

TUTA35

Temperature and Relative Humidity Transmitters

MODEL	DESCRIPTION
TUTA35	Wall mounting temperature and relative humidity transmitter



APPLICATION AND USE

Temperature and humidity transmitters are used in air conditioning for the measurement of temperature and % relative humidity. Relative humidity measurement is performed with an active sensor providing an output signal (voltage or current); temperature measurement is performed by a passive thermistor NTC 10KΩ.

A unique feature of the sensor is its ability to automatically detect what sort of controller input it is connected to, 4-20mA or 0-10Vdc, removing the requirement for output jumpers which can be inadvertently set incorrectly. Just connect it to the controller input and it does the rest. PCB LED indication of which output type is in operation is provided, with diagnostic LED patterns for determining faults.

TECHNICAL CHARACTERISTICS

DESCRIPTION	TUTA35
Output	0-10 V DC or 4-20 mA self-detecting (not loop powered)
Power supply	24 V AC/DC
Output range	0-100%
Passive output	Resistive, NTC type 10kΩ, $\beta @ 25^\circ = 3976$
Measurement accuracy	±3% RH
Accuracy Temp.	±0.4°C
Ambient Temp.	0-50°C
Ambient RH	0-95%, non-condensing
Material	ABS (flame retardant)
Colour	Polished white finish
Dimensions	115 x 85 x 28mm
Protection	IP30

INSTALLATION AND MOUNTING

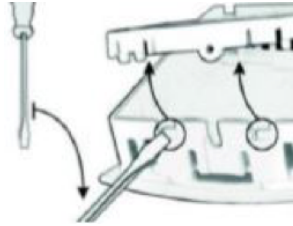
Note: Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge.

1. Select the location on a wall of the controlled space which will give a representative sample of the prevailing room condition.

The performances stated in this sheet can be modified without any prior notice.

Avoid sitting the sensor in direct sunlight, on an outside wall or near heat sources. An ideal mounting height is 1.5m from the floor.

- Undo the tamperproof screw at the bottom of the housing, to remove the front panel from the base, twist a screwdriver as below and pull gently the front panel from the base.



- Using the base as a template mark the hole centres and fix to the wall with suitable screws. Alternatively the base plate can be mounted on to a conduit box or standard recessed back box. The base plate is suitable for EU & North America fixings.
- Feed cable through the hole in the base plate of the housing and terminate the cores at the terminal block as required. Leaving some slack inside the unit.
- Replace the housing to the base plate and tighten the tamperproof screw (if required) through the lug at the bottom of the base plate.
- Allow 3 minutes before checking functionality, and at least 30 minutes before carrying out pre-commissioning checks. This will allow the electronics time to stabilize.

To perform an accurate comparison between a transmitter output and any portable reference, it is essential that the two sensors are held adjacent for a minimum of 30 minutes in a stable environment. Only in this way can speed of response and temperature factors be eliminated.

WIRING CONNECTIONS

MS2	Not used
MS1	Not used
T2	Direct thermistor output (resistive)
T1	Direct thermistor output (resistive)
FS1	Not used
FS2	Not used
P2	Not used
P1	Not used
LED	Not used
OUT	Auto-selecting 0-10 V DC or 4-20 mA (3-wire) output
GND	Common 0V
24V	Supply +24 V AC or V DC

The LEDs are labelled LED1 and LED2. On power up or when the load resistance is in the "forbidden zone" (550R to 3K) the LEDs will flash alternately. Once the system has established which mode to operate in, the appropriate led will be on and not flashing.

LED1	Current output
LED2	Voltage output

Currently an 'Error Halt' will occur if:
 Temperature or RH is selected and the appropriate sensor not fitted.
 In this case both LEDs are on and the output is set to zero.

