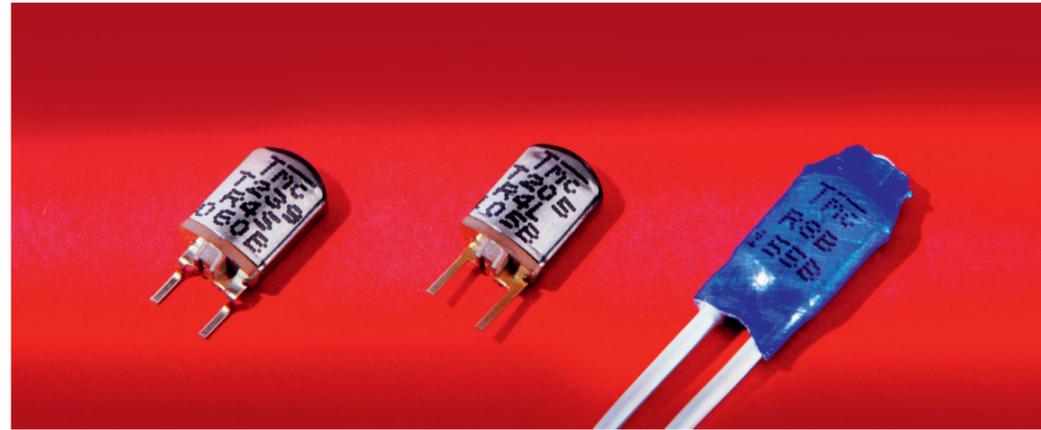


Temperature limiter
up to 6.3 A
current sensitive
electrical self hold



R series

Technical specifications | TMC R series
Version 2.0 EN 2016
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Description

Temperature protectors of the R series are high performance miniature bimetal switches which can be used in a wide range of applications and different devices. They are specifically designed for the use in electrical windings what makes them the ideal choice for the protection of motors, transformers and chokes when an automatic reset is not wanted. Protectors of this current sensitive series sense the temperature of the protected device, but also respond to the self heating of the current carrying bimetal disc. This characteristic significantly reduces temperature overswinging, if the switch is used in the windings main current circuit. The contacts open in a snap action when reaching the cut off temperature. The electrical self-hold ist guaranteed by a heating element mounted parallel to the switching mechanism. A reset of the switch is only possible by disconnecting the device from the power supply. Numerous customizations extend the spectrum of applications.

Customer specific solutions

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

Secure self-holding

by integrated PTC heating element

Highest pressure resistance

by ideally domed housing and mechanically decoupled switching mechanism

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

Electromagnetic shielding

by ferromagnetic housing

Constant resistance

by optimal contact material, high contact pressure and sliding contacting

Consistent high quality level

by fully 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

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Edition 09/16



Temperature limiter R series Technical specifications

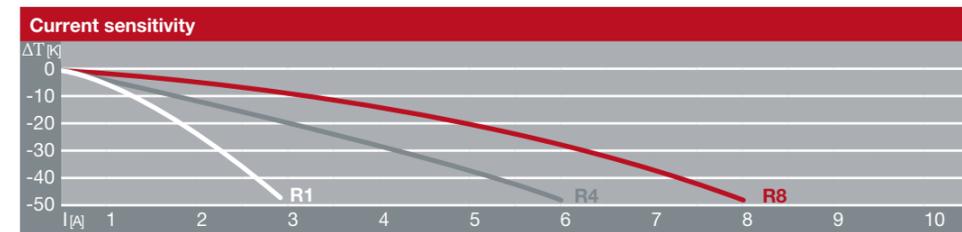


TMC
R1B
150B
- Manufacturer
- Type R1, version B
- Nominal switching temperature 150 °C
Tolerance class B

Specifications

Type	R1	R4	R8
Contact version	Normally closed (nc), snap action		
Cycles	1.000 cycles		
AC cos φ = 1,0	6,3 A/250 V	6,3 A/250 V	10 A/250 V
Recommended max. nominal current	1,6 A	2,5 A	5,0 A
Current sensitivity	high	medium	low
Nominal switching temperature (NST)	in 5 K steps		
Standard	50 °C ... 160 °C**		
Approved	50 °C ... 160 °C	50 °C ... 160 °C	70 °C ... 160 °C
NST tolerance	± 5 K (code letter B)**		
Reset temperature (RST)	> 35 °C and < 80 °C		
Electrical self hold	until -20 °C in calm air		
Resistance	< 150 mΩ	< 50 mΩ	< 50 mΩ
Contact bouncing time	< 1 ms		
Pressure resistance	> 600 N*		
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



Depends on thermal coupling, wire dimensions, environmental influences.

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	up to 150 °C:	ISO F
Type (Insulation)	over 155 °C:	ISO H
Length	100 mm / 300 mm	
Stripped length	5 mm	
Cross section	0,25 mm ² (C1, C4), 0,5 mm ² (C8)	
Operating voltage	450 V / 600 V	

Alternative or UL listed wires on request.

Approvals

Institute	Standard	Number
VDE	EN60730	40024298 40024280
UL	UL60730	E173279
CQC	GB14536	09002028350 09002028346

Ordering example for standard version

R8B - 150B - 100/100
Wire length (100 mm/100 mm)
Tolerance (B = ± 5 K)
Nominal switching temperature (150 °C)
Version (B = Switch insulated)
R series, type R8

Options

Encapsulated	In alloy housing	With plastic cap	Mounting clip
up to IP65	encapsulated, up to IP65		
Leads: stranded, solid	Leads: stranded, solid	Connectors: Pin	For version B

Dimensions in mm. Further options on request.

Connectors	Wiring	Example: Triplet version B
<ul style="list-style-type: none"> Wire end sleeves Wire end eyelets Push-on contacts Snap-on contacts 	<ul style="list-style-type: none"> Multiple wirings Customized special designs 	

Please contact us for customer specific solutions.