

# E-T-A® Thermal Overcurrent Circuit Breaker 1658-...

## Description

Very cost effective design to meet international requirements. No exposed metal parts which are, or could become, current-carrying except for terminals. R-type TO CBE to EN 60934.

- Manual reset, trip free mechanism
- Extremely small and lightweight
- UL, CSA, VDE and EN 60934 (IEC 934) approved

## Typical applications

Battery chargers, consumer products, power supplies, motors.

## Ordering information

Type No.	
1658	single pole thermal circuit breaker
<b>Threadneck design</b>	
G21	manual reset type, 3/8"-27 threadneck
G41	manual reset type, 7/16"-28 threadneck
A21	auto reset type, 3/8"-27 threadneck
A41	auto reset type, 7/16"-28 threadneck
A00	auto reset type, without threadneck
<b>Hardware</b>	
00	no hardware
01	one mounting nut, bulk
02	one mounting nut, one knurled nut, bulk
06	one knurled nut, bulk
07	one hex nut, bulk
08	two hex nuts, bulk
<b>Terminals</b>	
P10	blade terminals A6.3-0.8
P13	blade terminals A6.3-0.8, 90°
S80	straight screw terminals*
S83	90° bent screw terminals*
<b>Current ratings</b>	
5 ... 25 A	

1658 - G21 - 02 - P10 - 5 A Ordering example

\* Screws and lock washers bulk shipped

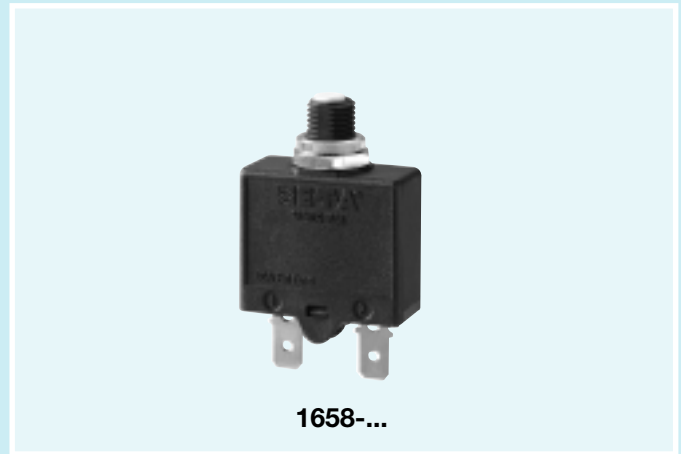
Please enquire for packaging quantities.

## Standard current ratings and typical voltage drop values

Current rating (A)	Voltage drop (mV)	Current rating (A)	Voltage drop (mV)
5	≤ 150	10	≤ 140
6	≤ 150	12	≤ 140
7	≤ 150	15	≤ 240
8	≤ 150	20	≤ 240
9	≤ 150	25	≤ 240

## Approvals

Authority	Voltage rating	Current ratings	
VDE (EN 60934)	AC 240 V; DC 28 V	5...25 A	
UL, CSA	AC 250 V	5...15 A	1658-G...
	AC 125 V	16...25 A	1658-G...
	AC 125 V	5...25 A	1658-A...

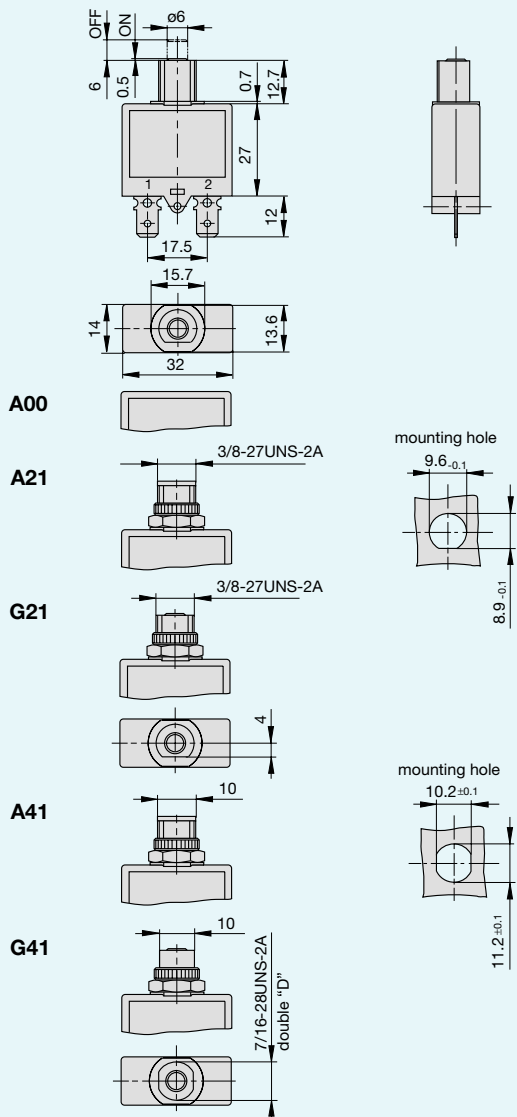


## Technical data

Voltage rating	AC 240 V; DC 28 V		
Current ratings	5...25 A		
Typical life	1,000 operations at 2 x I <sub>N</sub>		
Ambient temperature	-20...+60 °C		
Insulation co-ordination (IEC 664 and 664 A)	Rated impulse withstand voltage	2.5 kV	Pollution degree 2
	reinforced insulation in operating area		
Dielectric strength (IEC 664 and 664A) operating area	Test voltage	AC 3,000 V	
	Insulation resistance	> 100 MΩ (DC 500 V)	
Interrupting capacity I <sub>en</sub>	200 A		
Interrupting capacity (UL 1077/EN 60934 PC1)	I <sub>N</sub>	U <sub>N</sub>	
	5...15 A 16...25 A	AC 250 V AC 125 V	2,000 A 2,000 A
Degree of protection (IEC 529/DIN 40050)	operating area IP 40 terminal area IP 00		
Vibration	8 g (57-500 Hz) ±0.61 mm (10-57 Hz), to IEC 68-2-6, Test Fc, 10 frequency cycles/axis		
Shock	30 g (11 ms) to IEC 68-2-27, test Ea		
Corrosion	96 hours at 5 % salt mist, to IEC 68-2-11, test Ka		
Humidity	240 hours at 95 % RH to IEC 68-2-3, test Ca		
Mass	approx. 16 g		

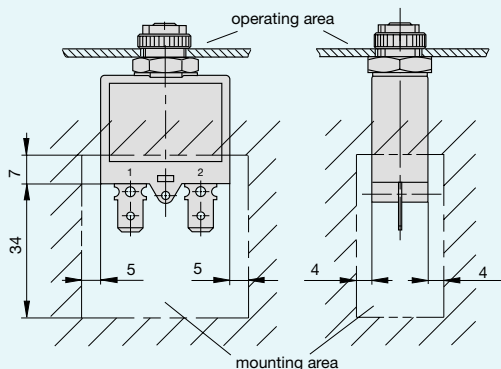
# E-T-A® Thermal Overcurrent Circuit Breaker 1658-...

## Dimensions

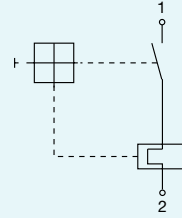


See ordering information for mounting hardware

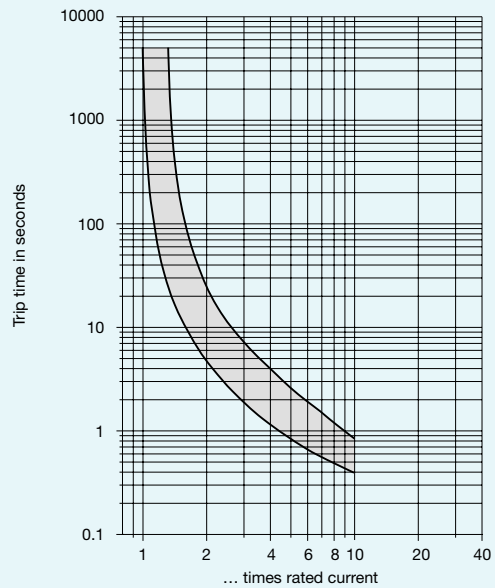
## Installation drawing



## Internal connection diagram



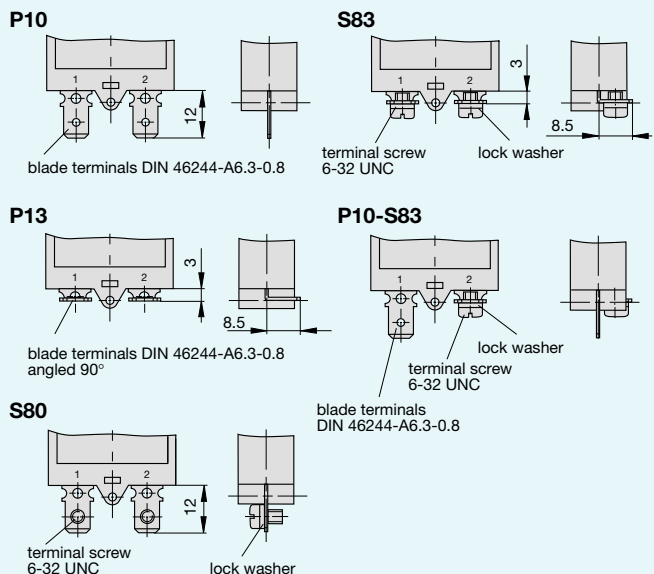
## Typical time/current characteristics at +23°C



The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 - Technical information.

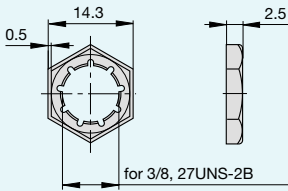
Ambient temperature °C	-20	-10	0	+23	+40	+50	+60
Multiplication factor	0.62	0.7	0.8	1	1.18	1.30	1.50

## Terminal design



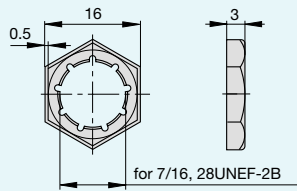
## Accessories

**Mounting nut 3/8", 27-thread**  
Y 306 671 01



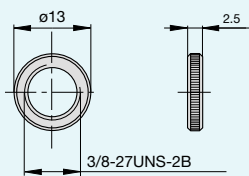
for 3/8, 27UNS-2B

**Mounting nut 7/16", 28-thread**  
Y 303 200 01



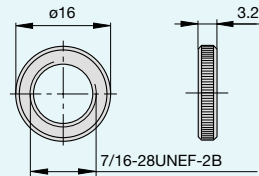
for 7/16, 28UNEF-2B

**Knurled nut 3/8", 27-thread  
nickel-plated brass**  
Y 300 190 03



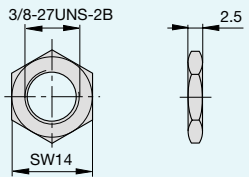
3/8-27UNS-2B

**Knurled nut 7/16", 28-thread  
nickel-plated brass**  
Y 302 294 03



7/16-28UNEF-2B

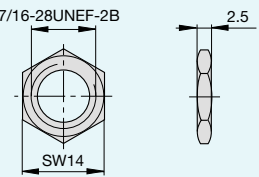
**Hex nut 3/8", 27-thread  
nickel-plated brass**  
Y 300 192 01



3/8-27UNS-2B

SW14

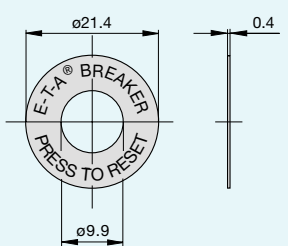
**Hex nut 7/16", 28-thread  
nickel-plated brass**  
Y 302 295 01



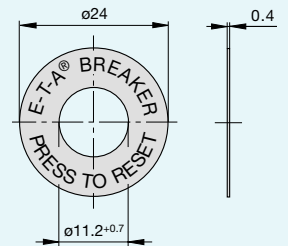
7/16-28UNEF-2B

SW14

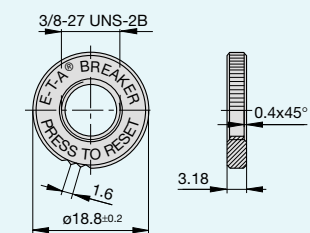
**Press to Reset Plate for 3/8",  
27-thread, aluminium**  
Y 301 059 02



**Press to Reset Plate for 7/16",  
28-thread, aluminium**  
Y 302 732 01



**Press to Reset Plate for 3/8", 27-thread  
plastic**  
Y 303 051 01



3/8-27 UNS-2B

1.6

0.4x45°

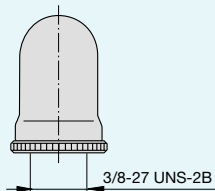
3.18

**Reset button seal for 3/8", 27-thread  
short**  
X 201 285 01



3/8-27 UNS-2B

**Reset button seal for 3/8", 27-thread  
long**  
X 200 799 01



3/8-27 UNS-2B

Version with 7/16", 28-thread to special order