flange type and screw clamp terminal with auxiliary contact



B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

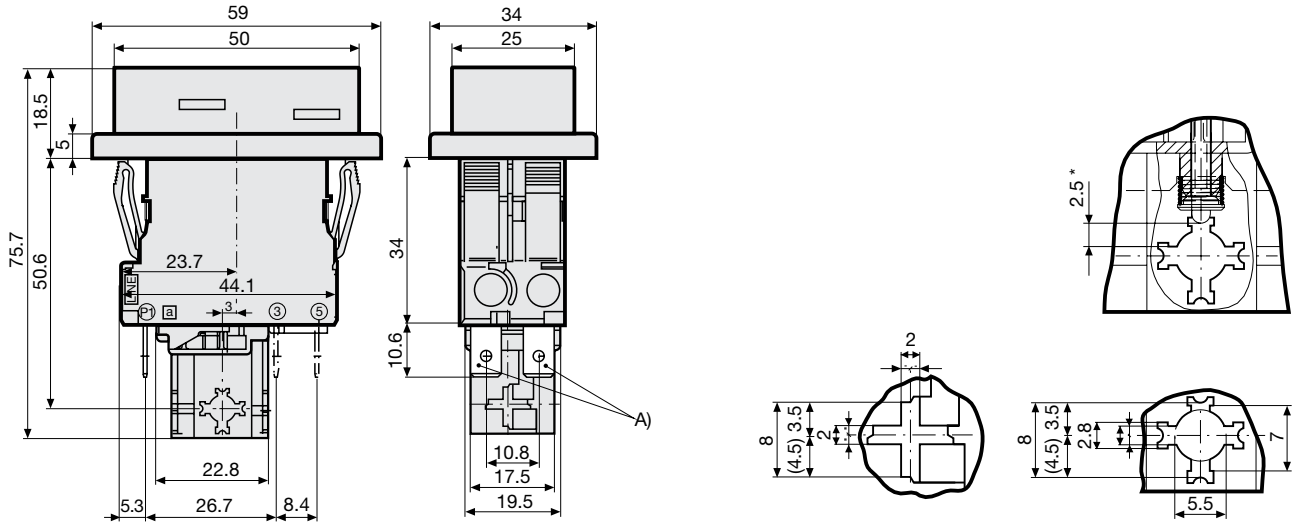
Flange type and quick connect terminal with auxiliary contact
Undervoltage release, remote trip release



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm B) Quick connect terminal, IEC 61210, A2.8-0.8 mm

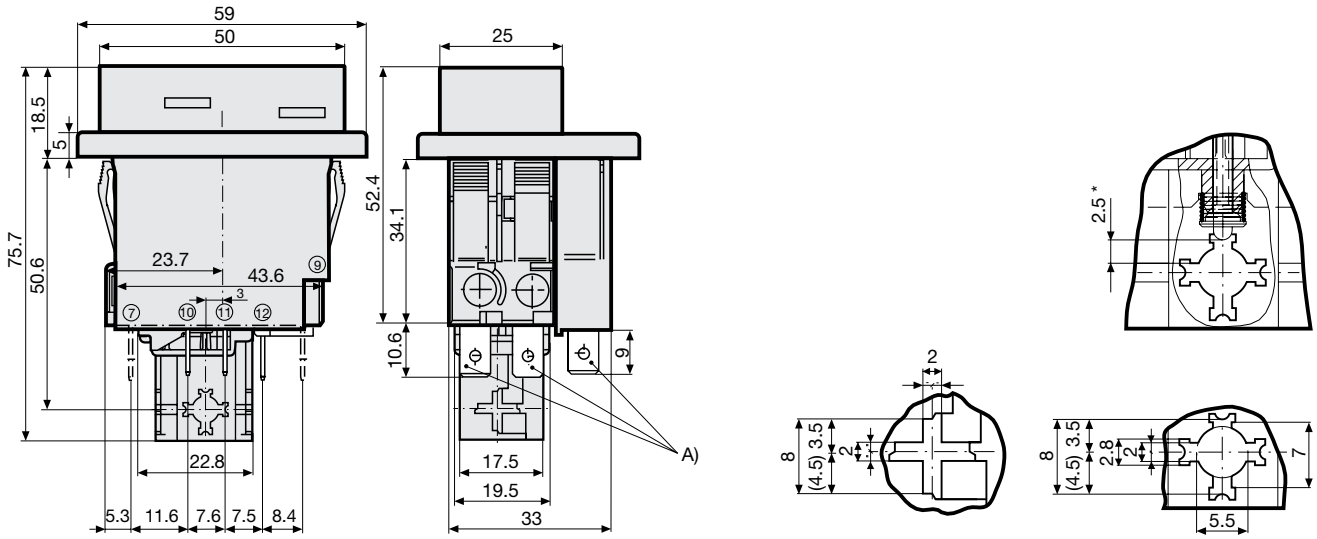
TA45 2 pole Push button

Snap-in type and quick connect terminal
Mechanical lock-out latch



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm
*) max. switching stroke

Snap-in type and quick connect terminal with auxiliary contact
Mechanical lock-out latch



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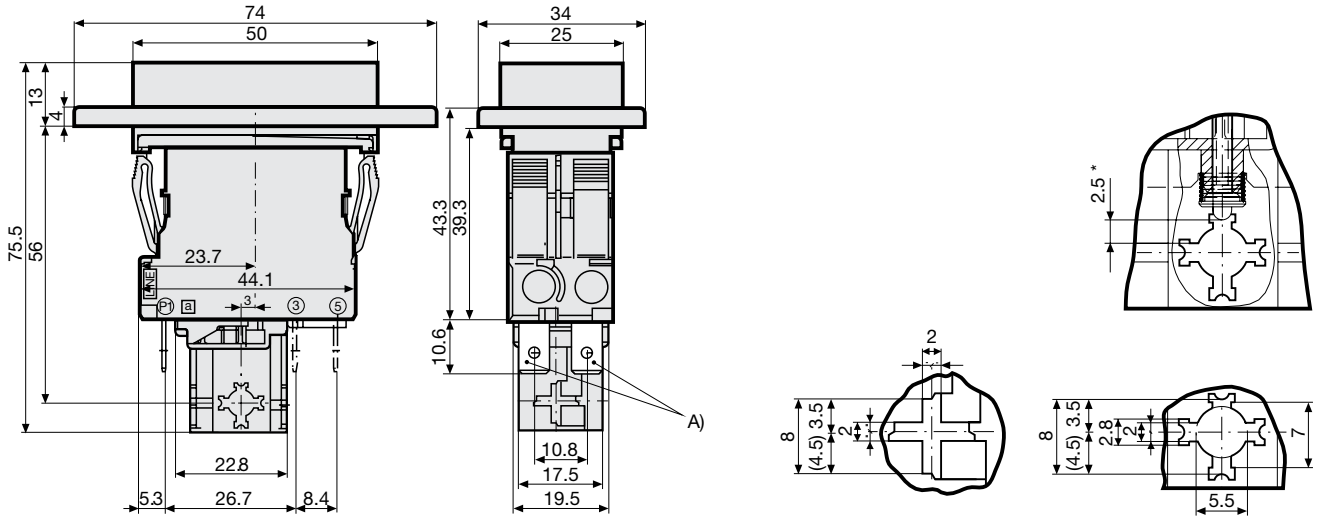
Flange type and quick connect terminal
Mechanical lock-out latch



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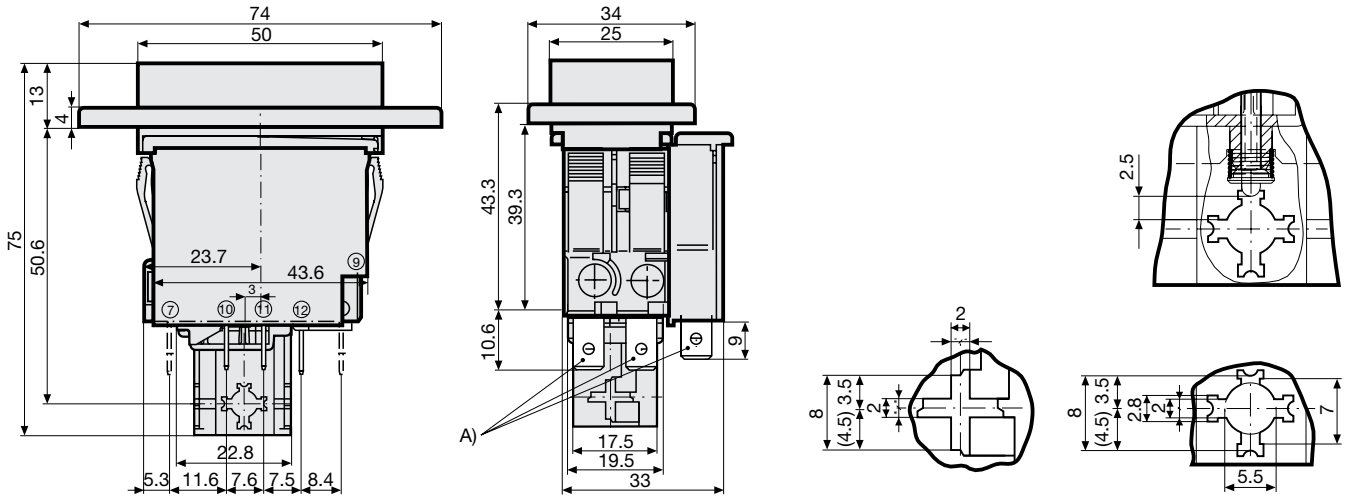
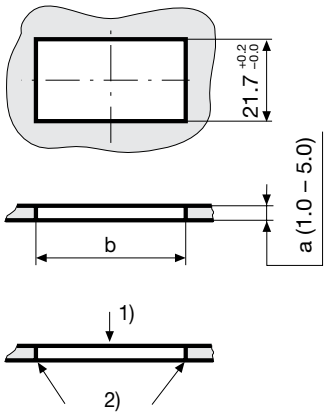
Flange type and quick connect terminal with auxiliary contact
Mechanical lock-out latch



A) Quick connect terminal, IEC 61210, A6.3-0.8 mm
*) max. switching stroke

Cut-out and pin-out

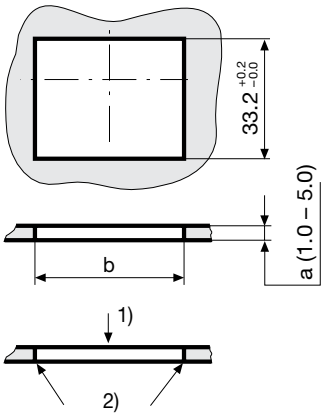
Cut-out snap-in type
Basic type



a	b
1.0	44,5...45,0
1.5	44,5...45,0
2.0	44,7...45,2
2.5	44,7...45,2
3.0	44,8...45,3
4.0	44,9...45,4
5.0	45,0...45,5

1) Assemble
2) edge must be sharp

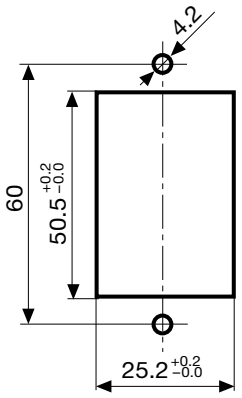
Cut-out snap-in type
With auxiliary contact



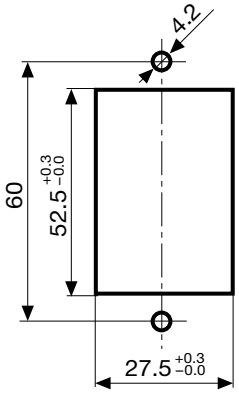
a	b
1.0	44,5...45,0
1.5	44,5...45,0
2.0	44,7...45,2
2.5	44,7...45,2
3.0	44,8...45,3
4.0	44,9...45,4
5.0	45,0...45,5

1) Assemble
2) edge must be sharp

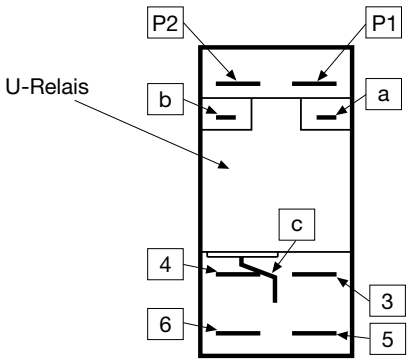
Cut-out flange type / Installation from rear



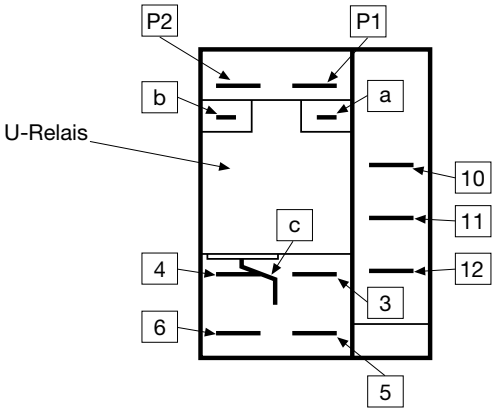
Cut-out flange type/ Installation from rear with AZZ05 cover



Pin-out
Basic type



Pin-out
With auxiliary contact



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
-10	0.89
-5	0.91
0	0.92
+23	1.00
+30	1.03
+40	1.08
+55	1.16

Example: With a nominal current of 5A and an ambient temperature of 40°C, a correction factor of 1.08 results. This results in a nominal current of 5.5 A, which is rounded up to the next higher nominal current 6 A.

Auxiliary contact (changeover)

Rated Voltage	28 VDC	60 VDC	240 VAC
Rated current	max. 10 A resistive load	max. 2 A resistive load	max. 2 A cos φ 0.7

Undervoltage release

Max. operating voltage						1.1 Ue
Rated operating voltage Ue	5 V	12 V	24 V	48 V	120 V	240 V
Current consumption (± 10%)	10.5 mA	16.5 mA	17.0 mA	3.2 mA	3.7 mA	3.1 mA
Highest reset level	0.85 Ue	0.85 Ue	0.85 Ue	0.85 Ue	0.85 Ue	0.85 Ue
Lowest trip level	0.20 Ue	0.20 Ue	0.20 Ue	0.20 Ue	0.20 Ue	0.20 Ue
Trip delay	20 ms - 50 ms	20 ms - 50 ms	20 ms - 50 ms	20 ms - 50 ms	20 ms - 50 ms	20 ms - 50 ms
Impulse withstand voltage (1.2 / 50 µs)	≥4 kV	≥4 kV	≥4 kV	≥4 kV	≥4 kV	≥4 kV

Remote trip

Permissible impuls duration of the make contact (no)	Between terminal C and P1	unlimited
Electrical load of the make contact (no)	Current max. 12 mA / power max. 1.1 W	

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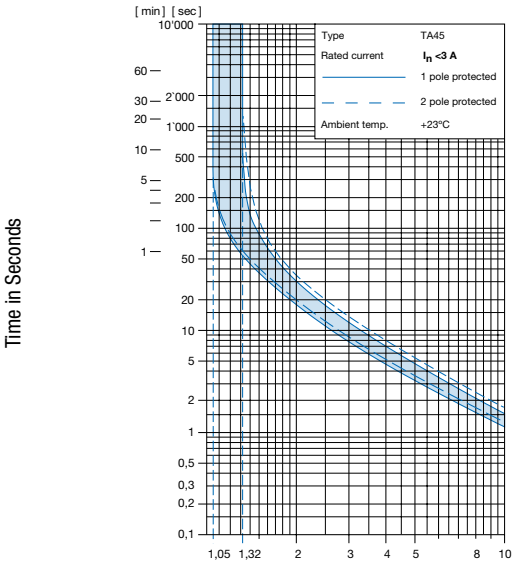
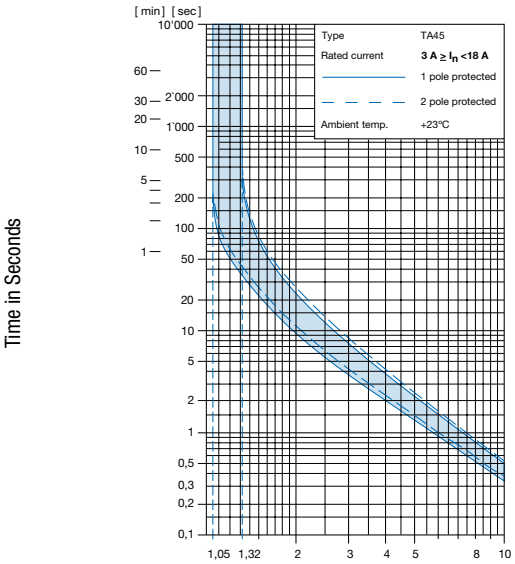
Time-Current-Curves

Rated Current In <3 A



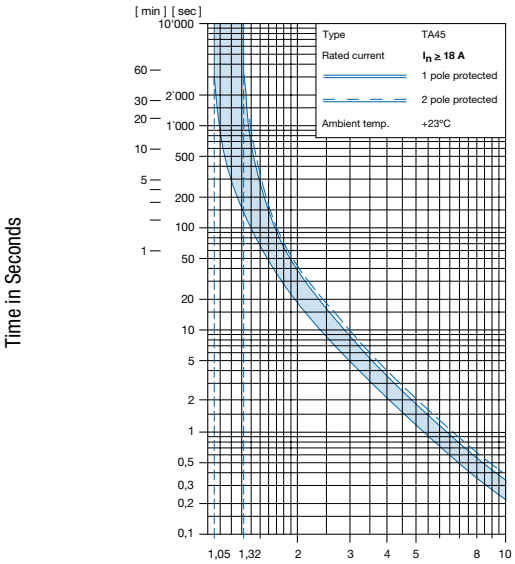
Ambient temperature +23°

Rated Current 3 A ≥ In <18 A



Ambient temperature +23°

Rated Current In ≥18 A



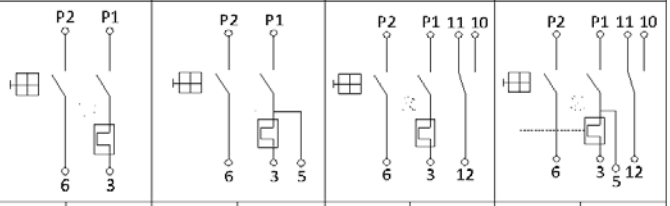
Ambient temperature +23°

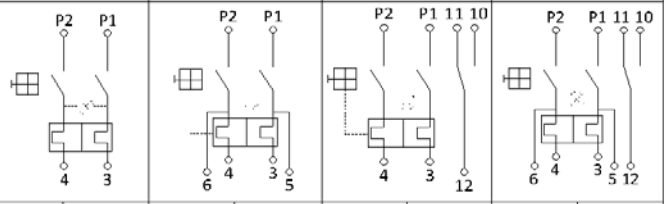
Order number key

T	A	4	5	-	A	B	L	T	F	2	0	0	U	2	-	7	0	1
					1		2	3		4			5			6*		

* These characters are omitted for standard products and serve as placeholder for customised applications.

Basic type

			1-pole thermal overload protection							
Auxiliary contact (changeover)				•		•		•		•	
Shunt terminal					•						
Schematic drawing										
Terminal type	Quick connect terminal		•		•		•		•	
	Screw terminal (lineside P1, P2)			•		•		•		•
Snap-in type	Push button gasket	IP40	ABL	AEL	ABM	AEM	AUL	AXL	AUM	AXM
	Push button gasket	IP65	ABU	AEU	ABV	AEV	AUU	AXU	AUV	AXV
Flange type	Push button gasket	IP40	AHL	AJL	AHM	AJM	ALL	APL	ALM	APM
	Push button gasket	IP65	AHU	AJU	AHV	AJV	ALU	APU	ALV	APV

			2-pole thermal overload protection							
Auxiliary contact (changeover)				•		•		•		•	
Shunt terminal					•						
Schematic drawing										
Terminal type	Quick connect terminal		•		•		•		•	
	Screw terminal (lineside P1, P2)			•		•		•		•
Snap-in type	Push button gasket	IP40	ABN	AEN	ABP	AEP	AUN	AXN	AUP	AXP
	Push button gasket	IP65	ABW	AEW	ABX	AEX	AUW	AXW	AUX	AXX
Flange type	Push button gasket	IP40	AHN	AJN	AHP	AJP	ALN	APN	ALP	APP
	Push button gasket	IP65	AHW	AJW	AHX	AJX	ALW	APW	ALX	APX

Colours

Switch front	ON Button	OFF Button		
black	green	red	=	T
yellow	green	red	=	U
grey	green	red	=	V

Push button legend

–	o	Embossed	= F
ON	OFF	Printed white	= H
		Printed black	= K
–	o	Printed white	= L
		Printed black	= M
I	0	Printed white	= P
		Printed black	= R
ON –	OFF o	Printed white	= S
		Printed black	= T

TA45 2 pole Push button

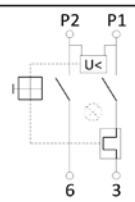
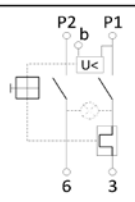
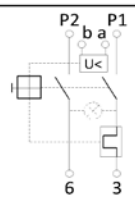
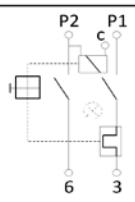
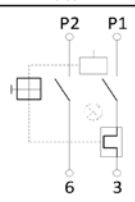
T	A	4	5	-	A	B	L	T	F	2	0	0	U	2	-	7	0	1
					1			2	3		4			5			6*		

Rated current In [A] 4

Thermal overload protection

In			In			In			In			In			In			In			In		
0.05	=	Z05	0.5	=	J05	1.4	=	J14	2.3	=	J23	4.0	=	040	6.0	=	060	9.0	=	090	13.5	=	135
0.1	=	J01	0.6	=	J06	1.5	=	J15	2.5	=	J25	4.2	=	042	6.2	=	062	9.5	=	095	14.0	=	140
0.15	=	Z15	0.7	=	J07	1.6	=	J16	2.8	=	J28	4.4	=	044	6.5	=	065	10.0	=	100	14.5	=	145
0.2	=	J02	0.8	=	J08	1.7	=	J17	2.9	=	J29	4.5	=	045	7.0	=	070	10.5	=	105	15.0	=	150
0.25	=	Z25	0.9	=	J09	1.8	=	J18	3.0	=	030	4.7	=	047	7.1	=	071	11.0	=	110	16.0	=	160
0.3	=	J03	1.0	=	J10	1.9	=	J19	3.2	=	032	5.0	=	050	7.2	=	072	11.5	=	115	17.0	=	170
0.35	=	Z35	1.1	=	J11	2.0	=	J20	3.5	=	035	5.2	=	052	7.5	=	075	12.0	=	120	18.0	=	180
0.4	=	J04	1.2	=	J12	2.1	=	J21	3.7	=	037	5.5	=	055	8.0	=	080	12.5	=	125	19.0	=	190
0.45	=	Z45	1.3	=	J13	2.2	=	J22	3.8	=	038	5.7	=	057	8.5	=	085	13.0	=	130	20.0	=	200

Undervoltage release 5

Rated voltage	Undervoltage release			Remote trip release	Mechanical lock-out latch	Without release or mechanical lock-out latch
AC (V)						
240	U2	E2	Z2	A2		
230	U3	E3	Z3	A3		
120	U4	E4	Z4	A4		
AC/DC (V)					S0	C0
48	U6	E6	Z6	A6		
24	U7	E7	Z7	A7		
12	U8	E8	Z8	A8		
5	U9	E9	Z9			

** Schematic drawings: 1-pole protected version shown only*

Special marking 6

Standard	=	(empty)
Special marking (XXX = placehoder)	=	XXX

Accessories

	Description
	TA45-ACC Accessories to TA45

06.04.2025

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.