

# RELATIVE HUMIDITY & TEMPERATURE DETECTOR FOR AIR DUCTS

## SUT 714 C1 Eng.



- Integrated humidity detector
- Humidity output signal : 0...5V- or 0...10V-
- Accuracy middle of scale:  $\pm 1.5\%$
- Temperature sensing element : NTC 10K $\Omega$ .
- Power supply: 24 V~ or +12 V- (from Coster devices)
- Protection IP55

Version SUT 714 C1 uses a humidity sensor of new conception, with improved Teflon film protection against ambient pollutants

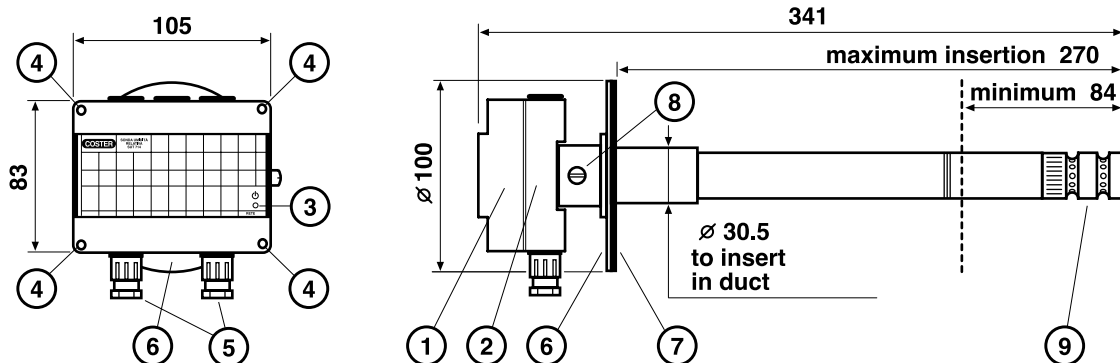
### 1. APPLICATION

For the measurement of relative humidity and temperature. Its design facilitates installation in air ducts.

### 2. TECHNICAL DATA

Power supply :		Humidity measurement :	
Voltage	24 V ~	Sensing element	integrated
Frequency	50...60 Hz	Measurement range	10...90 %
Consumption	2.5 VA	Accuracy middle of scale (50 %)	$\pm 1.5\%$
or		Accuracy extremities of scale (10...90 %)	$\pm 3\%$
Voltage	+12 V- (terminal "G" Coster device)	Time constant	3 minutes
Consumption	15 mA	Influence of temp. variation (from 20 °C)	0.1 %/°C
Materials :		Output signal	0...5 V- or 0...10 V-
Housing	ABS	Temperature measurement::	
Sensing element pocket	PVC	Sensing element	thermistor NTC 10K
Protection	IP 55	Measurement range	0...60 °C
Cable entry	PG 7		
Operating temperature	0...60 °C		
Storage temperature	-25...+85 °C		
Weight	0.780 kg		

### 3. OVERALL DIMENSIONS (in mm.)



- 1 – Cover
- 2 – Base with printed circuit & terminal block
- 3 – Power LED
- 4 – Cover securing screws
- 5 – PG7 cable entries

- 6 – Flange for securing to air duct
- 7 – Seal
- 8 – Securing screw
- 9 – Housing for sensing elements

### 4. INSTALLATION

Proceed as follows :

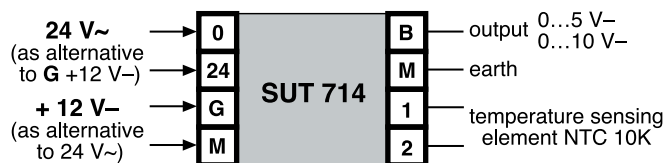
- In the air duct make the central hole (minimum 32 mm) and the three holes for securing the flange,
- Insert the seal between the flange and the wall of the duct and then secure everything with the three self-threading screws supplied,
- Introduce the cylindrical tube of the detector into the central hole of the flange,
- The tube must be inserted at least up to the point at which you feel a click (minimum depth) or, according to requirements, so that the sensing element pocket is touching the flange (maximum depth),
- Secure the detector by means of the screw (3.8).

### 5. ELECTRICAL CONNECTIONS

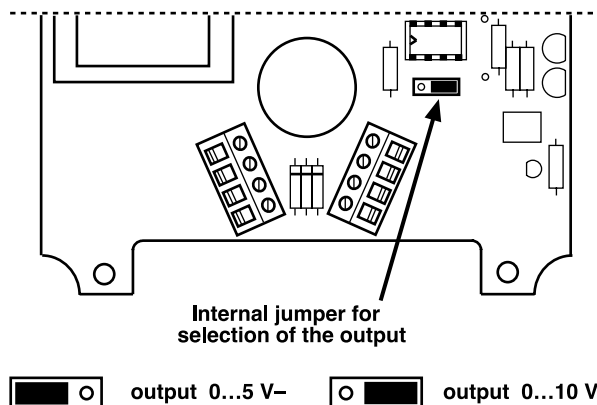
Proceed as follows :

- Remove the cover from the detector (3.1) after loosening the securing screws (3.4),
- Carry out the electrical wiring according to the diagram (6) and in strict compliance with safety regulations, using :
  - 1.5 mm<sup>2</sup> cross-section cables for power supply,
  - 1 mm<sup>2</sup> for the other connections,
- Replace the cover paying careful attention to the correct positioning of the protective seal.

### 6. WIRING DIAGRAM

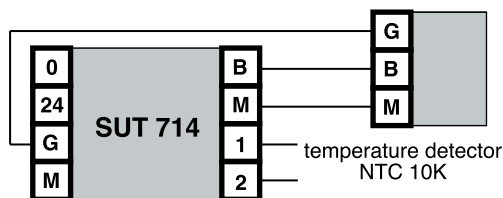


### 7. OUTPUT SIGNAL

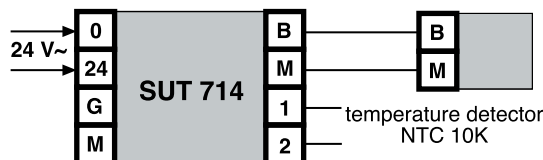


### 8. EXAMPLES OF WIRING

#### 8.1 Example of connection with Coster devices with "G" (+12 V-) output



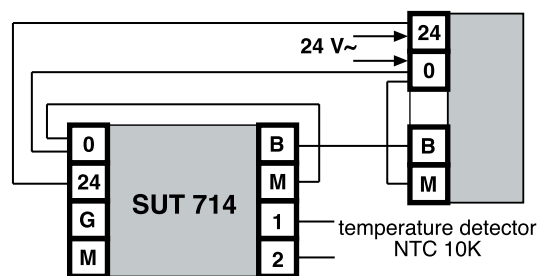
#### 8.2 Example of connection with Coster devices without "G" (+12 V-) output



#### 8.3 Example of connection with Coster device in which a phase of 24 V~ power supply is used also as 0V (earth) and connected to terminal "M"

This connection is used to replace the existing detectors which used three connecting wires and where it is impossible to add a fourth wire.

However, it is not recommended because the disturbances present on the power line could be introduced also into the signals line. In new plants connection 8.2 is recommended.



#### Amendment to data sheet

Date	Revision No.	Page	Section	Amendment description
18.01.06 LB		1	2. TECHNICAL DATA	Removed RH value
04.02.10 AM	<b>01</b>	1	NotE	New humidity sensor



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