

## Description

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

## Typical applications

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

## Ordering information

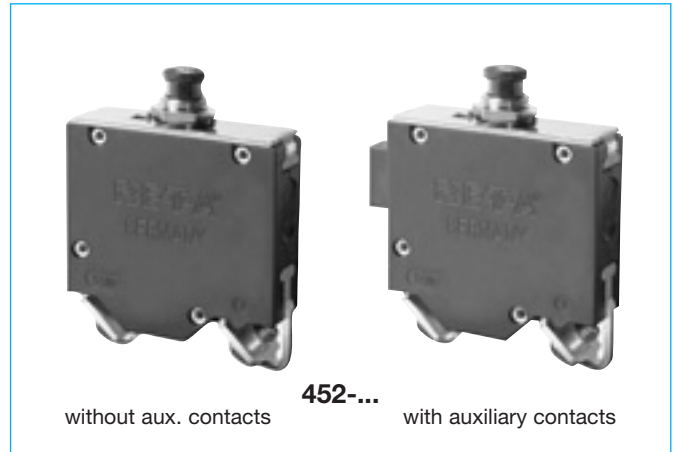
<b>Type No.</b>	
452	standard delay curve
452-2	fast trip curve
<b>Terminal design</b>	
K14	screw terminals M6
K34	screw terminals M6, reinforced
<b>Version</b>	
FN2	vehicle application
LN2	aircraft/general application
<b>Auxiliary contacts</b>	
(blank)	without auxiliary contacts
S1	with auxiliary contact (connector EN 3155-016M2018 (NC))
S5	as S1, but with polarized auxiliary contact (NC)
<b>Current ratings</b>	
50...100 A	
452 - K14 - LN2 - S1 - 80 A ordering example	

## Standard current ratings and typical volt drop values

Current rating (A)	Volt drop (mV)	Current rating (A)	Volt drop (mV)
50	80	80	65
60	75	90	60
70	70	100	60
75	65		

## Approvals (without auxiliary contacts)

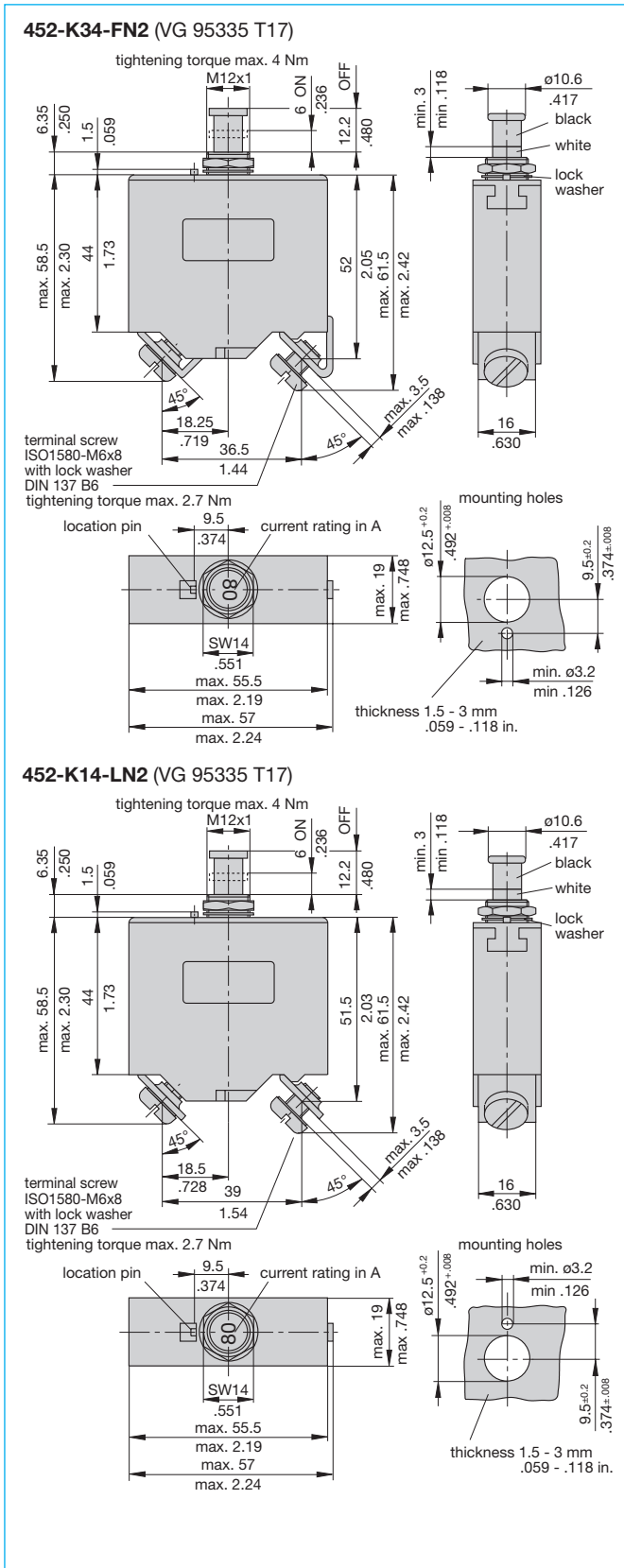
Authority	Voltage ratings	Current ratings
VG 95345, part 17	DC 28 V	60...100 A
QPL, Canada	DC 28 V	60...100 A
QPL, Sweden	DC 28 V	60...100 A (452-K34-FN)
UL	DC 28 V	50...100 A



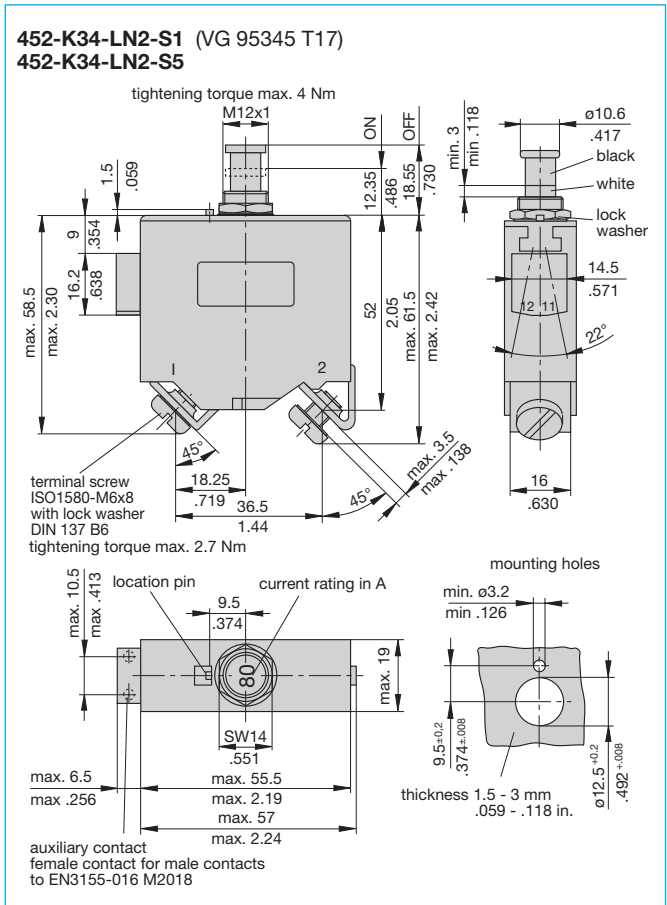
## Technical data

Voltage rating	DC 28 V	
Current rating range	50...100 A	
Auxiliary circuit	0.5 A, DC 28 V	
Typical life	2,500 operations at $I_N$	
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	
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00	
Vibration	10 g (55-2000 Hz) ±0.76 mm (10-55 Hz) to VG 95210, sheet 19/ IEC 60068-2-6, test Fc	
Shock	50 g (11 ms) to VG 95210, sheet 28/ IEC 60068-2-27, test Ea	
Corrosion	96 hours at 5 % salt mist to VG 95210, sheet 2/ IEC 60068-2-11, test Ka	
Humidity	240 hours at 95 % RH to VG 95210, sheet 7/ IEC 60068-2-3, test C	
Explosion	to VG 95210, sheet 10/ MIL-STD-202, meth. 109	
Mass	approx. 122 g without auxiliary contact approx. 126 g with auxiliary contact	

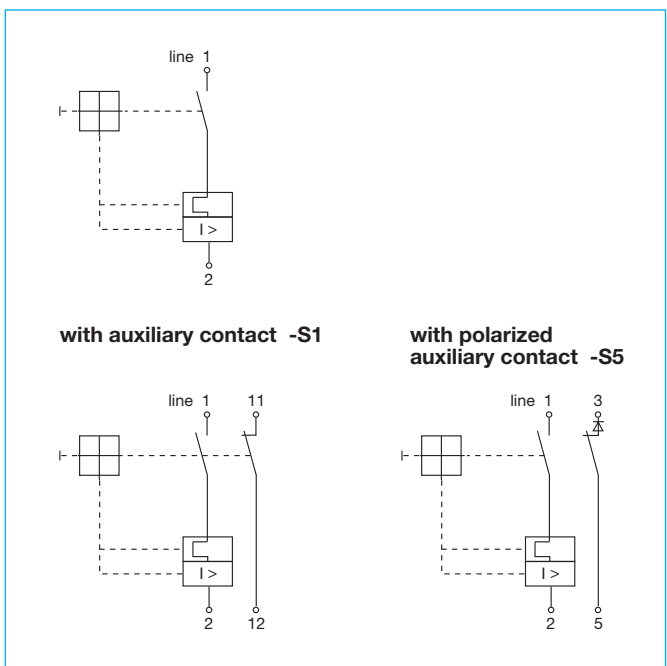
## Dimensions 452-K...-...



## Dimensions 452-K...-S.



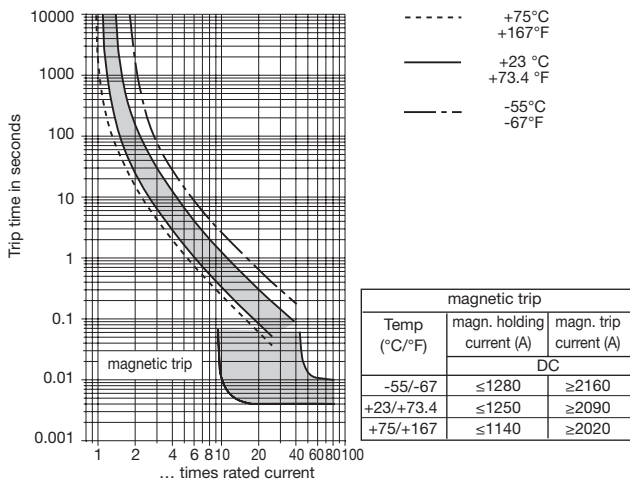
## Internal connection diagram



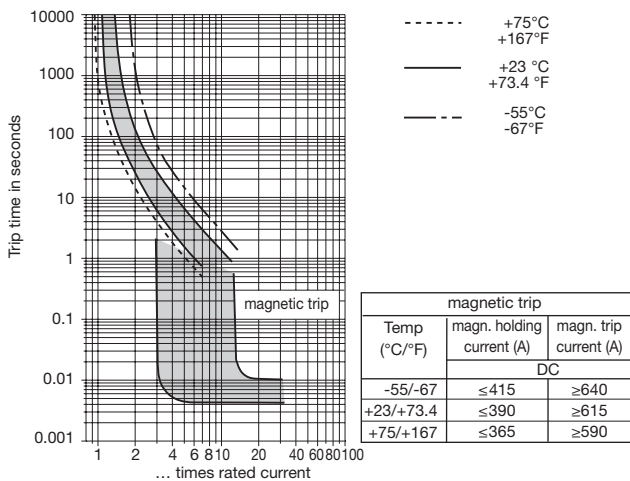
This is a metric design and millimeter dimensions take precedence (mm)  
inch

## Typical time/current characteristics

452-... (standard delay)



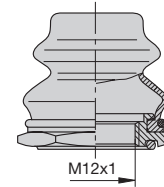
452-2-... (fast trip)



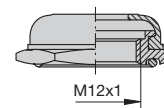
Characteristic curves for AC to special order.

## Accessories (approved to VG 95345, part 23)

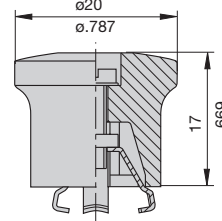
**Splash cover/hex nut assembly with O ring (IP66)**  
**X 200 801 08** nickel plated nut, transparent cover  
**X 200 801 03** matt black finish nut, black cover



**Splash cover/hex nut assembly with O ring (IP54)**  
**X 200 802 01** nickel plated nut  
**X 200 802 02** matt black finish nut



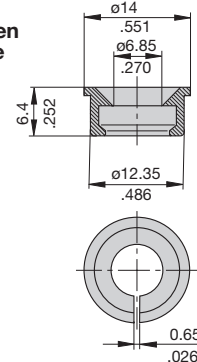
**Actuator extension (black)**  
 to be fitted on the push button  
**X 200 803 01**



## Accessories

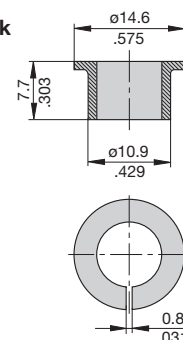
**Identification collar to be snapped on the push button**

**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 to block the push button in OFF position**

**Y 307 005 01** red  
**Y 307 005 02** black



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

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.