

ARANET4



Aranet4 Datasheet

Measurements	CO ₂ (carbon dioxide), temperature, relative humidity, atmospheric pressure		
Line of Sight Range	Aranet radio up to 3 km/ 1.9mi BLE up to 10m/33ft		
Operating environment	Indoor use		
Transmitter power	14 dBm		
Frequency	Depends on base station instructions		
Measurement range	CO ₂	0-9999 ppm	
	temperature	0°C to 60°C (14°F to 140°F)*	
	relative humidity	0% to 85% RH	
	atmospheric pressure	300-1100 hPa	
Measurement accuracy:**	CO ₂	0-2000 ppm:	±50 ppm or 3% of reading
		2001-9999 ppm:	±10% of reading
	temperature	±0.4°C (0.72°F)	
	relative humidity	±3%	
	atmospheric pressure	±1 hPa	
CO ₂ 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/MnO ₂)		
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		
Compatible base stations	Aranet PRO (from v1.3.2)		
Included	2 AA Alkaline batteries		
Part number	TDSPC003(EU)		

* Please note the operating temperature range.

** 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.

FCC Compliance statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The information presented in this guide is the property of SAF Tehnika, JSC. No part of this document may be reproduced or transmitted without proper permission from SAF Tehnika, JSC.

The specifications or information contained in this document are subject to change without notice due to continuing introduction of design improvements. If there is any conflict between this document and compliance statements, the latter will supersede this document.

SAF Tehnika, JSC has no liability for typing errors in this document or damages of any kind that result from the use of this document.

To get up to date information about accessories and their availability, please contact sales representative.

Copyright Notice

Copyright © 2019 SAF Tehnika, JSC. All rights reserved.

Industry Canada Regulatory Statement

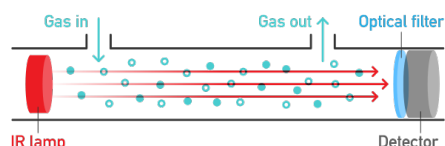
This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

What is the Aranet4 device?

The Aranet4 sensor is a battery powered CO₂ meter with additional measurements of temperature, relative humidity and atmospheric pressure*. The device is suitable for monitoring the CO₂ 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).



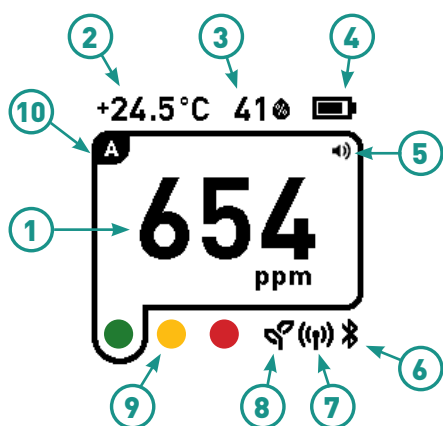
Uses the nondispersive infrared (NDIR) sensor to measure CO₂. The CO₂ gas in the chamber absorbs infrared light and this absorption is measured by the sensor. The less light passes through - the higher the CO₂ level. The CO₂ gas absorbs only a specific wavelength of the light, thus an optical filter 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.

Additionally, up to 100 Aranet4 devices can be connected to the Aranet PRO base station. Refer to chapter *Using Aranet4 device with the Aranet PRO base station*.

*Atmospheric pressure data are available only on the Aranet app.

The Aranet4 sensor screen explained



1. CO₂ concentration level in ppm (parts per 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. The Aranet radio status. If the Aranet radio symbol is visible, then the radio connectivity with Aranet PRO base station is enabled. Refer to switch positions of the Aranet4 in chapter *Switch positions explained*.
8. CO₂ indication mode. If the leaf symbol is visible, then CO₂ level indication is set to plant mode (plants require higher CO₂ level than humans). If the leaf symbol is not visible, then CO₂ level indication is set to human mode. Selection of the mode can be done using the Aranet4 app.
9. CO₂ threshold level indication.

In case the CO₂ indication human mode is selected:

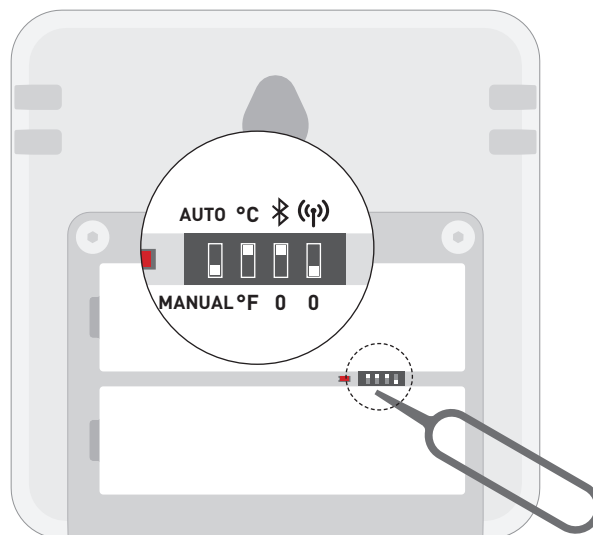
- **Green** represents normal level (below 1000 ppm),
- **Yellow** represents average level (1000 to 1400 ppm),
- **Red** represents high level (above 1400 ppm).

In case the plant mode is selected:

- **Green** represents normal level (above 500 ppm),
- **Yellow** represents average level (500 to 300 ppm),
- **Red** represents high level (below 300 ppm).

10. CO₂ 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



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. **Note** that if you remove the batteries, the measurement

history will be erased. The changed preference setting will be enabled once the batteries are reinserted.

The position of the switches has the following meaning:

AUTO / MANUAL - switch the CO₂ calibration mode to either manual (default position) or automatic mode.

The Aranet4 device is calibrated at the factory. However, the user can perform CO₂ calibration manually if required. To initiate the manual CO₂ 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 CO₂) 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) daily.

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.

Aranet radio / 0 - enable or disable (0) the Aranet radio connectivity. Refer to chapter *Using Aranet4 device with the Aranet PRO base station*.

How to pair the Aranet4 to my smart device

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.

Using Aranet4 device with the Aranet PRO base station

The Aranet PRO base station serves as a device for collecting, storing and maintaining data from all types of Aranet sensors, including Aranet4. Each Aranet PRO base station can connect up to 100 sensors and stores the measurement data in its local memory for up to 10 years.

Find out more about the Aranet PRO base station at www.aranet.com and follow the *User Guide* on how to pair Aranet sensors to the Aranet PRO base station.

To connect the Aranet4 device to the Aranet PRO base station, initiate the sensor pairing mode on the Aranet PRO base station and initiate the pairing on the Aranet4 device by changing the switch position from disable (0) to enable (radio symbol). Alternatively, while switch position is in enable position (radio symbol on screen is visible), remove and reinsert the batteries. Please note, that removing battery, the measurement history will be erased from the Aranet4 memory.

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/