Temperature limiter
for signal currents up to 250 mA automatic reset

F

F series

Technical specifications | TMC **F series**
Version 2.0 EN 2016
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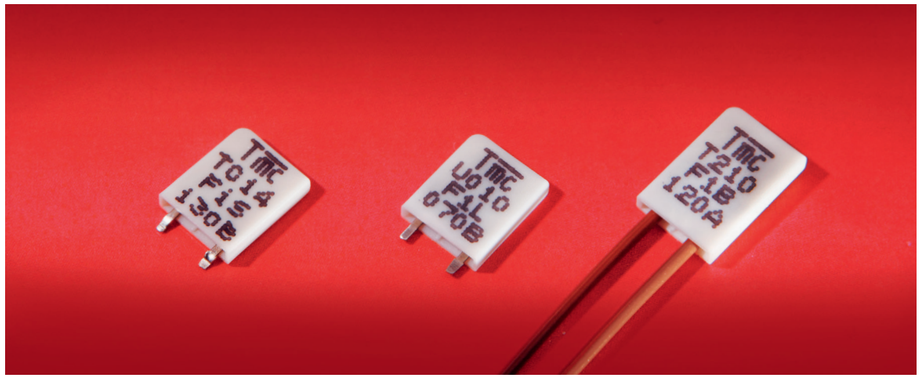


Description

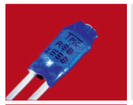
The extremely flat temperature protectors of the F series are miniature bimetal switches with a wide range of applications in the temperature sensor technology. Because of their dimensions they are ideal for temperature monitoring in very confined spaces. Among other applications they are used in electronic components and help to further miniaturise devices. Both signal currents and currents up to 250 mA are controlled reliably. The contacts open in a snap action when reaching the cut off temperature and close again automatically when the temperature decreases to the reset temperature. Numerous customizations extend the spectrum of applications.

Customer specific solutions
Our creative R&D team turns your ideas into innovative products. Please contact us.

Extremely flat design
by intelligent construction and most precise production
Very compact construction
by wire ports integrated into the housing
Thermally solid connections
by welded wire connections
Constant dimensions
by front side mounted wires for all wire cross sections
PCB application
by integrated THT and SMD terminals
Position-independent use
by symmetrical design
Constant resistance
by optimal contact material, high contact pressure and sliding contacting
Consistent high quality level
by automated production with integrated monitoring

TMC product range overview

Temperature limiter:

Product design	Feature	Application	Series
	automatic reset	up to 250 mA	**F**
	automatic reset	up to 6,3 A	**C**
	automatic reset	up to 16 A	**G**
	selfhold	up to 10 A	**R**
	normally open	up to 1 A	**O**

Temperature sensors:

Product design	Version	Features	Series
	PTC	sudden change of resistance	**M**
	PT1000 NTC	consistent dimensions	**S**
	Platinum sensor	extremely precise	**PT**

Imprint
TMC Sensortechnik GmbH, Westliche Gewerbestraße 3, D-75015 Bretten
Phone +49 (0) 72 52/9431 - 0, Fax +49 (0) 72 52/9431 - 31, www.tmc.eu

Authorized to represent: Bruno Gengenbach, Jens Radbruch
Companies register: HRB240551
VAT ID: DE174308309
Tax No: 30045/35304

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Edition 09/16

Tmc® Thermal Micro Control

Tmc® Thermal Micro Control

Temperature limiter
F series
Technical specifications

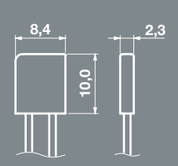
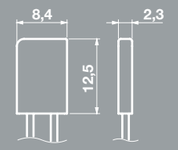
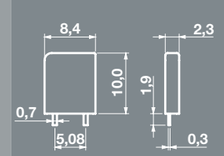
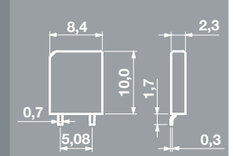
- **Manufacturer**
- **Batch number**
- **Type F1, version B**
- **Nominal switching temperature 150 °C**
  Tolerance class B

Specifications

Type	F1
Contact version	Normally closed (nc), snap action
Switching cycles	10.000 cycles
AC cos φ = 1,0	250 mA/250 V
DC resistive	400 mA/48 V*
Nominal switching temperature (NST)	in 5 K steps
Standard	60 °C ... 160 °C**
Approved	60 °C ... 160 °C
NST tolerance	± 5 K (code letter B)**
Reset temperature (RST)	40 K ± 15 K below NST (> 35 °C)
Resistance	< 50 mΩ
Contact bouncing time	< 1 ms
Dielectric strength	2 kV
Ambient temperature	T180
Protection level	IP00**
Protection class	Suitable for use in devices of class I & II
Principle of operation at degree of contamination	Type B: clean Type C: normal

* TMC measurement ** different values on request

Versions

Version W	Version B	Version L	Version S
Switch not insulated	Switch insulated	Switch not insulated	Switch not insulated
			
Leads: stranded, solid	Leads: stranded, solid	Connectors: Pin	Connectors: SMD

Dimensions in mm. Resistance to vacuum impregnation on request.

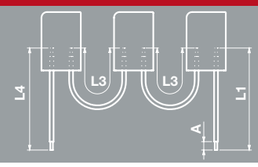
Wires

Standard	
Type (insulation) up to 150 °C:	ISO F
over 155 °C:	ISO H
Length	100 mm / 300 mm
Stripped length	5 mm
Cross section	0,14 mm²
Operating voltage	300 V

Alternative or UL listed wires on request.

Example

Triplet version B



Approvals

Institute	Standard	Number
VDE	EN60730	40031452
UL	UL60730	E326354
CQC	GB14536	13002087622

Ordering example for standard version

F1B - 150B - 100/100

- Wire length (100 mm/100 mm)
- Tolerance (B = ± 5 K)
- Nominal switching temperature (150 °C)
- Version (B = Switch insulated)
- F series, type F1

Please contact us for customer specific solutions.

My notes