Resistance Thermometers for the Installation into Thermowells

Without neck tube, replaceable measuring insert

TPtHoA
TPtHoAT

Application

The resistance thermometer models TPtHoA and TPtHoAT are designed for the installation into solid drilled or fabricated thermometer thermowells (e.g. according to DIN 43 772). Without thermowell, this version must not be applied in pressurised media. The connection head is fixed with two lateral retaining screws as a reasonably priced alternative to the neck tube with M24 screw fitting.

For both models, we offer various connection heads and measuring resistors according to DIN EN 60 751. In addition, model TPtHoAT 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 Range[1)]
–200 °C to +600 °C (–328 °F to +1112 °F)

Ambient Temperature Ranges[2)]
Model TPtHoA: –40 °C to +100 °C (–40 °F to +212 °F)
Model TPtHoAT: –40 °C to +85 °C (–40 °F to +185 °F)

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

Measuring Insert
According to DIN 43 735
Spring-loaded in the connection head
Spring travel approximately 7 mm (0.28")
Insertion tube made of sheathed, mineral insulated cable

Sheath Material
Material: stainless steel 316L (1.4404)
Insulation: MgO

Measuring Insert Diameter
dF: $3^{\pm 0.05}$ or $6^{\pm 0.06}$ mm ($0.12^{\pm 0.002}$ or $0.24^{\pm 0.0024}$ ")

Process Connection
Thread spigot (E4.1)
Material stainless steel 316Ti (1.4571)

Connection Heads
Types B, BUZ or BUZ-H

Degree of Protection (DIN EN 60 529)
IP54 (when mounted in a thermowell)

Output Signal
Model TPtHoA: resistance according to DIN EN 60 751
Model TPtHoAT: 4…20 mA, HART® or PROFIBUS® PA/ FOUNDATION™ Fieldbus

Ordering Information

See page 3

Special Versions (Upon Request)

- Measuring insert diameter 4.5 or 8 mm (0.18 or 0.31")
- Other basic values (e.g. Pt500, Pt1000) and limited tolerances (e.g. ⅓ cl. B, ⅕ 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
- Other connection threads

Accessories

- Thermowells, see data sheets 8.8110 ff.
- Transmitters for rail mounting
- Digital displays for switch panel mounting or wall mounting
- Connection cables
- For models with thermowell and without neck tube see data sheet 8530

[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

ARMANO
ARMANO Messtechnik GmbH

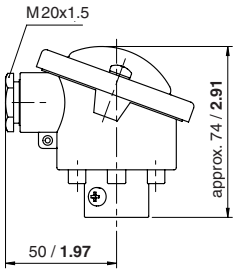
Location Beierfeld
Am Gewerbepark 9 • 08344 Grünhain-Beierfeld
Tel.: +49 3774 58 – 0 • Fax: +49 3774 58 – 545
mail@armano-beierfeld.com

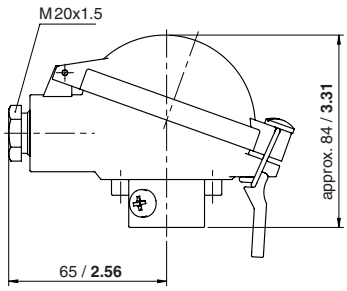
Location Wesel
Manometerstraße 5 • 46487 Wesel-Ginderich
Tel.: +49 2803 9130 – 0 • Fax: +49 2803 1035
mail@armano-wesel.com

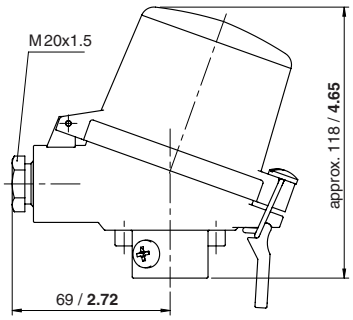
Connection Heads, Dimensional Data (mm/inches)

Connection Heads

	Head B	Head BUZ	Head BUZ-H[1)]
Material:	die-cast aluminum	die-cast aluminum	die-cast aluminum
Lid:	flanged lid with screws	hinged lid	high lid, hinged
Degree of protection:	IP54	IP54	IP54
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")





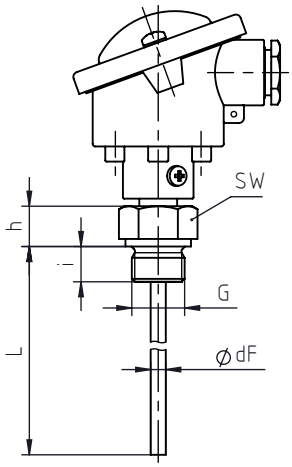


Dimensional Data

Process connection:	**Thread spigot (E4.1)**
Measuring insert Ø dF:	3 or 6 mm (0.12 or 0.24")
Installation length L:	30 – 2000 mm (1.18 – 78.74")[2)]
Measuring insert length:	L + h + 26 mm (1.02")[3)]

Connection thread:

G	SW	i	h
G ½ B (½" BSP)	27 **1.06**	14 **0.55**	16 **0.63**



[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.
[3)] The measuring insert length should be selected according to DIN 43 735 so that the installation dimension (L) is 3 ±1 mm longer than the drilling depth of the thermowell.

Ordering Information

Basic Model:	Resistance Thermometer for the Installation into Thermowells		TPtHoA
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**
Measuring insert Ø dF:	3 mm (0.12")		**dF = 3 mm**
	6 mm (0.24")		**dF = 6 mm**
Connection head:	type B, aluminum, with screws		**B**
	type BUZ, aluminum, hinged lid		**BUZ**
	type BUZ-H, aluminum, high lid		**BUZ-H**
Installation length:	L in mm	e.g.	**L = 100 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:	crimped-on tube sleeve 50 mm (1.97") for alignment to the internal thermowell diameter	Ø 8 mm (0.31")	
	instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17")	
		sticker on the case	

Example:	**TPtHoAT, A, 1, 3L, dF = 6 mm, BUZ, L = 500 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.