

Features

- Active transmitters
0-10 Vdc or 4-20 mA output
- With or without display
- 8 different temperature ranges in same unit, selectable via jumpers on pcb

-20°C to +150°C, -50°C to +50°C, -20°C to +80°C, -30°C to +60°C, 0 to +40°C, 0 to +50°C, 0 to +100°C and 0 to +150°C.

other temperature ranges on request
- IP65 enclosure with quick locking screws
- Including strap-on band 300 mm length for pipes with diameter 13 to 92 mm (1/4 to 3")

Ordering

Strap-on temperature transmitter

Type no.	Output	Display
TSTH 010	0-10 Vdc	No
TSTH 010D	0-10 Vdc	Yes
TSTH 420	4-20 mA	No
TSTH 420D	4-20 mA	Yes

Description

The strap-on temperature transmitter TSTH is used for used for temperature sensing on pipework (e.g. cold-water and hot-water), or on heating sections for heating system control for connection to a building management system

Strap-on temperature transmitter TSTH have 8 different temperature ranges in same unit, selectable via jumpers on pcb:
-20C to +150C, -50C to +50C, -20 to +80C, -30C to +60C, 0 to +40C, 0 to +50C, 0 to +100C and 0 to +150C.
Other temperature ranges on request.

The power supply for strap-on temperature transmitter TSTH with 4-20 mA output is 15-36 Vdc and the power supply for strap-on temperature transmitter TSTH with 0-10 Vdc output is 24 Vac/dc.

The active strap-on temperature transmitter TSTH with output 0-10 Vdc and 4-20 mA have a PT1000 sensor (DIN EN 60751, class B).

Wiring connection for strap-on temperature transmitter TSTH is inside the ABS plastic enclosure on a terminal block.

The enclosure of strap-on temperature transmitter TSTH is supplied with a plastic cable entry gland M 16 x 1.5, including strain relief.

TSTH strap-on temperature transmitter can be supplied with or without LCD display.

The strap-on temperature transmitters TSTH is provided with a clamp that adapts to the pipe surface and the unit is fixed with an adjustable 300 mm strap-on band, other strap-on band lengths are available on request.

Technical data

Measuring ranges

multi-range switching with 8 switchable measuring ranges, see table (other ranges optional) with manual zero point correction ($\pm 10K$).

Tmax up to $+100^{\circ}C$, operating range -50 to $100^{\circ}C$

Working resistance

R_a (ohm) = $(U_b - 14 V) / 0.02 A$ for I variant

Load resistance

$R_L > 5 k\Omega$ for U variant

Sensing element

PT1000, DIN EN 60751, class B

Sensor inside external stainless steel probe 1.4571, V4A

Outputs

0-10 Vdc, 3-wire (TSTH 010 types)

4-20 mA, 2-wire (TSTH 420 types)

Power supply

24 Vac/dc $\pm 10\%$ for output 0-10 Vdc (TSTH 010 types)

15-35 Vdc for output 4-20 mA (TSTH 420 types)

Deviation temperature

$\pm 0.2K$ at $+25^{\circ}C$

Process connection

Endless metal strap and metal tightner (included in the scope of delivery)

Strap dimensioner

Diameter 13-92 mm (1/4 to 3"), length 300 mm

Power consumption

$< 1.0 VA / 24 Vdc$; $< 2.2VA / 24Vac$

Ambient temperature

Measuring transducer $-30^{\circ}C$ to $+70^{\circ}C$

Humidity

$< 95\%$ r.H. non-precipitating air

Protection class

III (according to EN 60730)

Protection type

IP65 (according to EN 60529)

Enclosure

plastic, UV-stabilised, material polyamide, 30 % glass-globe-reinforced, with quick-locking screws (slotted/Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!

Enclosure dimensions

72x64x37.8 mm (without display)

72x64x43.3 mm (with display)

Cable gland

M 16 x 1.5, including strain relief, exchangeable, max. inner diameter 10.4 mm

Electrical connection

0.14 - 1.5 mm² via terminal screws on circuit board

Contin. Technical data

Humidity

$< 95\%$ r. H., non-precipitating air

Protection class

III (according to EN 60 730)

Standards

CE conformity, electromagnetic compatibility according to EN 61326 according to EMC directive 2004/30/EU

Display

Two-line display with illumination cutout 36x15 mm (W x H), for displaying actual temperature and intergral dignostics (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)

Display and internal diagnostics

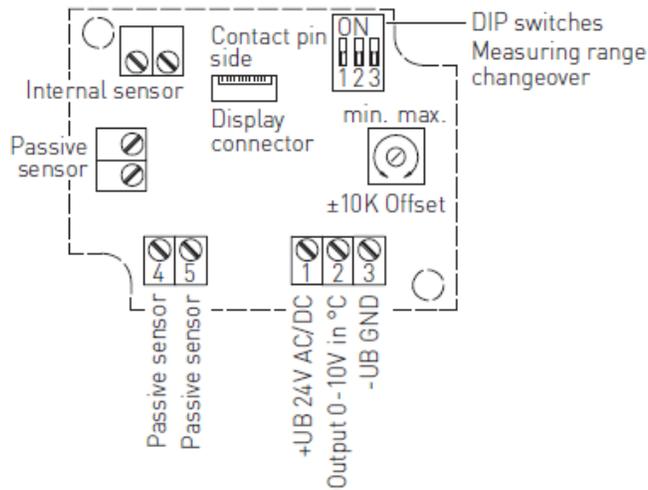
	Standard
	Measuring range exceeded
	Measuring range not reached
	Sensor breakage
	Sensor short circuit

Temperature ranges

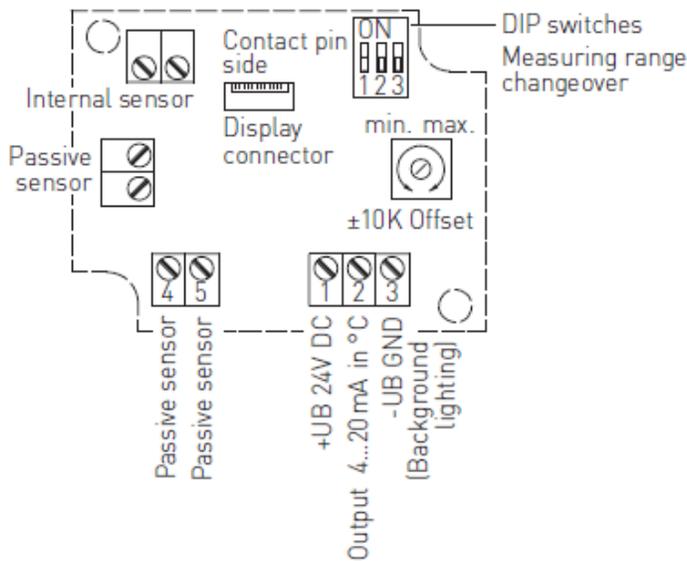
When selecting measuring transducer ranges, it is necessary to ensure that the maximum temperatures permissible for sensor/enclosure are not exceeded !

Ambient temperature for measuring transducers:
 $- 30$ to $+ 70^{\circ}C$

Wiring TSTH with 0-10 Vdc output



Wiring TSTH with 4-20 mA output.



8 different temperature ranges in same unit, selectable via jumpers on pcb

Measuring ranges (adjustable)	DIP 1	DIP 2	DIP 3
-20°C ... +150°C	ON	ON	ON
-50°C ... +50°C	OFF	ON	ON
-20°C ... +80°C	ON	OFF	ON
-30°C ... +60°C	OFF	OFF	ON
0°C ... +40°C	ON	ON	OFF
0°C ... +50°C	OFF	ON	OFF
0°C ... +100°C	ON	OFF	OFF
0°C ... +150°C	OFF	OFF	OFF

Dimensions of TSTH

