

Thermo protector C1



Thermo Protector triple C1 with breaking function comprises a bimetallic construction intended to serve as a temperature protection in windings of smaller electric motors, generators, transformers, etc. Thanks to its compact design, the sensor is easy to mount, even in tight, restricted winding environments. Also available as a single version and for circuit board applications.

- Current > 0.5 A self-heating, rated current 2.5A, max current 6.3 A (measured at 250Vac)
- Insulation 2 kV, standard items adapted for vacuum impregnating
- Built for temperatures from 50°C to 200°C, as standard temperature tolerance +/- 5 °C
- Tested for voltage 12Vdc – 500Vac
- UL, VDE and CQC approved depending on selected wiring



Product information

Thermo Protector triple C1 with breaking function consists of a bimetallic construction mounted in a compact metal housing to attain a highly qualitative safe and durable temperature protection. The C1 is a version particularly suitable for daisy chain applications where low currents need to be broken. The Thermo Protector C1 is built to break temperatures from 50°C to 200°C.

Typical applications

EA component originally designed for temperature protection in windings in electric motors, generators and transformers, Thermo Protector C1 is also suitable for use in other contexts where a compact and mechanically durable component is required with a circuit-breaking function that can instantaneously and safely break a low current.

Properties

- Very high resistance to mechanical stress
- Compact design
- Very good magnetic and electrical shielding
- Instantaneous breaking and very short time for contact bounces
- Automatically returns to closed connection once the normal working temperature has been reached after disruption
- Current sensitive and quickly breaks even at overload in critical situations
- Can be modified for various mounting alternatives (wiring, for circuit board assembly, insulation in various executions, housings without insulation)
- Triple version as stock item (see item list)
- UL, CS, VDE and CQC approved as shown in technical data
- Welded wires guarantee safe connection, electrically, mechanically and thermally
- Very good magnetic and electrical shielding thanks to a ferromagnetic steel housing
- Constant connection resistance guaranteed by optimal choice of material, high contact press and a sliding motion when breaking and closing down
- Excellent thermal response time with the same characteristics from both sides
- Very high resistance to mechanical stress thanks to a rounded steel housing specially developed for function at electric motor coil ends
- Wire placement ensures that the wire area does not affect the component's thickness
- Fully automatic production with integrated 100% test in multiple steps

Description/Function

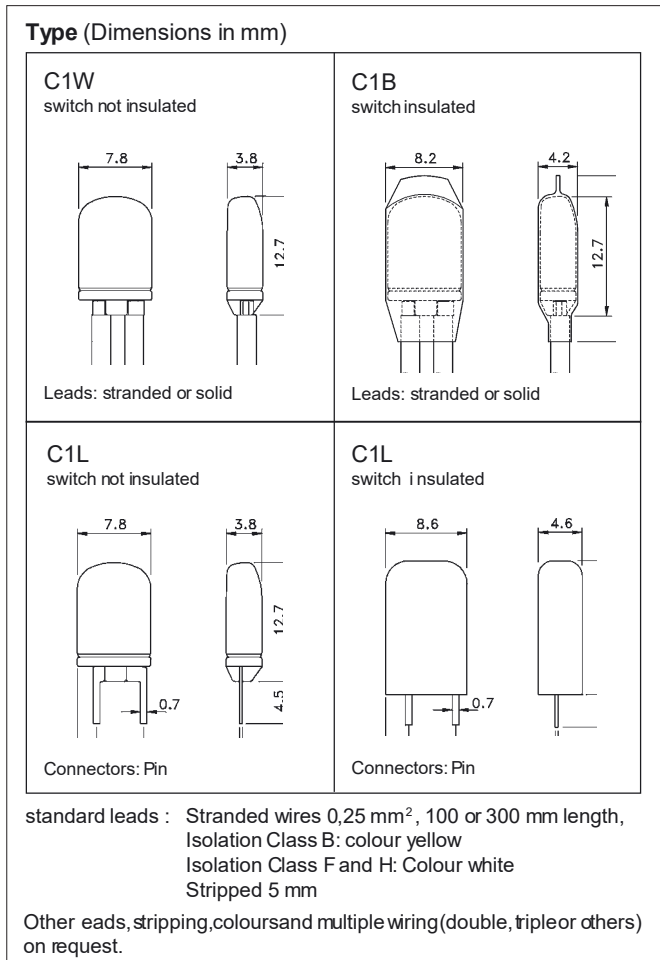
Thermo Protector C1 is a very compact bimetallic switch with built-in sensitivity for overload. The following points show how it is at the top in terms of construction and functionality when compared to competitors. All of our standard items are adapted for vacuum Impregnating. Welded wires guarantee safe connection, electrically, mechanically and thermally

Colour/Connection

The component has no colour code but every Thermo Protector is stamped with its variant code, specific breaking temperature and temperature tolerance. See technical data.

Dimensioner

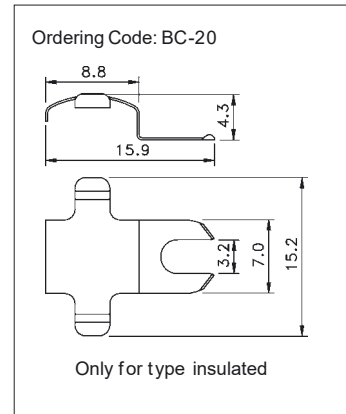
Dimensions for the relevant versions are extracted directly from the manufacturer's data sheet in English.



Basic insulation: The insulation has to be ensured in connection

Packaging

- Standard items sold individually (see item list)
- For other versions request MOQ
- For mounting plate in steel request MOQ



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Technical data

Direct extract from the manufacturer's data sheet in English.

Technical Data	
Contact function	normally closed (snap action)
Contact rating	10 000 cycles
AC p. f. = 1,0	2,5 A / 250 V
AC p. f. = 0,6	1,6 A / 250 V
AC p. f. = 0,6	0,5 A / 500 V ³⁾
DC ohmic load	1,6 A / 24 V
DC ohmic load	1,25 A / 48 V
max. current *	6,3 A / 250 V _{AC} 3.000 Zyk.
Voltage range	12 V - 500 V ⁴⁾
Nominal temperature (NST)	50° C...200° C ¹⁾ (within 5 K - steps)
Standard tolerance of NST	± 5 K ²⁾ (letter B)
Reset temperature (RST)	40 ± 15 K (below NST)
Ambient temperature	T 180
Contact resistance	< 90 m Ω
Contact bounce	< 1 ms
Dielectric strength	2 kV
Resistance to tracking	PTI 175 (only phy. config. W and L)
Protection class	I
Enclosure rating	IP00
Pressure solidity	> 600 N

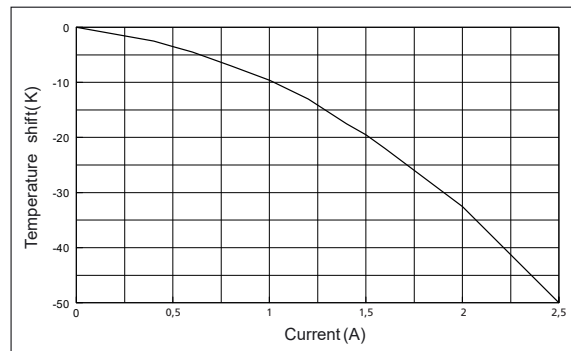
¹⁾ approved values: 50...180°C (VDE)

²⁾ further tolerances ± 2,5 K (= A), ± 7,5 K (= C), ± 10 K (= D)

³⁾ measure on TMC test-facility

⁴⁾ alternatives values on request

Performance Curve



At Current > 0,5 A please note current sensitivity.

Approvals

Valid for	Certification institute	DIN	Approval Number
Europe	VDE	EN 60730	40024298
USA	UL	UL 60730	E326354
Canada	UL	CS22.2	E173279
China	CQC		09002028341

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Item number	Description	Version	Wire length (ca mm)		Breaking temp °C	Temp.tolerance °C
			Connection	Between thermal c.		
125918	Termok.trill C1B-120B-300/100	C1B	300	100	120	+/-5
125919	Termok.trill C1B-125B-300/100	C1B	300	100	125	+/-5
125920	Termok.trill C1B-130B-300/100	C1B	300	100	130	+/-5
125924	Termok.trill C1B-130B-600/400	C1B	600	400	130	+/-5
125921	Termok.trill C1B-140B-300/100	C1B	300	100	140	+/-5
125922	Termok.trill C1B-150-300/100	C1B	300	100	150	+/-5
125925	Termok.trill C1B-150B-600/400	C1B	600	400	150	+/-5
125923	Termok.trill C1B-155B-300/100	C1B	300	100	155	+/-5

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