E-T-A Thermal Circuit Breaker 1410-L2/-G...

Description

Single pole circuit breaker in a miniaturised design.

Features

- For integral-, solder- and threadneck mounting, actuator design: reset button. For other mounting and actuator designs, please refer to the additional 1410 data sheets.
- Current rating range 0.63...10 A
- Rated voltage range AC 240 V, DC 28 V, DC 50 V
- Very fast trip curve through globally unique hot wire principle
- Reliable switching behaviour through snap action mechanism
- Trip behaviour is independent from the ambient temperature
- Signalling the OFF condition possible via auxiliary circuit

Typical applications

Overcurrent protection of
- electronic components on PCBs
- motors and transformers in small devices (measuring and control technology, HiFi systems etc.)

Benefits

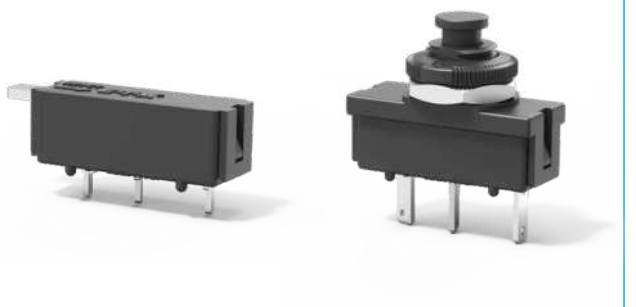
- Perfect replacement for blade fuses thanks to its compact design and suitable current ratings
- Maximum device availability: after an overcurrent trip, the circuit breaker can be immediately reset, no fuse replacement required
- Fast trip curve ensures on-time disconnection and protection of sensitive components especially on printed circuit boards

Compliance

CE UKCA RoHS REACH

Approvals

Approval authority	Standard	Rated voltage	Current rating range
VDE	IEC/EN 60934	AC 240 V DC 50 V DC 28 V	0.63 A...6.3 A 0.63 A...2.25 A 2.5 A...10 A
UL	UL 1077	AC 250 V DC 50 V	0.63 A...10 A 0.63 A...10 A
CSA	C22.2 No 235	AC 125 V DC 48 V	0.63 A...8 A 0.63 A...8 A



1410-L2... 1410-G1...

Technical data

For detailed technical information please see www.e-t-a.de/ti_en			
Rated voltage	AC 240 V, DC 28 V, DC 50 V AC 250 V (UL)		
Current rating range 1-2	0.63 ... 10 A		
Auxiliary circuit 1-3	0.2 x I_N max. 1 A, AC 250 V		
Typical life AC 240 V: 0.63...2.25 A 500 disconnections at 2 x I_N, inductive 2,5...10 A 500 disconnections at 2 x I_N, resist. DC 50 V: 0.63...2.25 A 500 disconnections at 2 x I_N, inductive DC 28 V: 2.5...10 A 500 disconnections at 2 x I_N, inductive			
Ambient temperature	-20 ... +70 °C		
Insulation coordination (IEC 60664, IEC 60934)	Overvoltage category II (Rated impulse voltage 2.5 kV), pollution degree 2		
Dielectric strength Degree of protection	II at actuating area, test voltage AC 3000 V		
Insulation resistance	> 100 MOhm (DC 500 V)		
Interrupting capacity I_{cn} (o-o-o)	0.63 ... 2 A	12 x I_N	
	2.5 ... 8 A	8 x I_N AC, max. 50 A	
	10 A	6 x I_N	
	3.15 ... 10 A	10 x I_N DC	
Rupture capacity	0.63 ... 10 A	2,000 A	at AC 250 V
UL 1077	0.63 ... 8 A	200 A	at DC 50 V
Degree of protection (IEC 60529)	Actuating area IP40 IP00 terminal area		
Vibration resistance	8 g (57-500 Hz), ± 0.61 mm (10-57 Hz), Test according to IEC 60068-2-6, test Fc 10 frequency cycles/axis		
Shock resistance	20 g (11 ms) Test according to IEC 60068-2-27, test Ea		
Corrosion	48 hours at 5 % salt mist, Test according to IEC 60068-2-11, test Ka		
Humidity test	96 hrs 95 % RH, test according to IEC 60068-2-78, test Cab		
Mass	approx. 5 g		

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Preferred types

Preferred types	Preferred ratings (A)										
	0.63	1	1.5	2	2.25	3.15	4	6.3	8	10	
1410-G110-L2F1-S01-	x	x	x	x	x	x	x	x	x	x	
	0.63	1	1.25	1.5	2	3.15	4	4.5	6.3	8	10
1410-G111-P2F1-S01-	x	x	x	x	x	x	x	x	x	x	x
	0.63	1	1.25	1.5	2	3.15	4	4.5	6.3	8	10
1410-L210-L2F1-S02-	x	x	x	x	x	x	x	x	x	x	x

Ordering number code

Type number
1410 Circuit breakers with thermal trip principle
Mounting method
L2 Integral mounting or PCB mounting, grid 10.15 x 7.62 mm
G1 Threadneck mounting or PCB mounting
Number of poles
1 1-pole thermally protected
Design, accessories
0 none
1 with screwed hexagonal and plastic knurled nut (> 5 pieces: hexagonal and plastic knurled nut bulk shipped)
Terminal design
L2 Soldering pins 1 x 0.8 mm, silver-plated
P2 Blade terminals according to IEC 61210, 2.8 x 0.8 mm, silver-plated (for -G only)
Characteristic curve
F1 Fast trip curve
Actuator, type and colour
S01 Reset button, black(1410-G)
S02 Reset slide switch, white (1410-L2)
Current rating range
0.63 ... 10 A

1410- L 2 1 0 - L2 F1 -S01-0.8 A Ordering example

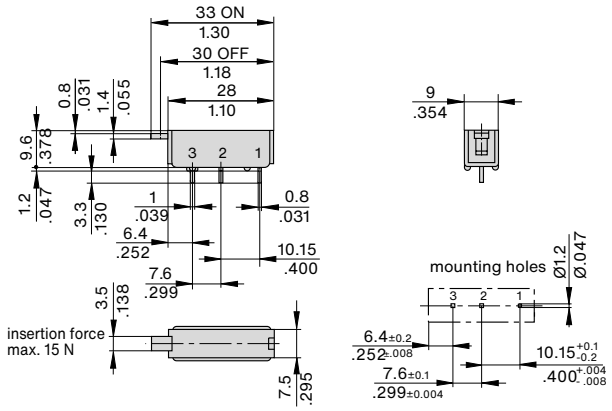
Please observe our minimum order quantities.

Current ratings I_N and typical internal resistance values

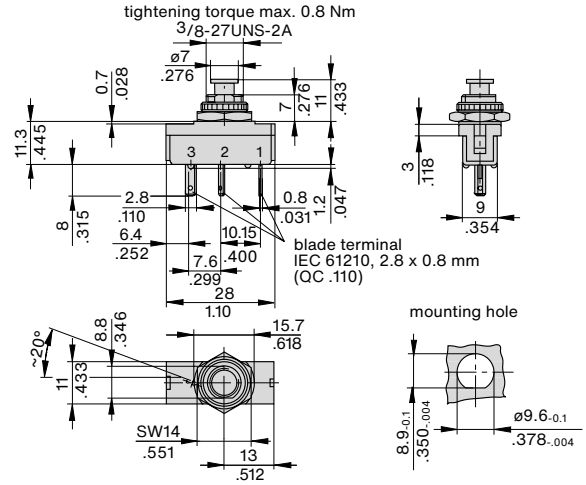
Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (Ω)
0.63	1.8	4	< 0.1
0.8	1.7	4.5	< 0.1
1	1.3	5	< 0.1
1.5	< 1	6.3	< 0.1
2	< 1	8	< 0.1
2.25	< 0.15	10	< 0.1
3.15	< 0.12		

Dimensions

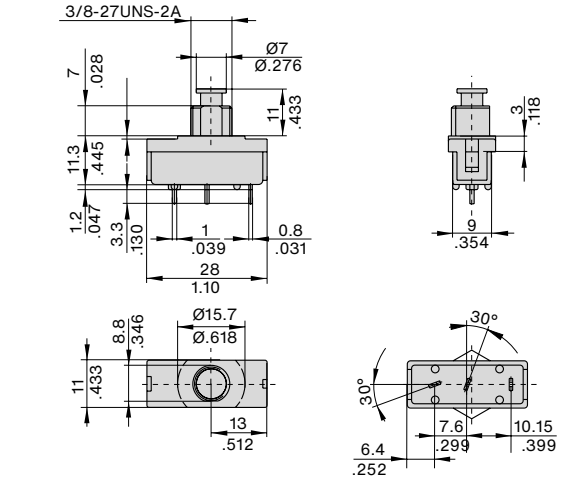
1410-L210-L2F1-S02



1410-G111-P2F1-S01



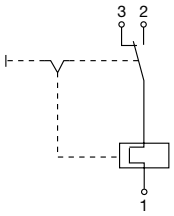
1410-G110-L2F1-S01



Note

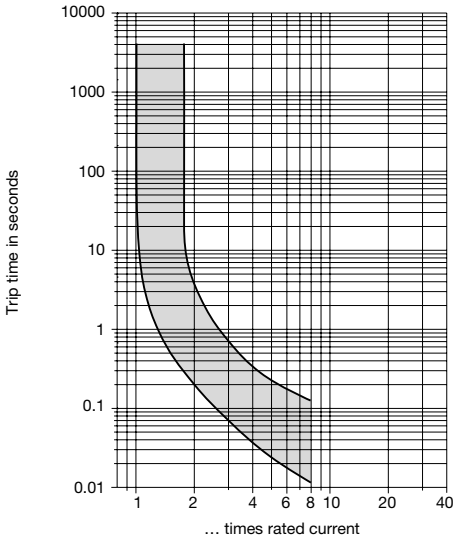
- Avoid stronger pressure on the reset button in ON condition, as this may lead to interruptions
- For maximum service life, the circuit breaker must not be switched on under load

Schematic diagram



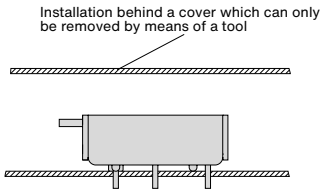
Time/current characteristics

Ambient temperature 23 °C

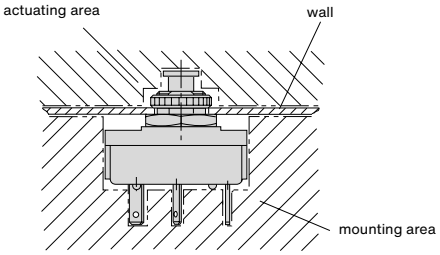


Installation drawing

1410-L2...

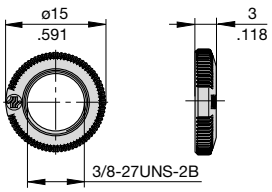


1410-G...

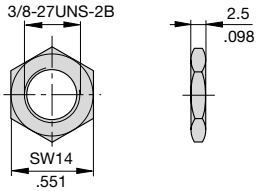


Accessories

Knurled nut 3/8"
plastic
Y 307 117 02



Hex nut 3/8"
nickel-plated brass
Y 300 192 01



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