DESCRIPTION

This module measures carbon dioxide (CO_2) in the range of 0 to 2 000 ppm and is equipped with a low consumption sensor. The sensing element uses the NDIR Infra Red technology (no cross sensitivity to any other gas than CO_2) and is self calibrated: a dual beam measurement enables the module to be used in any kind of room occupancy (no CO_2 *back to bottom level* needed). Output signal : Analog (0-10V).

APPLICATIONS

- HVAC: Demand Controlled Ventilation, fan control, damper control, air conditioning control, CO_2 level indicator, etc.
- BMS: CO_2 level indicator, Indoor air quality monitoring, etc.

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.**

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The sensor is manufactured in Germany.

www.aereco.com
FRANCE
77615 MARNE LA VALLEE CEDEX 3
Collégien
62 rue de Lamirault
This product is manufactured by Aereco S.A. in France

WARRANTY

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

MAINTENANCE

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

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ENGLISH

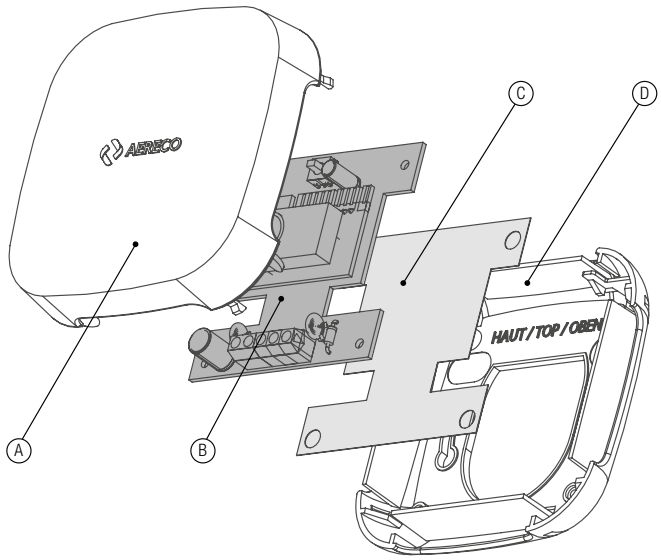
CO_2 AMBIENT AIR SENSOR

INSTALLATION AND OPERATING INSTRUCTIONS

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 : 0 V = 0 ppm ; 10 V = 2 000 ppm

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!

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	Non-Dispersive Infrared Technology (NDIR), dual Source Infrared System
Working range	0... 2 000 ppm CO_2
Accuracy at 25°C and and 1 013 mbar	± (50 ppm +2 % of measuring value)
Response time	< 195 s
Temperature dependence	typ. 2 ppm CO_2/°C (0...50°C)
Long term stability	typ. 20 ppm / year
Measuring time interval	60 s
Supply voltage	12 VDC +/- 10 %.
Average power consumption	120 mA (reading), 10 mA (nominal).
Peak current max.	1 A (use for fuse sizing)
Working and storage conditions	-40...60°C 5...95 % RH (not condensating) 85...110 kPa

Output 0-10 V	
Output data	0 to 10 V. 0 V = 0 ppm ; 10 V = 2 000 ppm
Voltage (S3 and S4)	0 to 10 V
Current (S3 and S4)	400 mA