

## 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>413</b>	threadneck panel mounting
<b>Terminal design</b>	
<b>K14</b>	screw terminals M6 (to aircraft specs.)
<b>K34</b>	reinforced screw terminals M6 (to vehicle specs.)
<b>K54</b>	as K34, but housing sealed
<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>30...55 A</b> (-FN2)
	<b>30...90 A</b> (-LN2/N2)
<b>413 - K14 - LN2 - 40 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
30	≤ 250	≤ 250	55	-	≤ 200
35	≤ 250	≤ 250	60	≤ 200	-
40	≤ 200	≤ 200	70	≤ 200	-
45	≤ 200	≤ 200	80	≤ 200	-
50	≤ 200	≤ 200	90	≤ 200	-

## Approvals

Test authority	Voltage ratings	Current ratings
UL	DC 28 V	30...90 A
QPL Sweden	DC 28 V	30...50 A



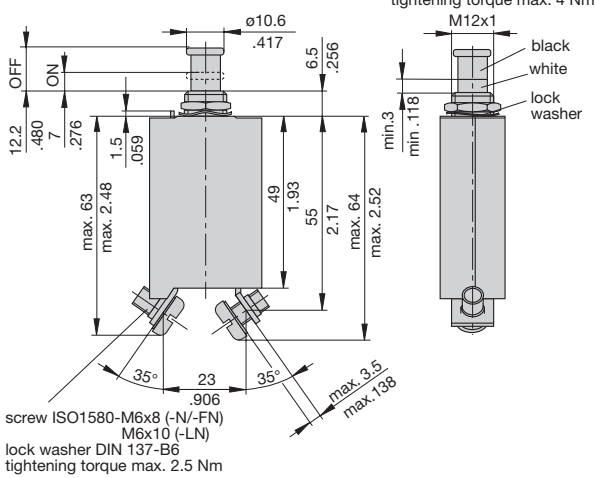
413-...

## Technical data

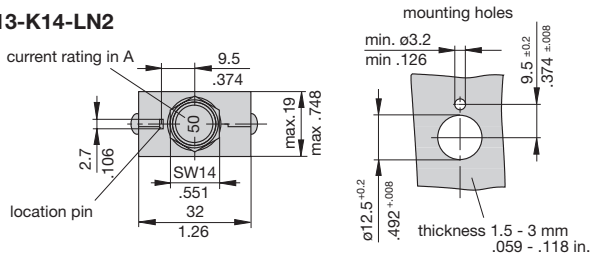
Voltage rating	DC 28 V AC 115 V (400 Hz) upon request	
Current rating range	30...55 A (-FN2) 30...90 A (-LN2/-N2),	
Typical life	2,000 operations at 1 x I <sub>N</sub>	
Ambient temperature	-55...+75 °C (-67...+167 °F)	
Insulation co-ordination (IEC 60664 and 60664A)	rated impulse withstand voltage 1.5 kV	pollution degree 3
Dielectric strength (IEC 60664 and 60664A) operating area	test voltage 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	50 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. 65 g	

## Dimensions

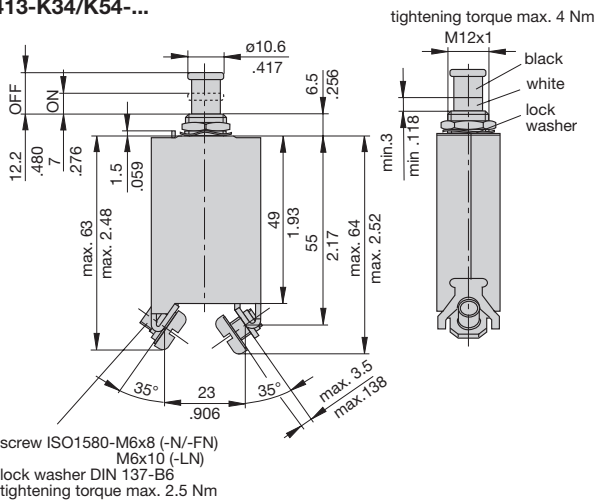
### 413-K14-...



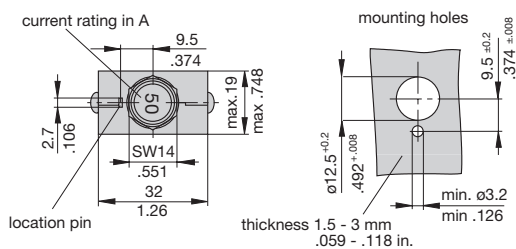
### 413-K14-LN2



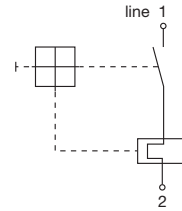
### 413-K34/K54-...



### 413-K34/K54-FN2/-N2

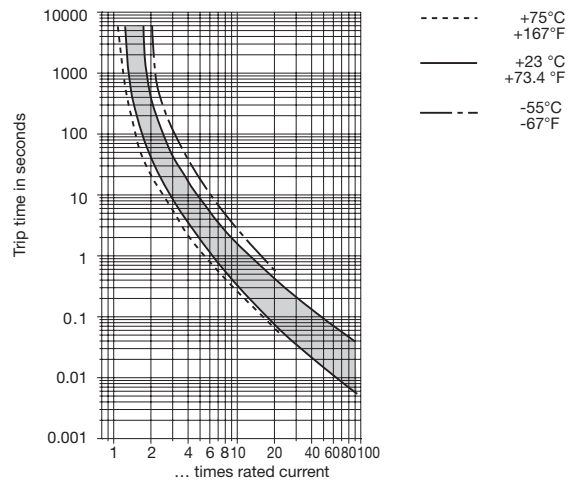


## Internal connection diagram

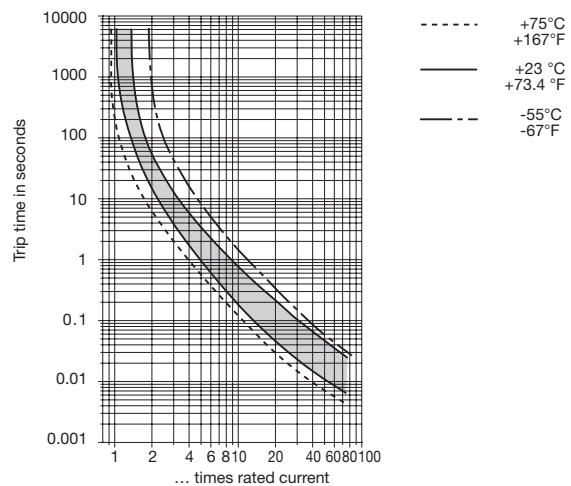


## Typical time/current characteristics

### 413-...-FN2 30...55 A



### 413-...-LN2/-N2 30...90 A



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