Circuit Breaker for Equipment thermal, 2 pole, Rocker actuation







Basic type

With auxiliary contact

With undervoltage protection

See below:

Approvals and Compliances

Description

- Thermal circuit breaker
- 1 or 2 pole thermal overload protection
- Positively trip-free release
- High configurability
- Rocker non-illuminated or illuminated
- Snap-in version
- 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

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: 10xln (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 With factory mounted protection cover IP54
Dielectric Strength	4 kVAC
Insulation Resistance	$500 \text{VDC} > 100 \text{M}\Omega$
Lifetime	mechanical: 50'000 switching cycles
	AC: 1.0 x lr:
	50'000 switching cycles
	DC: 1.0 x lr:
	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	30g - 50g

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
_O ^V E	VDE Approvals	VDE	VDE Certificate Number: 40019880
c FL °us	UL Approvals	UL	UR File Number: E71572
(1)	CCC Approvals	CCC	CCC Certificate Number: 2024010307710411

Product standards

Product standards that are referenced

Organization	Design	Standard	Description
<u>IEC</u>	Designed according to	IEC 60934	Circuit-breakers for equipment (CBE)
(UL)	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
(W)	Designed according to	GB 17701	Circuit-breaker for equipment

Application standards

Application standards where the product can be used

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

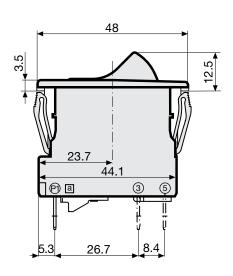
Compliances

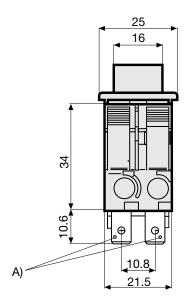
The product complies with following Guide Lines

Identification	Details	Initiator	Description
C€	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.
Rohs	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]

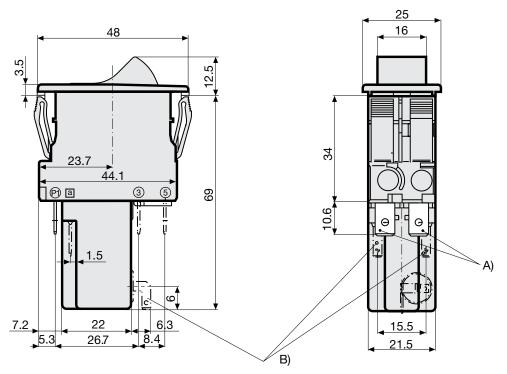
Quick connect terminal





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

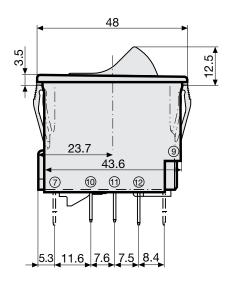
Undervoltage release, remote trip release

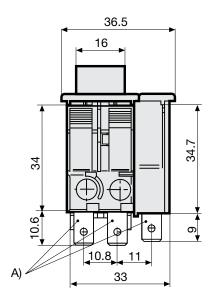


A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

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

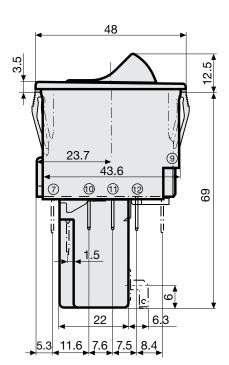
Quick connect terminal with auxiliary contact

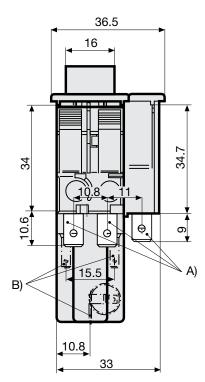




A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

Undervoltage release, remote trip release, auxiliary contact

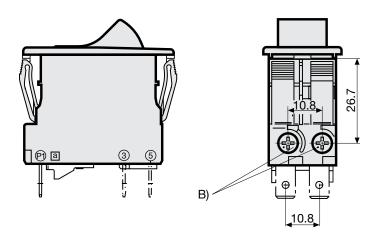




A) Quick connect terminal, IEC 61210, A6.3-0.8 mm

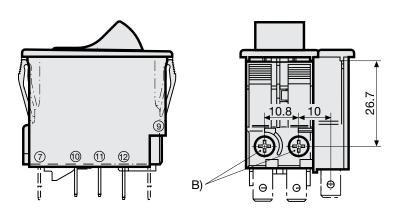
B) Quick connect terminal, IEC 61210, A2.8-0.8 mm

Screw terminal



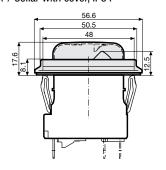
B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

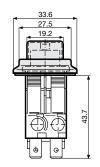
Screw clamp terminal with auxiliary contact



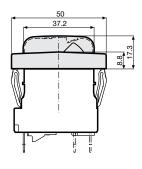
B) Screw type M3, 5x6 (Philips Form H), maximum torque 1 Nm

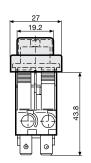
Accessories / factory mounted AZM01 / Collar with cover, IP54



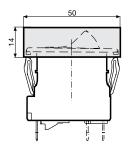


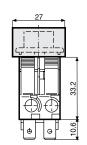
AZM10 / Collar with cover, narrow, IP54



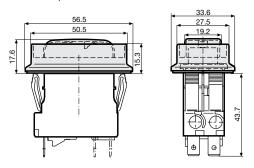


AZM13 / Raised collar narrow, IP40

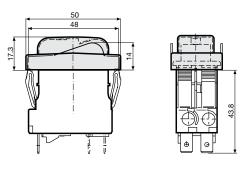




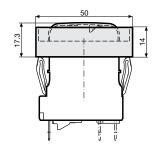
AZM02 / Raised collar with cover, narrow, IP54 AZM03 / Raised collar, IP40

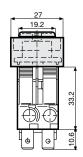


AZM11 / Partially raised collar with cover, narrow, IP54 AZM12 / Partially raised collar without cover, narrow, IP40



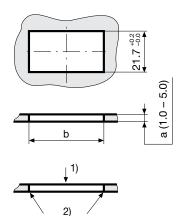
AZM14 / Raised collar with cover narrow, IP54





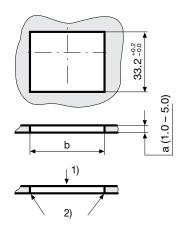
Cut-out and pin-out

Cut-out snap-in type Basic type



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

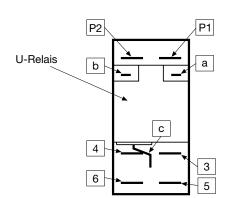
Cut-out snap-in type With auxiliary contact



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

- 1) Assemble
- 2) edge must be sharp

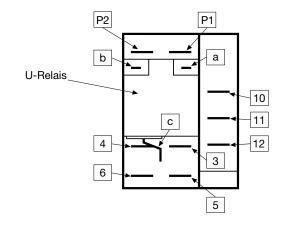
Pin-out Basic type



1) Assemble

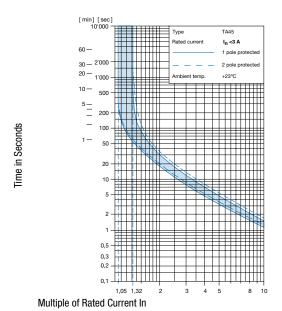
2) edge must be sharp

Pin-out With auxiliary contact



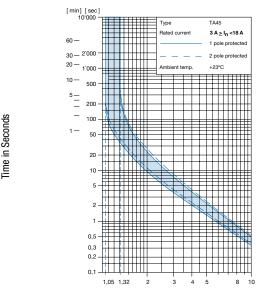
Time-Current-Curves

Rated Current In <3 A



Ambient temperature +23°

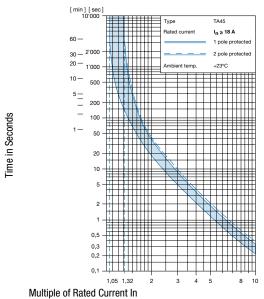
Rated Current 3 A ≥ In <18 A



Multiple of Rated Current In

Ambient temperature +23°

Rated Current In ≥18 A



Manapie of Hatea current in

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

1

Order number key

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*

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

Basic function

Auxiliary contact (changeover contact)						
Shunt terminal						
Schematic drawi	ng					
Terminal type	Quick connect terminal					
l terminar type	Screw terminal (lineside P1,P2)					
Snap-in type						
	Without illumina	tion				
		220V240V				
ON/OFF switch	With	110V120V				
ON/OFF SWILCH	illumination	20V26V				
	Illumination	10V13V				
		4V7V				
Impulse switch						

1 pole thermal overload protection											
				•		•					
			•			·					
P2	P1 	P2				-\					
•		•		•		•					
	•		•		•		•				
•	•	•	•	•	•	•	•				
ABT	AHT	ABF	AHF	APT	AST	APF	ASF				
A12	A62	A22	A72	AL2	A2L	AM2	A2M				
A14	A64	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				

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

2 pole thermal overload protection										
		•								
			•				•			
P2	₽1 	90 ° 4 ° 60 ° 60 ° 60 ° 60 ° 60 ° 60 ° 60				P2 P1 1110		P2 4 6	P1 1110	
•		•		•		•				
	•		•		•		•			
•	•	•	•	•	•	•	•			
ABD	AHD	ABG	AHG	APD	ASD	APG	ASG			
A32	A82	A42	A92	AN2	A2N	AP2	A2P			
A34	A84	A44	A94	AN4	A4N	AP4	A4P			
A37	A87	A47	A97	AN7	A7N	AP7	A7P			
A38	A88	A48	A98	AN8	A8N	AP8	A8P			
A39	A89	A49	A99	AN9	A9N	AP9	A9P			
AED	AJD	AEG	AJG	ARD	AUD	ARG	AUG			

T A 4	5 - A I	B T W	F 2	2 0 0	U 2	- 7	7 0 1	- A Z	М	0 1
•		2	3	4	5		6*		7*	
Front- & Actu	ation color								P	2
Front Bezel		er without	illumir	nation	Rocker	with ill	umination		0	_
black		-					parent	=	1	
black		_				transp	•	=	3	
black		-					sparent	=	4	
black		-			-		sparent	=	6	
black		black				-		=	В	
black		red				-		=	R	
black		white	:			-		=	W	
black		orang	е			-		=	Χ	
black		yellov	V			-		=	Υ	
Rocker legen	d, marking								P	3
- 0	Embo	ssed						=	F	
ON	Printe	d white						=	Н	
0 5	Printe	d black						=	K	
	Drinto	d white						_	L	
- 0		d black						=	M	
	Fillito	a black						_	IVI	
1 0		d white						=	Р	
. ,	Printe	d black						=	R	
7 !!	Printe	d white						=	S	
N - 0 H		d black						=	T	
Rated Curren									P	4
Thermal overlo	•			•			•			•
In a second		In		P	In .		P	ln 0.0.4		P
0.05 A =	Z05	1.4 A	=	J14	4.0 A	=	040	9.0 A	=	090
0.10 A = 0.15 A =	J01 Z15	1.5 A 1.6 A	=	J15 J16	4.2 A 4.4 A	=	042 044	9.5 A 10.0 A	=	095 100
0.15 A = 0.20 A =	J02	1.0 A 1.7 A	=	J17	4.4 A 4.5 A	=	044	10.5 A	_	105
0.25 A =	Z25	1.7 A	=	J18	4.7 A	=	043	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

Not all rated currents have a CCC certification. Please refer to the approval document.

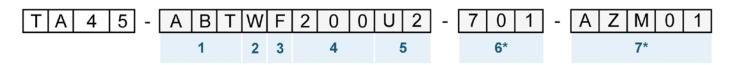
T A 4 5 -	A B T	W	F	2	0	0	U	2	-	7	0	1	-	Α	Z	М	0	1
	1	2	3	4			5			6*					7*			

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

Rated voltage	Und	dervoltage relea	Remote trip		
AC (V)	P2 P1	P2 P1	release P2 b 8 P1 P2 c P1 P3 c P1 P4 c P1 P5 c P1 P5 c P1 P6 c P1 P		- Without release or mechanical lock-out latch
240	U2	E2	Z2	A2	
230	U3	E3	Z3	A3	
120	U4	E4	Z4	A4	
AC/DC (V)					Co
48	U6	E6	Z6	A6] 0
24	U7	E7	Z7	A7	
12	U8	E8	Z8	A8	
5	U9	F9	<i>7</i> 9		

^{*} Schematic drawings: 1-pole protected version shown only

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



Accessories, factory-mounted (optional)

Please note: factory-mounted accessories are only available for configurations without auxiliary contact. Without accessory (empty)

Collar with cover, IP54

AZM01

Raised collar with cover, IP54

AZM02

Raised collar, IP40

AZM03

Raised collar with cover narrow, IP54

AZM10

Partially rasied collar with cover, narrow, IP54

AZM11

Partially raised collar without cover, narrow, IP40

AZM12

Raised collar narrow, IP40

AZM13

Raised collar with cover, narrow, IP54

AZM14

Accessories

Description



Accessories to TA45