



TFSP

Features

- Simple strap on mounting
- Easy to change place

Application

The immersion temperature sensor TFSP is used to sense temperature in HVAC systems and are field for applications as:

- Sensor for frost protection.
- Supply water high or low limit.
- Sensor for direct interfacing with process control instrumentation or any Energy Management System.

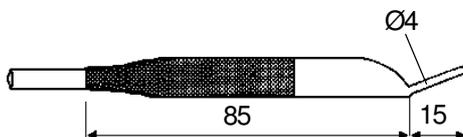
Technical Data

	TFSP-PTC	TFSP-NTC	TFSP-PT100 TFSP-PT1000
Range:	-40...+180°C	-40...+180°C	-40...+180°C
Element:	Silicon PTC	Thermistor	Platinum
Time constant:	12 sec	12 sec	12 sec
Dead time:	1,0 sec	1,0 sec	1,0 sec
Contact surface:	Copper	Copper	Copper
Flying lead:	1m	1m	1m
Wiring:	2-wire	2-wire	2-, 3- ¹⁾ , 4- ¹⁾ wire
Tolerance at 25°C:	1980-2020 ohm	±1%	109,58-109,88 ohm ¹⁾ 1095,78-1098,89ohm ²⁾
Resistance at 0°C:	1635,0 ohm	32 660,0 ohm	100,00 ohm ¹⁾ 1000,00 ohm ²⁾
Resistance at 25°C:	2000 ohm	10 000 ohm	109,73 ohm ¹⁾ 1097,34 ohm ²⁾
Measuring current:	10mA 25°C		0,3-1,0mA
Accuracy at 25°C:	±1,0°C	±0,2°C	±0,4°C
Weight:	0,2 kg	0,2 kg	0,2 kg

¹⁾ DIN 43760, IEC 751, TFSP-PT100

²⁾ DIN 43760, IEC 751, TFSP-PT1000

Dimensions (mm)



General Description

The sensing element is positioned at the end of the strap-on sensor.

The strap-on temperature sensor is supply with strap, rubber sleeve for insulation and a flying lead (length 1m).

The sensing elements change their resistance value with respect to temperature:

- PTC, PT100, PT1000 - increasing resistance by increasing temperature.
- NTC - increasing resistance by decreasing temperature.

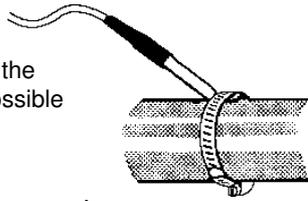
Ordering Codes

TFSP PTC	Geomatic, Satchwell, NCS, EM-Systemer, Diana
TFSP NTC	Unitron, Trend, Honeywell(Aquatrol), Thorn, Elesta, SIOX, Seachange
TFSP PT100/2	2-wire INU, Serck, Satt, SIOX, ABB
TFSP PT100/4	4-wire INU, Serck, Satt, SIOX, ABB
TFSP PT1000	Unitron, Johnson, IVT, Exomatic, Honeywell, Serck, Diana, KTC

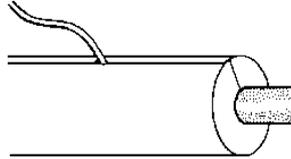
Other options on request

Mounting

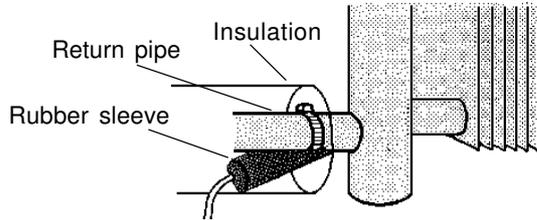
Strap the sensor securely to the pipework to ensure best possible contact.



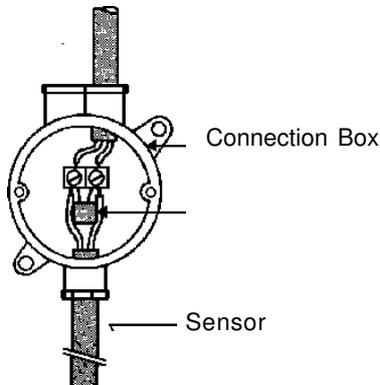
Fix the insulation over both sensor and pipework.



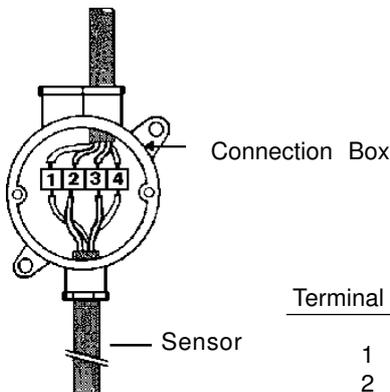
When using the sensor for heater battery frost protection, use the rubber sleeve to prevent external cooling and therefore false readings.



Wiring PTC / NTC / PT1000



Wiring PT100

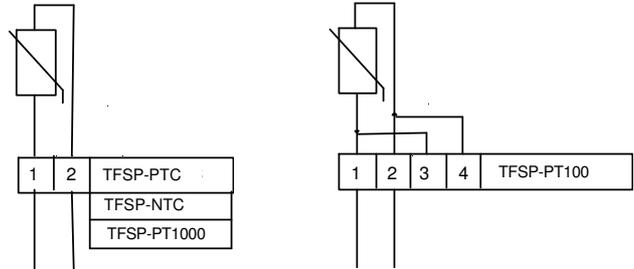


Terminal no.	Color
1	Brown
2	Yellow
3	Green
4	White

Wiring Diagram

2-Wire Connection

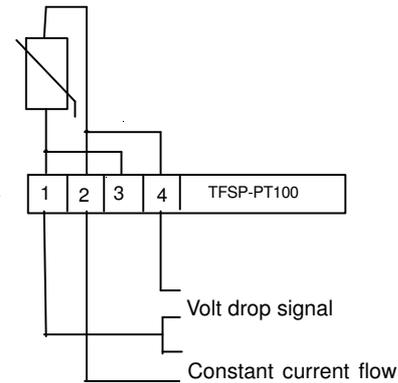
Are used when the resistance of connection wires are negligible compared with the elements resistance.



3 and 4-Wire Connection

The principle of both 3 and 4 wire connection is to provide a constant current flow through the element and measure the volt drop as close to the element as possible.

The addition of a third wire eliminates the error from one of the two original installation wires.



4 wire connection eliminates the error from both of the original installation wires.

