

## 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.

## Typical applications

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

## Ordering information

<b>Type No.</b>	
110	non illuminated
111	illuminated (please specify voltage)
<b>Terminal design</b>	
P10	blade terminals A6.3-0.8 (QC .250)
<b>Shunt terminal (optional)</b>	
A3	shunt terminal, max. load 5 A
<b>Mounting</b>	
G10	threadneck panel mounting, 1/2-32UN-2A*
<b>Switch style options</b>	
OB	baton
WB	baton - water splash protected (IP54)
OT	toggle
WT	toggle - water splash protected (IP54)
<b>Switch colour designation</b>	
	opaque                      translucent for type 111
01	black                      14 red
02	white                      15 orange
04	red                          17 transparent
06	blue
08	grey
09	green
<b>Current ratings</b>	
0.1...20 A (type 110)	
0.1...16 A (type 111)	
<b>Illumination (type 111 only)</b>	
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

## 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		



## Technical data

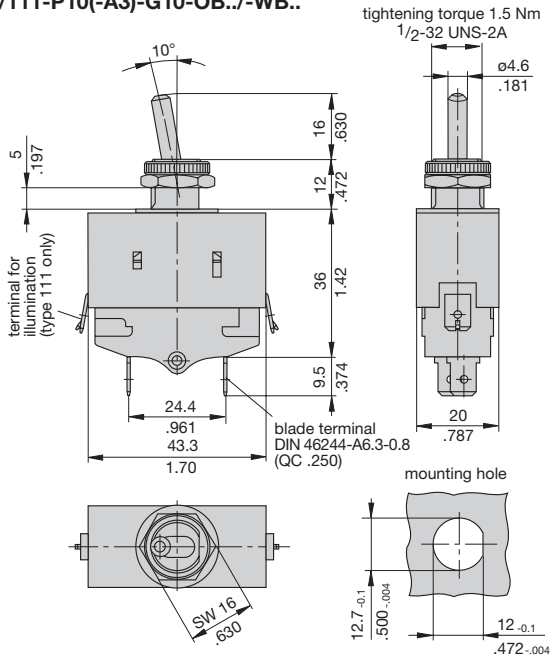
Voltage rating	AC 250 V; DC 28 V		
Current ratings	0.1...20 A (type 110) 0.1...16 A (type 111)		
Typical life	30,000 operations at 1 x I <sub>N</sub> or 5,000 operations at 2 x I <sub>N</sub>		
Ambient temperature	-30...+60 °C (-22...+140 °F)		
Insulation co-ordination (IEC 60664 and 60664 A)	rated impulse withstand voltage 2.5 kV	pollution degree 2	reinforced insulation in operating area
Dielectric strength (IEC 60664 and 60664 A) operating area	test voltage AC 3,000 V		
Insulation resistance	> 100 MΩ (DC 500 V)		
Interrupting capacity I <sub>cn</sub>	10 x I <sub>N</sub>		
Interrupting capacity (UL 1077)	I <sub>N</sub> 0.1...16 A 18...20 A	U <sub>N</sub> AC 250 V AC 125 V	2,000 A 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		

## Approvals

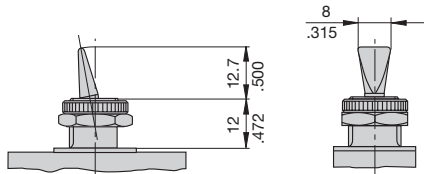
Authority	Voltage ratings	Current ratings
CSA / UL	AC 250 V; DC 28 V AC 125 V; DC 28 V	0.1...16 A 18...20 A

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

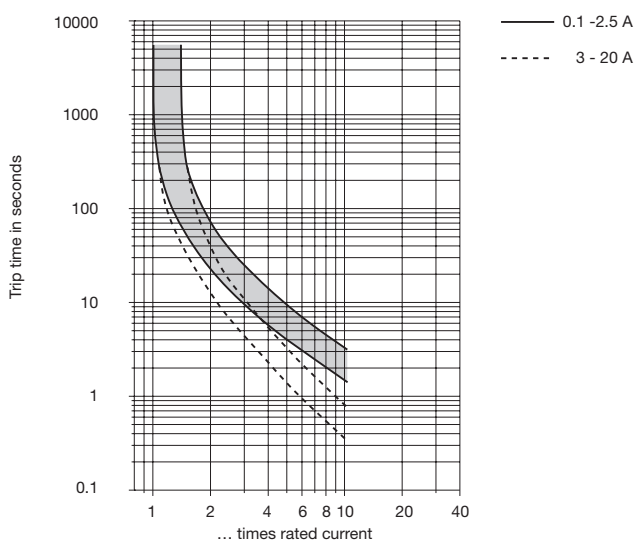
### 110/111-P10(-A3)-G10-OB../-WB..



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



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

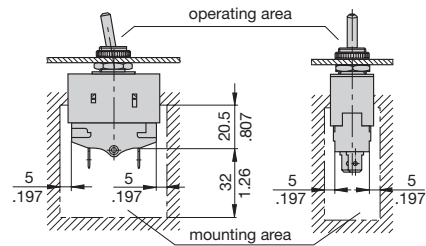


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 – Technical information.

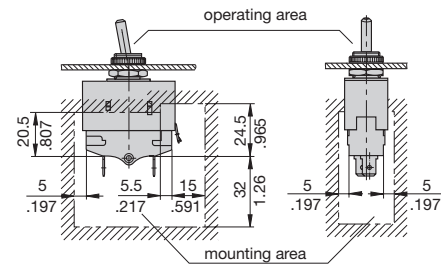
Ambient temperature °F	-22	-4	+14	+32	+73.4	+104	+122	+140
°C	-30	-20	-10	0	+23	+40	+50	+60
Derating factor	0.68	0.76	0.84	0.92	1	1.08	1.16	1.24

## Installation drawings

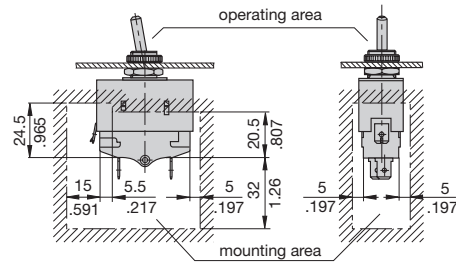
### 110-P10-G10-OB../-WB../-OT../-WT..



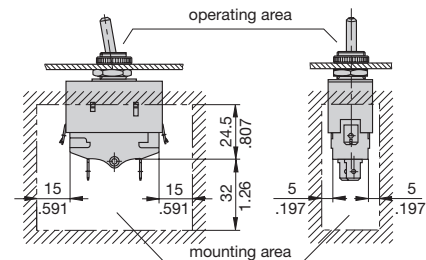
### 110-P10-A3-G10-OB../-WB../-OT../-WT..



### 111-P10-G10-OB../-WB../-OT../-WT..

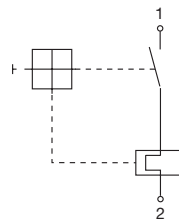


### 111-P10-A3-G10-OB../-WB../-OT../-WT..

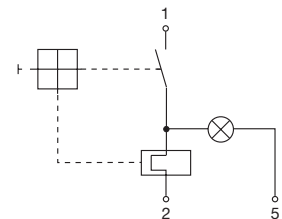


## Internal connection diagrams

### 110-P10-...



### 111-P10-...



This is a metric design and millimeter dimensions take precedence ( $\frac{\text{mm}}{\text{inch}}$ )

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.