



IP65 Active Duct Temperature Transmitter TDF 010

Jan.08



TDF



TDF with Display

Features

- Pre-calibrated for ease of commissioning
- Flange plate for adjust of penetration depth
- Different length of probes
- Pt100 Class B accuracy
- 5 different temperature ranges as standard
- Quick locking screws
- Head mounted electronics
- Display for actual temperature as option
- Reverse polarity protected

Application

The Duct Temperature Sensor TDF 010 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

Design Features

The TDF 010 sensing element is fitted into a xxx mm long probe.

The rated IP65 enclosure quick-locking screws and mounting flange included.

Function

The sensing element is a Pt100b.

The element change its resistance proptional to temperature and the electronics convert this resistance to 0-10Vdc

The voltage ouputs are short-circuit proof against ground wire.

Applying voltage supply to the output terminals will destroy the device.

Ordering Codes

TDF 010/50/50	0-10Vdc, 0-50°C, 50mm length
TDF 010/100/50	0-10Vdc, 0-50°C, 100mm length
TDF 010/150/50	0-10Vdc, 0-50°C, 150mm length
TDF 010/200/50	0-10Vdc, 0-50°C, 200mm length
TDF 010/250/50	0-10Vdc, 0-50°C, 250mm length
TDF 010/300/50	0-10Vdc, 0-50°C, 300mm length
/D	8-digit display

Other Standard Measurements Range available:

-50...+50°C 0...100°C 0...+150°C -20...150°C

Technical Data

Measuring range 0...+50°C 0...100°C 0...150°C
 -50...+50°C -20...+150°C

Linearity error 0,6%/10K

Accuracy

Zero point drift 0,6%/10K

Voltage drift 0,6%/10K

Auxiliary power influen 0,2%/V

Linearisation Temperature linear according IEC751

Power Supply 24Vdc +/-6V

Connection 3-wire screened cable
 screw terminals 0,14 to 1,5mm²

Humidity max 95% RH non-condensing

Protection Class IP65

Housing Plastic, polyamide 30% glass-globe-reinforced **with quick-locking screws**.
 Colour pure white (similar RAL9010)

Ambient temperature -30...+70°C Transducer

Probe Stainless steel 6mm

Cable union M16, including strain relief

Dimension 64x72x39,4mm exclusive gland

This product meets the requirement of CE-approval

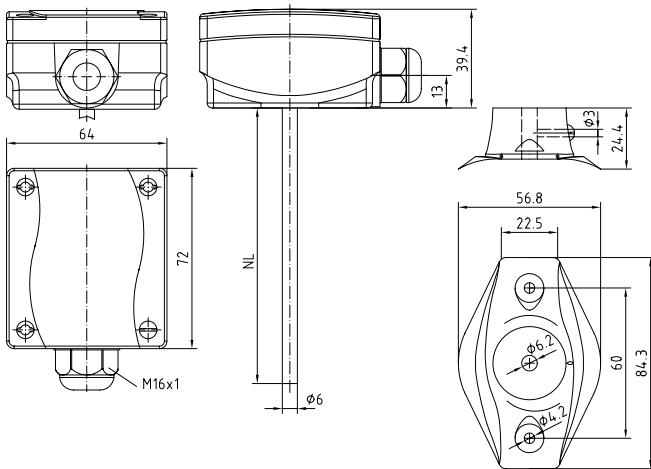


Mounting and Installation

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 mm (probes)

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.

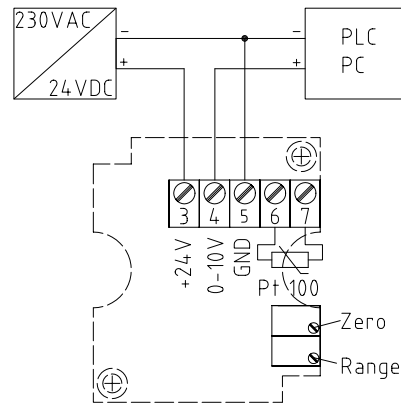
Low voltage signal and supply cables should be routed separately from high voltage or mains cabling.

Separate conduit or cable trays should be used.

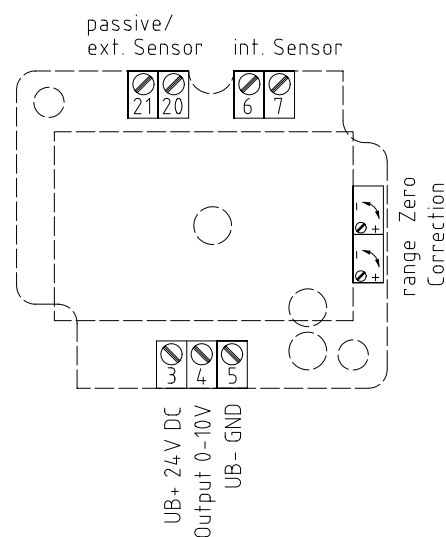
Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth. This will provide better immunity to high frequency noise.

Most modern buildings have a separate earth for this purpose

0-10V without display



0-10V with display



Supply Voltage

For operating voltage reverse polarity protection, a one-way rectifier or reverse polarity protection diode is integrated in this device variant.

Operating dc-voltage input UB+ is to be used for 15-36Vdc supply and UB- or GND for ground wire.