# TA45 2 pole Rocker

## Circuit Breaker for Equipment thermal, 2 pole, Rocker actuation



Basic type

Description

- Snap-in version

**Technical Data** 

Dielectric Strength

Lifetime

Insulation Resistance

- Thermal circuit breaker

- Positively trip-free release - High configurability

6 mm (lineside P1, P2)

- 1 or 2 pole thermal overload protection

- Rocker non-illuminated or illuminated



protection cover



With undervoltage protection

# See below: **Approvals and Compliances**

## 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

Rated Voltage AC	240 VAC
Rated Voltage DC	60 VDC
Rated current range AC	0.05 - 20 A
Conditional short circuit capa- city Inc	IEC 60934: PC1, AC 240 V: 1 kA
Short circuit capacity Icn	IEC 60934: At In < 3 A/ 240 VAC: 10xln (max. 3 cycles) At In ≥ 3 A/ 240 VAC: 300A (max. 3 cycles) At In < 3 A/ 60 VDC: 10xln (max. 3 cycles) At In ≥ 3 A/ 48 VDC: 120A (max. 3 cycles)
Degree of Protection	front side IP40 acc. to IEC 60529 With factory mounted protection cc IP54

- Quick connect terminal 6.3 x 0.8 mm or screw clamp terminal M3.5 x

4 kVAC

AC: 1 x lr:

DC: 1 x lr:

 $500 \text{ VDC} > 100 \text{ M}\Omega$ 

50'000 switching cycles

50'000 switching cycles

mechanical: 50'000 switching cycles

Overload	AC: min. 40 trips @ 6 x lr
	DC: min. 40 trips
	@ 4 x lr
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 / 18ms
	acc. to IEC 60068-2-27, test Ea
Tripping Type	Thermal
Actuation Type	Rocker
Weight	30 - 50 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.

# TA45 2 pole Rocker

# 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
NE	VDE Approvals	VDE	VDE Certificate Number: 40019880
c <b>AL</b> us	UL Approvals	UL	UR File Number: E71572
	CCC Approvals	CCC	CCC Certificate Number: 2020970307001847

## **Product standards**

Product standards that are referenced

Organization	Design	Standard	Description		
IEC	Designed according to	IEC 60934	Circuit-breakers for equipment (CBE)		
(YL)	Designed according to	UL 1077	Standard for Supplementary Protectors for Use in Electrical Equipment		
CSA Group	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

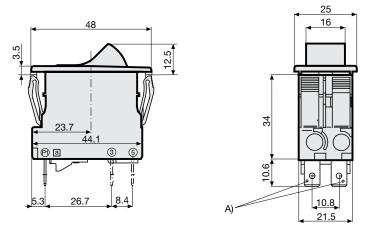
Organization	Design	Standard	Description
IEC	Suitable for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

## Compliances

The product complies with following Guide Lines

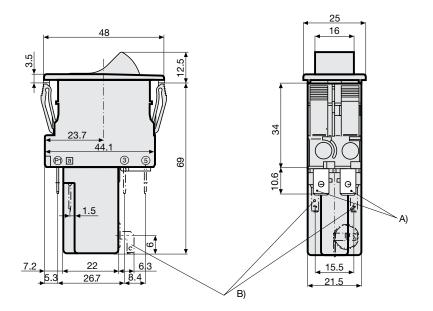
Identification	Details	Initiator	Description		
CE	CE declaration of conformity	SCHURTER AG	The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008.		
Rolls	RoHS	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	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.		

Dimension [mm] Quick connect terminal



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

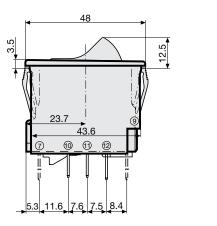
Undervoltage release, remote trip release

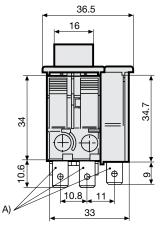


A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

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

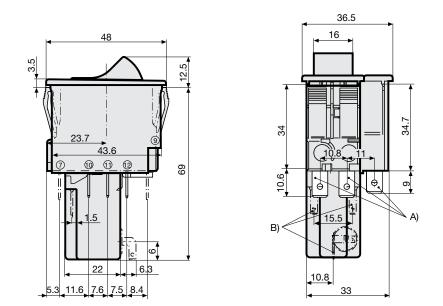
Quick connect terminal with auxiliary contact





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

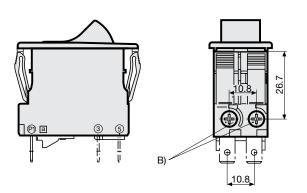
Undervoltage release, remote trip release, auxiliary contact



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

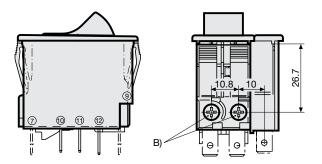
B) Quick connect terminal, IEC 61210, A2.8-0.8 mm

Screw terminal



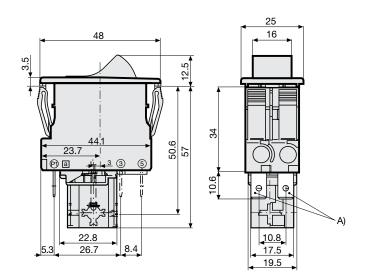
B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

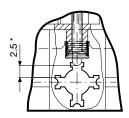
Screw clamp terminal with auxiliary contact

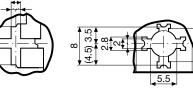


B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

Mechanical lock-out latch





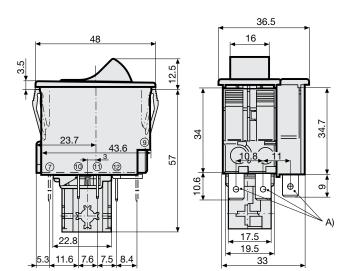


.5) 3.5

ω

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

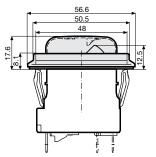
Mechanical lock-out latch with auxiliary contact

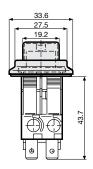


5.5

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

# Accessories / factory mounted AZM01 / Collar with cover, IP54

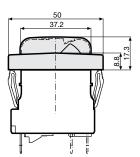




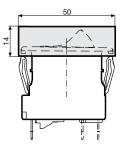
27

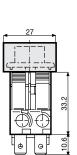
19.2

AZM10 / Collar with cover, narrow, IP54



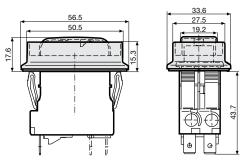
# AZM13 / Raised collar narrow, IP40



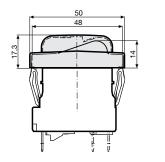


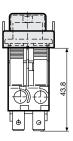
13.8

AZM02 / Raised collar with cover, narrow, IP54 AZM03 / Raised collar, IP40

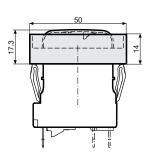


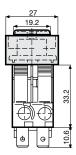
AZM11 / Partially raised collar with cover, narrow, IP54 AZM12 / Partially raised collar without cover, narrow, IP40





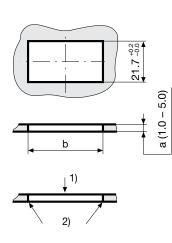
AZM14 / Raised collar with cover narrow, IP54





# Cut-out and pin-out

Cut-out snap-in type Basic type



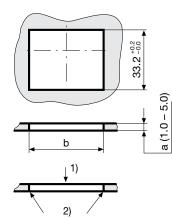
1) Assemble

Pin-out

Basic type

2) edge must be sharp

а	b
1.0 1.5 2.0 2.5 3.0 4.0 5.0	44,545,0 44,545,0 44,745,2 44,745,2 44,845,3 44,945,4 45,045,5



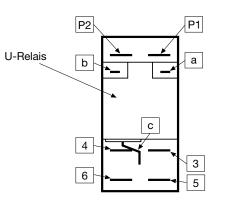
Cut-out snap-in type

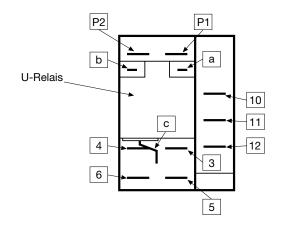
With auxiliary contact

а	b
1.0	44,545,0
1.5	44,545,0
2.0	44,745,2
2.5	44,745,2
3.0	44,845,3
4.0	44,945,4
5.0	45,045,5

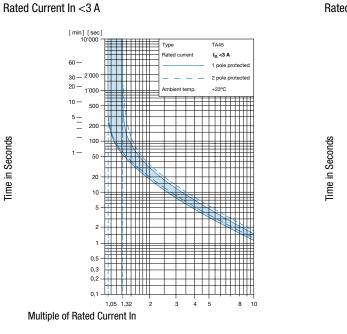
Assemble
edge must be sharp

Pin-out With auxiliary contact



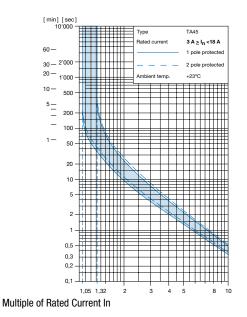


## **Time-Current-Curves**



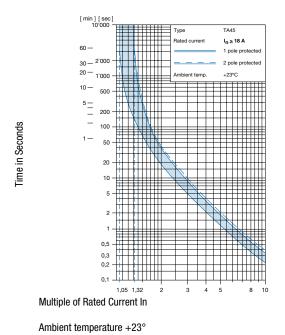
Ambient temperature +23°

Rated Current 3 A  $\geq$  In <18 A



Ambient temperature +23°

### Rated Current In ≥18 A



## Effect of ambient temperature

The units are calibrated for an ambient temperature of  $+23^{\circ}$ 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					
Lowest trip level	0.20 Ue					
Trip delay	20 ms - 50 ms					
Impulse withstand voltage (1.2 / 50 µs)	≥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	

1

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

Auxiliary contact (changeover contact)					
Shunt terminal					
Schematic drawing					
Terminal type	Quick connect terminal				
reminar type	Screw terminal (lineside P1,P2)				
Snap-in type					
	Without illumina	ation			
		220V240V			
ON/OFF switch	With	110V120V			
	illumination	20V26V			
	murmination	10V13V			
		4V7V			
Impulse switch					

Auxiliary contact (changeover contact)					
Shunt terminal					
Schematic drawing					
Terminal type	Quick connect terminal				
Terminal type	Screw terminal (lineside P1,P2)				
Snap-in type					
	Without illumina	ation			
		220V240V			
ON/OFF switch	With	110V120V			
ON/OFF SWITCH		20V26V			
	illumination	10V13V			
		4V7V			
Impulse switch					

1 pole thermal overload protection									
					• •				
			•				•		
P2			Ğ		Î				P1 1110
•		•		•		•			
	•		•		•		•		
•	•	•	•	•	•	•	•		
ABT	AHT	ABF	AHF	APT	AST	APF	ASF		
A12	A62	A22	A72	AL2	A2L	AM2	A2M		
A14	A64	A24	A74	AL4	A4L	AM4	A4M		
A17	A67	A27	A77	AL7	A7L	AM7	A7M		
A18	A68	A28	A78	AL8	A8L	AM8	A8M		
A19	A69	A29	A79	AL9	A9L	AM9	A9M		
AET	AJT	AEF	AJF	ART	AUT	ARF	AUF		

2 pole thermal overload protection								
					•	•		
			•				•	
P2 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		P2	P1 J 3 5			P2	P1 1110	
•		•		•		•		
	•		•		•		•	
•	•	•	•	•	•	•	•	
• ABD	• AHD	• ABG	• AHG	• APD	• ASD	• APG	• ASG	
• ABD A32	• AHD A82	• ABG A42	• AHG A92	• APD AN2	• ASD A2N	• APG AP2	• ASG A2P	
A32	A82	A42	A92	AN2	A2N	AP2	A2P	
A32 A34	A82 A84	A42 A44	A92 A94	AN2 AN4	A2N A4N	AP2 AP4	A2P A4P	
A32 A34 A37	A82 A84 A87	A42 A44 A47	A92 A94 A97	AN2 AN4 AN7	A2N A4N A7N	AP2 AP4 AP7	A2P A4P A7P	

Front- & Actuation color

5

-

B

1

А

А

Τl

4

Front- & Actuation	n color			0	2
Front Bezel	Rocker without illumination	Rocker with illumination			
black	-	clear transparent	=	1	
black	-	red transparent	=	3	
black	-	green transparent	=	4	
black	-	orange transparent	=	6	
black	black	-	=	В	
black	green	-	=	G	
black	red	-	=	R	
black	white	-	=	W	
black	orange	-	=	Х	
black	yellow	-	=	Y	

2

5

-

0

6\*

1

-

7

T W F 2 0 0 U

2 3 4

# Rocker legend, marking

- 0	Embossed	= F
OFF	Printed white Printed black	= H = K
- 0	Printed white Printed black	= L = M
I 0	Printed white Printed black	= P = R
OFF 0 OR	Printed white Printed black	= S = T

### Rated Current In [A] Thermal overload protection

Inermal	overio	ad protection									
In		Q	In		Q	In		Q,	In		0
0.05 A	=	Z05	1.4 A	=	J14	4.0 A	=	040	9.0 A	=	090
0.10 A	=	J01	1.5 A	=	J15	4.2 A	=	042	9.5 A	=	095
0.15 A	=	Z15	1.6 A	=	J16	4.4 A	=	044	10.0 A	=	100
0.20 A	=	J02	1.7 A	=	J17	4.5 A	=	045	10.5 A	=	105
0.25 A	=	Z25	1.8 A	=	J18	4.7 A	=	047	11.0 A	=	110
0.30 A	=	J03	1.9 A	=	J19	5.0 A	=	050	11.5 A	=	115
0.35 A	=	Z35	2.0 A	=	J20	5.2 A	=	052	12.0 A	=	120
0.40 A	=	J04	2.1 A	=	J21	5.5 A	=	055	12.5 A	=	125
0.45 A	=	Z45	2.2 A	=	J22	5.7 A	=	057	13.0 A	=	130
0.50 A	=	J05	2.3 A	=	J23	6.0 A	=	060	13.5 A	=	135
0.60 A	=	J06	2.5 A	=	J25	6.2 A	=	062	14.0 A	=	140
0.70 A	=	J07	2.8 A	=	J28	6.5 A	=	065	14.5 A	=	145
0.80 A	=	J08	2.9 A	=	J29	7.0 A	=	070	15.0 A	=	150
0.90 A	=	J09	3.0 A	=	030	7.1 A	=	071	16.0 A	=	160
1.00 A	=	J10	3.2 A	=	032	7.2 A	=	072	17.0 A	=	170
1.10 A	=	J11	3.5 A	=	035	7.5 A	=	075	18.0 A	=	180
1.20 A	=	J12	3.7 A	=	037	8.0 A	=	080	19.0 A	=	190
1.30 A	=	J13	3.8 A	=	038	8.5 A	=	085	20.0 A	=	200

ELECTRONIC COMPONENTS

0

1

M

7\*

0

3

A Z

4

9

T A 4 5 -	A B T	W	F	2 0 0	U 2	-	7 0 1	] -	A Z M 0 1
	1	2	3	4	5		6*		7*

# Undervoltage release, Remote trip release, Mechanical lock-out latch

S 5

0

XXX

=

=

(empty)

6

Rated voltage	Unde	ervoltage re	lease	Remote trip release	Mechanical lock-out latch	Without
AC (V)						release or mechanical lock-out latch
240	U2	E2	Z2	A2		
230	U3	E3	Z3	A3	]	
120	U4	E4	Z4	A4	]	
AC/DC (V)					so	со
48	U6	E6	Z6	A6	] 30	0
24	U7	E7	<b>Z</b> 7	A7	]	
12	U8	E8	Z8	A8	]	
5	U9	E9	Z9			

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

# Special marking

Standard Special marking (XXX = placehoder)

**Circuit Breakers** ELECTRONIC COMPONENTS

The specifications, descriptions and illustrations indicated in this document are based on current Information. All content is subject to modifications indicated in this document are based on content 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.

T   A   4   5   -   A   B   T   W   F   2   0   0   U   2   -   7     1   2   3   4   5   5	0 1 - A 6*	Z M 0 1 7*
Accessories, factory-mounted (optional) Please note: factory-mounted accessories are only available for configu Without accessory	rations without a	eventation auxiliary contact. = (empty)
Collar with cover, IP54	A A A A A A A A A A A A A A A A A A A	= AZM01
Raised collar with cover, IP54	and the second s	= AZM02
Raised collar, IP40	and the state	= AZM03
Raised collar with cover narrow, IP54	No.	= AZM10
Partially rasied collar with cover, narrow, IP54	A A A A A A A A A A A A A A A A A A A	= AZM11
Partially raised collar without cover, narrow, IP40	North State	= AZM12
Raised collar narrow, IP40	A de	= AZM13
Raised collar with cover, narrow, IP54	A A A A	= AZM14

# Accessories

Description



TA45 2 pole Rocker

TA45-ACC Accessories to TA45