

## ARANET4 HOME



this manual is for Aranet4 HOME sensor users and describes the device and its intended use.

## What is the Aranet4 device?

The Aranet4 sensor is a battery powered  $CO_2$  meter with additional measurements of temperature, relative humidity and atmospheric pressure\*. The device is suitable for monitoring the CO<sub>2</sub> level in your school, office or home environment.

Measurement data are displayed on power efficient e-ink screen allowing for long battery life. Additionally the device can provide a visual and sound notifications in case the CO2 level has exceeded high concentration level above 1400 ppm (level associated typically with complaints of drowsiness and poor air quality).



Uses the nondispersive infrared (NDIR) sensor to measure  $CO_2$ . The  $CO_2$  gas in the chamber absorbs infrared light and this absorption is measured by the sensor. The less light passes through - the higher the  $CO_2$  level. The  $CO_2$  gas absorbs only a specific wavelength of the light, thus an optical filter is needed.

Using the Aranet4 app on your smart devices it is possible to wirelessly access the current and up to one week historical measurement data and adjust the configuration of the Aranet4 device. The Aranet4 app allows connecting several Aranet4 sensors to monitor their parameters remotely from one smart device.

\*Atmospheric pressure data are available only on the Aranet4 app.

The Aranet4 sensor screen explained



- **1.** CO<sub>2</sub> concentration level in ppm (parts p er million)
- **2.** Temperature of the air in Celsius or Fahrenheit. Refer to the switch positions of the Aranet4 in chapter *Switch positions explained*.
- 3. Relative humidity of the air (RH%).
- 4. Battery level.
- **5.** Buzzer status. The speaker symbol is visible when buzzer function is activated. The conditions when buzzer should sound is adjusted using the Aranet4 application.
- **6.** Bluetooth status. If the Bluetooth symbol is visible, then Bluetooth connectivity function is enabled. Refer to switch

positions of the Aranet4 in chapter *Switch positions explained*. Make sure Bluetooth connectivity is enabled on your smart device if you would like to connect to the Aranet4 device.

- **7.**  $CO_2$  indication mode. If the leaf symbol is visible, then  $CO_2$  level indication is set to plant mode (plants require higher  $CO_2$  level than humans). If the leaf symbol is not visible, then  $CO_2$  level indication is set to human mode. Selection of the mode can be done using the Aranet4 app.
- **8.** CO<sub>2</sub> threshold level indication.

In case the CO<sub>2</sub> indication human mode is selected:

- Green represents normal level (below 1000 ppm),
- Yellow represents average level (1000 to 1400 ppm),
- Red represents high level (above 1400 ppm).

In case the plant mode is selected:

- · Green represents normal level (above 500 ppm),
- Yellow represents average level (500 to 300 ppm),
- Red represents low level (below 300 ppm).
- **9.** CO<sub>2</sub> calibration mode indication. Symbol "A" is displayed when calibration is set to automatic. No letter is displayed when calibration is set to manual mode. Refer to switch positions of the Aranet4 in chapter *Switch positions explained*.

## Switch positions explained



\* Function available in Aranet4 PRO

The Aranet4 device has switches that allow the user to adjust the preferences of device operation.

To access the switches, open the lid of the battery compartment. While **batteries remain inserted**, adjust the pin position (up or down) using the pin tool that has been supplied with the Aranet4 device (or any other suitable thin tool).

Switches can be adjusted while batteries are removed as well. The changed preference setting will be enabled once the batteries are reinserted. **Note** that if you remove the batteries, the measurement **history will be erased**.

The position of the switches has the following meaning:

**AUTO / MANUAL** - switch the  $CO_2$  calibration mode to either manual (default position) or automatic mode.

The Aranet4 device is calibrated at the factory. However, the user can perform  $CO_2$  calibration manually if required. To initiate the manual  $CO_2$  calibration, change the switch position from MANUAL to AUTO and back to MANUAL (maintain maximum 1 sec between each movement of switch positions). Indication about started calibration and its progress will be displayed on the screen. Do not interrupt the calibration process once it has started. During the manual calibration the Aranet4 device must be exposed to fresh air (about 400 ppm of  $CO_2$ ) and the environment should be stable (not changing). Maintain a distance of at least 1 meter from the device during the calibration process. In case of calibration failure, ensure that the environment fits the requirements and repeat the process.

Manual calibration can be initiated using the Aranet4 app as well.

In case of automatic calibration mode, the Aranet4 device needs to be exposed to a fresh air at around 400 ppm (for instance, outdoors or room with good air exchange) monthly.

Use MANUAL calibration mode in case you are not certain which mode to use.

°C / °F - switch to either Celsius or Fahrenheit degrees.

**Bluetooth / 0** - enable or disable (0) the Bluetooth connectivity.

How to pair the Aranet4 to my smart device

Connect your smartphone with the Aranet4 device via Bluetooth by using iOS or Android app to get access to:

- Real time measurement data overview;
- 7 day historical data;
- · Configuration of the device;
- · Listing of all Aranet4 devices;
- CO2 calibration;
- Firmware upgrades.



The Aranet4 device can be connected to a smart device using the Bluetooth connection and the Aranet4 app (iPhone and Android based). Make sure Bluetooth connectivity is enabled on your smart device and on your Aranet4 device.

To connect your Aranet4 device to your smart device follow the below steps:

- Launch the Aranet4 app and on the main page (My devices) add a new device by clicking on the (+) symbol.
- Select your Aranet4 device from the list.
- When prompted, confirm the start of pairing.
- Type in the 6 digit passcode that is shown on the display of your Aranet4 device.

## Return and Warranty

In case of return or warranty claim, please contact your sales representative. For Terms and Conditions refer to www.aranet.com/support/

Aranet4 HOME Datasheet			
Measurements	$CO_2$ (carbon dioxide), temperature, relative humidity, atmospheric pressure		
Line of Sight Range	BLE up to 10m/33ft		
Operating environment	Indoor use		
Transmitter power	14 dBm		
Measurement range	CO <sub>2</sub> temperature relative humidity atmospheric pressure	0-9999 ppm 0°C to 50°C (32°F to 122°F) 0% to 85% RH 300-1100 hPa	
Measurement accuracy:*	CO <sub>2</sub> temperature relative humidity atmospheric pressure	0-2000 ppm: 2001-9999 ppm: ±0.4°C (0.72°F) ±3% ±1 hPa	±50 ppm or 3% of reading ±10% of reading
CO <sub>2</sub> measurement calibration	Automatic or manual (at 400ppm)		
Data Transmission	1, 2, 5, 10 minutes		
Data Protection	Data encryption		
Power options	2 AA Alkaline batteries (Zn/Mn0 <sub>2</sub> )		
Battery life @20°C / 68°F	Up to 2 years		
Operating temperature	0°C to 50°C (32°F to 122°F)		
Operating humidity	0% to 85% non-condensing		
Dimensions	70 x 70 x 24 mm / 2.716" x 2.76" x 0.94"		
Weight	104g (3.7oz)		
Construction	Polycarbonate		
Protection class	IP20		
Marking	CE		
Included	2 AA Alkaline batteries		
Part number	TDSPC003.001 (EU)		

\* For best accuracy, recommended operating range is 10°C to 40°C (50°F to 104°F) and 20% to 60% RH (non-condensing). Prolonged operation beyond these ranges may result in a shift of sensor reading, with slow recovery time.