

Resistance Thermometers with Mineral Insulated Stem

Without thermowell, non-replaceable measuring insert

TPtMiA
TPtMiAT

Application

The resistance thermometer models TPtMiA and TPtMiAT are equipped with a temperature sensor, made of sheathed, mineral insulated cable, which is led out of the connection head without thermowell. These resistance thermometers are suitable for pressure-tight installations with compression fitting into processes with non-critical media as well as generally for plugging (e.g. with stop flange). The temperature sensor is bendable and can be fitted flexibly in the installation space with due regard to the minimum bending radius. For this construction type, there is no replaceable measuring insert available.

For both models, we offer various connection heads and measuring resistors according to DIN EN 60 751. In addition, model TPtMiAT is available with several fitted transmitters with analogue or digital output.



Standard Versions

Measuring Element

Platinum thin-film measuring resistor Pt100 according to DIN EN 60 751 in 2-, 3- or 4-wire connection as single or dual measuring resistor

Operating Temperature Range¹⁾

-200 °C to +600 °C (-328 °F to +1112 °F)

Ambient Temperature Ranges²⁾

Model TPtMiA: -40 °C to +100 °C (-40 °F to +212 °F)

Model TPtMiAT: -40 °C to +85 °C (-40 °F to +185 °F)

Accuracy

Class AA, A or B according to DIN EN 60 751

Temperature Sensor

Made of sheathed, mineral insulated cable

Sheath material: stainless steel 316L (1.4404)

Insulation: MgO

Diameter (dF): 6±0.06 mm (0.24±0.0024 ")

Min. bending radius³⁾: 5-fold diameter (Ø dF)

Connection Heads

Types B, BUZ, BUZ-H, BUZ-H-W or NS

Degree of Protection (DIN EN 60 529)

IP65

Output Signal

Model TPtMiA: resistance according to DIN EN 60 751

Model TPtMiAT: 4...20 mA, HART® or PROFIBUS® PA/
FOUNDATION™ Fieldbus

Ordering Information

See page 3

Special Versions (Upon Request)

- Measuring insert diameter 8 mm (0.31")
- Other basic values (e.g. Pt500, Pt1000) and limited tolerances (e.g. ½ cl. B, ¼ cl. B)
- Measuring resistor wire-wound in ceramic -200 °C to +800 °C (-328 °F to +1472 °F)
- Special sheath materials
- Other head-mount transmitters, also with voltage output
- Version for the subsequent mounting of transmitters

Accessories

- Transmitters for rail mounting
- Digital displays for switch panel mounting or wall mounting
- Thermowells for plain stems (data sheets 8.8140 and 8.8141)
- Compression fittings
- Stop flanges

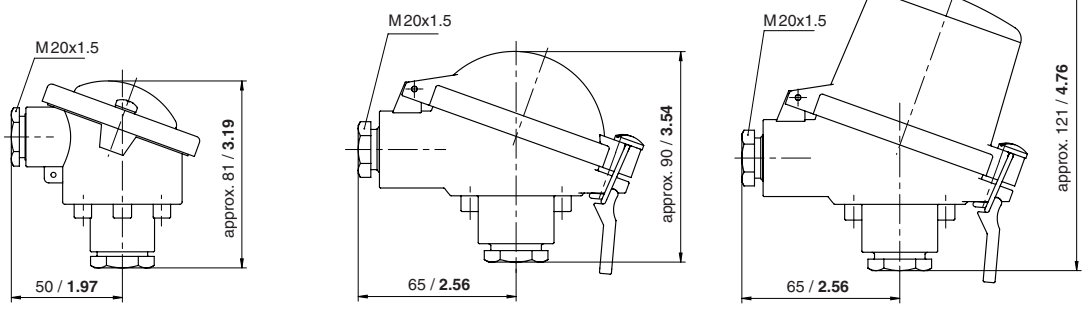
¹⁾ for accuracy class AA, the operating temperature range is reduced to -70 °C to +550 °C (-94 °F to +1022 °F)

²⁾ permissible operating and storage temperature at the connection head

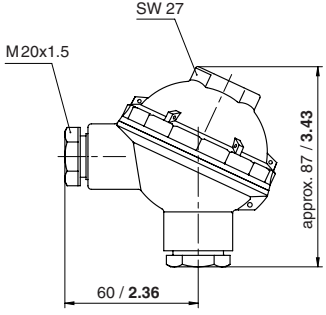
³⁾ the bottom 50 mm (1.97") of the temperature sensor must not be bent

Connection Heads, Dimensional Data (mm/inches)

Connection Heads			
	Head B	Head BUZ	Head BUZ-H ¹⁾ , BUZ-H-W
Material:	die-cast aluminum	die-cast aluminum	die-cast aluminum
Lid:	flanged lid with screws	hinged lid	BUZ-H: high lid, hinged BUZ-H-W: high lid with LED display
Degree of protection:	IP65	IP65	IP65
No. of transmitters:	1	1	2
Max. installation dimensions:	Ø 44 x 21 mm (1.73 x 0.82")	Ø 45 x 40 mm (1.77 x 1.57")	lid Ø 60 x 40 mm (2.36 x 1.57") base Ø 45 x 16 mm (1.77 x 0.63")

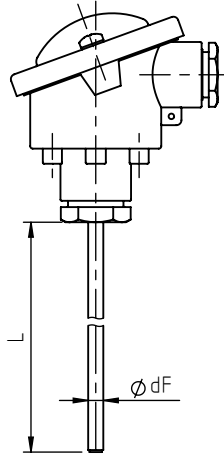


Head NS	
Material:	plastic polyphenylene oxide
Lid:	screw-on lid
Degree of protection:	IP65
No. of transmitters:	1
Max. installation dimensions:	Ø 42 x 14 mm (1.65 x 0.55")



Dimensional Data

Process connection:	Without screw fitting (E1)
Installation length L:	30 – 2000 mm (1.18 – 78.74") ²⁾
Stem Ø dF:	6 mm (0.24")



¹⁾ For connection head BUZ-H, the transmitter is fitted in the lid and the measuring insert is assembled with ceramic terminal block. Moreover, the head BUZ-H offers the possibility of installing two transmitters.
²⁾ For lengths exceeding 2000 mm, the measuring insert is supplied as coil.

Ordering Information

Basic Model:		Resistance Thermometer with Mineral Insulated Stem	TPtMiA
Transmitter:	without		without code letter
	with fitted transmitter		T
Measuring resistor:	Pt100 DIN EN 60 751, class AA		AA
	Pt100 DIN EN 60 751, class A		A
	Pt100 DIN EN 60 751, class B		B
No. of measuring resistors:	1		1
	2 ¹⁾		2
Connection method:	2-wire connection ²⁾		2L
	3-wire connection		3L
	4-wire connection ¹⁾		4L
Connection head:	type B, aluminum, with screws		B
	type BUZ, aluminum, hinged lid		BUZ
	type BUZ-H, aluminum, high lid		BUZ-H
	type BUZ-H-W, aluminum, high lid with LED display		BUZ-H-W
	type NS, polyphenylene oxide, screw-on lid		NS
Installation length:	L in mm	e.g.	L = 250 mm
With fitted transmitter:	TT5331: 4...20 mA		5331-A, 5331-D
	TT5333: 4...20 mA ³⁾		5333-A, 5333-D
	TT5337: 4...20 mA + HART 7		5337-A, 5337-D
	TT5350: PROFIBUS® PA/FOUNDATION™ Fieldbus		5350-A, 5350-B
Measuring range:	scaling of the 4...20 mA signal to the temperature range	e.g.	0 °C to +400 °C
Options:	instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17")	
		sticker on the case	

Example: TPtMiAT, A, 1, 3L, BUZ, L = 250 mm, 5333-A, 0 °C to +400 °C

Special Versions: Please describe your requirements in cleartext!

¹⁾ For the dual measuring resistor, a 4-wire connection is not applicable.
²⁾ Only applicable for accuracy class B.
³⁾ Only 3-wire connection applicable.