



DTS

Features

- Polarity independent
- Low-cost temperature measurement
- High quality sensing element
- Simple 2-wire connection
- Economical way to measure temperature
- IP66 protection
- Other sensing elements on request
- Simple and secure installation

Application

The duct temperature sensor DTS is used to sense temperature in HVAC systems.

Typical examples being:

- Return or supply air temperature control.
- Supply air high or low limit.
- On return air ducts to measure room temperatures
- On supply air ducts to measure heating/cooling supply air
- A frost protection sensor
- In heat exchangers and air handling units to control heating/cooling coils for temperature and humidity control

Technical Data

Connection:	2-wire screened cable screw terminals 0,5 to 2,5mm ² Cable length for dia > 1mm ² , Max 200m
Accuracy:	±0,4K (-70...200°C) Platina ±0,2K (-70...150°C) Thermistor
Ambient Range Temp:	-40...+70°C acc. IEC 721-3-3
Climate Conditions:	class 3 K5
Ambient Range Hum:	<95% RH
Protection Class:	IP66 to EN 60 529 Housing Safety Class III

Materials:

Cover	Fire proof ABS plastic
Mounting plate	Fire proof ABS plastic
Probe	Stainless Steel 80 or 160mm length

CE conform acc.to:

EMC Standard	89/336/EEC
EMEI Standard	73/23/EEC

Pollution Class Normal acc.to EN 60 730

Design Features

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

The probe material is stainless steel with a welded and ground tip.

The probe is baked and then epoxy sealed to eliminate long term moisture problems

The IP66 rated enclosure has fixing lugs for direct duct mounting.

The sensor is constructed to high quality standards, borrowing materials and assembling techniques from the industrial sector

Ordering Codes

DTSNTC/80	Cylon, Trend, Honeywell Aquatrol, Satchwell, 10K@25C
DTS 20/80	Honeywell, 20K@25C
DTS 100/80	Siemens SBT, Honeywell, 100K@25C
DTS PT100/80	ABB, Honeywell, Serck
DTS PT1000/80	Cylon, Johnson, Exomatic, Honeywell, Serck, Kieback & Peter
DTSNTC/160	Cylon, Trend, Honeywell Aquatrol, Satchwell, 10K@25C
DTS 20/160	Honeywell, 20K@25C
DTS 100/160	Siemens SBT, Honeywell, 100K@25C
DTS PT100/160	ABB, Honeywell, Serck
DTS PT1000/160	Cylon, Johnson, Exomatic, Honeywell, Serck, Kieback & Peter

Mounting

It is recommended that the unit be mounted with the cable entry at the bottom.

If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.

Remove the front cover by twisting the lid and separating from the main body.

Using the base of the housing as a template mark the hole centres.

Drill two pilot holes at centres in the surface on which the sensor is to be mounted, and fix the sensor with appropriate screws.

The housing is designed to make it easy for an electric screwdriver to be used if desired.

Feed the cable through a waterproof gland and terminate the cores at the terminal block.

Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure watertightness.

Replace the lid after the electrical connections have been made.

The following installation advice should be observed:

- Supply air temperature sensing;

The sensor should be a minimum distance of 1,5 m 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 the 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.

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.

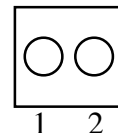
Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth.

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

Connection

Connections are made via a 2-way terminal block.

The connections for a thermistor or a platina element are polarity independent.



Function

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

PT100 and PT1000 - increasing resistance by increasing temperature.

Thermistor - increasing resistance by decreasing temperature.