

POD2

USER MANUAL

ellona

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Specifications

Power device

- +5V/2A Micro-USB connector
- .7V 1800mAh battery

Measured parameters

Type of sensor	Measuring range	Accuracy	Resolution
Temperature	-40°c to +85°c	0.5°C to 2°C	0.1
Atmospheric pressure	300 to 1100 hPa	0.25%	1 hPa
Humidity	0 to 100% Rh	3%	1%
CO2 concentration equivalent	400 ppm to 5000 ppm	pending	1 ppm
Total VOC concentration equivalent	0 to 1000 ppm	pending	0.1 ppm
Illumination level	0 to 10 000 Lux	pending	1 Lux
Color temperature	0 and 12000°K	pending	1°K
Equivalent noise level	30 dBA to 120 dBA	pending	0.1 dBA
Vibration level	0 to 40m/s2	0.01m/s2	pending

Measurement options

Type of sensor	Measuring range	Accuracy	Resolution
PM1 Mass concentration of particles 1 µm	0 to 1000 µg/m3	10 µg/m3	0.1 µg/m3
PM2.5 Mass concentration of particles 2.5 µm	0 to 1000 µg/m3	10 µg/m3	0.1 µg/m3
PM4 Mass concentration of particles 4 µm	0 to 1000 µg/m3	10 µg/m3	0.1 µg/m3
PM10 Mass concentration of particles 10 µm	0 to 1000 µg/m3	10 µg/m3	0.1 µg/m3
CO2 concentration	400 to 10 000 ppm	20 ppm +3%	1ppm
Gas concentration	Gas table page 11	Gas table page 11	Gas table page 11

Connectivity

- Base: Wifi : 802.11 b/g/n, Wifi 2.4Ghz
- Option: LoRa High Frequency Class A, 1.02 Version (EU868,US 915,AU915,KR920,AS923,IN865)
- Option: LoRa Low frequence Class A, 1.02 Version (EU433,CN470)
- Option : LTE-M fallback 2G
- Option : Ethernet with PoE 802.3af



First Installation

Positioning

The POD must be positioned on a table, desk, or high up.

The positioning must be adapted to the measurements for which it is intended. Ideally it should be placed at breathing level in the room where it is located:

Ex :

- On the worktable in an office or meeting room.
- At average height of Man, in a reception room.
- Etc.

Commissioning

- Plug the AC adapter into the wall outlet and connect the micro USB cable to the POD.

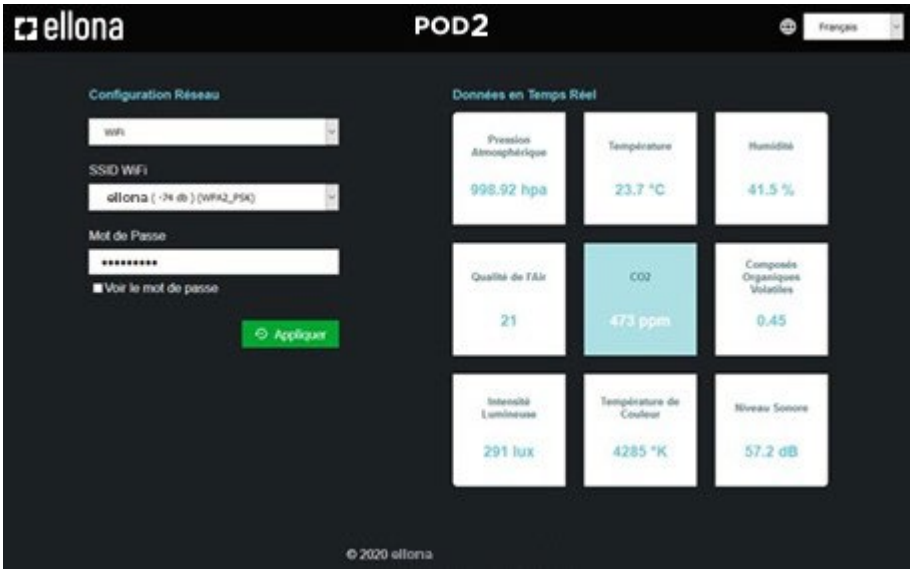
- Turn the switch to the « On » position (to the right, looking at the switch from the front).

Network Connexion

- Use a computer, tablet, or phone to display the list of WIFI networks.
- Locate the serial number of the POD you want to install on the identification plate on the bottom of the unit.
- In the list of available networks select the network that starts with «R-POD2-» followed by the serial number.
- Fill in the following password « ellonapod2 ».

Opening the configuration page

When connecting to the Wifi network, a web page is opened to configure the POD. If this is not the case, enter the following IP address in the address bar of an internet browser (Chrome, Firefox, Edge etc...): 192.168.4.1



POD 2 configuration page

Part of the real time data of the POD is visible on the page.

Selecting the network configuration

The page that appears allows the selection of the network configuration. Depending on the POD options, you will be able to choose between several means of communication.

Wifi :

The Wifi network is available regardless of the POD options. To connect to the network:

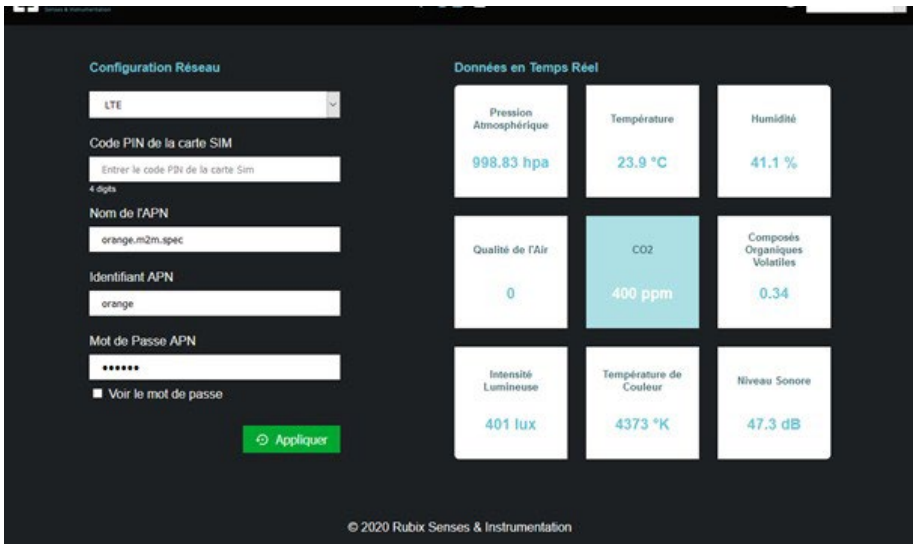
select the Wifi network in the drop-down list entitled « Wifi SSID ».

Fill in the password field that appears.

- Click on « Apply ».
- Choose « OK » in the window that appears to confirm the configuration and restart in Wifi mode.

LTE-M (Option) :

If the POD is equipped with the LTE-M option, you can choose to select the Wifi mode or the LTE mode from the drop-down list



LTE-M mode selection

Select the « LTE » option from the drop-down list. The options to manage access to the LTE-M network will be displayed.

If the SIM card is provided by ELLONA, there is no need to modify these fields. Otherwise, use the information provided by the operator to fill them in.

- PIN code: the pin code of the SIM card, can be left blank if there is no code.

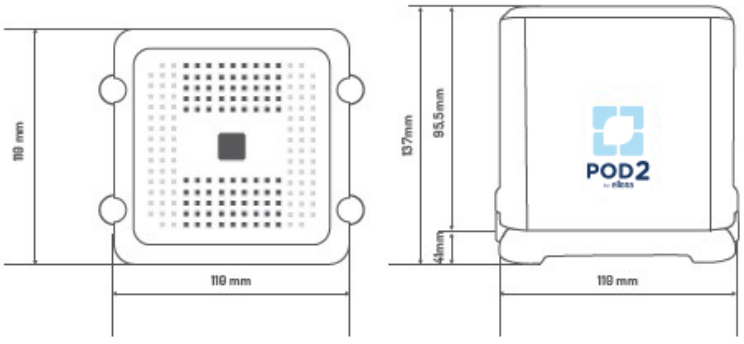
- APN name: provided by the SIM card operator.

- APN login: also called « APN User », provided by the SIM card operator.

- APN password: enter the password provided by the operator.

Select « Apply » to validate the changes. A window will offer you to restart in the selected network configuration.

The data publishing interval in LoRa mode is 10 minutes. The measurements are averaged during this period and reported in the LoRa frame.



Ethernet :



Configuration Ethernet IP DHCP mode

Select « Apply » to validate the changes. A window will offer you to restart in the selected network configuration.



Ethernet IP manual mode configuration

There is possibility to enter IP address, subnet mask and gateway parameters.

Select « Apply » to validate the changes. A window will offer you to restart in the selected network configuration.

Reset mode

A button located on the upper part and accessible at the level of the grid allows you to return to the configuration mode, we then return to the case described in the « first installation » section.

In order to activate the reset mode you need to :

- Hold the button down with a pin.
- Perform a power off/on cycle with the switch located on the back of the POD.
- Release the button when the LED flashes dark blue.

The system then restarts in wifi access point mode.



Location of the reset button

Notification

The POD is equipped with a status notification LED. The displayed color represents the status of the POD or an alert level according to the following table:

State		Color
Start		Light blue flashing
Alert: Normal		Green
Alert: Info		Yellow
Alert: Warning		Orange
Alert: Critical		Red
Installation Mode		Blue flashing
Error		Purple

If the POD is not connected, it will automatically switch to battery mode: whatever the color of the LED, it will blink every 2 seconds.

Troubleshooting

If the error signal occurs permanently. It is a network connection error.

Activate the installation mode and check the network configuration.

If the problem is not solved after this intervention, contact your network administrator if you use a Wifi connection.

If you are using LTE mode, check with the line operator.

Gas table

Gas type	Measuring range	Resolution	LOD
NH_3	0 to 100 ppm	0.03 ppm	0.09 ppm
H_2S	0 to 200 ppm	0.002 ppm	0.006 ppm
H_2S	0 to 50 ppm	0.003 ppm	0.008 ppm
NO_2	0 to 20 ppm	0.01 ppm	0.03 ppm
$NO_2 + O_3$	0 to 10 ppm	0.003 ppm	0.009 ppm
SO_2	0 to 50 ppm	0.008 ppm	0.023 ppm
NO	0 to 250 ppm	0.008 ppm	0.023 ppm
CO	0 to 1000 ppm	0.057 ppm	0.171 ppm
O_2	0 to 30%	0.1%	0.1%
Cl_2	0 to 20 ppm	0.006 ppm	0.018 ppm
HCl (HBr)	0 to 100 ppm	0.03 ppm	0.09 ppm
CH_2O Formaldehyde	0 to 10 ppm	0.001 ppm	0.002 ppm
EtO	0 to 10 ppm	0.002 ppm	0.005 ppm
Alcohols	0 to 200 ppm	0.003 ppm	0.009 ppm
PH_3	0 to 20 ppm	0.003 ppm	0.009 ppm
SiH_4	0 to 50 ppm	0.006 ppm	0.018 ppm
HCN	0 to 100 ppm	0.043 ppm	0.129 ppm
H_2	0 to 2000 ppm	2 ppm	6 ppm
H_2	0 to 4000 ppm	2 ppm	6 ppm
H_2	0 to 40 000 ppm	5 ppm	15 ppm


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