

# PT-1 Resistance thermometer with head form B for general applications.

## APPLICATIONS

- For direct installation into the process
- Bearing
- Machine building
- Motors
- Pipelines and vessels

## SPECIFICATIONS

### Type

PT-1

### Accuracy class

Standard class A\*

### Scale ranges

-100 °C / +650°C

### Material

Process connection: Stainless steel

Head: Aluminium

### Process connection

1/2" BSP, other connections on request

## DESCRIPTION

Resistance thermometers without thermowell are particularly suitable for those applications in which the metal sensor tip is mounted directly into bored holes (e.g. in machine components) or directly into the process for any application with no chemically aggressive media or abrasion.

For mounting into a thermowell, a spring-loaded compression fitting should be provided, since only this can press the measuring tip into the bottom of the thermowell. Otherwise a potentially critical force could be exerted on the measuring tip. Mounting is usually made directly into the process. Fastening elements such as threaded fittings, union nuts, etc. can also be used.

The flexible part of the probe is a mineral-insulated cable (sheathed cable). It consists of a stainless steel outer sheath in which the internal lead is pressed and isolated within a high-density ceramic mass. The measuring resistor is connected directly to the internal leads of the sheathed cable and is, therefore, also suitable for use at higher temperatures.



## FEATURES

- Sensor ranges from -100 °C / +650°C (-148°F/ +1202°F)
- For insertion, screw-in with optional process connection
- Connection head form BS

## OPTIONS

- Accuracy class B or AA available on request\*
- Transmitter available on request
- Calibration certificate (national and international standards)

Due to their flexibility and the small possible diameters, sheathed resistance thermometers can also be used in locations that are not easily accessible, since, with the exception of the sensor tip and the transition sleeve of the connection cable, the sheath can be bent to a radius of three times the diameter of the cable.

## SENSOR

### Measuring element

Pt-100

### CONNECTION METHOD

Single elements	1 x 2-wire 1 x 3-wire 1 x 4-wire
Dual elements	2 x 2-wire 2 x 3-wire 2 x 4-wire

### Metal probe

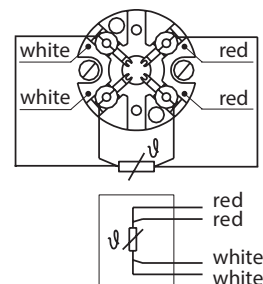
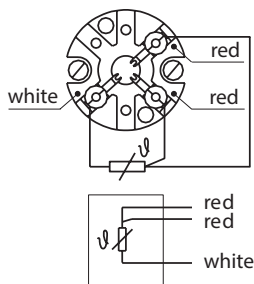
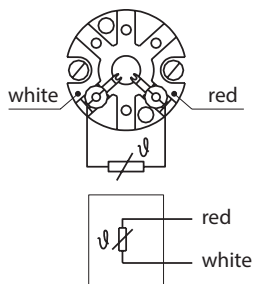
Material: Stainless steel  
 Diameter: 6\*, 8, 10, 12 or 15 mm  
 Length: Selectable

\*Only possible for thermometers without thermowell

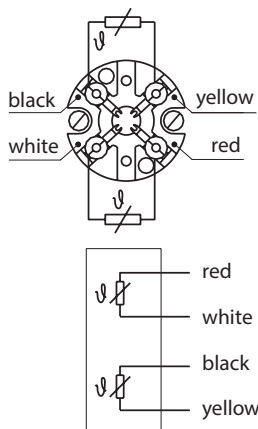
### Electrical connection (colour code per IEC/EN 60751)

Connection head form B

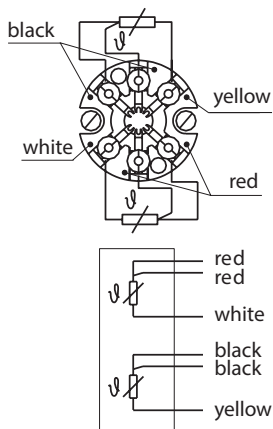
1 x Pt100, 2-wire



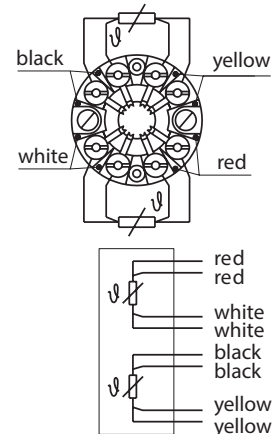
2 x Pt100, 2-wire

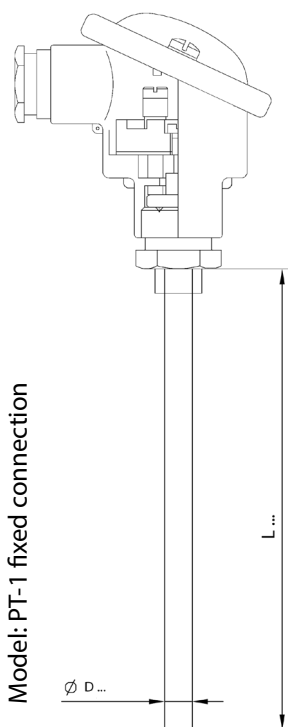


2 x Pt100, 3-wire

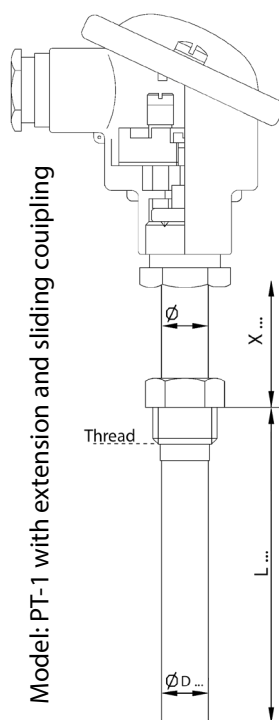


2 x Pt100, 4-wire

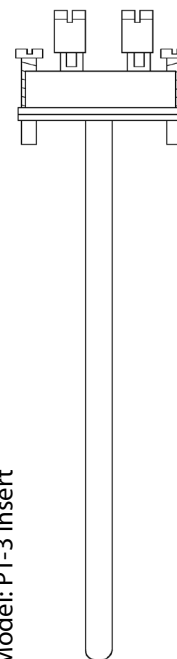




Model: PT-1 fixed connection



Model: PT-1 with extension and sliding coupling



Model: PT-3 insert

## Without Thermowell

This version is designed mainly for mounting in one of the available compression fittings.

Material: Stainless Steel

Stainless steel ferrules can be adjusted once; they have been unscrewed, sliding along the sheath is no longer possible.

- Max. temperature at process connection 400 °C

## With Thermowell

This version is designed mainly for mounting in one of the available compression fittings.

Since the compression fitting is movable on the probe, the L and X dimensions define the as-delivered condition. The length of the compression fitting determines the smallest possible neck length X of approx. 40 mm.

Material: Stainless Steel

Stainless steel ferrules can be adjusted once; they have been unscrewed, sliding along the sheath is no longer possible.

- Max. temperature at process connection 400 °C

## CONNECTION HEAD

MODEL	MATERIAL	CABLE ENTRY THREAD SIZE	INGRESS PROTECTION (MAX.) <sup>1</sup>	CAP	SURFACE	CONNECTION TO NECK TUBE
BS	Aluminium	M20 x 1.5 <sup>2</sup> or 1/2 NPT	IP65, IP68	Flat, 2 screws	Orange, Lacquered <sup>3</sup>	M24 x 1.5, 1/2 NPT

<sup>1</sup>) The ingress protection refers to the connection head

<sup>2</sup>) Standard (others on request)

<sup>3</sup>) RAL 2003

CABLE ENTRY	COLOUR	INGRESS PROTECTION (MAX.)	MIN. / MAX. AMBIENT TEMPERATURE	CABLE ENTRY THREAD SIZE
Standard cable entry	Blank	IP65	-40 / +80 °C	M20 x 1.5 or 1/2 NPT

# PT-1 resistance thermometer for general applications

TUVO INSTRUMENTS PT-1.02

Item	Code	Notes	XXX	X	X	XX	XX	XXX	X	X	XXX
Product Standard B-head resistance thermometer Measuring insert	PT1 PT3	(No connection)									
Configuration Head form B with ceramic socket Head form B with transmitter	S T	(Specify setting range)									
Measuring Element 3-wire 4-wire 2 x 3-wire 2 x 4-wire	3 4 6 8	(Min. 8 mm insert)									
Maximum temperature 200°C 550°C	LT HT										
Insert diameter 6 mm 8 mm 10 mm 12 mm 15 mm	06 08 10 12 15	(Only fixed insert)									
Insert length - L Specify length in mm (3 digits)	xxx										
Sliding coupling connection No connection, plain stem G 1/2" 1/2"NPT M20 x 1,5 M27 x 2 G3/4" Other connection	X A B C D E Z	(Please specify!)									
Fixed thread connection G 1/2" G 1/4" 1/2" NPT G 3/4" Other connection	1 2 3 4 0	(Max. 8 mm insert)  (Please specify!)									
Fixed insert No Yes	L V										
Extension length - X Specify length in mm (3 digits)	xxx										
Extra options Other cable gland Test certificate											