

Description

Compact single pole thermal circuit breaker with push-to-reset, tease free, trip free, snap action mechanism and separate (colour coded) manual release. Combining full feature circuit breaker protection and convenience with low cost of ownership benefits. Fitted with blade terminals for plug-in mounting.

Type III to SAE J 553.

Version 1176 is available especially for the automotive industry (current ratings correspond to those of blade fuses).

Typical applications

Extra low voltage wiring systems on all types of vehicles and marine craft.

Ordering information

Type No.	
1170	plug-in
Design standard	
21	blade terminals for automotive fuse blocks (standard) with retaining clips
22	blade terminals for automotive fuse blocks, without retaining clips
Current ratings	
3...25 A	
1170 - 21 - 15 A ordering example	

Standard current ratings, typical voltage drop values and actuator colours (manual release)

Current rating (A)	Voltage drop (mV)	Actuator colour
3	< 300	violet (approximating RAL 4008)
4	< 300	pink (approximating RAL 3015)
5	< 300	orange-brown (approximating RAL 8023)
6	< 150	mossy-green (approximating RAL 6005)
7.5	< 150	hazel (approximating RAL 8011)
8	< 150	honey (approximating RAL 1005)
10	< 150	red (approximating RAL 3020)
15	< 150	blue (approximating RAL 5012)
20	< 150	yellow (approximating RAL 1018)
25	< 150	pearl (approximating RAL 1013)



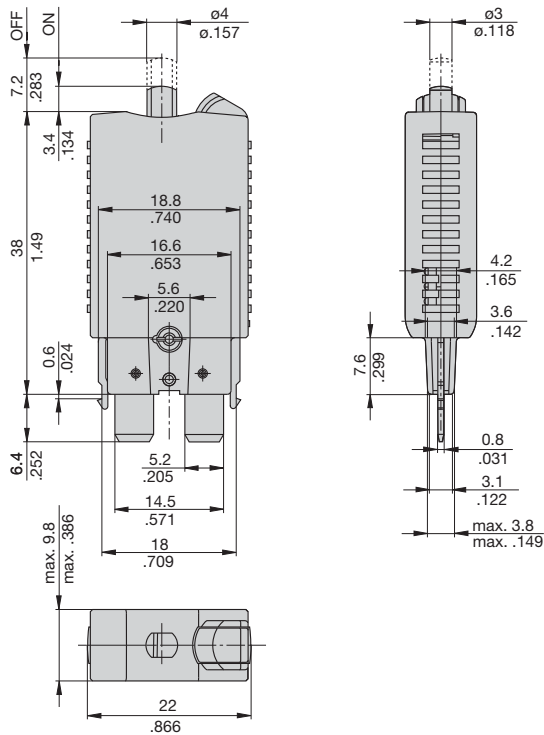
1170-...

Technical data

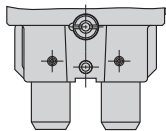
Voltage rating	DC 28 V
Current ratings	3...25 A (30 A upon request)
Typical life	at rated current: 3...25 A 6,000 operations at I_N 3...20 A 3,000 operations at $2 \times I_N$ 25 A 1,000 operations at $2 \times I_N$
Ambient temperature	-40...+85 °C (-40...+185 °F)
Interrupting capacity I_{cn}	400 A
Ultimate short-circuit breaking capacity	≥ 1 break operation at 2,000 A
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00
Vibration	10 g (57-500 Hz) \pm 0.76 mm (10-57 Hz), to IEC 60068-2-6, test Fc, 10 frequency cycles/axis
Shock	50 g (11 ms) to IEC 60068-2-27, test Ea
Corrosion	96 hours at 5 % salt mist, to IEC 60068-2-11, test Ka
Humidity	240 hours at 95 % RH to IEC 60068-2-78, test Cab
Mass	approx. 13 g

Dimensions

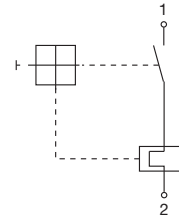
1170-21



1170-22

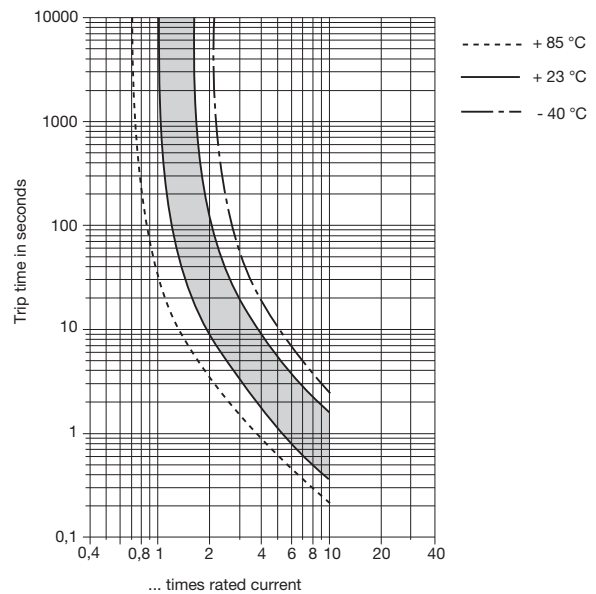


Internal connection diagram



Typical time/current characteristics at +23°C/73.4°F

3...25 A

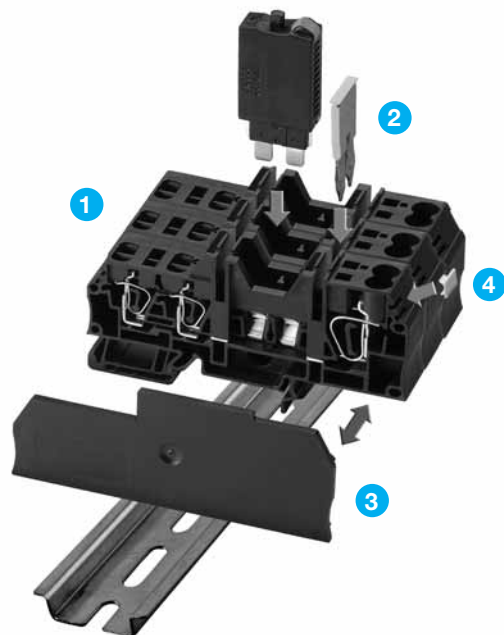


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

Ambient temperature °F	-40	-22	-4	+14	+32	+50
Ambient temperature °C	-40	-30	-20	-10	0	+10
Derating factor	0,77	0,80	0,84	0,89	0,94	0,96
Ambient temperature °F	+73.4	+104	+122	+140	+158	+185
Ambient temperature °C	+23	+40	+50	+60	+70	+85
Derating factor	1	1,08	1,16	1,24	1,33	1,42

Accessories – Power Distribution System

1



1 SocketPlus 12 – X 223 076 02

Packaging unit 10 pcs
Power distribution system for rail mounting TS 35 with spring-loaded terminals (2 on input side, 4 on output side) for rigid and flexible conductors with and without wire end ferrule. Can be bridged on input and output side. Please use the recommended screw driver size (SD) for releasing the tension spring.

Connectable conductors (2 terminals) - input

Cross sections:
unifilar 0.5...10 mm²
multi-strand 0.5...6 mm²
multi-strand with wire end ferrule with moulded collar
DIN 46228/4 0.5...6 mm²
SD 1 (0,6x3,5)

Connectable conductors (4 terminals) - output

Cross sections:
unifilar 0.5...4 mm²
multi-strand 0.5...2.5 mm²
multi-strand with wire end ferrule with moulded collar
DIN 46228/4 0.5...2.5 mm²
SD 1 (0,6x3,5)

stripped length 10 mm
dimensions without circuit breaker 93 x 47.5 x 16 mm
with circuit breaker type 1170
93 x 74.9 x 16 mm (OFF condition)
I_{max} = 57 A, U_{max} = 230 V
temperature range -50...120 °C
approvals: UL

2 Cross connector 2-pole – Y 309 578 01

packaging unit 10 pcs
I_{max} = 41 A, width 3.1 mm

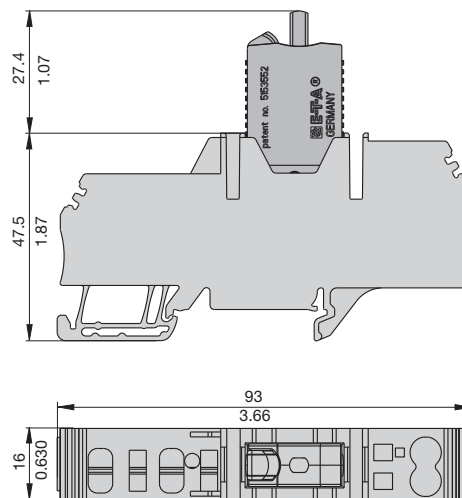
3 End piece – Y 309 580 02

packaging unit 1 piece
For closing the open side at the end of a mounting row

4 Label – Y 309 579 11

packaging unit 160 pcs = 1 sheet
marking area 5 x 8 mm,
suitable for plotters and pens

Dimensions



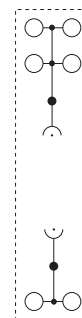
Vibration

test to DIN EN 60068-2-6 / 05.96
frequency range: 10 - 500Hz
three axes at right angles to each other,
10 crossings
1 octave / min. at 23 °C...25 °C
acceleration: 50 m/s² (5 g) or 0.35 mm

Shock

test to DIN EN 60068-2-6 / 05.96
number of shocks: 3 shocks per axis
and direction
shock duration: 11 ms
peak acceleration: 40 g
shape: half-sine

Internal connection diagram



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

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.