

Type: 413



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.

Voltage rating:

- DC 28 V
- AC 115 V (400 Hz) upon request

Current ratings:

from 30 A to 55 A (-FN)
from 30 A to 90 A (-LN/-N)

Number of poles:

single pole

Mounting method:

threadneck
socket

Terminal design:

screw terminals

Actuation:

manual release
push button

Auxiliary contacts:

without auxiliary contacts

Water splash protection:

with water splash protection
without water splash protection

Illumination:

without illumination

Typical life:

2,000 operations at $1 \times I_N$

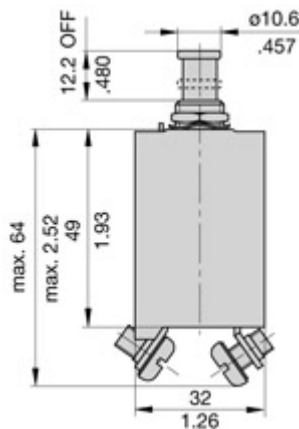
Interrupting capacity I_{cn} :

DC 28 V: 6,000 A

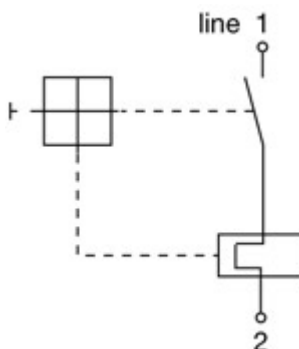
Approvals:

UL, QPL Sweden

Dimensions



Internal connection diagrams



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

Type No.	
413	threadneck panel mounting
Terminal design	
K14	screw terminals M6 (to aircraft specs.)
K34	reinforced screw terminals M6 (to vehicle specs.)
K54	as K34, but housing sealed
Version	
FN2	vehicle application, nickel-plated
LN2	aircraft application, black finish
N2	general application, nickel-plated
Current ratings	
30...55 A (-FN2)	
30...90 A (-LN2/N2)	
413 - K14 - LN2 - 40 A 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



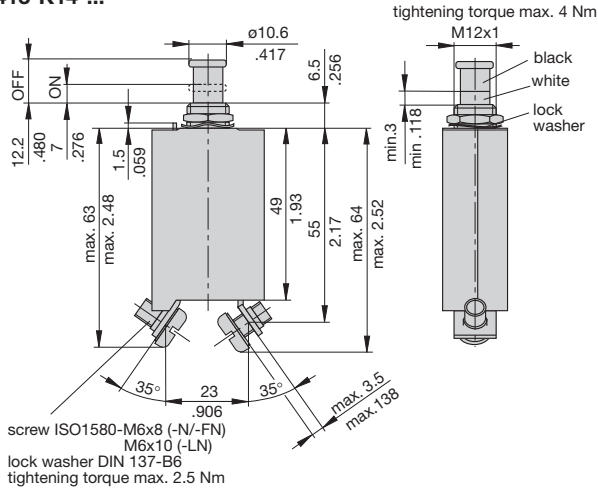
413-...

Technical data

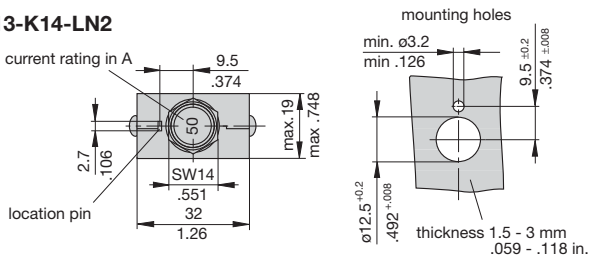
Voltage rating	DC 28 V AC 115 V (400 Hz) upon request	
Current rating range	30...55 A (-FN2) 30...90 A (-LN2/-N2),	
Typical life	2,000 operations at 1 x I _N	
Ambient temperature	-55...+75 °C (-67...+167 °F)	
Insulation co-ordination (IEC 60664 and 60664A)	rated impulse withstand voltage 1.5 kV	pollution 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 _{cn}	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

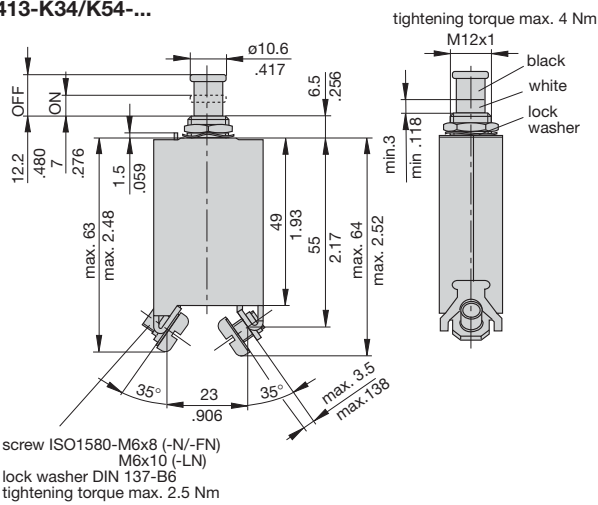
413-K14-...



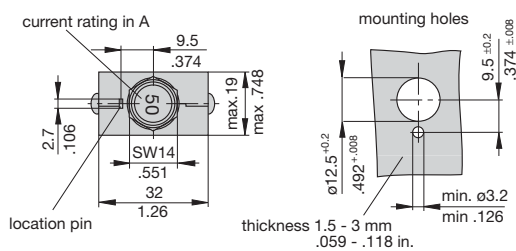
413-K14-LN2



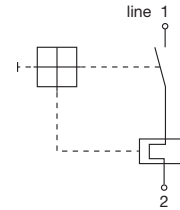
413-K34/K54-...



413-K34/K54-FN2/-N2

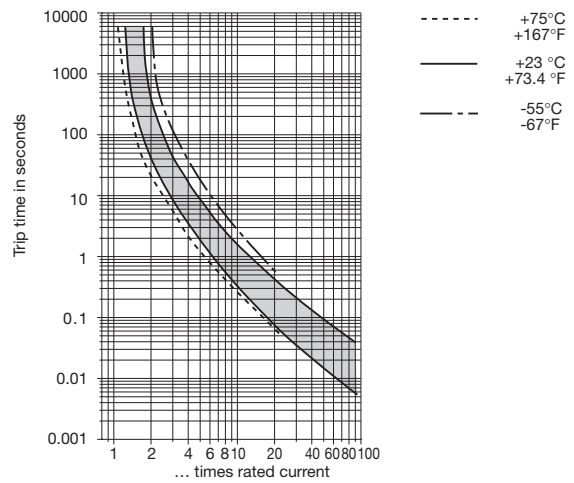


Internal connection diagram



Typical time/current characteristics

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



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

