

## 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

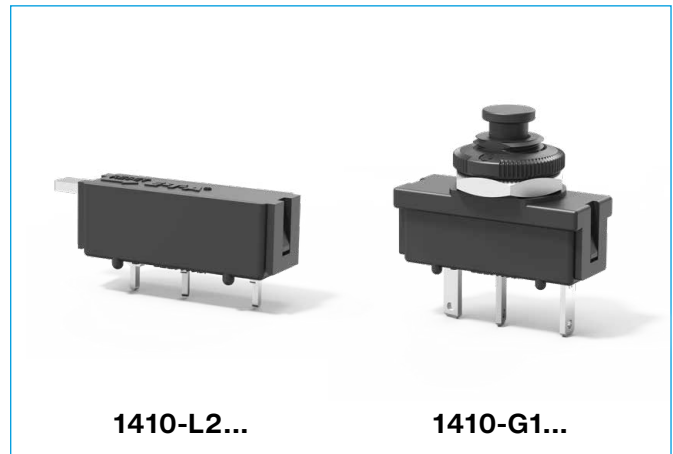
- Perfect replacement for blade fuses thanks to its compact design and suitable current ratings
- Maximum device availability: after an overcurrent trip, the circuit breaker can be immediately reset, no fuse replacement required
- Fast trip curve ensures on-time disconnection and protection of sensitive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

## Compliance



## 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



## Technical data

For detailed technical information please see [www.e-t-a.de/ti\\_en](http://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 0.63 ... 10 A  
1-2

Auxiliary circuit 1-3 0.2 x I<sub>N</sub> max. 1 A, AC 250 V

### Typical life

AC 240 V: 0.63...2.25 A 500 disconnections at 2 x I<sub>N</sub>, inductive

2,5...10 A resist. DC 50 V: 500 disconnections at 2 x I<sub>N</sub>,  
500 disconnections at 2 x I<sub>N</sub>, inductive DC 28 V: 2.5...10 A  
500 disconnections at 2 x I<sub>N</sub>, inductive

Ambient temperature -20 ... +70 °C

Insulation coordination 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 <sub>cn</sub> (0-0-0)	0.63 ... 2 A	12 x I <sub>N</sub>
	2.5 ... 8 A	8 x I <sub>N</sub> AC, max. 50 A
	10 A	6 x I <sub>N</sub>

Rupture capacity	3.15 ... 10 A	10 x I <sub>N</sub> DC
	0.63 ... 10 A	2,000 A at AC 250 V
	0.63 ... 8 A	200 A at DC 50 V

UL 1077	0.63 ... 8 A	200 A	at DC 50 V
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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

**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
1410-G111-P2F1-S01-	x	x	x	x	x	x	x	x	x	x
1410-L210-L2F1-S02-	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

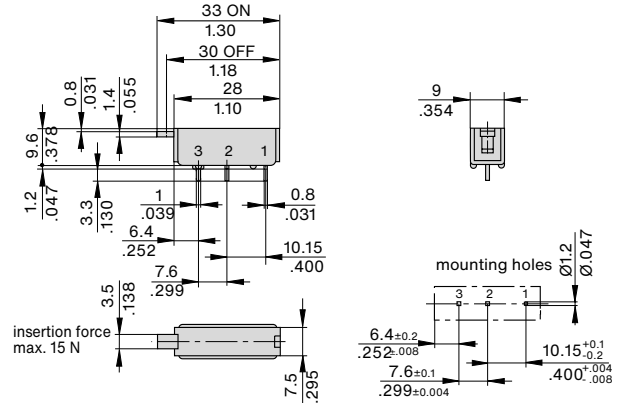
Please observe our minimum order quantities.

**Current ratings  $I_N$  and typical internal resistance values**

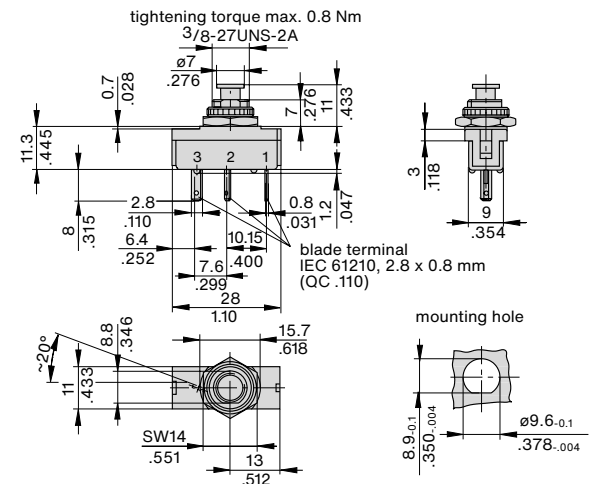
Current rating (A)	Internal resistance ( $\Omega$ )	Current rating (A)	Internal resistance ( $\Omega$ )
0.63	1.8	4	< 0.1
0.8	1.7	4.5	< 0.1
1	1.3	5	< 0.1
1.5	< 1	6.3	< 0.1
2	< 1	8	< 0.1
2.25	< 0.15	10	< 0.1
3.15	< 0.12		

**Dimensions**

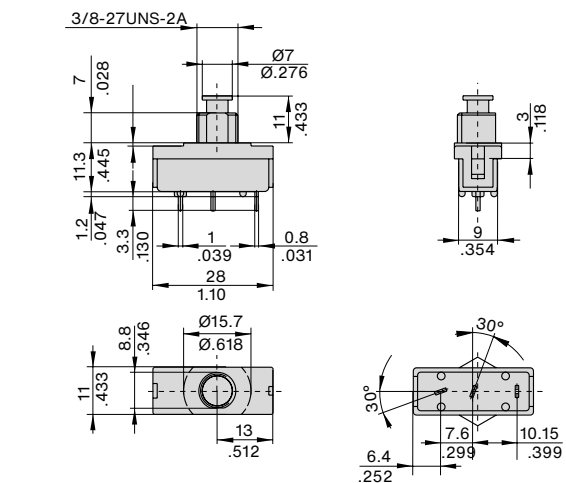
**1410-L210-L2F1-S02**



**1410-G111-P2F1-S01**



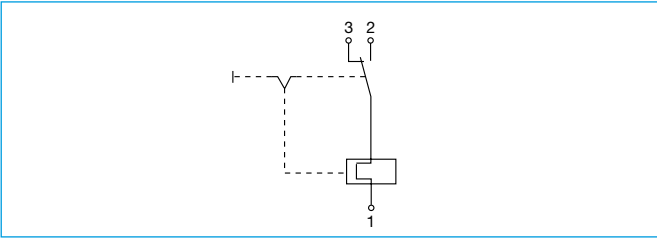
**1410-G110-L2F1-S01**



**Note**

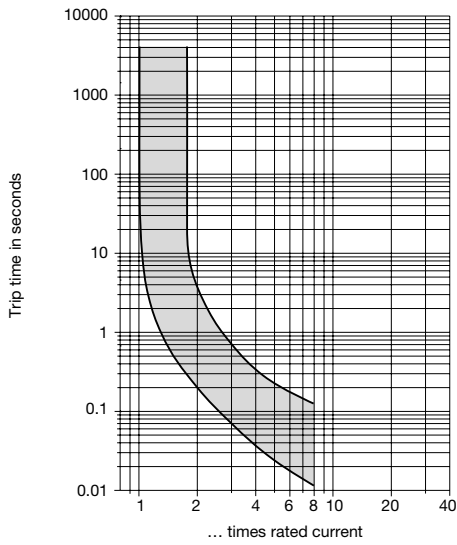
- Avoid stronger pressure on the reset button in ON condition, as this may lead to interruptions
- For maximum service life, the circuit breaker must not be switched on under load

**Schematic diagram**

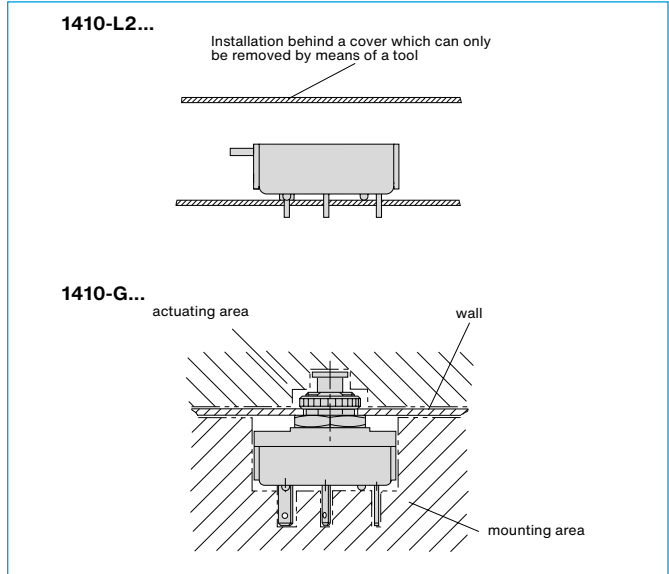


**Time/current characteristics**

Ambient temperature 23 °C

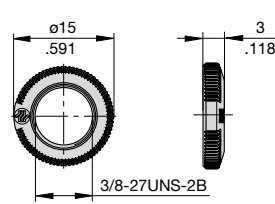


**Installation drawing**

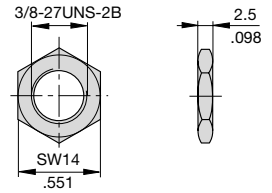


**Accessories**

**Knurled nut 3/8" plastic**  
Y 307 117 02



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



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