

Overheating Protector

self resetting

Series C4

General

- **High pressure resistance** when being mounted into the winding due to a curved steel case. Damage to the contact system is thus avoided.
- **Welded leads** guarantee reliable and stable mechanical and thermal connections.
- **Magnetic and electric shielding.** The case is made of a ferromagnetic material (steel) and withstands any influence of magnetic fields. Therefore deflection of the spark will be avoided. No vibration noise is caused by magnetic alternating fields.
- **Constant contact resistance** is guaranteed by the selection of optimal contact material, high contact pressure and sliding contacts.
- **Instantaneous shut-down and short contact bounces** due to a reliable operating bimetal snap-action disc.
- **Thermal sensitivity, independent from installation**, is provided by symmetrical construction of the switch and excellent thermal conductivity of the metal case thus achieving short response time. As both sides are equally sensitive, installation in any position is possible.
- **Constant dimensions.** The overall size of the switch is independent from the lead diameter. The connections for the leads are placed at the face side. A damage of the lead insulation at the edges of the case is excluded.
- **Patented design**
- **Fully automated production.** TMC thermal protectors are manufactured fully automatically from the first to the last step with integrated 100% inspection thus ensuring a permanent high quality level.
- **Custom-designed method of connection** can be realized at low cost.



Description

TMC - thermal protectors Series C4 are most efficient **miniature bimetal switches** and have been designed to protect electrical equipment such as electric motors, transformers etc. against overheating.

The C4 series offers optimum performance characteristics achieved by selecting the best combination of terminal material and bimetal type to provide the ideal operating temperature to suit any specific application, independent from load current.

The current sensitivity is negligably low, therefore the C4 is an ideal device for non current sensitive applications.

Technical Data

Contact function	normally closed (<i>snap action</i>)
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	< 50 mΩ
Contact bounce	< 1 ms
Dielectric strength	2 kV
Resistance to tracking	PTI 175 (only phys. 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)

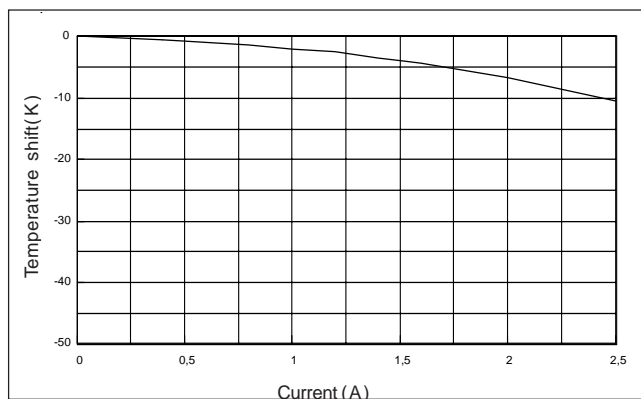
³⁾ measure on TMC test-facility

⁴⁾ alternatives values on request

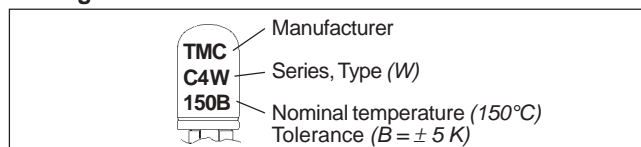
Approvals

Valid for	Certification Institute	DIN	Approval Number
Europe	VDE	EN 60730	96665
USA	UL	UL 60730	E326354
Canada	UL	CS22.2	E173279
China	CQC		09002028341

Performance - Curve

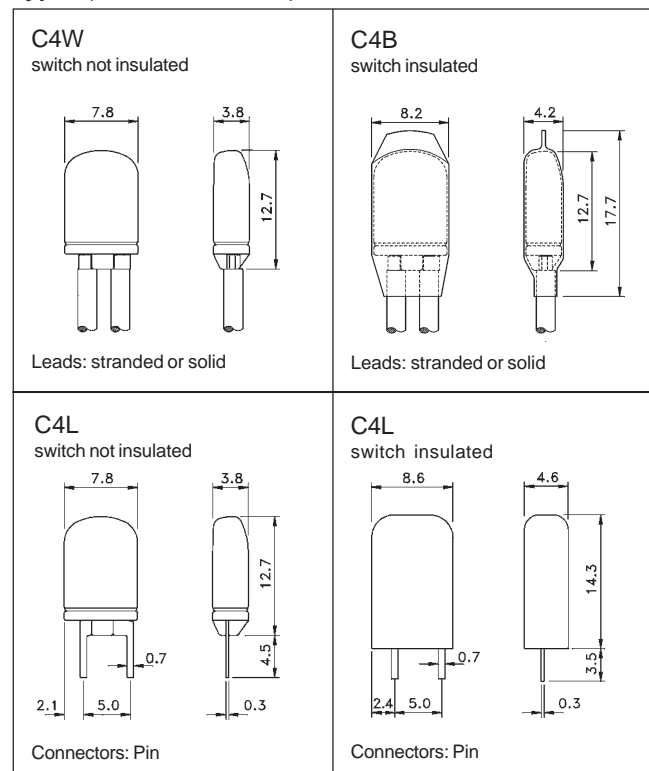


Coding



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Types (Dimensions in mm)



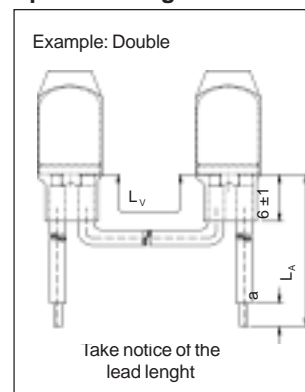
standard leads: Stranded wires 0,25 mm²Ø0 or 300 mm length,
Isolation Class B: colour yellow
Isolation Class F and H: Colour white
Stripped 5 mm

Other leads, stripping, colours and multiple wiring (double, triple or others) on request.

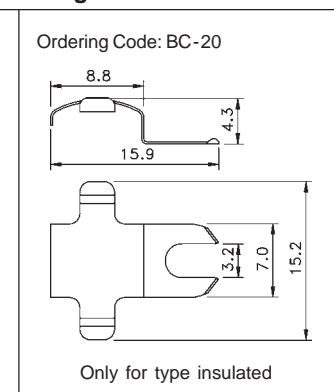
Basic insulation: The insulation has to be ensured in connection with the corresponding use of the types C4W, C8W, C9W and C4L, C8L, C9L.

Impregnation: The protector can be installed before impregnation and baking of the winding at ambient atmosphere. For vacuum impregnation on request.

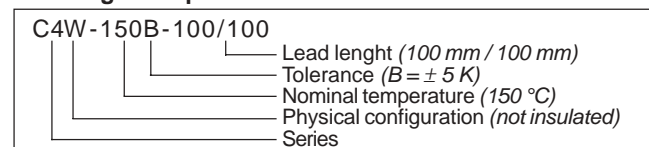
Special wiring



Fixing



Ordering example



We reserve the right to modify specification and dimensions. Regarding the information of this brochure there can't lay claim of liability or to acceptance guarantee.

This new data sheet obsoletes all previous issues.

Stand 06/10