

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



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)

Approvals

- Approval Reference Type: TA45
- IEC Standard: IEC 60934
- UL Standard: UL 1077
- CSA Standard: CSA C22.2 No. 235
- GB Standard: GB 17701

Applications

- Power tools
- Industrial appliances
- Power supplies

Weblinks

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

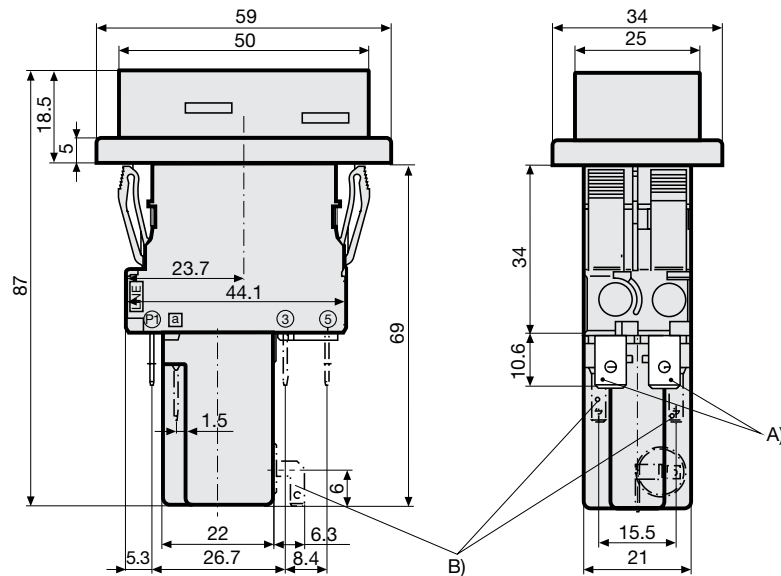
Technical Data

Rated Voltage AC	240 V
Rated Voltage DC	60 V
Rated current range AC	0.05 - 20 A
Conditional short circuit capacity	IEC: Inc, PC1, AC 240 V: 1 kA
Degree of Protection	from front side IP 40 acc. to IEC 60529
Dielectric Strength	4 kV
Insulation resistance	500 VDC > 100 MΩ
Endurance typical	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
Ambient 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
Possible Tripping Types	Thermal Undervoltage release Remote trip Mechanical lock-out latch
Actuation type	Pushbutton
Weight	45 - 60 g

Dimension

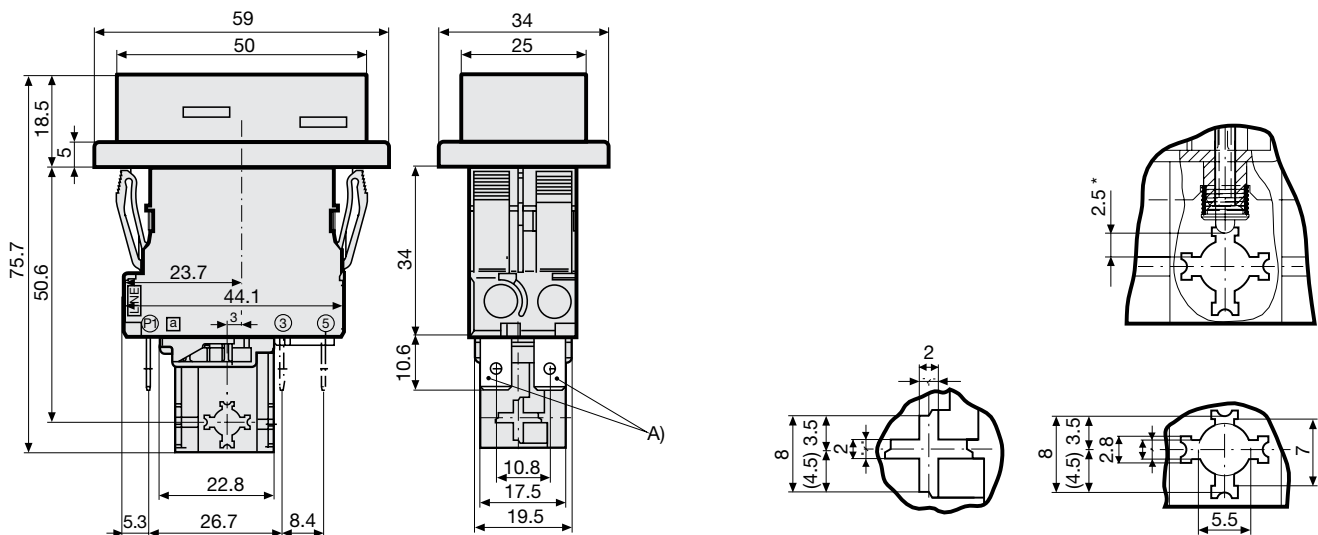
Snap-in type and quick connect terminal
Undervoltage release, remote trip release



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

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

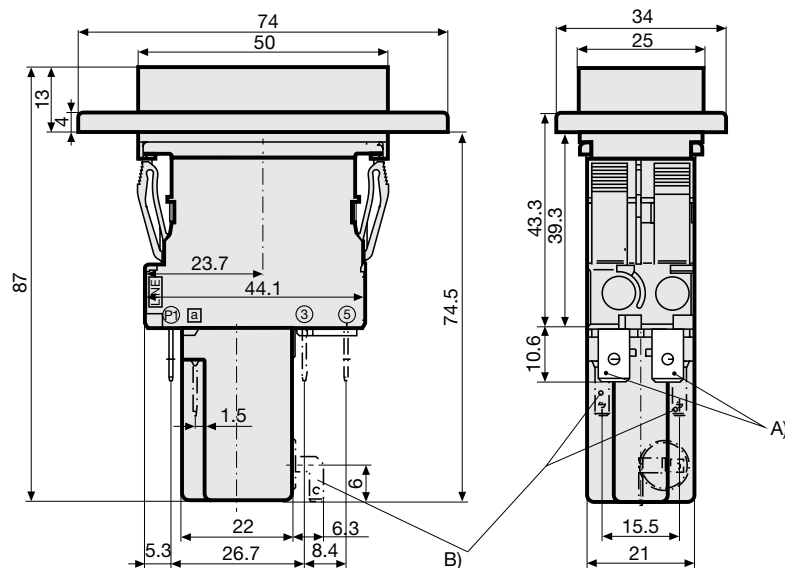
Snap-in type and quick connect terminal
Mechanical lock-out latch



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

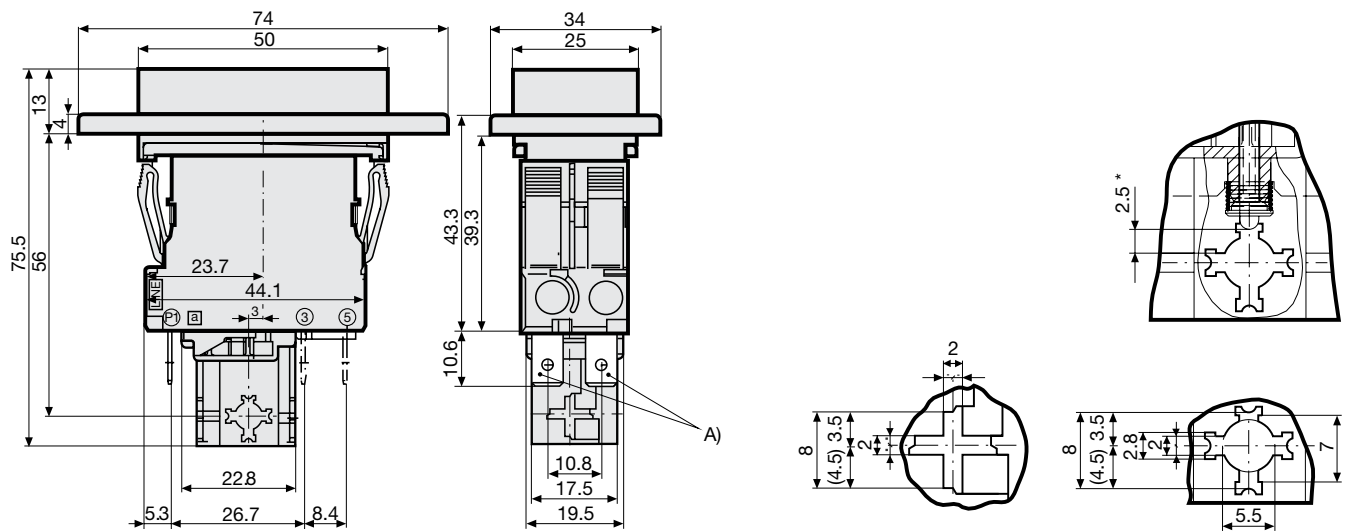
*) max. switching stroke

Flange 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

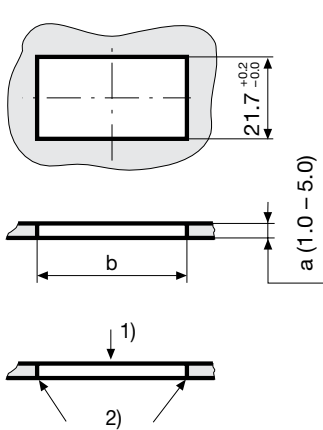
Flange type and quick connect terminal
Mechanical lock-out latch



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

*) max. switching stroke

Cut-out and pin-out
Cut-out snap-in type

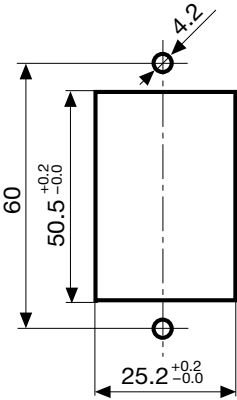


a	b
1.0	44,5...45,0
1.5	44,5...45,0
2.0	44,7...45,2
2.5	44,7...45,2
3.0	44,8...45,3
4.0	44,9...45,4
5.0	45,0...45,5

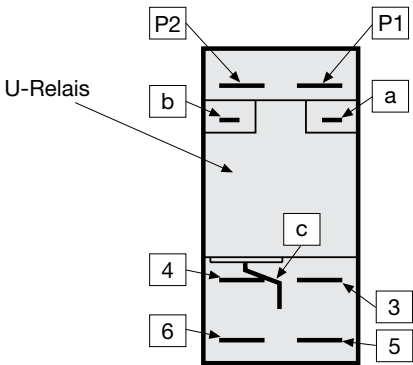
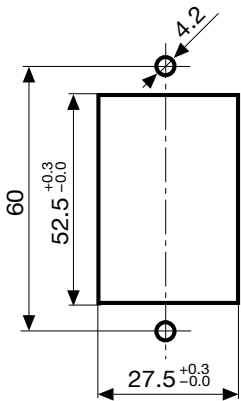
- 1) Assemble
- 2) edge must be sharp

Cut-out flange type / Installation from rear

Cut-out flange type / Installation from rear

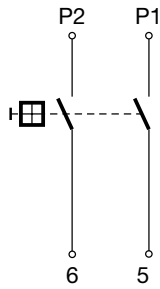


Pin-out

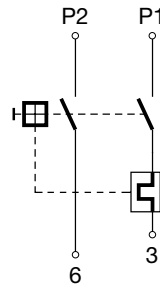


Diagrams

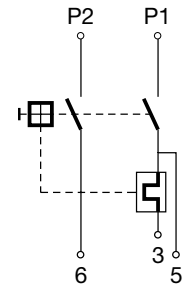
Without thermal overload protection



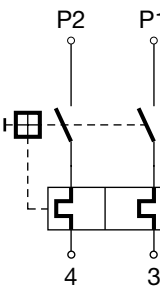
1 pole thermal overload protection



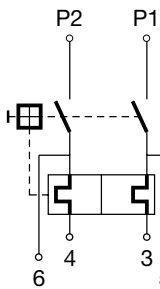
1 pole thermal overload protection, Shunt terminal



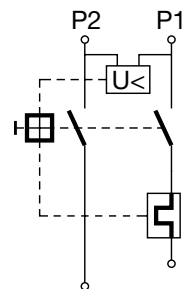
2 pole thermal overload protection



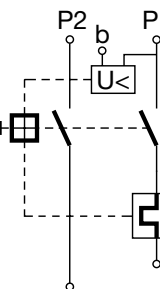
2 pole thermal overload protection, Shunt terminal



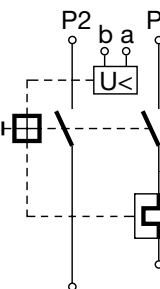
Undervoltage release



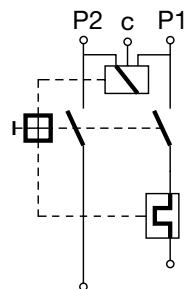
Undervoltage release with additional contact



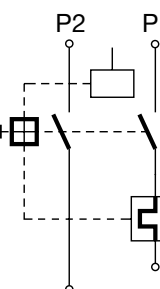
Undervoltage release with 2 additional contacts



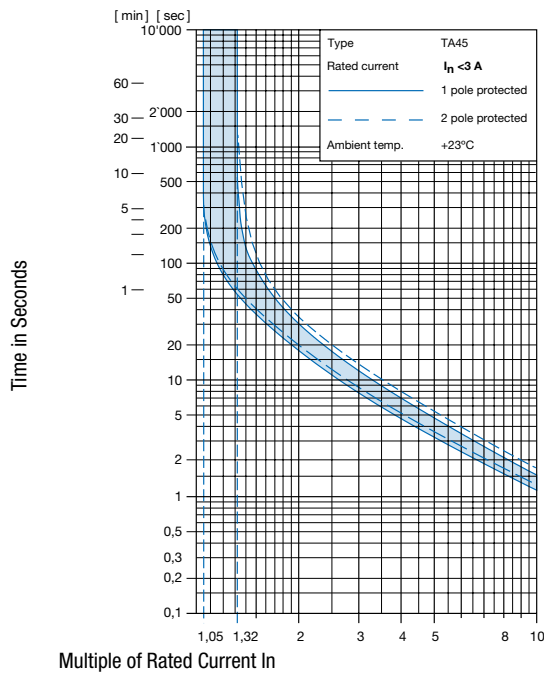
Remote trip release



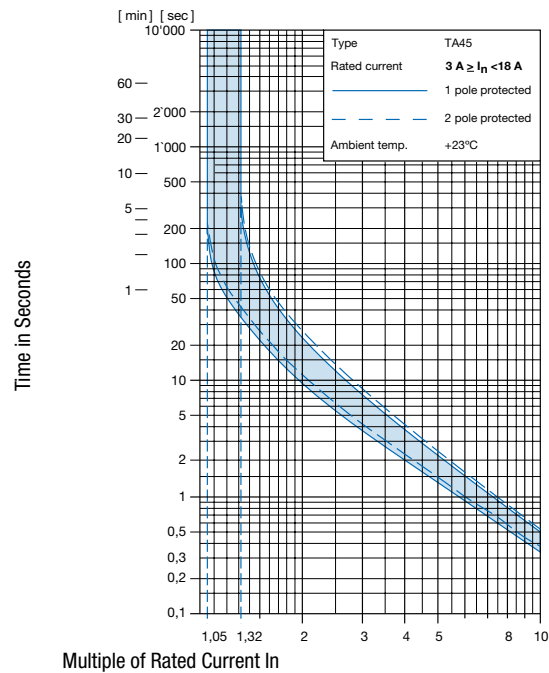
Mechanical lock-out latch



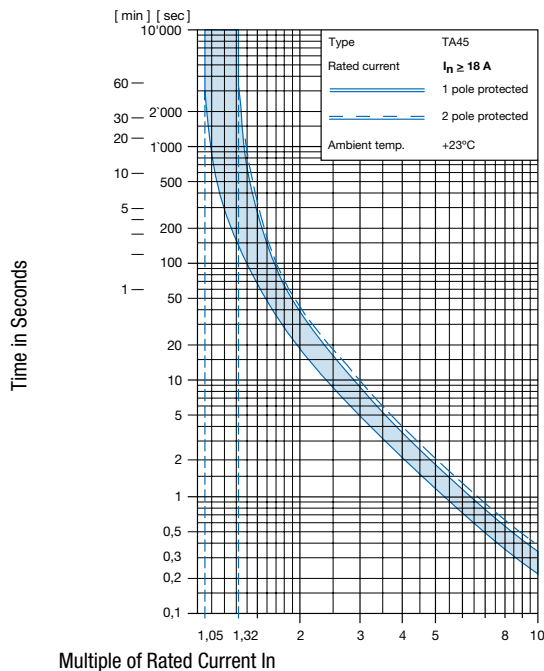
Time-Current-Curves



Reference Temperature +23°



Reference Temperature +23°



Reference Temperature +23°

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: Rated current = 5 A; Environmental temperature = 40 °C; --> Correction factor = 1.08; Resulting current = 5.5 A --> Fount to next higher rated current: 6 A

Undervoltage release

Max. operating voltage							1.1 Ue
Rated operating voltage Ue	5 V	12 V	24 V	48 V	120 V	240 V	400 V ¹⁾
Current consumption (± 10%)	10.5 mA	16.5 mA	17.0 mA	3.2 mA	3.7 mA	3.1 mA	2.65 mA
Highest reset level							0.85 Ue
Lowest trip level							0.20 Ue
Trip delay							20 ms - 50 ms
Impulse withstand voltage (1.2 / 50 µs)							≥ 4 kV
1) only for 3pole							

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	

Config. Code

TA45 - AK2 W F 120 A2 - AZM11

The characters are placeholders for the correspondingly keys of selections from the key tables.

TA45 - **AK2** W F 120 A2 - AZM11 = Basic function

Basic function	Configuration key
2-pole, push button, flat connection, snap-in type, push button gasket IP40	ABK
2-pole, push button, 1pole overload protection, flat connection, snap-in type, push button gasket IP40	ABL
2-pole, push button, 1pole overload protection, shunt terminal, flat connection, snap-in type, push button gasket IP40	ABM
2-pole, push button, 2pole overload protection, flat connection, snap-in type, push button gasket IP40	ABN
2-pole, push button, 2p overload protection, shunt terminal, flat connection, snap-in type, push button gasket IP40	ABP
2-pole, push button, flat connection, snap-in type, push button gasket IP65	ABS
2-pole, push button, 1pole overload protection, flat connection, snap-in type, push button gasket IP65	ABU
2-pole, push button, 1pole overload protection, shunt terminal, flat connection, snap-in type, push button gasket IP65	ABV
2-pole, push button, 2pole overload protection, flat connection, snap-in type, push button gasket IP65	ABW
2-pole, push button, 2p overload protection, shunt terminal, flat connection, snap-in type, push button gasket IP65	ABX
2-pole, push button, screw connection, snap-in type, push button gasket IP40	AEK
2-pole, push button, 1pole overload protection, screw connection, snap-in type, push button gasket IP40	AEL

Basic function	Configuration key
2-pole, push button, 1p overload protection, shunt terminal, screw connection, snap-in type, push button gasket IP40	AEM
2-pole, push button, 2pole overload protection, screw connection, snap-in type, push button gasket IP40	AEN
2-pole, push button, 2p overload protection, shunt terminal, screw connection, snap-in type, push button gasket IP40	AEP
2-pole, push button, screw connection, snap-in type, push button gasket IP65	AES
2-pole, push button, 1pole overload protection, screw connection, snap-in type, push button gasket IP65	AEU
2-pole, push button, 1p overload protection, shunt terminal, screw connection, snap-in type, push button gasket IP65	AEV
2-pole, push button, 2pole overload protection, screw connection, snap-in type, push button gasket IP65	AEW
2-pole, push button, 2p overload protection, shunt terminal, screw connection, snap-in type, push button gasket IP65	AEX
2-pole, push button, flat connection, flange type, push button gasket IP40	AHK
2-pole, push button, 1pole overload protection, flat connection, flange type, push button gasket IP40	AHL
2-pole, push button, 1pole overload protection, shunt terminal, flat connection, flange type, push button gasket IP40	AHM
2-pole, push button, 2pole overload protection, flat connection, flange type, push button gasket IP40	AHN
2-pole, push button, 2p overload protection, shunt terminal, flat connection, flange type, push button gasket IP40	AHP

Basic function	Configuration key
2-pole, push button, flat connection, flange type, push button gasket IP65	AHS
2-pole, push button, 1pole overload protection, flat connection, flange type, push button gasket IP65	AHU
2-pole, push button, 1pole overload protection, shunt terminal, flat connection, flange type, push button gasket IP65	AHV
2-pole, push button, 2pole overload protection, flat connection, flange type, push button gasket IP65	AHW
2-pole, push button, 2p overload protection, shunt terminal, flat connection, flange type, push button gasket IP65	AHX
2-pole, push button, screw connection, flange type, push button gasket IP40	AJK
2-pole, push button, 1pole overload protection, screw connection, flange type, push button gasket IP40	AJL
2-pole, push button, 1p overload protection, shunt terminal, screw connection, flange type, push button gasket IP40	AJM
2-pole, push button, 2pole overload protection, screw connection, flange type, push button gasket IP40	AJN
2-pole, push button, 2p overload protection, shunt terminal, screw connection, flange type, push button gasket IP40	AJP
2-pole, push button, screw connection, flange type, push button gasket IP65	AJS
2-pole, push button, 1pole overload protection, screw connection, flange type, push button gasket IP65	AJU
2-pole, push button, 1p overload protection, shunt terminal, screw connection, flange type, push button gasket IP65	AJV
2-pole, push button, 2pole overload protection, screw connection, flange type, push button gasket IP65	AJW
2-pole, push button, 2p overload protection, shunt terminal, screw connection, flange type, push button gasket IP65	AJX

TA45 - AK2 W F 120 A2 - AZM11 = Actuator colour

Actuator colour	Configuration key
Front Black: Green/Red	T
Front Yellow: Green/Red	U
Front Grey: Green/Red	V

TA45 - AK2 W F 120 A2 - AZM11 = Legend

Legend	Configuration key
embossed	F
white printed	H
black printed	K
white printed	L
black printed	M
white printed	P
black printed	R
white printed	S

Legend	Configuration key
black printed	T

TA45 - AK2 W F 120 A2 - AZM11 = Rated current

Rated current	Configuration key
without thermal overload protection / temporarily without VDE approval	C00
0.05 A	Z05
0.1 A	J01
0.2 A	J02
0.3 A	J03
0.4 A	J04
0.5 A	J05
0.6 A	J06
0.7 A	J07
0.8 A	J08
0.9 A	J09
1.0 A	J10
1.1 A	J11
1.2 A	J12
1.3 A	J13
1.4 A	J14
1.5 A	J15
1.6 A	J16
1.7 A	J17
1.8 A	J18
1.9 A	J19
2.0 A	J20
2.1 A	J21
2.2 A	J22
2.3 A	J23
2.5 A	J25
2.8 A	J28
3.0 A	030
3.5 A	035
4.0 A	040
4.5 A	045
5.0 A	050
6.0 A	060
6.5 A	065
7.0 A	070
7.5 A	075
8.0 A	080
9.0 A	090
10.0 A	100
11.0 A	110
12.0 A	120
13.0 A	130
14.0 A	140
15.0 A	150
16.0 A	160
17.0 A	170

Other rated currents on request

Rated current	Configuration key
18.0 A	180
19.0 A	190
20.0 A	200

Other rated currents on request

TA45 - AK2 W F 120 A2 - AZM11 = Release / lock-out latch

Release / lock-out latch	Configuration key
Remote trip release, rated voltage 240 V AC	A2
Remote trip release, rated voltage 230 V AC	A3
Remote trip release, rated voltage 120 V AC	A4
Remote trip release, rated voltage 48 V AC / DC	A6
Remote trip release, rated voltage 24 V AC / DC	A7
Remote trip release, rated voltage 12 V AC / DC	A8
without release / lock-out latch	C0
Undervoltage release with additional contact, rated voltage 240 V AC	E2
Undervoltage release with additional contact, rated voltage 230 V AC	E3
Undervoltage release with additional contact, rated voltage 120 V AC	E4
Undervoltage release with additional contact, rated voltage 48 V AC / DC	E6
Undervoltage release with additional contact, rated voltage 24 V AC / DC	E7
Undervoltage release with additional contact, rated voltage 12 V AC / DC	E8
Undervoltage release with additional contact, rated voltage 5 V AC / DC	E9

Release / lock-out latch	Configuration key
Mechanical lock-out latch	S0
Undervoltage release, rated voltage 240 V AC	U2
Undervoltage release, rated voltage 230 V AC	U3
Undervoltage release, rated voltage 120 V AC	U4
Undervoltage release, rated voltage 48 V AC / DC	U6
Undervoltage release, rated voltage 24 V AC / DC	U7
Undervoltage release, rated voltage 12 V AC / DC	U8
Undervoltage release, rated voltage 5 V AC / DC	U9
Undervoltage release with 2 additional contacts, rated voltage 240 V AC	Z2
Undervoltage release with 2 additional contacts, rated voltage 230 V AC	Z3
Undervoltage release with 2 additional contacts, rated voltage 120 V AC	Z4
Undervoltage release with 2 additional contacts, rated voltage 48 V AC / DC	Z6
Undervoltage release with 2 additional contacts, rated voltage 24 V AC / DC	Z7
Undervoltage release with 2 additional contacts, rated voltage 12 V AC / DC	Z8
Undervoltage release with 2 additional contacts, rated voltage 5 V AC / DC	Z9

TA45 - AK2 W F 120 A2 - AZM11 = Accessories

Factory mounted accessories	Configuration key
Without cover	

For subsequent fitting accessories see:
http://www.schurter.ch/pdf/english/typ_TA45-ACC.pdf

Variants

Thermal overload protection	Addition	connection type	Mounting	IP Protection Class Front Side	Actuator colour	Legend	Rated current	Accessories	Config. Code	Order Number
without		Quick connect terminal	Flange type	IP65	Front Black: Green/Red	white printed	without thermal overload protection / temporarily without VDE approval	Without cover	TA45-AHSTLC00U3	4430.0651
2-pole		Quick connect terminal	Snap-in type	IP40	Front Black: Green/Red	white printed	16.0 A	Without cover	TA45-ABNTL160U3	4430.3602
1-pole		Quick connect terminal	Snap-in type	IP65	Front Black: Green/Red	embossed	16.0 A	Without cover	TA45-ABUTF160E3	4430.3793

Availability for all products can be searched real-time: <http://www.schurter.com/Stock-Check/Stock-Check-SCHURTER>

Packaging Unit 1 Pcs

Accessories

Description



TA45-ACC
Accessories to TA45