

# E-T-A® Thermal Overcurrent Circuit Breaker 1110-...

## Description

Single pole switch/thermal circuit breaker (M-type TO CBE to EN 60934) with tease-free, trip-free, snap action mechanism. Designed for snap-in panel mounting utilising keyed round hole or industry standard fuse-holder cut-out dimensions. Featuring an ergonomically styled two colour actuator with indicator band clearly showing the tripped/OFF position.

Approved to CBE standard EN 60934 (IEC 934).

## Typical applications

Motors, transformers, solenoids, extra low voltage systems, household and office machines, instrumentation, marine applications.

## Ordering information

Type No.	
1110	snap in panel mounting
<b>Mounting</b>	
F1	panel thickness 0.8...1.6 mm
F2	panel thickness 1.8...3 mm
<b>Number of poles</b>	
1	1 pole protected
<b>Actuator style</b>	
2	black push button/white indicator ring, standard
Other indicator ring colours are available to special order	
<b>Terminal design</b>	
P1	blade terminals A6.3-0.8
<b>Characteristic curve</b>	
M1	medium delay
<b>Current ratings</b>	
0.05...16 A	

1110 - F1 1 2 - P1 M1 - 0.5 A      ordering example

Please enquire for packaging quantities

## Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (Ω)
0.05	442	2	0.25
0.08	123	2.5	0.19
0.1	110	3	0.12
0.2	27.8	3.5	0.09
0.3	12.4	4	0.07
0.4	7.0	5	0.05
0.5	4.5	6	0.04
0.6	3.1	7	≤ 0.02
0.7	2.3	8	≤ 0.02
0.8	1.7	10	≤ 0.02
1	1.1	12	≤ 0.02
1.2	0.71	15	≤ 0.02
1.5	0.41	16	≤ 0.02
1.8	0.38		

## Approvals

Authority	Voltage ratings	Current ratings
VDE, BV	AC 250 V; DC 28 V	0.05...16 A
UL	AC 250 V	0.05... 6 A
	AC 125 V	7 ... 16 A
	DC 50 V	0.05...16 A
CSA	AC 250 V; DC 50 V	0.05...16 A
Semko (EN 60934)	AC 250 V	0.05...10 A



1110-F1..

## Technical data

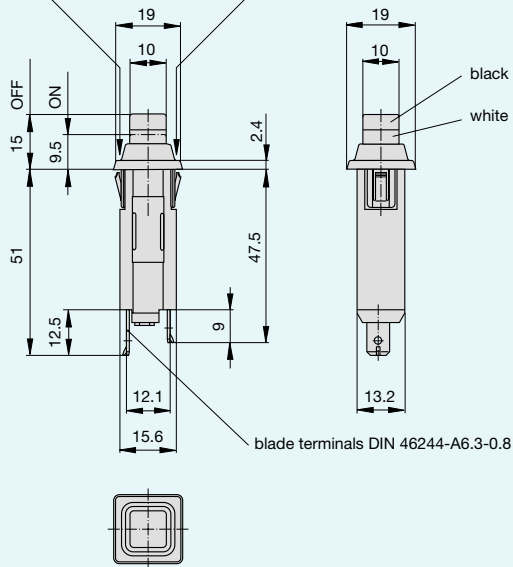
Voltage rating	AC 250 V; DC 28 V (DC 50 V to special order)		
Current ratings	0.05...16 A		
Typical life	0.05...4 A: 10,000 operations at 1 x I <sub>N</sub> 5 ...16 A: 6,000 operations at 1 x I <sub>N</sub>		
Ambient temperature	-20...+60 °C		
Insulation co-ordination (IEC 664 and 664 A)	Rated impulse withstand voltage	Pollution degree	
	2.5 kV	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>cn</sub>	AC 250 V: 0.05...16 A	8 x I <sub>N</sub>	
	DC 28 V: 0.05... 6 A	10 x I <sub>N</sub>	
	7 ...10 A	200 A	
	12 ...16 A	300 A	
Interrupting capacity (UL 1077/EN60934 PC 1)	I <sub>N</sub>	U <sub>N</sub>	
	0.05... 6 A	AC 250 V	1,000 A
	7 ...16 A	AC 125 V	1,000 A
	0.05...16 A	DC 50 V	1,000 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. 12 g		

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## Dimensions

1110-F1.. / -F2..

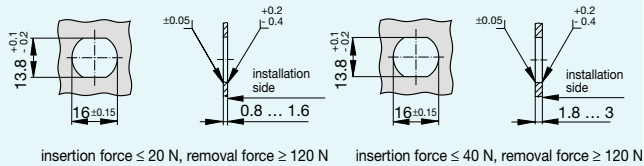
When installing the circuit breaker apply pressure on bezel only



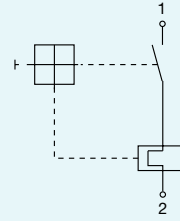
Panel cut out

1110-F1..-P.M1-...A

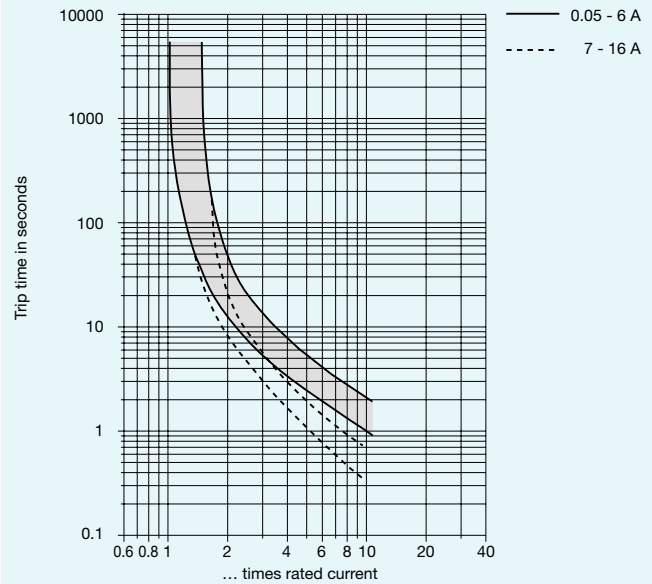
1110-F2..-P.M1-...A



## Internal connection diagram



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

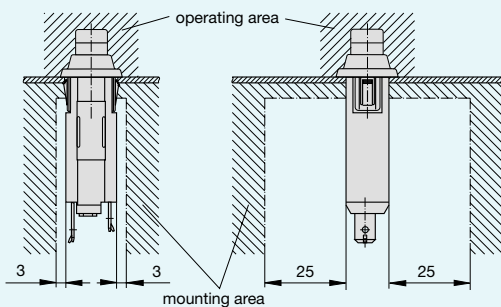


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 – Technical information.

Ambient temperature °C	-20	-10	0	+23	+40	+50	+60
Multiplication factor	0.76	0.84	0.92	1	1.08	1.16	1.24

## Installation drawing

When installing the circuit breaker apply pressure on bezel only



## Accessories - Water splash covers (transparent)

Push button splash cover  
Y 304 745 01 (IP 54)

Terminal shroud  
Y 305 602 01 (IP 64)

When using splash cover please note that the max. panel thickness is reduced by 0.5mm

