

# Home Box

Sensor CO<sub>2</sub> 1-Wire UNI



*The Home Box family are unique sensors to protect comfortable conditions in your working and living environments. Different combinations of values for every home, office or public installation.*

**Sensor CO<sub>2</sub> is a combined temperature, relative humidity and CO<sub>2</sub> sensor.**

There are many factors that reduce and affect indoor air quality. Many of them can have a negative effect on our health. Therefore, it is good to monitor their level inside areas. The ideal solution is to install a 1Wire-UNI CO<sub>2</sub> combination temperature, relative humidity, and CO<sub>2</sub> sensor, which has a compact design as well as easy installation.

## Applications and usage

Thanks to its ability to monitor CO<sub>2</sub>, temperature and relative humidity, this sensor can be used in many areas. In addition to monitoring air quality in households, commercial buildings and school buildings (optimal air quality has a direct impact on the well-being and efficiency of employees, students, or other people occupying the space), it will also help you in various measurement and regulation projects.



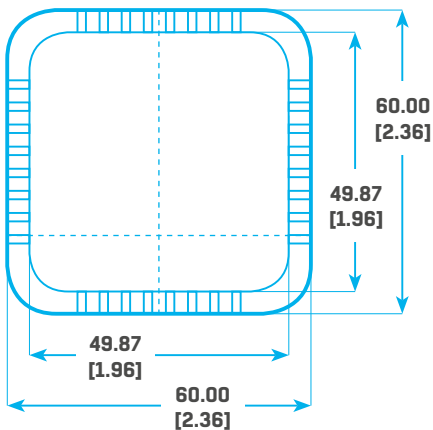
Temperature



Carbon dioxide



Humidity



### Air quality levels

Less than 500 ppm	Excellent
500-800 ppm	Very good
800-1200 ppm	Good
1200-1500 ppm	Bad
More than 1500 ppm	Unhealthy

## Technical specifications

- Maximum length of the 1-Wire bus: 30 m
- Maximum number of sensors per 1-Wire UNI port: 1 (use 1-Wire Hub Power if more are needed)
- Sensor dimensions: 60×60×20 mm
- Protection: IP30
- Communication interface: 1-Wire bus, RJ-11 jack
- Combined sensor of 3 quantities – reads as 3 independent sensors on the bus
- 5V power from the 1-Wire port

### Humidity

- Measurement range: 10 to 95%RH
- Measurement accuracy: 5%RH at 25°C
- Resolution: 0,1%RH

### Temperature

- Measurement range: -30 to +70°C
- Measurement accuracy: 0,8°C
- Resolution: 0,1°C

### CO<sub>2</sub>

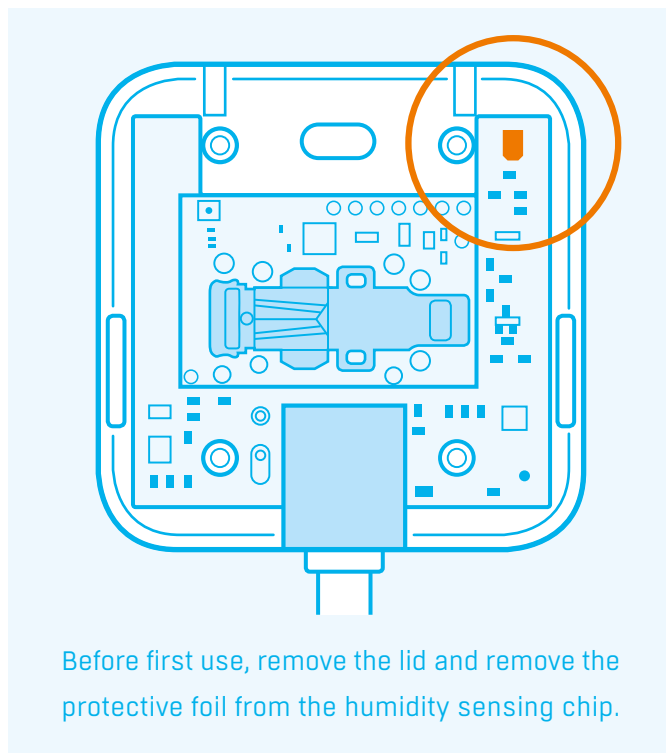
- Measurement range: 300 to 40 000 ppm
- Resolution: 1ppm in the 0ppm to 2008ppm range, 6ppm in the 2008ppm to 11110ppm range, 32ppm in the 11110ppm to 40 000ppm range
- Measurement accuracy: 50ppm + 3%
- Temperature stability: 2.5ppm/°C (in the 0 to 50°C range)

## Installation and use

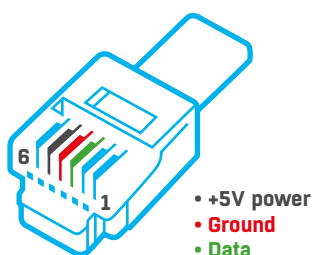
Housed in an elegant plastic box, it can be mounted on a wall or a ceiling or placed on a desk. It is small and lightweight so it can be secured in place with a piece of double-sided adhesive tape. A detachable cable with RJ-11 jacks is used for the connection.

Then, use the supplied 3-meter cable to connect the sensor to a HW group unit equipped with the 1-Wire UNI interface, and run sensor detection.

Temperature and humidity values are available immediately. The CO<sub>2</sub> sensor needs to be first calibrated in its environment. The calibration takes 7 days; during this time, it is necessary to air the premises regularly and thoroughly, at least 3 times a day.



## Connector pinouts



RJ12	RJ11			
3	2	Data	<->	1-Wire Data
4	3	GND	---	System Ground
5	4	+5V	---	Power Supply

