

## Description

Single pole high performance thermal circuit breaker with tease-free, trip-free, snap action mechanism and push/pull on/off manual actuation (M-type TO CBE to EN 60934). An indicator band on the push button clearly shows the tripped/off position. Threadneck panel mounted and available in tracked vehicle, aircraft and general purpose versions.

## Typical applications

Extra low voltage wiring systems on all types of vehicles for land, sea and air; defence equipment; battery powered machines.

## Ordering information

<b>Type No.</b>	
<b>412</b>	threadneck panel mounting
<b>Terminal design</b>	
<b>K14</b>	screw terminals M4 (to aircraft specs.)
<b>K54</b>	screw terminals M4 sealed housing (to vehicle specs.)
<b>Version</b>	
<b>FN2</b>	vehicle application, nickel-plated
<b>LN2</b>	aircraft application, black finish
<b>N2</b>	general application, nickel-plated
<b>Current ratings</b>	
<b>6...25 A</b>	(-FN2)
<b>7.5...35 A</b>	(-LN2/N2)
<b>412 - K14 - LN2 - 10 A</b> ordering example	

## Standard current ratings and typical voltage drop values

Current rating (A)	Voltage drop (mV)		Current rating (A)	Voltage drop (mV)	
	-LN/N	-FN		-LN/N	-FN
6	-	≤ 300	15	≤ 200	≤ 200
7.5	≤ 300	≤ 250	20	≤ 200	≤ 200
8	≤ 250	≤ 200	25	≤ 200	≤ 200
10	≤ 200	≤ 200	30	≤ 200	-
12	≤ 200	≤ 200	35	≤ 200	-
13	≤ 200	≤ 200			

## Approvals

Test authority	Voltage ratings	Current ratings
UL	DC 28 V	0.1...35 A



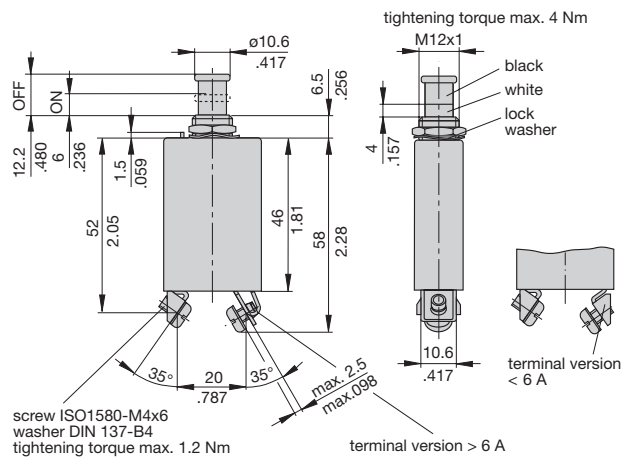
412-...

## Technical data

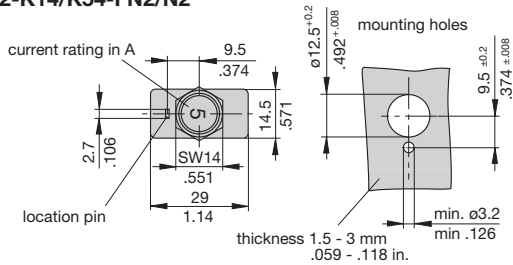
Voltage rating	DC 28 V AC 115 V (400 Hz) upon request
Current rating range	6...25 A (-FN2) 7.5...35 A (-LN2/-N2), lower current ratings to special order
Typical life	4,000 operations at 2 x I <sub>N</sub>
Ambient temperature	-55...+75 °C (-67...+167 °F)
Insulation co-ordination (IEC 60664 and 60664A)	rated impulse withstand voltage 1.5 kV pollution degree 3
Dielectric strength (IEC 60664 and 60664A)	test voltage operating area AC 1,500 V
Insulation resistance	> 100 MΩ (DC 500 V)
Interrupting capacity I <sub>cn</sub>	6,000 A
Interrupting capacity (UL 1077)	6,000 A
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00
Vibration	10 g (56-500 Hz) ±0.76 mm (10-55 Hz) to VG 95210, sheet 19/ MIL-STD-202, meth. 204/ IEC 60068-2-6, test Fc
Shock	25 g (11 ms) to VG 95210, sheet 28/ MIL-STD-202, meth. 213/ IEC 60068-2-27, test Ea
Corrosion	96 hours at 5 % salt mist, to VG 95210, sheet 2/ MIL-STD-202, meth. 101/ IEC 60068-2-11, test Ka
Humidity	240 hours at 95 % RH to VG 95210, sheet 7/ MIL-STD-202, meth. 106/ IEC 60068-2-3, test Ca
Mass	approx. 40 g

## Dimensions

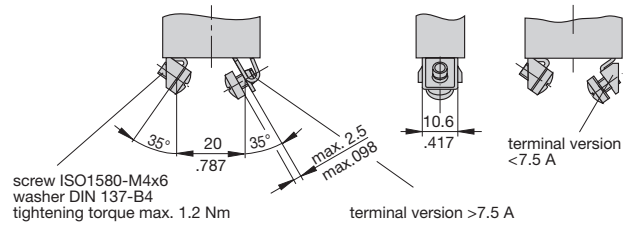
### 412-K54-FN2/N2



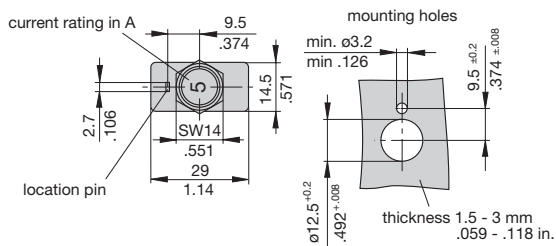
### 412-K14/K54-FN2/N2



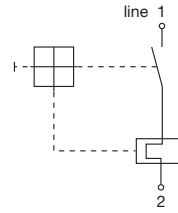
### 412-K14-LN2



### 412-K14/K54-LN2

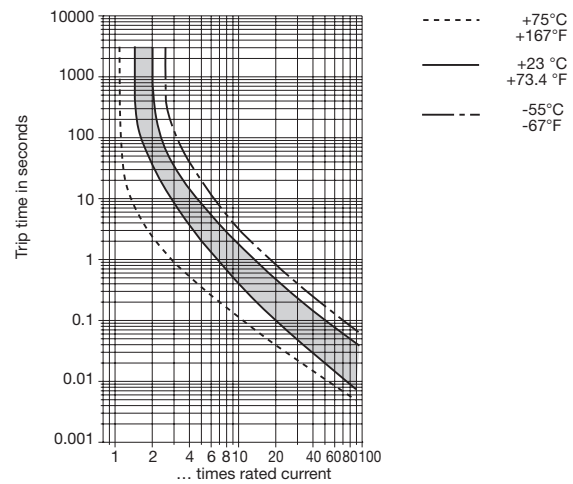


## Internal connection diagram



## Typical time/current characteristics

### 412-...-FN2 6...25 A



### 412-..LN2/-N2 7.5...35 A

