

E-T-A® High Performance Thermal Circuit Breaker 413-...

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 shows clearly 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

Packaging quantity: 75 pcs.

Standard current ratings and typical voltage drop values

Current rating (A)	Voltage drop (mV) -LN/N	Voltage drop (mV) -FN	Current rating (A)	Voltage drop (mV) -LN/N	Voltage drop (mV) -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...80 A
LRoS, BV	DC 28 V	30...70 A
QPL Sweden	DC 28 V	30...50 A



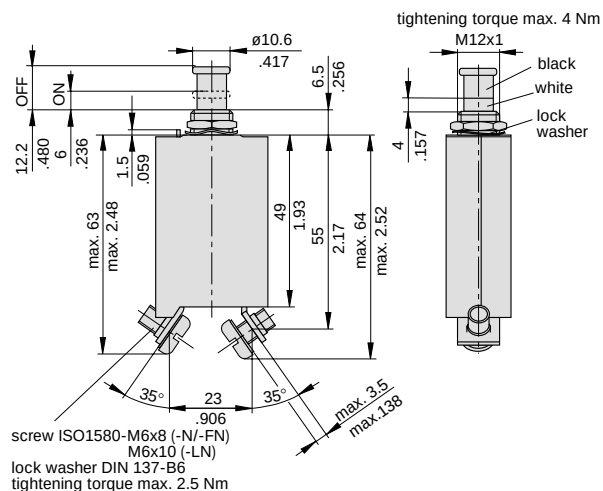
413-...

Technical data

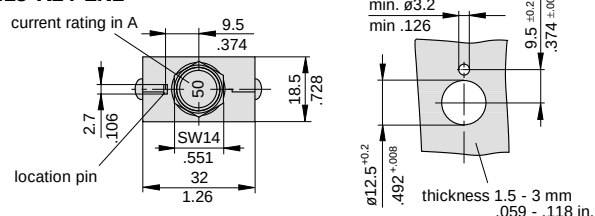
Voltage rating	AC 115 V (400 Hz); DC 28 V	
Current rating range	30...55 A (-FN2) 30...90 A (-LN2/-N2),	
Typical life	2,000 operations at 1 x I _N	
Ambient temperature	-55...+75 °C (-67...+167 °F)	
Insulation co-ordination (IEC 60664 and 60664A)	Rated impulse withstand voltage 1.5 kV	Pollution degree 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}	AC 115 V (400 Hz): 1,000 A DC 28 V: 6,000 A	
Interrupting capacity (UL 1077)	DC 28 V: 6,000 A	
Degree of protection (IEC 60529/DIN 40050)	operating area IP 40 terminal area IP 00	
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

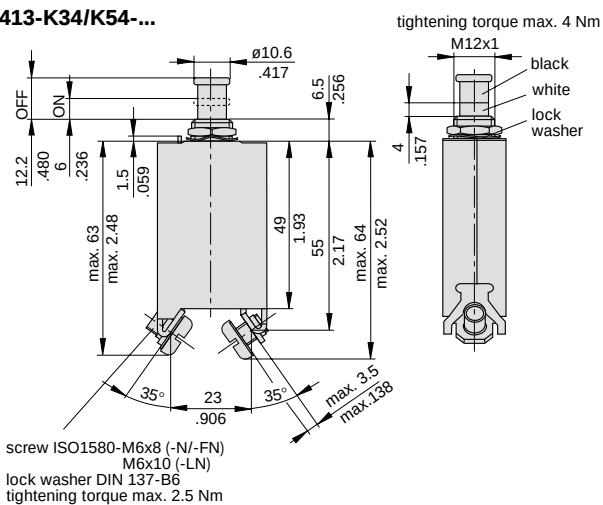
413-K14-...



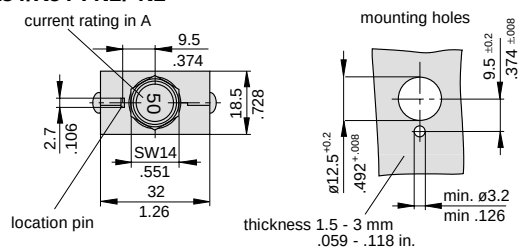
413-K14-LN2



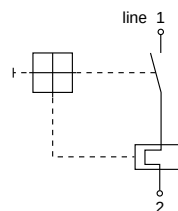
413-K34/K54-...



413-K34/K54-FN2/-N2

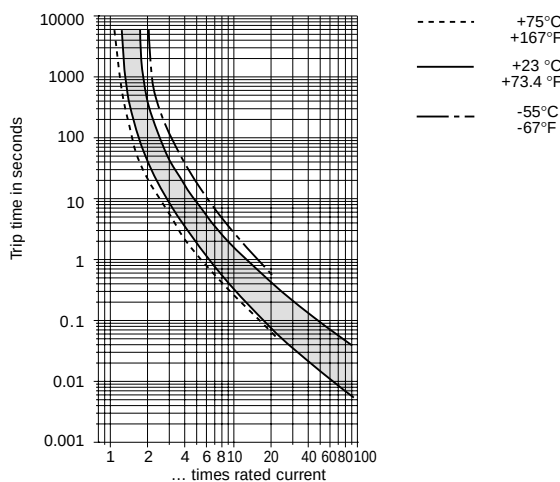


Internal connection diagram

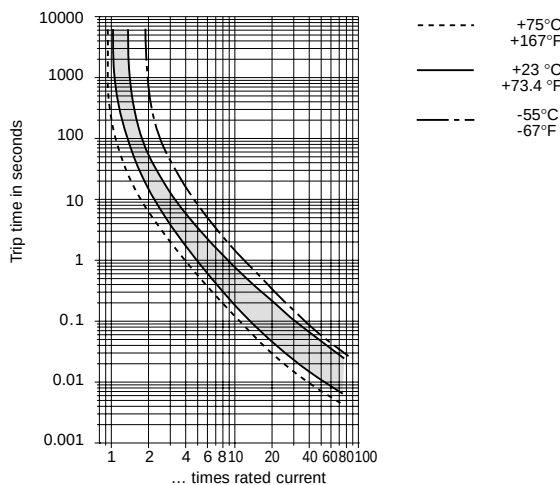


Typical time/current characteristics

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



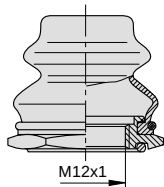
413-...LN2/N2 30...90 A



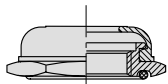
This is a metric design and millimeter dimensions take precedence (mm/inch)

Accessories (approved to VG 95345, part 23)

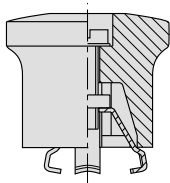
Splash cover/hex nut assembly with O ring (IP 66)
X 200 801 08 – nickel plated nut, transparent cover
X 200 801 03 – matt black finish nut, black cover



Splash cover black/hex nut assembly with O ring (IP 54)
X 200 802 01 – nickel plated nut
X 200 802 02 – matt black finish nut

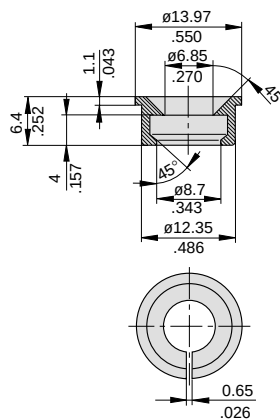


Actuator extension (black)
X 200 803 01

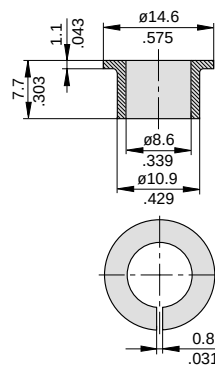


Accessories

Identification collar
Y 307 004 01 black
Y 307 004 02 white
Y 307 004 03 red
Y 307 004 04 green
Y 307 004 05 blue



Lock out ring
Y 307 005 01 red



All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.