Room Temperature Sensor TRS

Jan.08

TRS

TRS/SP

TRS/SP/FS/MS

Accuracy		
NTC	±0,2°C	0...70°C
PT 100a	±0,35°C	0...100°C
PT 1000a	±0,35°C	0...100°C
NI 1000a	±0,35°C	0...100°C

Technical Data

Connection	2-wire screened cable screw terminals 0,5 till 2,5mm^2
Ambient range temp.	-10…+60°C
Ambient range hum.	5-95% RH
Housing	IP20, ABS (flame reterdant)
Dimensions	83 x 83 x 23 mm

Design Features

The room sensor is designed for wall mounting.

They are suitable for use with most commercially available recessed conduit boxes.

Connections are made via a terminal block.

The connections for a thermistor or an RTD element are polarity independent.

The cables can be introduced from the rear or the housing can be mounted onto a sinking box.

Casing and baseplate are made of plastic.

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

Features

- **Wide range of switch/setpoint options**
- **Architect accepted colour**
- **Low-cost temperature measurement**
- **High quality sensing element**
- **Good airflow over sensing elements**
- **Economical way to measure temperature**
- **Attractive housing**
- **Wide range of elements available**
- **PCB mounted connections**
- **Black or Brilliant White Housing as option**

Application

The room temperature transmitter TRS is used to sense temperature in HVAC systems and are intended for direct interfacing to any Energy Management System.

The TRS range of wall mounting temperature sensors can be fitted with a high quality thermistor, Nickel or Platinum sensing elements.

This felxibility ensures compability with vast majority of controllers.

The TRS can be configured with a variety of user interface options including, setpoint control, fan speed switching (resistive) and latching or momentary switches.

Ordering Codes

TRS NTC	Unitron, Trend, Honeywell (Aquatrol), Thorn, Elesta, Siox, Seachange
TRS HON	Honeywell, 20K@25C
TRS JOH	Johnson Control
TRS PT100	Inu, Serck, IVT, Satt
TRS PT1000	Unitron, Johnson, IVT, Exomatic, Honeywell, Serck, Diana, KTC
TRS TA	TAC
TRS NI1000	Sauter
TRS LGNI	SBT Landis & Staefa QAA 23, QAD 21
TRS ALE	Alerton, Satchwell (DDU 1804), Honeywell TE 200AD-6
TRS AND	Andover, York <40°C, Siebe TS serie
TRS SAT1	Satchwell DDT
TRS SAT2	Satchwell DD
TRS SAT3	Satchwell
TRS ST30	Staefa T30
TRS ST1	Staefa T1
/FS3	3-speed fan switch
/FS4	4-speed fan switch
/FS5	5-speed fan switch
/LS	Latching switch
/MS	Momentary switch
/SP	2-wire, 1-11kohm setpoint
/SP3	3-wire, 0-10kohm setpoint
/BL	Black housing
/BW	Brilliant White housing

Room Temperature Sensor TRS

Jan.08

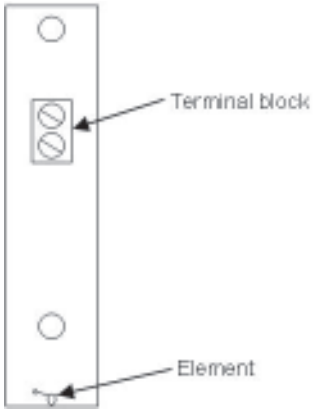
Mounting Notes

- The sensor is suited for a wall mounting on a recessed conduit box.
- It may not be mounted in recesses or shelves, not behind curtains or doors and not near heat sources.
- Direct solar radiation and draughts must be avoided.
- The permissible ambient climatic conditions must be observed.
- The end of the conduit at the room unit must be sealed to prevent false measurement due to draughts through the conduit.
- The room sensor should be mounted approximately 1,8 m above floor level.

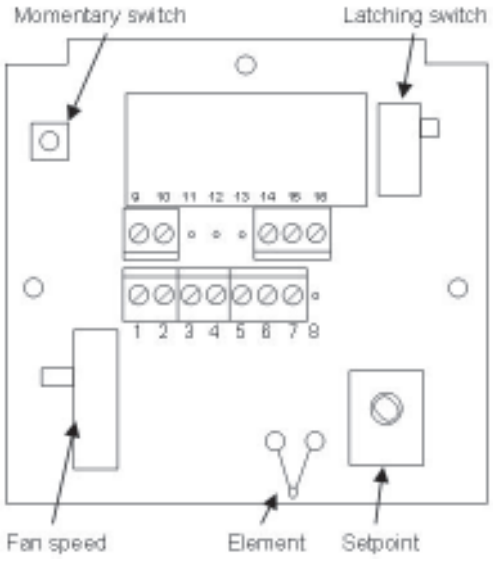
Connections

Connections for a passive temperature output are made via a 2 way terminal block.

The connections for a thermistor or an RTD element are polarity indepedent.



When options are selected, connections are made using terminals on the PCB as shown.



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 thispurpose.

The momentary switch is a tactile type, located behind the label.

Fan speed switch

The position of the fan speed selector witch will cause the resistance between terminals 1 and 2 to alter shown below:

Switch position	Output
Auto	Open Circuit
3	22,7kohm
2	26kohm
1	29,3kohm
Off	32,6kohm

Switches

Both momentary push button and the latching switch are rated at 24Vac/dc@500mA max.