DESCRIPTION

This sensor measures ambient relative humidity as well as temperature. It miniaturized sensitive element uses a CMOS capacitive relative humidity sensor and a band gap temperature sensor, for a very precise and stable measurement with a very low consumption. The sensor is self calibrated. Output signal : Analog (0-10V).

APPLICATIONS

- HVAC: Demand Controlled Ventilation, fan control, damper control, air conditioning control, Indoor Air Quality level indicator, etc.
- BMS: Indoor Air Quality level indicator, Indoor Air Quality monitoring, etc.

Specially suitable for rooms where variations of humidity or temperature are relatively important and can be used to drive a system such as ventilation or air conditioning: bedrooms, living room, kitchens, bathrooms.

WARNINGS

PLEASE READ THE FOLLOWING INSTRUCTIONS BEFORE THE INSTALLATION:

- **In case of non-compliance with advice and warnings contained in this manual, the manufacturer can not be considered responsible for damages to persons or property.**
- **The installation and electrical connections must be carried out by a qualified technician according to the manufacturer's instructions and in compliance with the characteristics of the product**
- **Before carrying out any operation on the appliance, unplug or disconnect it from the power supply, and ensure it can not be accidentally restored.**
- **Power cable modification or replacement must only be carried out by qualified personnel or by After-sales Service.**

TF5710_C

ENGLISH

HUMIDITY AND TEMPERATURE AMBIENT AIR SENSOR

INSTALLATION AND OPERATING INSTRUCTIONS

AERECO

MAINTENANCE

Check frequently that the product is clean and remove dust if needed.
No calibration required. **Caution: Never touch the sensing element otherwise the detection may be damaged.**

WARRANTY

The product is guaranteed two years. Its validity is submitted to conformed installation, use and maintenance.

This product is manufactured by Aereco S.A. in France
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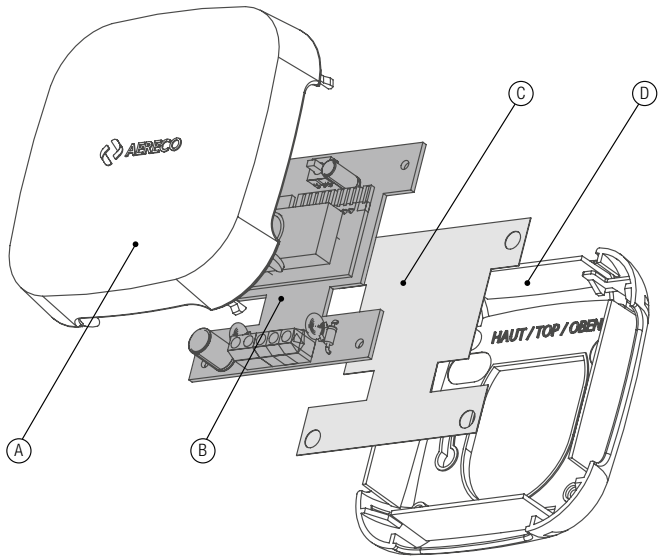
INSTALLATION

Sensors must be installed on the wall, at a height of at least 1.5 meters from the floor, or at the ceiling, and must respect the following recommendations:

· keep the sensor away from any direct solar radiation,
· keep the sensor away from draughts (door, window, supply, etc.),
· avoid placing the sensor in dead zones (behind curtains, furniture),
· keep the sensor away from heat sources and from occupants
· if the sensor is located at the ceiling, keep it away from any air supply unit.



STEPS

1. Remove the front cover (A).
2. Unclip the electronic card (B) and the plastic protection (D) from the base (C).
3. Fix the base (C) by the mean of 2 screws (not supplied). The screws and plug must be chosen according to the type of the support.
4. Connections : use PVC wires S minimum = 0.25 mm² for all the wires. On the electronic card (B), connect the wires as follows:

Connectors	V+	S1	S2	S3	S4	GND
Supply (2 wires)	12 VDC					0 V
0-10 V output (2 wires)				10 V – RH	10 V – Temp.	0 V

· 0 - 10 V output RH : 0 V = 0 % RH ; 10 V = 100 % RH
· 0 - 10 V output T : 0 V = 0°C; 10 V = + 50°C

5. Clip the electronic card inside the base (C)
6. Put the cover (A) on the base (C)
7. Connect the wires to the external devices (12 VDC supply and device driven by 0-10 V output)
8. Only once all the connections have been made, plug on the supply of the system.

CAUTION!

Chemical vapors at high concentration in combination with long exposure times may offset the sensor reading. In manufacturing and transport the sensors shall be prevented of high concentration of chemical solvents and long exposure times. Out-gassing of glues, adhesive tapes and stickers or out-gassing packaging material such as bubble foils, foams, etc. shall be avoided. Manufacturing area shall be well ventilated.

Never connect the 12 VDC supply to S1 or S2 and the 0 V supply to GND, otherwise S1 and S2 output will be crashed.

A protection is implemented to protect the product in case of wrong connection, when the following mistakes occur:

· Inversion of the supply wires (GND and V+).
· 12 V supply connected to S3 and S4 and 0 V supply on GND.

TECHNICAL DATA

Measurement principle	Micro-machined metal oxide semiconductor (MOS) technology
Working range	0°C +50°C 0 % - 100% Relative Humidity
Precision RH	max +/-3 % RH at 25°C, typical +/-2 % on 20 % -80 % range.
Precision temperature	max +/-0,4°C in [5°C ; 60°C] range, typical 0,3°C.
Measuring time interval	60 s
Supply voltage	12 V DC +/- 10 %.
Average power consumption	15 mA
Peak current max.	1 A (use for fuse sizing)
Storage conditions	10…50°C 0...60 % RH
Output 0-10 V	
Output data	0 to 10 V 0V = 0% RH ; 10 V = 100% RH 0V = 0°C; 10 V = + 50°C
Voltage (S3 and S4)	0 to 10 V
Current (S3 and S4)	400 mA