

## T12 Series

- Thermal release
- Positively trip-free
- Reset or manual actuation



A circuit breaker for equipment (CBE) of the T12 series is a single pole, thermally operated device providing small size, low cost and reliable trip-free operation on overloads and short circuits, up to the maximum breaking capacity. It is intended primarily for protection of motors, transformers, solenoids etc. against damage due to over-current conditions.

The well proven mechanism is designed to open the contacts in the event of a current flow in excess of the time/current characteristic of the device. A bimetal strip is heated by the overcurrent and deflects, thereby releasing the latch mechanism. The contacts will open even if the reset button is manually held in the closed position. This is known as the positively trip-free feature. The contacts open and close with a snap action and the tripped state is clearly shown by the increased projection of the reset button. After operation, the mechanism will not latch closed until the manual reset button is fully depressed and then released. It is impossible to 'tease' the contacts by gentle pressure on the reset button.

The time which can elapse in case of an overcurrent is given by the tripping characteristic (tripping zone). This curve is valid for a device operating at an ambient temperature of +23°C, without any preloading.

### Available options

- Flange type
- Threaded neck type
- Type of actuation: reset or manual ON/OFF (push/push)
- Terminals:
  - quick connect terminals
  - screw clamp terminals
- Independent auxiliary contact (change-over contact)
- Shunt terminal
- Setting indication on the reset button indicates the position of the contacts

### Special features

- Competitive pricing
- Quick connect terminals
- Choice of mounting styles
- Positively trip-free
- Not affected by shock or vibration
- UL, CSA, VDE and other approvals

# 1 CIRCUIT BREAKERS FOR EQUIPMENT T12

## Effect of ambient temperature

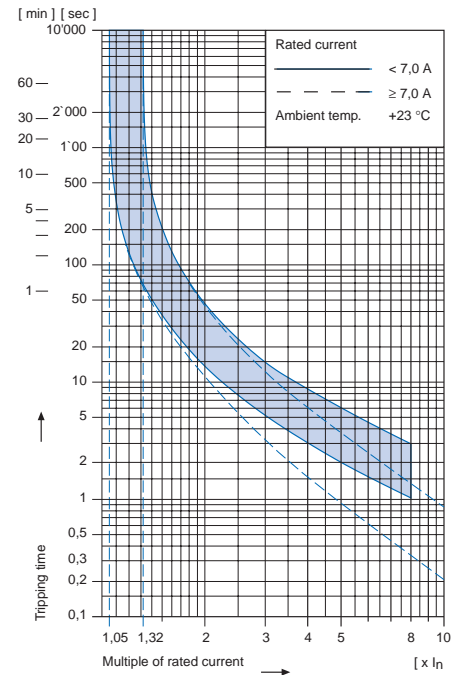
The unit is calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table below:

Ambient temperature [°C]	Correction factor
-5	0,87
0	0,90
+10	0,95
+23	1,00
+30	1,05
+40	1,12
+50	1,20
+60	1,30

### Example

Rated current at +23°C                    5,0 A  
 Ambient temperature                    +50°C  
 Correction factor                        1,2  
 Chosen rated current at  
 +50°C ambient temperature  
**5,0 A x 1,2 = 6,0 A**

## Tripping characteristics



## Technical data

### Main circuit

Rated voltage $U_e$	See approvals, page 18	AC 240 V; DC 28 V
Rated current $I_n$	See approvals, page 18	AC/DC 0,05 – 16 A
Conditional short circuit current $I_{nc}$	EN 60 934 PC1, AC 240 V	1000 A
Short circuit capacity $I_{cn}$	AC 240 V with $I_n < 7$ A AC 240 V with $I_n \geq 7$ A AC/DC 28 V	$8 \times I_n$ 200 A 400 A








### Auxiliary circuit

Rated voltage $U_e$	See approvals, page 18	AC 120 V, 240 V; DC 28 V
Rated current $I_n$	See approvals, page 18	1,0; 2,0; 3,0 A
Class of protection	• Between live parts and accessible parts • Other parts	II I

## Technical data (continued)

Degree of protection	Accessible range Termination range	IP40 IP00
Dielectric strength	Operating range	AC 4000 V
Insulation resistance	DC 500 V	>100 MΩ
Endurance	Number of cycles at $6 \times I_n$ (AC) Number of cycles at $I_n$	R-type 40 S-type 5000
Permissible ambient temperature		-5°C to +60°C
Vibration resistance	IEC 68-2-6, Test Fc, 1 mm amplitude 5-60 Hz, 60-500 Hz	10 g
Shock resistance	IEC 68-2-6, Test Ea	100 g
Type of actuation	• Reset type • Manual ON/OFF (push/push)	R S
Type of tripping	• Thermal • Positively trip-free	TO
Weight		approx. 23 g

## Approvals

	Main circuit			Auxiliary circuit		
	Rated current range	Rated voltage AC	Rated voltage DC	Rated current	Rated voltage AC	Rated voltage DC
 UL 1077	0,3 – 15 A	240 V	28 V	3 A		28 V
				2 A	120 V	
 CSA C 22,2	0,3 – 16 A	240 V	28 V	1 A	240 V	
 VDE EN 60934	0,05 – 16 A	240 V	28 V	1 A	240 V	28 V
 SEMKO	0,3 – 12 A	240 V		1 A	240 V	
 NEMKO	0,1 – 16 A	240 V		1 A	240 V	
 DEMKO	0,05 – 16 A	240 V		1 A	240 V	
 SEV EN 60934	0,05 – 16 A	240 V	28 V	1 A	240 V	28 V

**Order code**

**Basic type**  
T12 Single pole thermal overload protection switch, positively trip-free

**Mounting style**

- 1 Flange type
- 2 Threaded neck type 3/8 – 27 UNS – 2 A with hexagonal- and knurled nut

**Actuation type**

- 1 Reset type
- 2 Manual ON/OFF (push/push)

**Terminal type**

- 1 6,3 x 0,8 mm quick connect terminals DIN 46244-A
- 2 Screw clamp terminals\*

\* Not available with S-auxiliary contact or N-shunt terminal

**Construction variants \***

S Auxiliary contact  
N Shunt terminal only for rated currents <7 A  
R Setting indication on reset button

\* (S; N; R; SN; SR; NR; SNR)

**Rated current**

0,05	0,1	0,15	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1,0
1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,3
2,5	2,8	3,0	3,3	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0
7,5	8,0	8,5	9,0	9,5	10	11	12	13	14	15	16

See approvals, page 18  
Other rated currents by request

**Accessories**

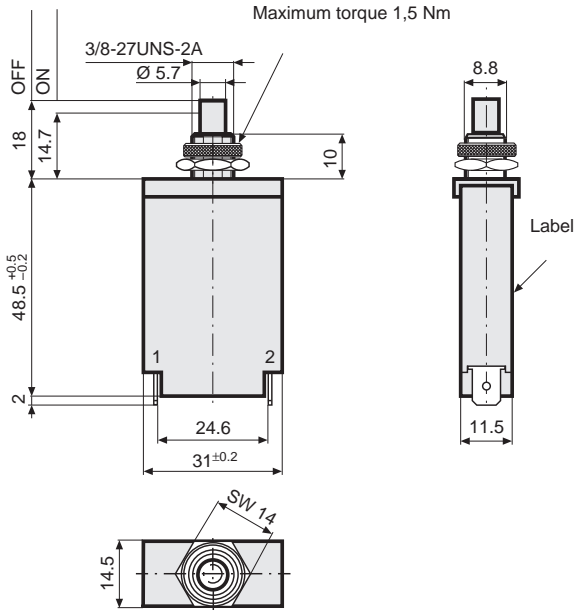
TZZ 01 Protective cover for threaded neck mounted front side IP54

TZZ 06 Protective cover for rear side IP41

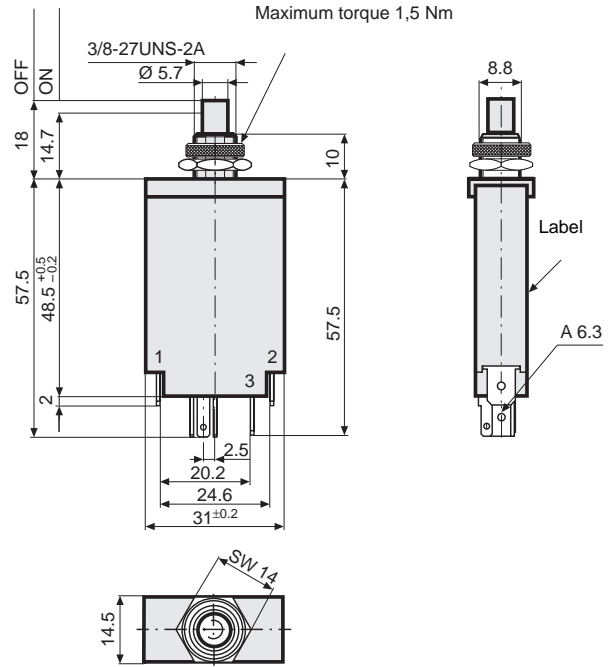
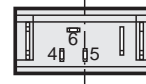
T 1 2 - 2 1 1 S N R - 0,15 - T Z Z 0 1 **Order example**

Threaded neck type

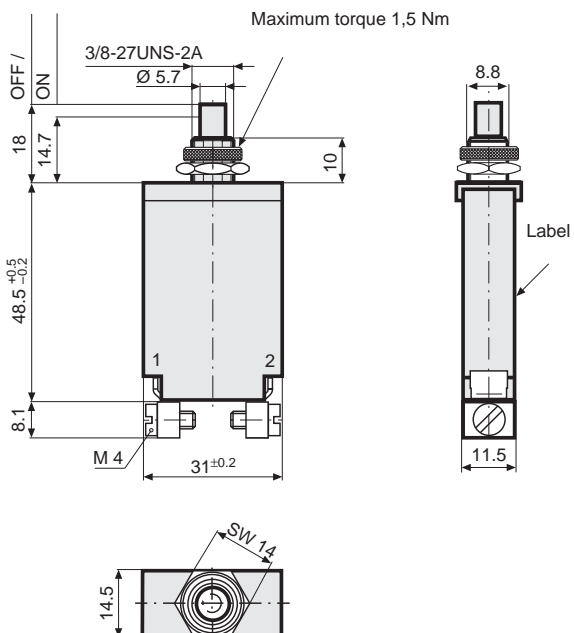
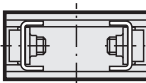
T12-211



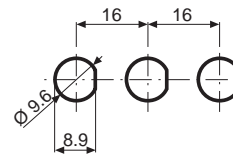
T12-211SN



T12-212



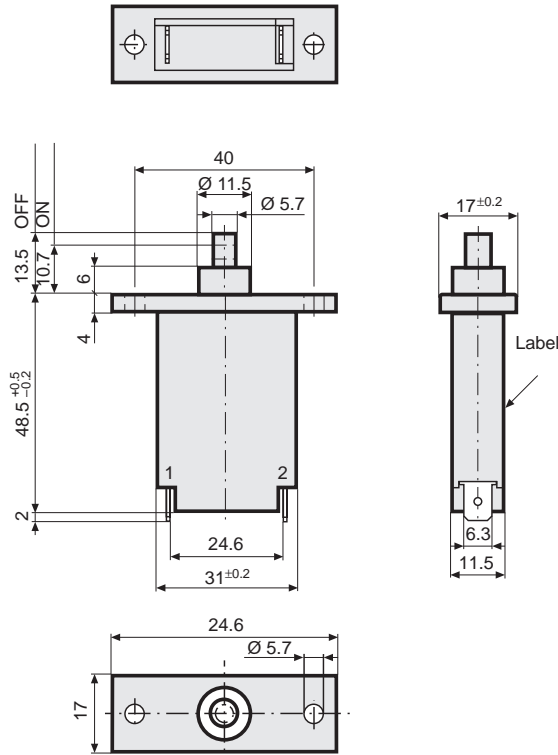
Cut-out



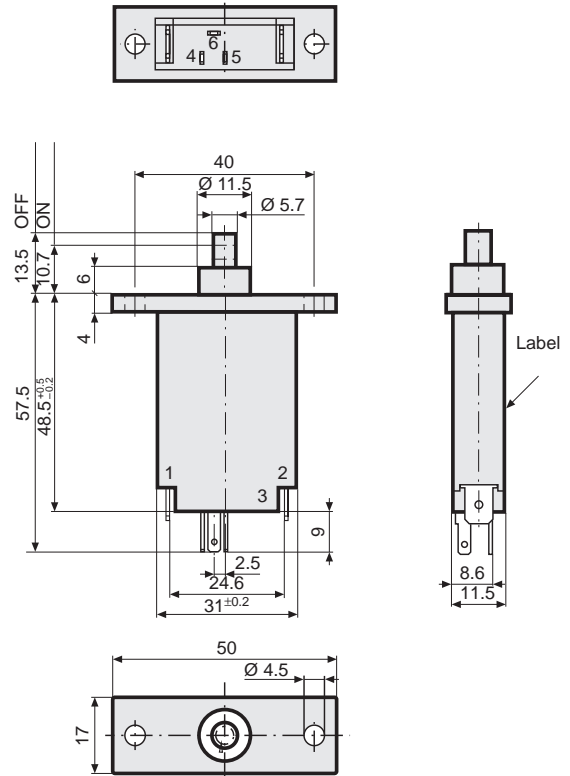
**1 CIRCUIT BREAKERS FOR EQUIPMENT T12**

Flange type

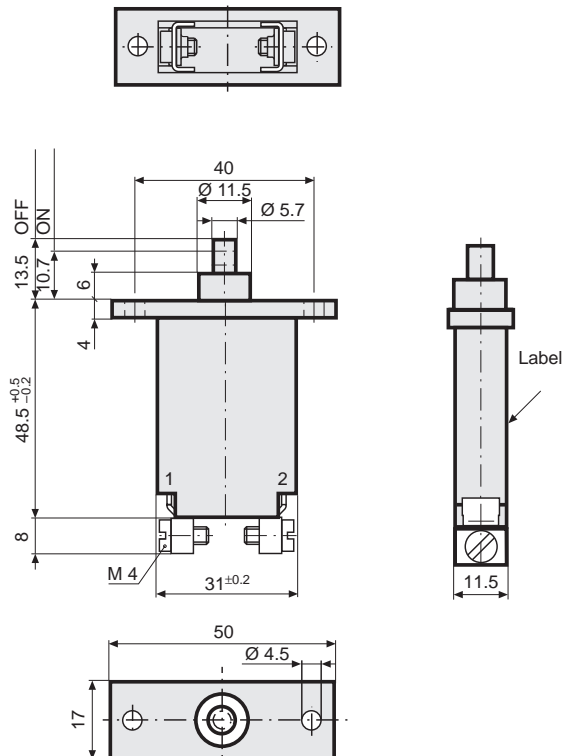
T12-111



T12-111SN

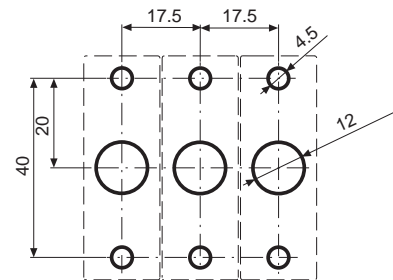


T12-112

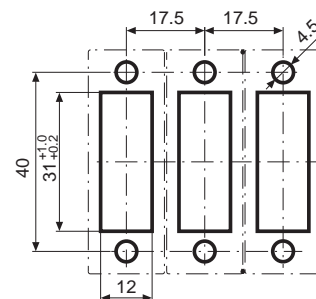


Cut-out  
Montageöffnung

Installation from rear



Installation from front

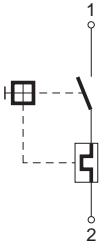


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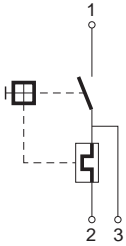
## Schematic diagrams – accessories – colors

### Schematic diagrams

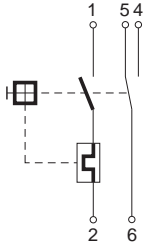
T12-...



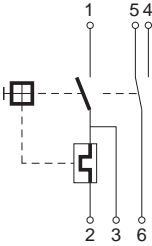
T12-...N



T12-...S

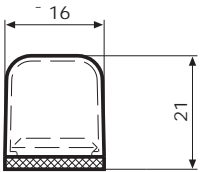


T12-...SN

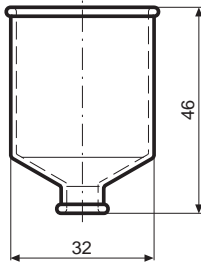


### Accessories

Protective transparent cover  
Degree of protection IP54  
TZZ01



Protective cover rear side  
IP41  
TZZ06



### Colors

