

Thermocouples for the Installation into Thermowells

Without neck tube, replaceable measuring insert

TTeHoA
TTeHoAT

Application

The thermocouple models TTeHoA and TTeHoAT 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 thermocouple materials according to DIN EN 60 584. In addition, model TTeHoAT is available with several fitted transmitters with analogue or digital output.

Standard Versions

Measuring Element

Thermocouple types K, N, J and S according to DIN EN 60 584 as single or dual element

Operating Temperature Ranges

Type K (NiCr-Ni): -40 °C to +1175 °C (-40 °F to +2147 °F)¹⁾
Type N (NiCrSi-NiSi): -40 °C to +1175 °C (-40 °F to +2147 °F)¹⁾
Type J (Fe-CuNi): -40 °C to +750 °C (-40 °F to +1382 °F)
Type S (Pt10Rh-Pt): 0 °C to +1175 °C (+32 °F to +2147 °F)¹⁾

Ambient Temperature Ranges²⁾

Model TTeHoA: -40 °C to +100 °C (-40 °F to +212 °F)
Model TTeHoAT: -40 °C to +85 °C (-40 °F to +185 °F)

Accuracy

Class 1 according to DIN EN 60 584
Tolerance value³⁾ J, K, N: +1.5 °C or 0.004 · |t|
for type J in the range: -40 °C to +750 °C (-40 °F to +1382 °F)
for type K, N in the range: -40 °C to +1000 °C (-40 °F to +1832 °F)
Tolerance value³⁾ S: +1.0 °C or (1+(t-1100)·0.003) °C
in the entire operating temperature range

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: Inconel 600 (2.4816) for type K, N, S
1.4401 for type J
Insulation: MgO

Measuring Insert Diameter

dF: 3^{±0.05} or 6^{±0.06} mm (0.12^{±0.002} or 0.24^{±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 TTeHoA: thermoelectric voltage according to DIN EN 60 584
Model TTeHoAT: 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 thermocouples
- 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
- Compensating cables and extension cables
- For models with thermowell and without neck tube see data sheet 8630

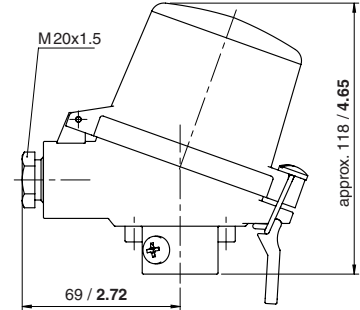
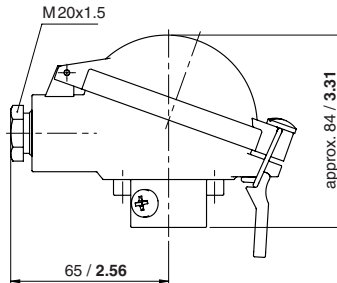
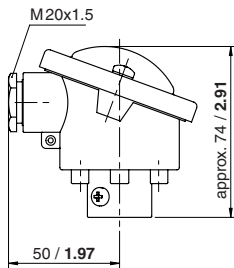
¹⁾ application range limited due to the sheath material Inconel 600

²⁾ permissible operating and storage temperature at the connection head

³⁾ whichever value is higher

Connection Heads, Dimensional Data (mm/inches)

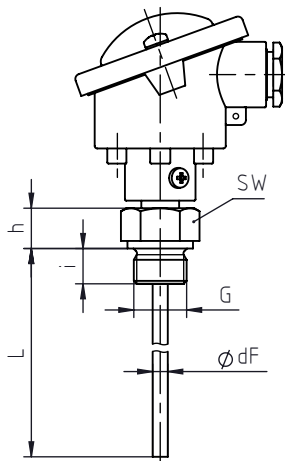
Connection Heads			
	Head B	Head BUZ	Head BUZ-H ¹⁾
Material:	die-cast aluminum	die-cast aluminum	die-cast aluminum
Lid:	flanged lid with screws	hinged lid	high lid, hinged
Degree of protection:	IP54	IP54	IP54
No. of transmitters:	1	1	2
Max. installation dimensions:	Ø 44 x 21 mm (1.73 x 0.82")	Ø 45 x 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	14	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:		Thermocouple for the Installation into Thermowells	TTeHoA
Transmitter:	without with fitted transmitter		without code letter T
Thermocouple:	type K, NiCr-Ni type N, NiCrSi-NiSi type J, Fe-CuNi type S, Pt10Rh-Pt		K N J S
No. of thermocouples:	1 2		1 2
Measuring insert Ø dF:	3 mm (0.12") 6 mm (0.24")		dF = 3 mm dF = 6 mm
Connection head:	type B, aluminum, with screws type BUZ, aluminum, hinged lid type BUZ-H, aluminum, high lid		B BUZ BUZ-H
Installation length:	L in mm	e.g.	L = 200 mm
With fitted transmitter:	TT5334: 4...20 mA TT5337: 4...20 mA + HART 7 TT5350: PROFIBUS® PA/FOUNDATION™ Fieldbus		5334-A, 5334-B 5337-A, 5337-D 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 Ø 8 mm (0.31") (1.97") for alignment to the internal thermowell diameter instrument tag stainless steel plate 12 x 55 mm (0.47 x 2.17") sticker on the case		

Example: TTeHoAT, K, 1, dF = 6 mm, BUZ, L = 500 mm, 5334-A, 0 °C to +400 °C

Special Versions: Please describe your requirements in cleartext!