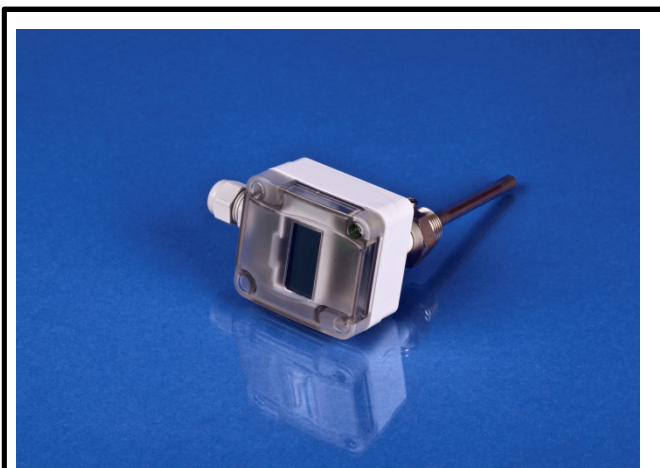




TITB 010 100
Immersion temperature transmitter with brass pocket without LCD display



TITS 010 100D
Immersion temperature transmitter with stainless steel pocket and with LCD display

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
- Standard probe/pocket length 100 mm
On request 50, 150, 200, 250 or 300 mm probe lengths
- Pockets in brass (TITB) up to 16 bar / 0 +150°C and pockets in stainless steel (TITS) up to 40 bar / +600°C
- Pocket thread connection G1/2"
- IP65 enclosure with quick locking screws

Ordering

Immersion temperature transmitter

Type no.	Output	Probe/pocket length	Pocket material	Display
TITB 010 100	0-10 Vdc	100 mm	Brass	No
TITB 010 100D	0-10 Vdc	100 mm	Brass	Yes
TITS 010 100	0-10 Vdc	100 mm	Stainless steel	No
TITS 010 100D	0-10 Vdc	100 mm	Stainless steel	Yes
TITB 420 100	4-20 mA	100 mm	Brass	No
TITB 420 100D	4-20 mA	100 mm	Brass	Yes
TITS 420 100	4-20 mA	100 mm	Stainless steel	No
TITS 420 100D	4-20 mA	100 mm	Stainless steel	Yes

Above TITB / TITS are with probe/pocket length 100 mm
To order TITB / TITS with probe length 50, 150, 200, 250 or 300 mm:
Replace 100 with 50, 150, 200, 250 or 300

Examples:

Ordering code for TITB with 0-10 Vdc output and 200 mm probe brass pocket length without display will be TITB 010 200.

Ordering code for TITS with 4-20 mA output and 250 mm probe / stainless steel pocket length with display will be TITS 420 250D.

Description

The immersion temperature transmitters TITB / TITS are used for acquiring the temperature of water, liquid or gaseous media (e.g. heating water) in heating, ventilation and air conditioning systems.

The TITB/TITS are active immersion temperature transmitters with 0-10 Vdc or 4-20 mA output.

Immersion temperature transmitters TITB / TITS 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 immersion temperature transmitters TITB / TITS with 4-20 mA output is 15-36 Vdc and the power supply for immersion temperature transmitters TITB / TITS with 0-10 Vdc output is 24 Vac/dc.

The active immersion temperature transmitters TITB / TITS with output 0-10 Vdc and 4-20 mA have a PT1000 sensor (DIN EN 60751, class B).

The sensing element for the immersion temperature transmitters TITB / TITS is located in the end of the probe.

Immersion temperature transmitters TITB / TITS have IP65 enclosure.

Wiring connection for immersion temperature transmitters TITB / TITS is inside the ABS plastic enclosure on a terminal block.

The enclosure of immersion temperature transmitters TITB / TITS is supplied with a plastic cable entry gland M 16 x 1.5, including strain relief.

TITB / TITS immersion temperature transmitters can be supplied with or without LCD display.

Standard probe / pocket length for immersion temperature transmitters TITB / TITS is 100 mm and on request the immersion temperature transmitters TITB / TITS can be supplied with probe / pocket lengths 50, 150, 200, 250 and 300 mm.

The probe of immersion temperature transmitters TITB / TITS is made of quality steel.

The immersion temperature transmitters TITB-versions are supplied with brass pocket for operation pressures up to 16 bar and temperature up to 0 +150°C

The immersion temperature transmitters TITS-versions are supplied with stainless steel pocket for operation pressures up to 40 bar and temperature up to +600°C

The pockets of the immersion temperature transmitters TITB / TITS have G1/2" threaded connector.

Technical data
Measuring ranges

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

Working resistance

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

Load resistance

$R_L > 5 \text{ kOhm}$ for U variant

Sensing element

PT1000, DIN EN 60751, class B

Outputs

0-10 Vdc, 3-wire (TITB 010 / TITS 010 types)
 4-20 mA, 2-wire (TITB 420 / TITS 420 types)

Power supply

24 Vac/dc $\pm 10\%$ for output 0-10 Vdc (TITB 010 / TITS 010 types)
 15-35 Vdc for output 4-20 mA (TITB 420 / TITS 420 types)

Deviation temperature

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

Power consumption

$< 1.0 \text{ VA} / 24 \text{ Vdc}$; $< 2.2 \text{ VA} / 24 \text{ Vac}$

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

Probe material

Stainless steel 1.4571, V4A

Probe diameter

6 mm

Probe /pocket length

100 mm standard length, on request 50, 150, 200, 250 and 300 mm

Contin. Technical data
TITB pocket:

brass, nickel plated
 Max pressure 10 Bar
 $T_{max} +150^\circ C$
 G1/2" straight pipe thread,
 wrench 22 mm, dia 8mm

TITS pocket

stainless steel 1.4571, V4A
 Max pressure 40 Bar
 $T_{max} +600^\circ C$
 G1/2" straight pipe thread,
 wrench 27 mm, dia 8mm

Humidity

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

Protection class

III (according to EN 60 730)

Standards

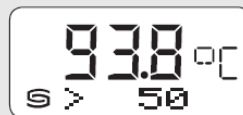
CE conformity,
 electromagnetic compatibility
 according to EN 61326
 according to EMC directive 2004/30/EU

Display

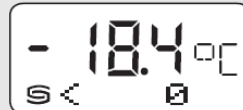
Two-line display with illumination cutout 36x15 mm (W x H), for displaying actual temperature and integral diagnostics (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)

Display and internal diagnostics


Standard



Measuring range exceeded



Measuring range not reached



Sensor breakage

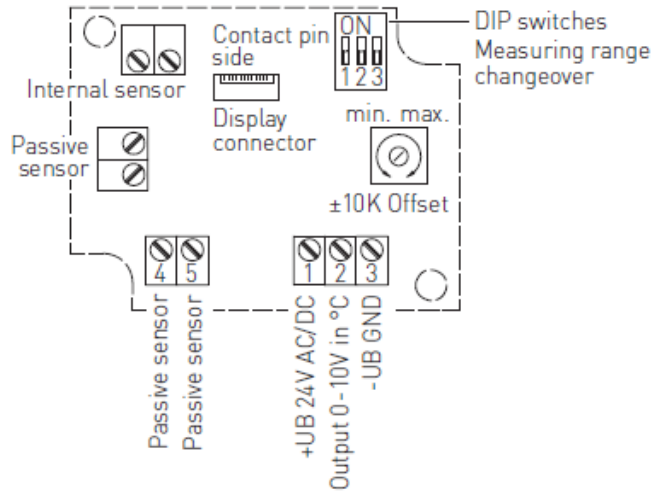


Sensor short circuit

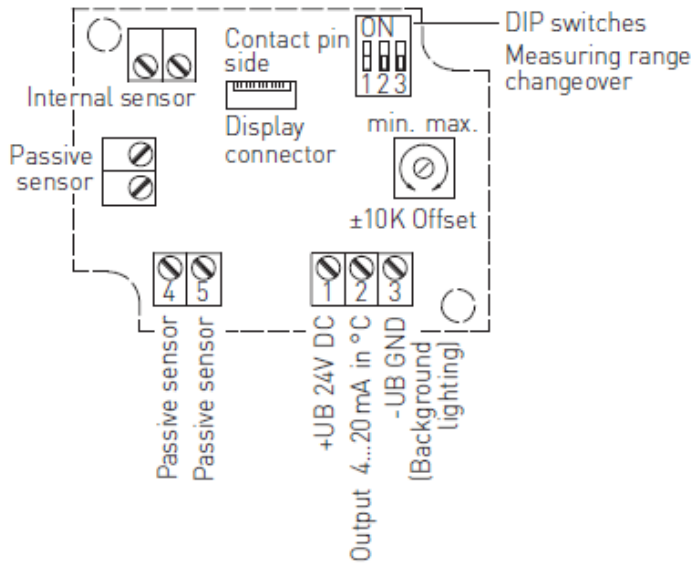
Temperature ranges

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 TITB and TITS with 0-10 Vdc output



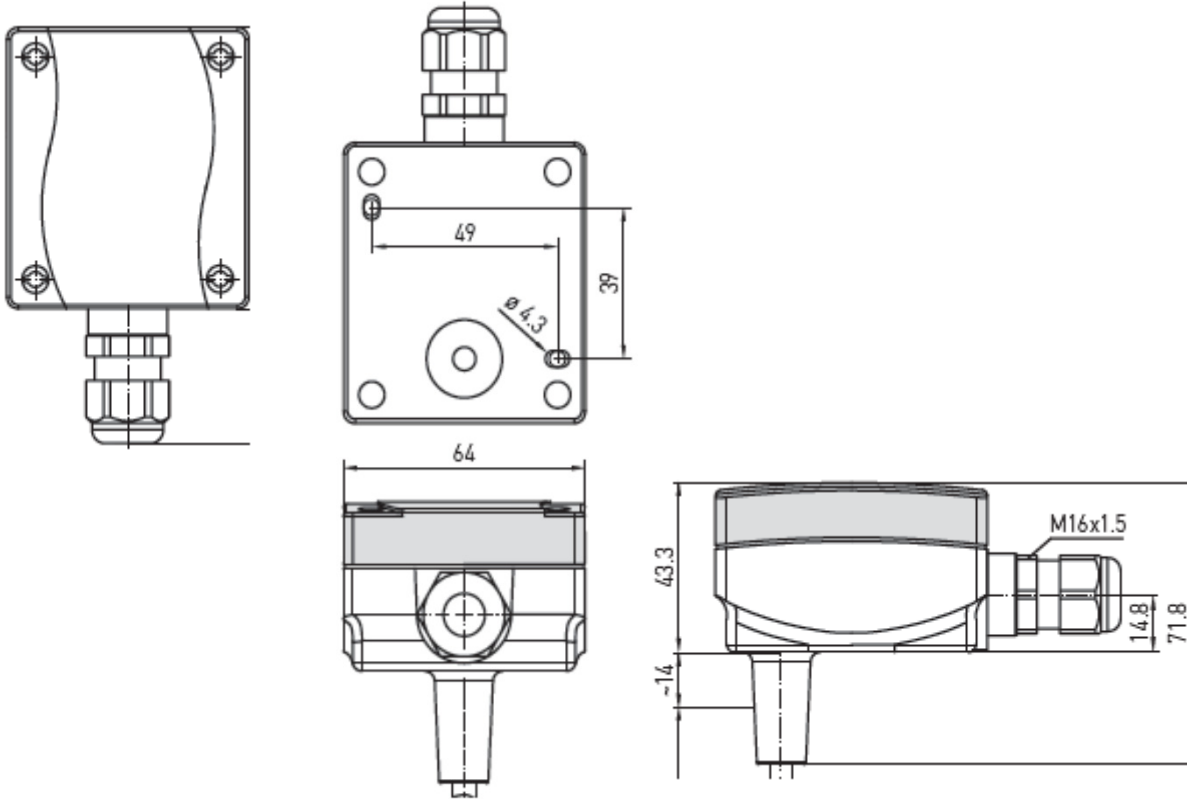
Wiring TITB and TITS with 4-20 mA output



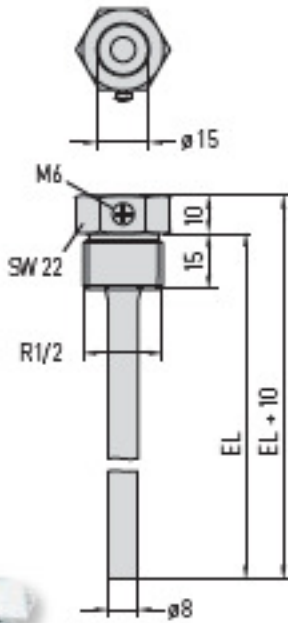
8 different temperature ranges in same unit, selectable via jumpers on pcb

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

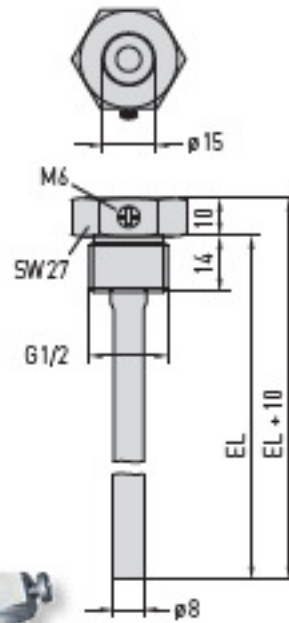
Dimensions enclosure TITB / TITS



Pockets TITB / TITS

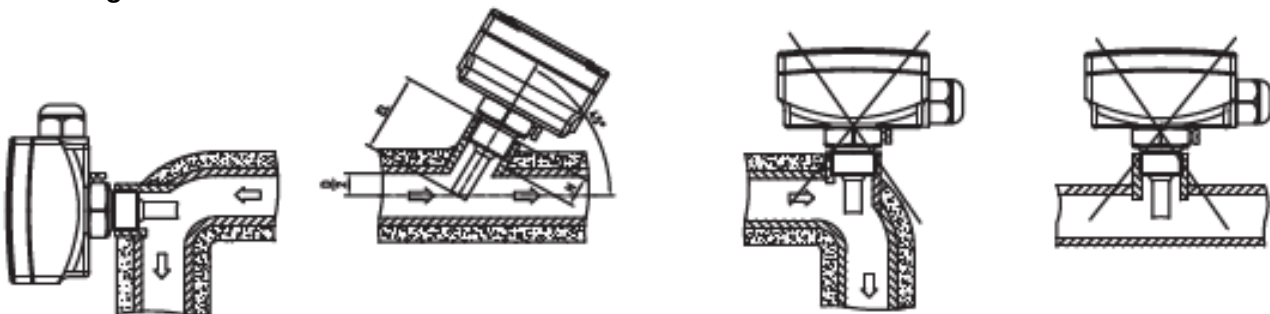


TITB



TITS

Mounting TITB / TITS



We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.