

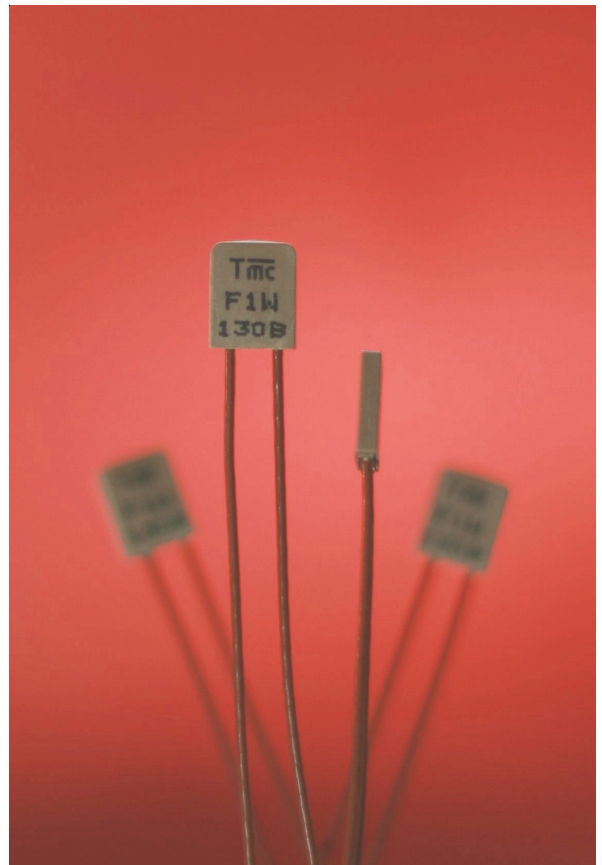
Overheating Protector

**self resetting
current sensitive**

Type **F1**

General

- **Very compact construction**
- **Extremely flat case**
- **Welded leads** guarantees reliable and stable mechanical and thermal connections.
- **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 reliably operating bimetal snap-action disc.
- **Excellent thermal response** is provided by symmetrical construction of the switch. Short response times are achieved by an excellent thermal conductivity of the plastic case. As both sides are equally sensitive, installation in any position is possible.
- **Constant dimension**, the overall size of the switch is independent from the diameter of the used lead. The connections for the leads are placed at the face side.
- **Patented design**
- **Fully automated production** from the first to the last step. A permanent high quality level is ensured by an integrated 100% inspection of all parameters of the production.
- **Custom-designed variations** as f.e. SMD connectors



Description

TMC - thermal protectors series F1 are most efficient miniature bimetal switches, which contacts open when the nominal temperature is reached. They are adapted in ideal manner for the monitoring or sensor technology of electrical windings in motors, transformers as well as apparatus of different types. TMC Thermal Protectors establish all european, american and chinese standards.

Technical data

Contact function	Normally closed (<i>snap action</i>)
Contact rating AC $\cos \varphi = 1,0$ DC	10 000 cycles 250mA / 250 V 400 mA / 48 V
Nominal temperature (NST)	60° C... 160° C (in 5 K steps)
Standard tolerance of NST	± 5 K (<i>letter B</i>)
Reset temperature (RST)	40 ± 15 K (<i>below NST</i>)
Ambient temperature	T 180
Contact resistance	< 90 mΩ
Contact bounce	< 1 ms
Dielectric strength	2 kV
Resistance to tracking	PTI 175
Protection class	adapted for mounting in protection clas .I + II
Enclosure rating	IP00

Action Type 2BM

Degree of pollution 250 V: 2

Degree of pollution 50 V: 3

For minimal voltages gold plated contacts can be offered

Approvals

Valid for	Institute	Standard	Approval number
Europa	VDE	EN60730	
USA	UL	UL60730	
Canada	UL	UL60730	
China	CQC		

Coding

	<p>— Manufacturer</p> <p>— Type (<i>Option W</i>)</p> <p>— Nominal temperature (150°C) Tolerance ($B = \pm 5 K$)</p>
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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

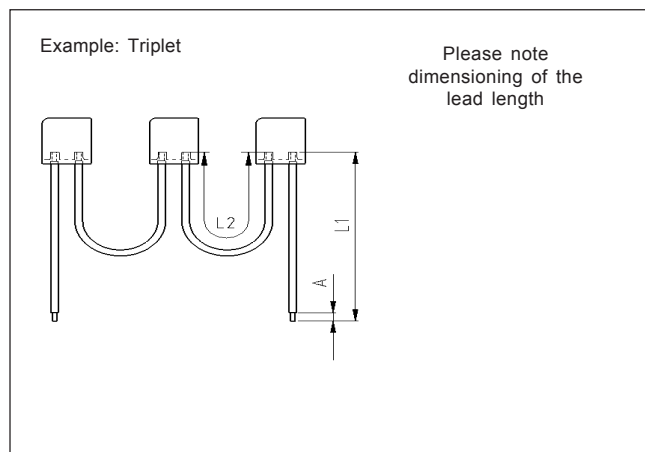
Types (Dimensions in mm)

<p>F1W Switch not insulated</p> <p>Connectors: Lead or wire</p>	<p>F1B Switch insulated</p> <p>Connectors: Lead or wire</p>
<p>F1L Switch not insulated</p> <p>Connectors: Pin</p>	<p>F1S Switch not insulated</p> <p>Type: SMD</p>

Standard leads: Stranded wires 0,25 mm², 100 bzw. 300 mm length
Insulation class B: Colour yellow
Insulation class F: Colour white
Standard stripping: 5 mm

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

Special wiring



Ordering example

F1W - 150B - 100 / 100	Lead length (100 mm / 100 mm)
	Tolerance ($B = \pm 5 K$)
	Nominal temperature (150 °C)
	Physical configuration (<i>not insulated</i>)
	Option