

ETA® Thermal Overcurrent Circuit Breaker 1140-...

Description

Miniaturised single pole thermal circuit breaker with push-to-reset tease-free, trip-free, snap action mechanism (R-type TO CBE to EN 60934). Available in versions for panel mounting, snap-in or threadneck, or as an integral type. For lower current ratings see types 104, 105, 106. Approved to CBE standard EN 60934 (IEC 60934).

Typical applications

Motors, transformers, solenoids, hand-held machines and appliances.

Ordering information

Type No.

1140	single pole thermal circuit breaker
Mounting	
E2	integral mounting
F1	snap-in panel mounting
G1	threadneck panel mounting 3/8-27UNS with hex nut and knurled nut*
Number of poles	
1	1-pole protected
Actuator style	
1	black push button
Terminal design	
P1	blade terminals A6.3-0.8 (QC .250)
Characteristic curve	
M1	medium delaye
Current ratings	
3.5...16 A	
1140 - F1 1 1 - P1 M1 - 10 A = ordering example	

*mounting hardware bulk shipped

Preferred types

NEW

Preferred types	Standard current ratings (A)															
	4	5	6	7	8	9	10	11	12	13	14	15	16			
1140-G111-P1M1-	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (Ω)
3.5	0.06	10	< 0.02
4	0.04	11	< 0.02
5	0.03	12	< 0.02
6	0.02	13	< 0.02
7	< 0.02	14	< 0.02
8	< 0.02	15	< 0.02
9	< 0.02	16	< 0.02

Approvals

Authority	Voltage ratings	Current ratings
VDE	AC 240 V; DC 48 V	3.5...16 A
CSA, UL	AC 250 V; DC 50 V	3.5...16 A



Technical data

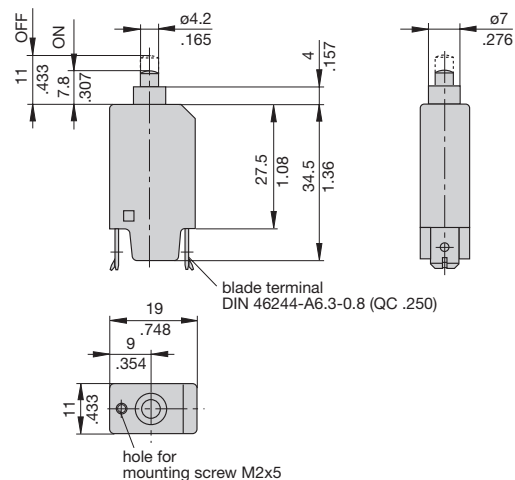
For further details please see chapter: Technical Information

Voltage rating		AC 240 V; DC 48 V (UL: AC 250 V; DC 50 V)	
Current ratings		3.5...16 A	
Typical life AC + DC	3.5...8 A	200 operations at 2 x I _N , inductive 1,000 operations at 2 x I _N , resistive	
	9...16 A	100 operations at 2 x I _N , inductive	
Ambient temperature		-20...+60 °C (-4...+140 °F) T 60	
Insulation co-ordination (IEC 60664 and 60664 A)		rated impulse withstand voltage 2.5 kV	pollution degree 2 reinforced insulation in operating area
Dielectric strength (IEC 60664 and 60664A) operating area		test voltage AC 3,000 V	
Insulation resistance		> 100 MΩ (DC 500 V)	
Interrupting capacity I _{cn}		3.5...8 A 9...16 A	8 x I _N 120 A
Interrupting capacity (UL 10777)	I _N	U _N	
	3.5...16 A	DC 50 V	2,000 A
	3.5...16 A	AC 250 V	2,000 A
Degree of protection (IEC 60529/DIN 40 050)		operating area IP40 terminal area IP00	
Vibration		10 g (57-500 Hz) ± 0.76 mm (10-57 Hz), to IEC 60068-2-6, test Fc, 10 frequency cycles/axis	
Shock		25 g (11 ms) to IEC 60068-2-27, test Ea	
Corrosion		96 hours at 5 % salt mist, to IEC 60068-2-11, test Ka	
Humidity		240 hours at 95 % RH to IEC 60068-2-78, test Cab	
Mass		approx. 10 g	

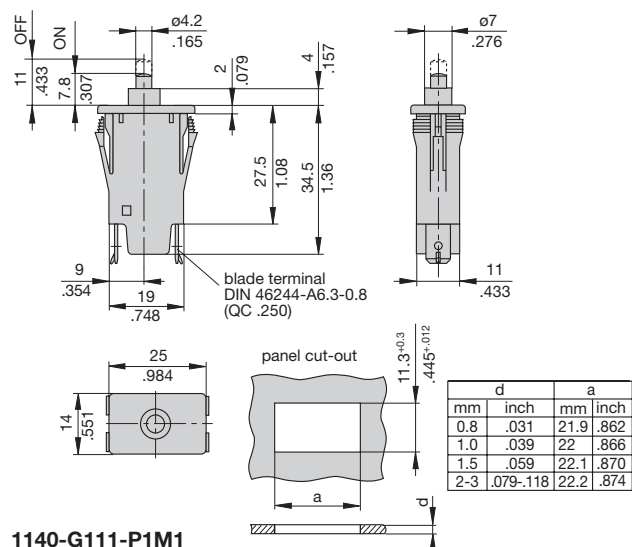
All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

Dimensions

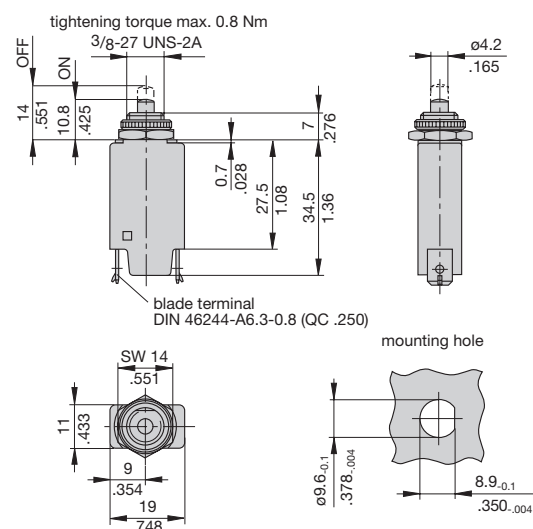
1140-E211-P1M1



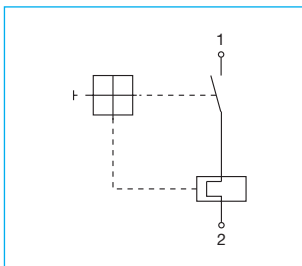
1140-F111-P1M1



1140-G111-P1M1

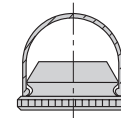


Internal connection diagram

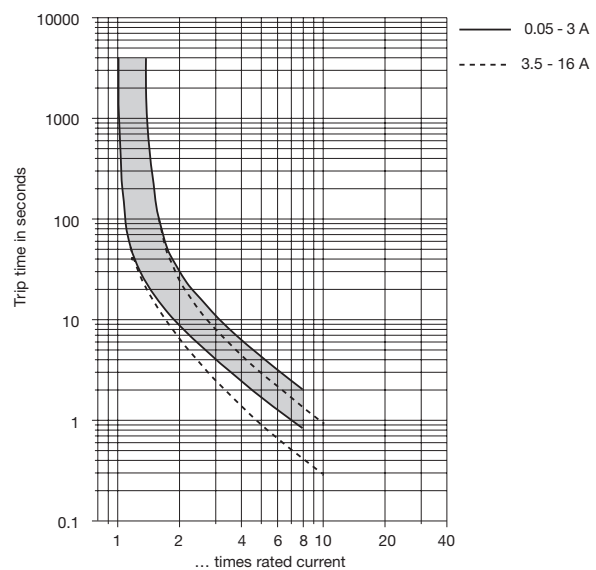


Accessory

Water splash cover/knurled nut assembly, transparent X 201 285 01 (IP64)



Typical time/current characteristics at +23 °C/+73.4 °F

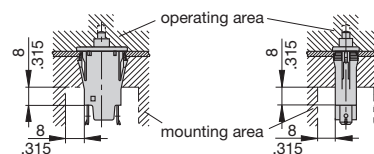


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

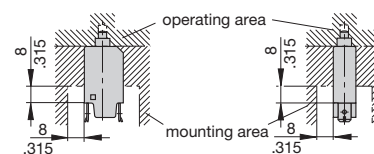
Ambient temperature °F	-4	+14	+32	+73.4	+104	+122	+140
°C	-20	-10	0	+23	+40	+50	+60
Derating factor	0.76	0.84	0.92	1	1.08	1.16	1.24

Installation drawings

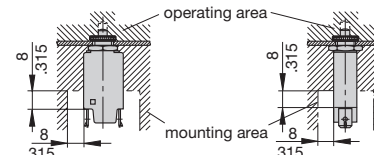
1140-F...



1140-E...



1140-G...



This is a metric design and millimeter dimensions take precedence (mm/inch)