E-T-A Thermal Overcurrent Circuit Breakers 110/111-P10-G10

Description

Single pole toggle switch/thermal circuit breakers (S-type TO CBE to EN 60934) for threadneck panel mounting. Available with optional neon illumination (filament bulb for low voltages) to indicate the ON position. Fitted with toggle or baton style actuator in a range of colours - translucent for illuminated version. Under overload the actuator returns to the OFF position.
For two or three pole protection see types 3120 and 3130.

110-P10-G10
111-P10-G10 (illuminated)

Typical applications

Motors, transformers, solenoids, extra-low voltage wiring systems, power supplies.

Ordering information

Type No.
110 non illuminated
111 illuminated (please specify voltage)

Terminal design
P10 blade terminals A6.3-0.8 (QC .250)

Shunt terminal (optional)
A3 shunt terminal, max. load 5 A

Mounting
G10 threadneck panel mounting, 1/2-32UN-2A*

Switch style options
OB baton
WB baton - water splash protected (IP54)
OT toggle
WT toggle - water splash protected (IP54)

Switch colour designation

	opaque		translucent for type 111
01	black	**14**	red
02	white	**15**	orange
04	red	**17**	transparent
06	blue		
08	grey		
09	green		

Current ratings
0.1...20 A (type 110)
0.1...16 A (type 111)

Illumination (type 111 only)

12 V DC	10 to 14 V
24 V DC	20 to 28 V
115 V AC	90 to 140 V
220 V AC	185 to 275 V

111 - P10 - .. - G10 - OB 14 - 5 A - 12 V = ordering example

The exact part number required can be built up from the table of choices shown above. Ordering references for optional features should be omitted if not required.

*mounting hardware bulk shipped

Technical data

Voltage rating	AC 250 V; DC 28 V
Current ratings	0.1...20 A (type 110) 0.1...16 A (type 111)
Typical life	30,000 operations at 1 x I_N or 5,000 operations at 2 x I_N
Ambient temperature	-30...+60 °C (-22...+140 °F)
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}	10 x I_N
Interrupting capacity (UL 1077)	I_N 0.1...16 A, U_N AC 250 V, 2,000 A 18...20 A, AC 125 V, 2,000 A
Degree of protection (IEC 60529/DIN 40 050)	operating area IP40 terminal area IP00
Vibration	4 g (57-500 Hz) ±0.3 mm (10-57 Hz), to IEC 60068-2-6, test Fc, 10 frequency cycles/axis
Shock	30 g (11 ms), to IEC 60068-2-27, test Ea
Corrosion	48 hours at 5 % salt mist, to IEC 60068-2-11, test Ka
Humidity	240 hours at 95 % RH to IEC 60068-2-3, test Ca
Mass	approx. 30 g

Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (Ω)
0.1	97.6	1.2	0.66	6	0.03
0.2	22.4	1.5	0.50	8	< 0.02
0.3	10.9	1.8	0.33	10	< 0.02
0.4	6.1	2	0.27	12	< 0.02
0.5	4.0	2.5	0.2	15	< 0.02
0.6	2.7	3	0.1	16	< 0.02
0.7	1.8	3.5	0.09	18	< 0.02
0.8	1.6	4	0.05	20	< 0.02
1	1.07	5	0.04		

Approvals

Authority	Voltage ratings	Current ratings
CSA / UL	AC 250 V, DC 28 V AC 125 V, DC 28 V	0.1...16 A 18...20 A

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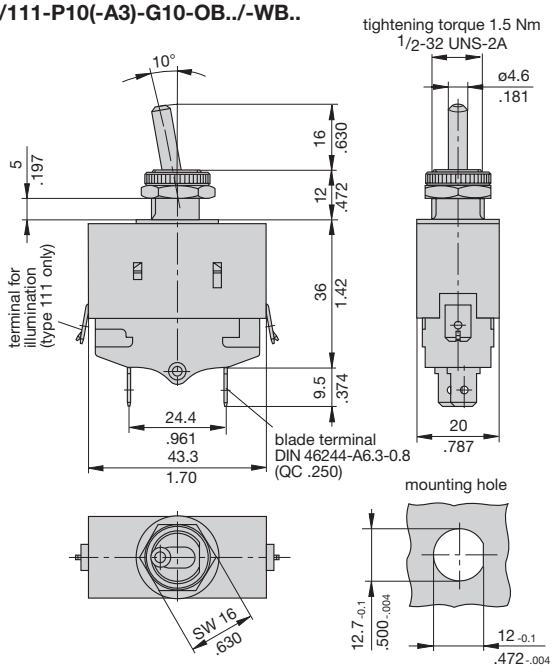
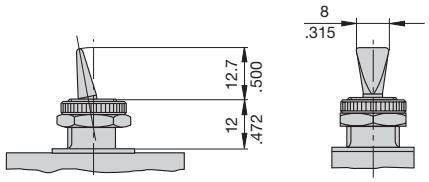
Dimensions 110/111-P10-G10-...

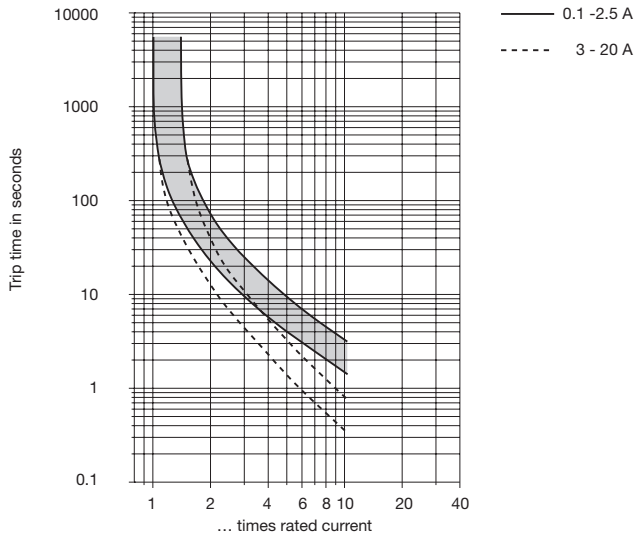
110/111-P10(-A3)-G10-OB../-WB..



110/111-P10(-A3-)G10-OT../-WT..



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

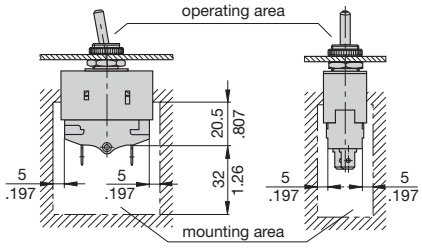


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 – Technical information.

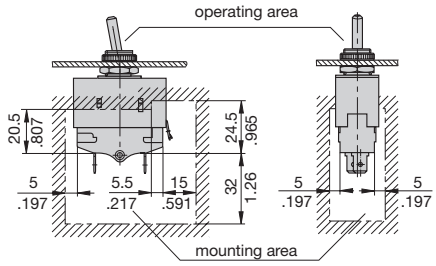
Ambient temperature	°F	-22	-4	+14	+32	+73.4	+104	+122	+140
	°C	-30	-20	-10	0	+23	+40	+50	+60
Derating factor		0,68	0.76	0.84	0.92	1	1.08	1.16	1.24

Installation drawings

110-P10-G10-OB../-WB../-OT../-WT..



110-P10-A3-G10-OB../-WB../-OT../-WT..



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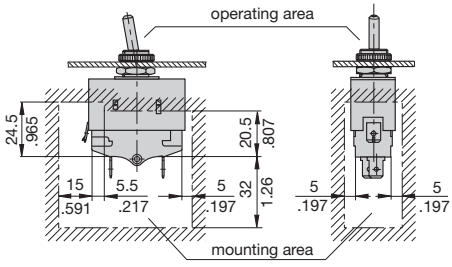

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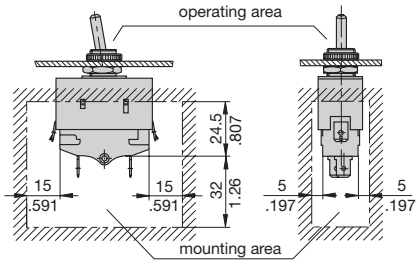
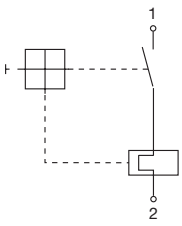


Internal connection diagrams

110-P10-...



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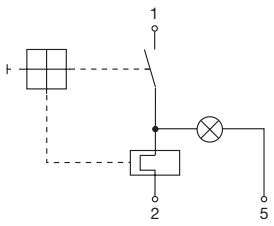

This is a metric design and millimeter dimensions take precedence (mm / inch)

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.