



TDF

Features

- High quality sensing element
- Simple 2-wire connection
- 3 or 4-wire as option

- Protection Class IP65
- Adjustable in length
- Different length of probes

- Polarity independent

Usage

The Duct Temperature Sensor TDF is to used to sense temperature in airflows and gaseous media, e.g. in ventilation and air conditioning ducts:

Typical examples being:

- Return or supply air temperature control
- Supply air high or low limit

Function

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

- PT100, PT1000, NI1000 - increasing resistance by increasing temperature.
- NTC - increasing resistance by decreasing temperature.

Ordering Codes

- TDFNTC/200** Unitron, Trend, Honeywell Aquatrol, Siox, Satchwell, 10K@25C
- TDF PT100/200** Inu, IVT, Satt, Siox, ABB, Honeywell
- TDF PT1000/200** Unitron, Johnson, IVT, Bastec Exomatic, Honeywell, Serck, Diana, KTC,Regin, Bastec, YIT
- TDFTA/200** TAC
- TDF NI1000/200** Sauter
- TDFLGNI/200** Siemens Landis & Staefa QAA 23, QAD 21
- TDFALE/200** Satchwell DDU 1804, Honeywell TE 200AD-6, 3K@25C
- TDF PTC/200** EM-systemer, Kverneland, NCS
- TDFHON/200** Honeywell, 20K@25C
- Options:** 3 or 4-wire
+/-0,1K, or 0,2K sensing element

Tube length in mm :50,100, 150, 250,
300 or 400

Accuracy		
PT 100 class B DIN EN 60751		±0,3K@ 0°C
PT 100 class B 1/3 DIN EN 60751		±0,1K@ 0°C
PT 1000 class B DIN EN 60751		±0,3K@ 0°C
PT 1000 class B 1/3 DIN EN 60751		±0,1K@ 0°C
NI 1000 class B DIN EN 43760		±0,4K@ 0°C
NI 1000 class B 1/2 DIN EN 43760		±0,2K@ 0°C
LGNI		±0,4K@ 0°C

Technical Data

Measuring range	-30...+150°C
Test Current	cirka 1mA
Isolation resistance	>100Mohm @ 20°C(500Vdc)
Connection	2-wire screened cable screw terminals 0,14 to 1,5mm ²
Humidity	max 95% RH non-condensing
Protection Class	IP65
Housing	Plastic, polyamide 30% glass-globereinforced with quick-locking screws. Colour pure white (similar RAL9010)
Ambient temperature.	-20/+100°C
Probe	Stainless steel 6mm
Cable union	M16, including strain relief
Dimension	64x72x39,4mm excl.gland

Design Features

The sensing element is fitted into a 200mm long stainless steel probe.

A flange plate is included for adjustment of penetration depth

Mounting and Installation

The following installation advice should be observed:

- Supply air temperature sensing;

The sensor should be a minimum distance of 1,5m from heater battery.

- Return air temperature sensing;

The sensor upstream of the extract fan so as to be representative of the room temperature.

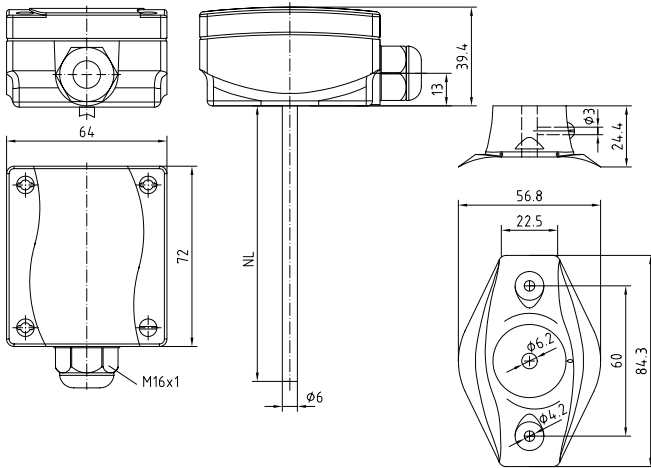
- Supply air low limit sensing;

The sensor should be as close to discharge as possible

- Avoid duct locations where stratification may occur

- The sensor should be located away from any obstructions that could interfere with removal for servicing or replacement

Dimensions



NL = 50, 100, 150, 200, 250, 300 or 400 mm (probes)

2-wire connection



Installation and Connection Details

All connections to DDC controllers, data recorders etc. should be made using screened cable.

Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise.

Low voltage signal and supply cables should be routed separately from high voltage or mains cabling.

Separate conduit or cable trays should be used.

Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth.

This will provide better immunity to high frequency noise. Most modern buildings have a separate earth for this purpose

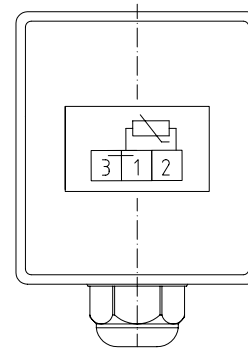
3 and 4 wire connection

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

3-wire connection

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



4-wire connection

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

