

# Environmental Hub

## User Manual - Quick Guide

---

<b>File name</b>	OFEN0010001A _Env_Hub_Manual_RevB
<b>Revision</b>	B
<b>Document status</b>	DRAFT
<b>Document release date</b>	
<b>Document author</b>	DM
<b>Document reviewer</b>	CC
<b>Document approver</b>	SP
<b>Classification</b>	Public

## Revisions

Date	Revision	Author	Modifications carried out
31/08/23	A	AL	First release
12/09/23	B	DM	Corrections, Wi-Fi connections, etc

**Table of contents**

Revisions ..... 2

Table of contents ..... 3

1 Introduction ..... 5

    1.1 General Information .....5

2 Quick start guide warnings..... 5

3 Definitions and terminology adopted in this manual..... 5

    3.1 Definition of CAUTION and NOTE .....5

    3.2 General definitions related to safety.....5

4 System layout..... 7

    4.1 Rear panel.....7

    4.2 Left panel.....8

    4.3 Right panel .....8

    4.4 Upper panel.....9

5 Basic operations ..... 10

    5.1 Powering the hub .....10

    5.2 Shutting down .....11

    5.3 Multifunction button .....11

    5.4 Network connections .....11

        5.4.1 Wired Ethernet hub connection..... 12

        5.4.2 Wireless hub connection ..... 15

6 Web Interface ..... 19

    6.1 Access .....19

    6.2 Dashboard page .....19

    6.3 Plots page .....20

    6.4 Sensors page .....21

    6.5 Connections page .....22

    6.6 Settings page.....24

        6.6.1 Discontinuous Mode..... 25

        6.6.2 Install System Update..... 25

        6.6.3 Remote Assistance ..... 26

7 System installation, handling and dismantling ..... 26

7.1	General Information .....	26
7.2	Set up for system installation.....	26
7.2.1	Unpacking.....	26
7.2.2	Mechanical installation .....	27
7.2.3	Power cabling .....	27
7.2.4	USB communication cables.....	27
7.2.5	Ethernet communication cables.....	27
7.2.6	Installation and connection.....	28
7.2.7	Dismantling or disassembly.....	28
7.3	Disposal .....	28
7.3.1	Packaging materials.....	28
7.3.2	Device disposal .....	28
8	System maintenance .....	29
8.1	Cleaning and maintenance.....	29
9	Spare parts codes .....	29
10	Technical specifications .....	30
11	Warranty.....	31
11.1	General terms .....	31
11.2	Voiding of warranty .....	32
11.3	Warranty exclusions .....	32
12	Contact Details.....	32

## 1 Introduction

### 1.1 General Information

The contents of this document are the intellectual property of CyNexo srl, and any reproduction of this document, in whole or in part, is prohibited, unless otherwise specifically authorized in writing by CyNexo srl.

## 2 Quick start guide warnings

Please read this section carefully BEFORE you start any operations with your new equipment. If at any time you identify damage to or an abnormal condition of the product, please STOP, safely disconnect the equipment from ALL power sources and contact us immediately through the channels provided in the [Contact Details](#) section of this document.

Please read ALL labels and warnings prior to using this product. If in doubt, please do not proceed and contact us for clarifications.

## 3 Definitions and terminology adopted in this manual

### 3.1 Definition of CAUTION and NOTE

#### CAUTION

This term refers to a procedure, a condition for which the non-compliance of the rules indicated may result in damage to the system or its components, or cause injury to the user.

#### NOTE

This term draws the reader's attention to particular aspects of the procedure described herein.

### 3.2 General definitions related to safety

#### USER

User means the person authorized to perform the activities within his/her competence in running the system, including the task of recognizing any possible hazards to oneself and/or to exposed persons, as well as to avoid any risks involved. Generally, authorization to run one or more systems is given following the operator's ability to demonstrate such competence, resulting from his/her previous capabilities, experience and training.

#### TECHNICIAN

See specialized personnel.

#### MAINTENANCE OPERATOR

See specialized personnel.

### **SPECIALIZED PERSONNEL**

Specialized personnel mean the person or persons having specific expertise in one or more specific fields, capable of carrying out any maintenance operation other than routine service operations. The specialized personnel may be the manufacturer's employee or an employee of an external company who is specifically authorized by the manufacturer.

### **EXPOSED PERSON**

An exposed person is any person who, for whatever reason, happens to be completely or partially in a hazardous area.

### **HAZARDOUS AREA**

A hazardous area is the whole area within which the presence of an exposed person may create possible risks to his/her health and safety.

### **HAZARD**

A hazard is a situation or a reason to which one or more elements that can cause the death of or serious injury to the user or to any exposed persons present.

### **RISK**

Risk means the possibility of a hazard and, consequently, the possibility for a user or person exposed to suffer an injury.

### 4 System layout

#### 4.1 Rear panel

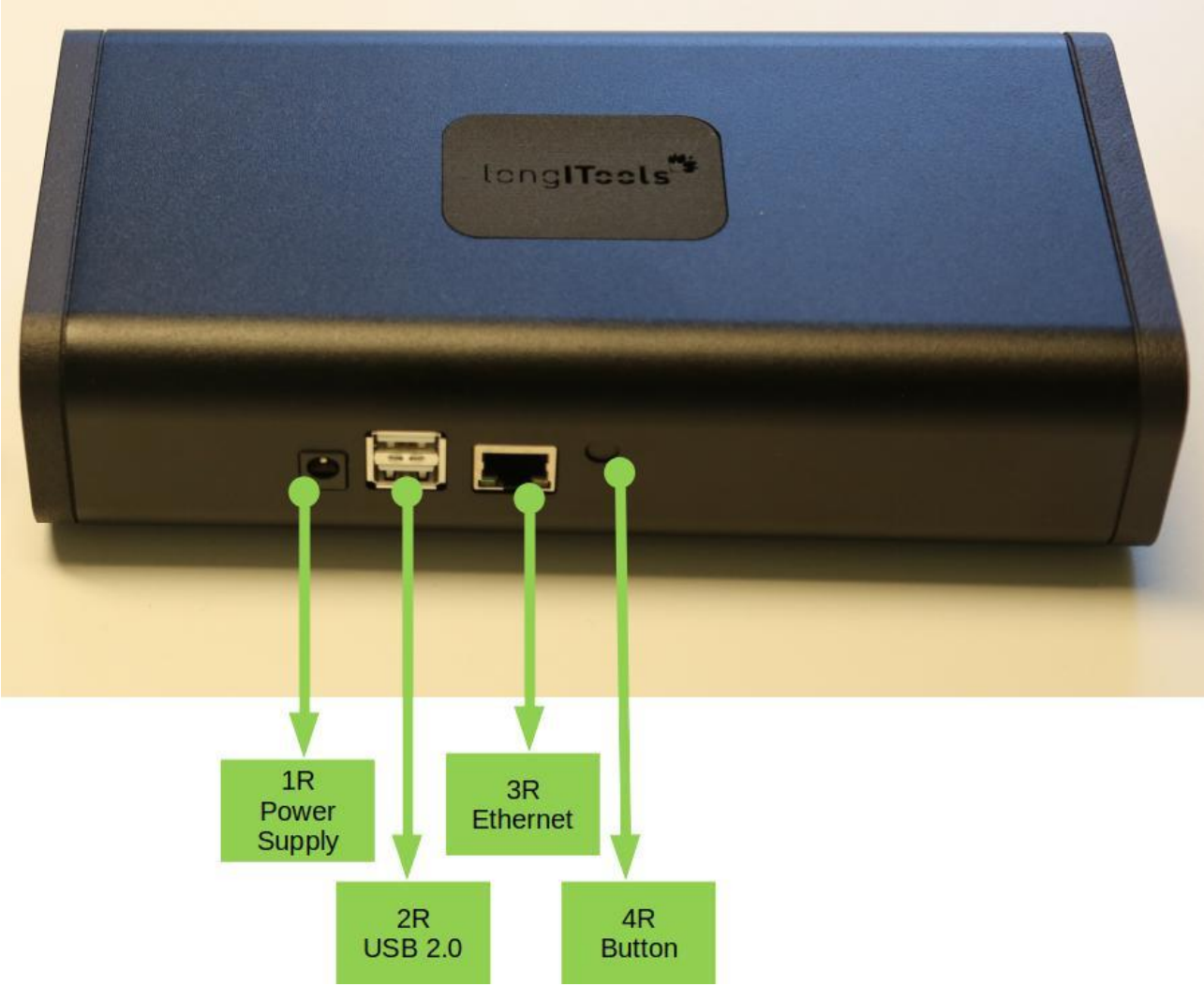


Figure 1: Rear panel

Element #	Function	Description
1R	Power IN	Power connector (DC 5V 15W max)
2R	USB	2x USB-A host connector (recovery use only)
3R	Ethernet	RJ45 10/100 Ethernet LAN connection
4R	HMI	Multifunctional button

Table 1: Environmental Hub rear panel elements

### 4.2 Left panel

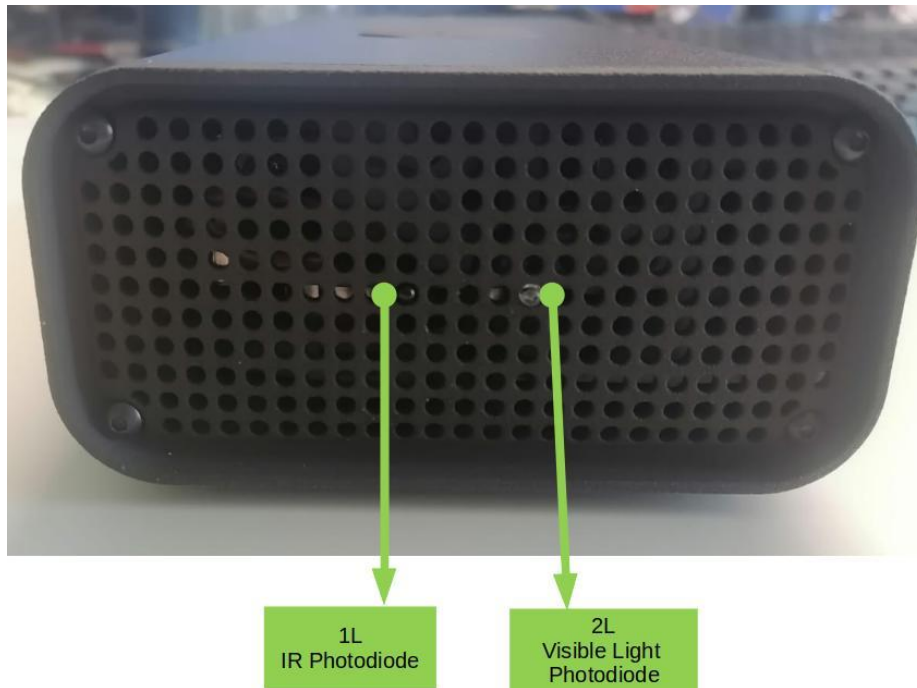


Figure 2: Left panel

Element #	Function	Description
1L	Sensor	Infrared Photodiode
2L	Sensor	Visible Light Photodiode

Table 2: left panel elements

Please leave this area unobstructed as light sensors should be able to measure actual ambient lighting and to allow good airflow through the unit.

### 4.3 Right panel



Figure 3: Right panel



Element #	Function	Description
1R	Air exhaust	Internal fan air exhaust

Table 3: right panel elements

Please leave this area unobstructed to allow good airflow through the unit.

#### 4.4 Upper panel



Figure 4: Upper panel

A multicolor LED under the device logo provides information on system status, as below:

Red	Pre-boot or boot failure
Yellow	Booting
White	System software recovery procedure started
Aquamarine	Normal usage (pulsating during warm-up)
Violet	Fan and sensors cleaning cycle in progress
Orange	Preparing to shutdown (pulsating) or shutting down (steady)

Table 4: Status LED colors

## 5 Basic operations

### 5.1 Powering the hub

The device is provided with a high quality insulated 5V DC power supply **Errore. L'origine riferimento non è stata trovata.** and can optionally be powered by a suitable power bank.



Figure 6: Ethernet and mains power supply connections



Figure 5: Ethernet and power bank connections

The device has no power switch so it will power on/off immediately upon insertion/removal of power cable. Before removing power, please ensure you [shutdown](#) the device properly.

### 5.2 Shutting down

To shut the device down press hand hold the multifunctional button (4R) for more than 5 seconds (you should hear a single short tone followed by two more) after which you should release button. The multicolor LED will start blinking orange and a long beep will indicate the start of the shutdown process. The LED will then turn steady orange for the remainder of the process.

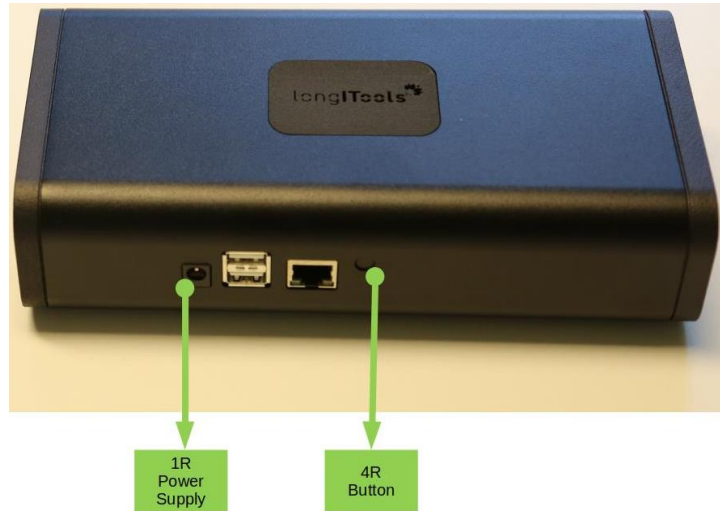


Figure 7: Function button location

**Note:** *PLEASE wait until the LED switches off before removing power.*

To turn the system back on, please disconnect and then reconnect the power supply to the unit.

### 5.3 Multifunction button

The multifunctional button (4R), in addition to the above-described main function of powering off the device, can trigger two additional functions depending on how long the button is pressed, as described in the below table.

Button pressure (s)	Audio feedback	Description
3 < press < 5	Single beep	AP mode enable/disable
5 < press < 30	Double beep	Power off
press > 30	Three beeps	Reset to factory defaults

Table 5: button functions

### 5.4 Network connections

By default your device can only connect to wired networks. To activate the wireless connectivity, you first need to enter the web interface through a wired connection. You can then associate your device to a wireless access point (see the [Connections](#) section in this document).

**5.4.1 Wired Ethernet hub connection**

When an Ethernet cable is connected to the device, this will act as a client and try to obtain an IP (v4) address from the DHCP server. Should no DHCP server be found, the device will default to its static address. This static address is always available regardless of DHCP status.

You will be able to access the device using your browser using the following URL:

<http://<hostname>:8000>

or

<http://169.254.70.<x>:8000>

where the <hostname> and <x> can be found in the table below.

Serial Number	Static Wired IP address	Hostname
23-00001	169.254.70.2	cynexo-envhub-07138436
23-00002	169.254.70.3	cynexo-envhub-07138208
23-00003	169.254.70.4	cynexo-envhub-06979275
23-00004	169.254.70.5	cynexo-envhub-07137245
23-00005	169.254.70.6	cynexo-envhub-07138606
23-00006	169.254.70.7	cynexo-envhub-07137414
23-00007	169.254.70.8	cynexo-envhub-07137814
23-00008	169.254.70.9	cynexo-envhub-07137564
23-00009	169.254.70.10	cynexo-envhub-07137263
23-00010	169.254.70.11	cynexo-envhub-07137264
23-00011	169.254.70.12	cynexo-envhub-07137989
23-00012	169.254.70.13	cynexo-envhub-07139042
23-00013	169.254.70.14	cynexo-envhub-07139046
23-00014	169.254.70.15	cynexo-envhub-07137714
23-00015	169.254.70.16	cynexo-envhub-07138053
23-00016	169.254.70.17	cynexo-envhub-07138934
23-00017	169.254.70.18	cynexo-envhub-07137145
23-00018	169.254.70.19	cynexo-envhub-07137267
23-00019	169.254.70.20	cynexo-envhub-07137362
23-00020	169.254.70.21	cynexo-envhub-07137361
23-00021	169.254.70.22	cynexo-envhub-07137901

**Table 6: wired network identification**

To use the static wired address, your PC must be configured to have an IP address in the same subnet as the device (169.254.70.0/24).

To configure your Ethernet adapter, follow these steps:

Open the “Network and Sharing Centre”:

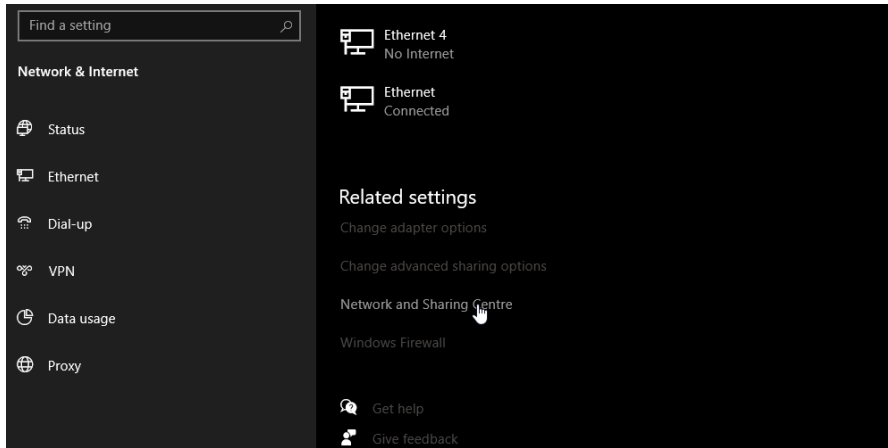


Figure 8: Windows PC - network settings window

Then select the wired ethernet connection that is used for connection to hub:

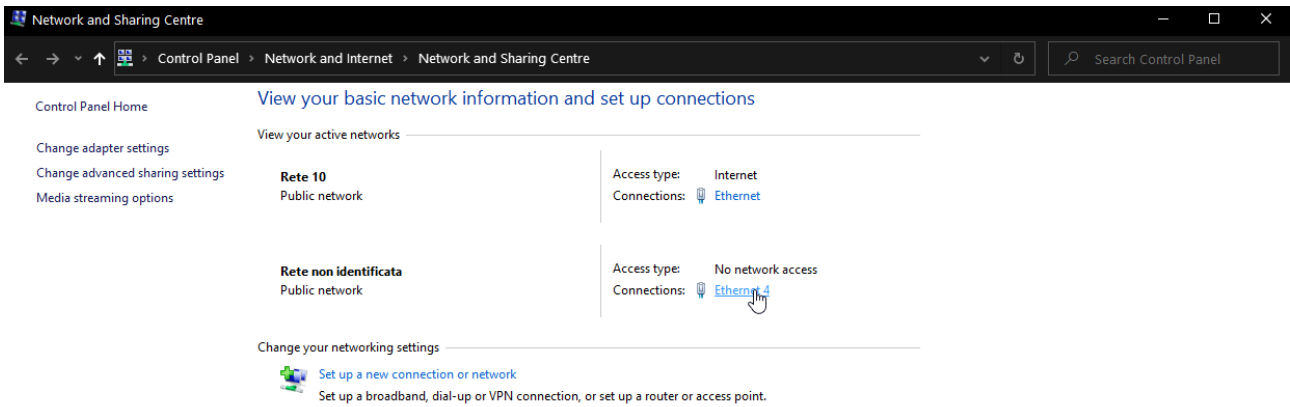


Figure 9: Windows PC - select newly created unidentified network

Select “Properties”:

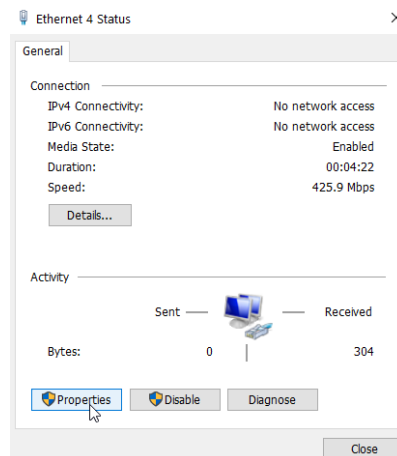


Figure 10: Windows PC - network settings select network properties

Then select “Internet Protocol Version 4 (TCP/IPv4)” and click on “Properties”:

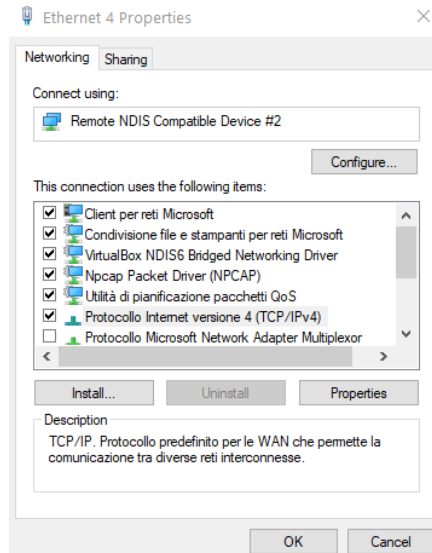


Figure 8: Windows PC - network settings select TCP/IPv4 properties

If your PC is set to automatically obtain an IP address, you will need to switch to a manually specified IP address and set it to **169.254.70.254** with the subnet mask set to **255.255.255.0** as below and then click OK to proceed. You may leave the default gateway, DNS server and other fields blank.

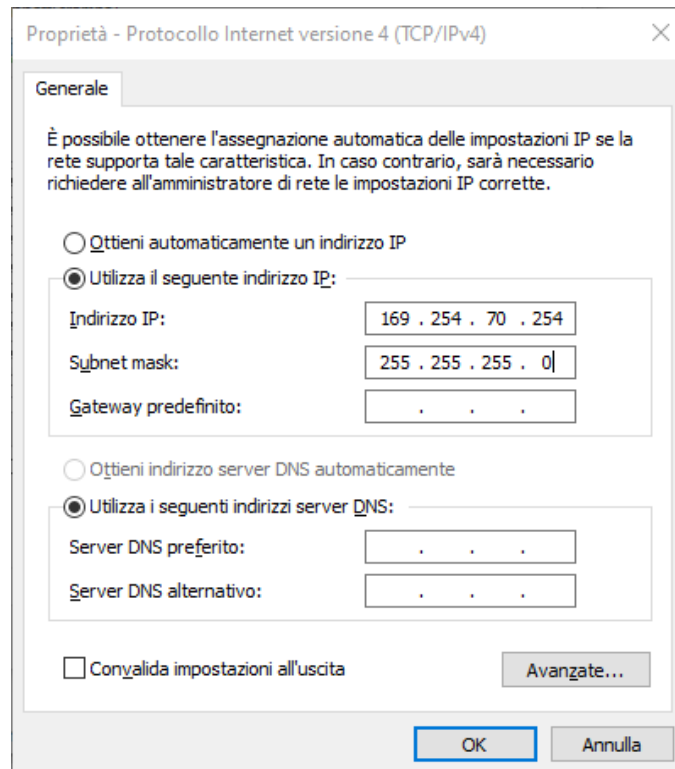


Figure 11: Windows PC - network settings set IP address and subnet mask

If you already have a manually configured/static IP for your interface, you can simply add another IP by clicking “Advanced” and then selecting Add below the IP Addresses List.

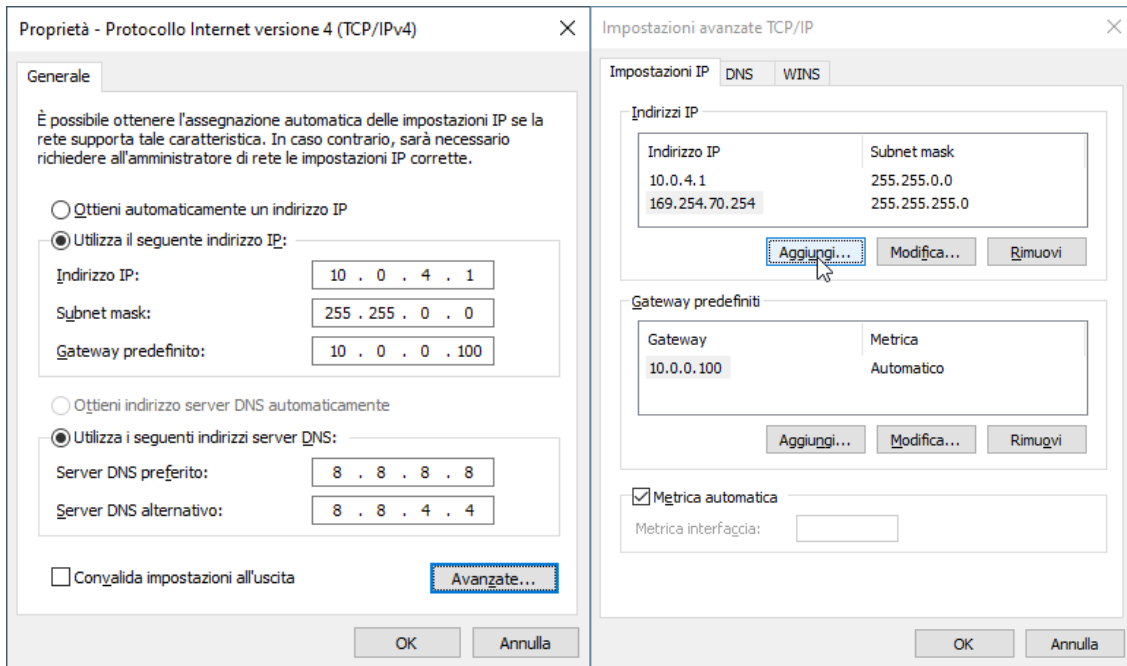


Figure 12: additional IP configuration

### 5.4.2 Wireless hub connection

After connecting to the [web interface](#) of the device via wired connection, you can select to associate your device to a wireless network (see [Connections](#) section in this document). Once you have established the wireless connection the device will act as a client and try to obtain an IP (v4) address from the DHCP server. Should no DHCP server be found, the device will default to its static address. This static address is always available regardless of DHCP status.

You will be able to access the device using your browser using the following URL:

<http://<hostname>:8000>

or

<http://169.254.60.<x>:8000>

where the <hostname> and <x> can be found in the table below.

Serial Number	Static Wireless IP address	Hostname
23-00001	169.254.60.2	cynexo-envhub-07138436
23-00002	169.254.60.3	cynexo-envhub-07138208
23-00003	169.254.60.4	cynexo-envhub-06979275
23-00004	169.254.60.5	cynexo-envhub-07137245
23-00005	169.254.60.6	cynexo-envhub-07138606
23-00006	169.254.60.7	cynexo-envhub-07137414
23-00007	169.254.60.8	cynexo-envhub-07137814
23-00008	169.254.60.9	cynexo-envhub-07137564
23-00009	169.254.60.10	cynexo-envhub-07137263
23-00010	169.254.60.11	cynexo-envhub-07137264

Serial Number	Static Wireless IP address	Hostname
23-00011	169.254.60.12	cynexo-envhub-07137989
23-00012	169.254.60.13	cynexo-envhub-07139042
23-00013	169.254.60.14	cynexo-envhub-07139046
23-00014	169.254.60.15	cynexo-envhub-07137714
23-00015	169.254.60.16	cynexo-envhub-07138053
23-00016	169.254.60.17	cynexo-envhub-07138934
23-00017	169.254.60.18	cynexo-envhub-07137145
23-00018	169.254.60.19	cynexo-envhub-07137267
23-00019	169.254.60.20	cynexo-envhub-07137362
23-00020	169.254.60.21	cynexo-envhub-07137361
23-00021	169.254.60.22	cynexo-envhub-07137901

Table 7: wireless network identification

To use the static wireless address, your PC must be configured to have an IP address in the same subnet as the device (169.254.60.0/24).

To configure your wireless adapter, follow these steps:

Open the “Network and Sharing Centre”:

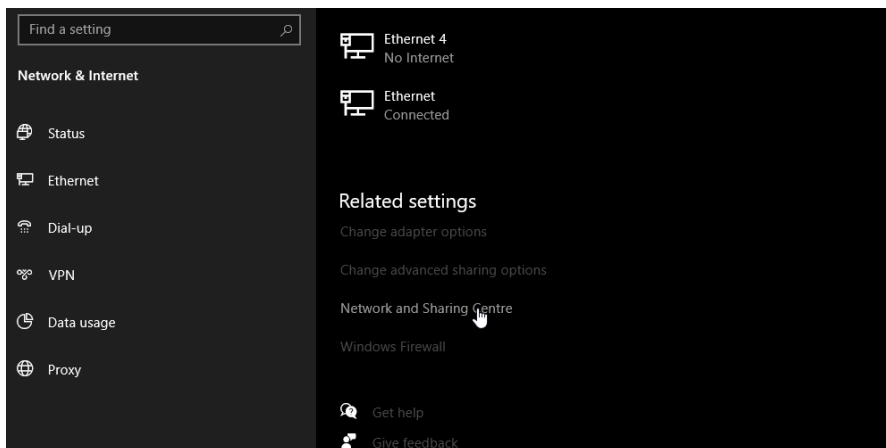


Figure 13: Windows PC - network settings window

Then select the wireless ethernet connection that is being used to connect to the hub:

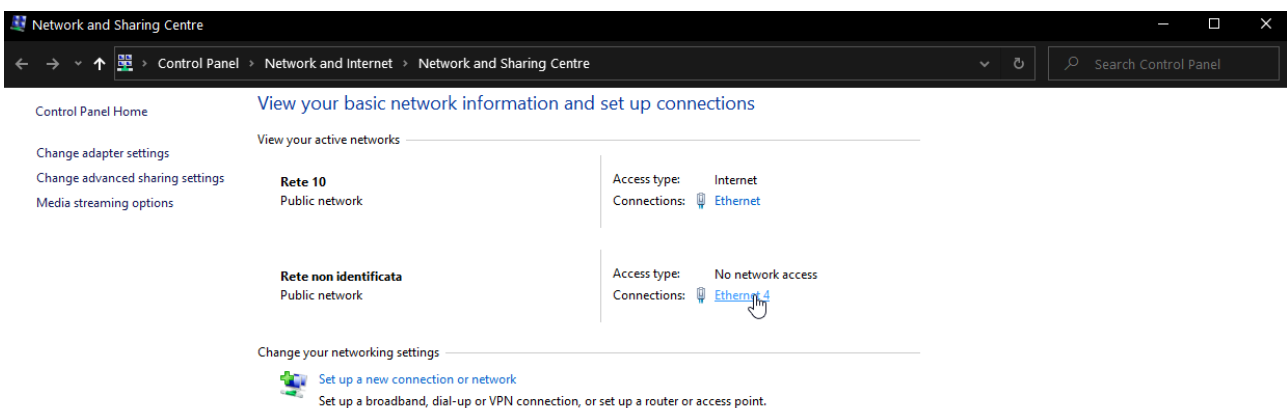


Figure 14: Windows PC - select newly created unidentified network



Select “Properties”:

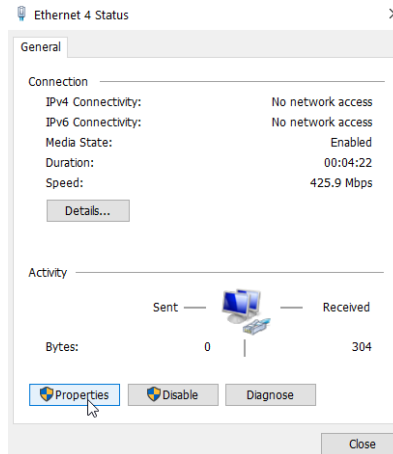


Figure 15: Windows PC - network settings select network properties

Then select “Internet Protocol Version 4 (TCP/IPv4)” and click on “Properties”:

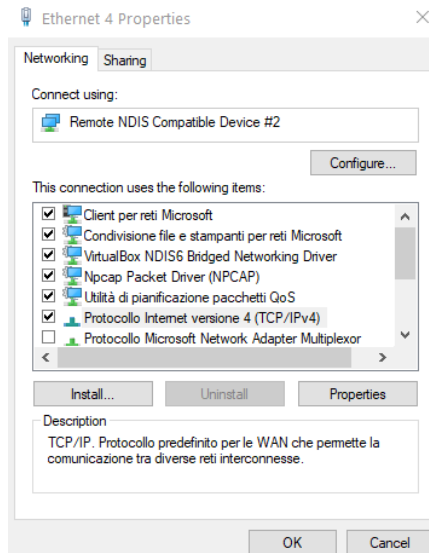


Figure 8: Windows PC - network settings select TCP/IPv4 properties

If you have an Automatically assigned IP, you can change it to manual and set the IP address to **169.254.60.254** and the subnet mask to **255.255.255.0** as below. You may leave the default gateway, DNS server and other fields blank.

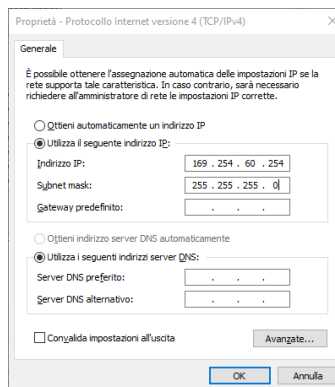


Figure 16: Windows PC - network settings set IP address and subnet mask

If you already have a manually configured/static IP for your interface, you can simply add another IP by clicking “Advanced” and clicking Add on IP Addresses List.

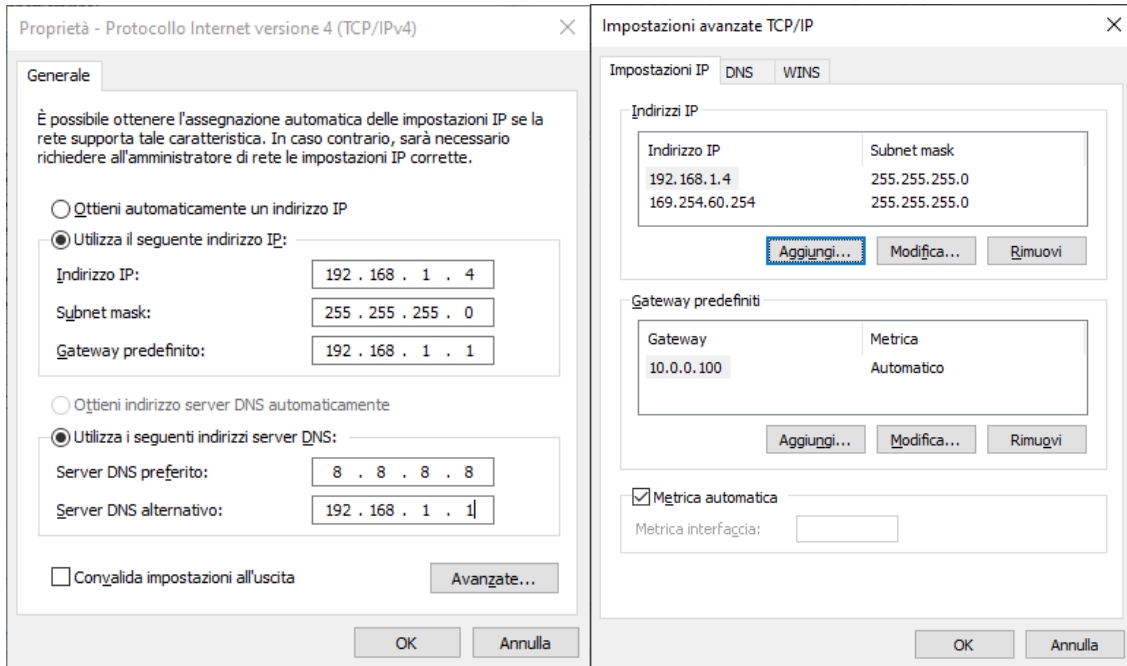


Figure 17: additional IP configuration

## 6 Web Interface

Once you access the web interface you will be presented with a main page displaying current sensor data.

In the top right-hand corner of every page, you will find a status bar with several icons such as for the wireless and wired connectivity. By hovering your mouse over these icons, you will be presented with additional details on the respective connection.

At the bottom of every page, you will find the navigation bar with five options: “DASHBOARD”, “PLOTS”, “SENSORS”, “CONNECTIONS” and “SETTINGS”.



Figure 18: Web Interface – Page options

### 6.1 Access

The main user interface is available by opening a web browser to the following URL:

<http://<hostname>:8000>

where the <host name> can be found in the [Network connection](#) section of this document.

### 6.2 Dashboard page

The “dashboard” page is the default page of the web interface. This page presents a series of gauges which display the real-time value of selected sensors outputs (see the [Sensors](#) section of this document). These values are updated every 10 seconds.

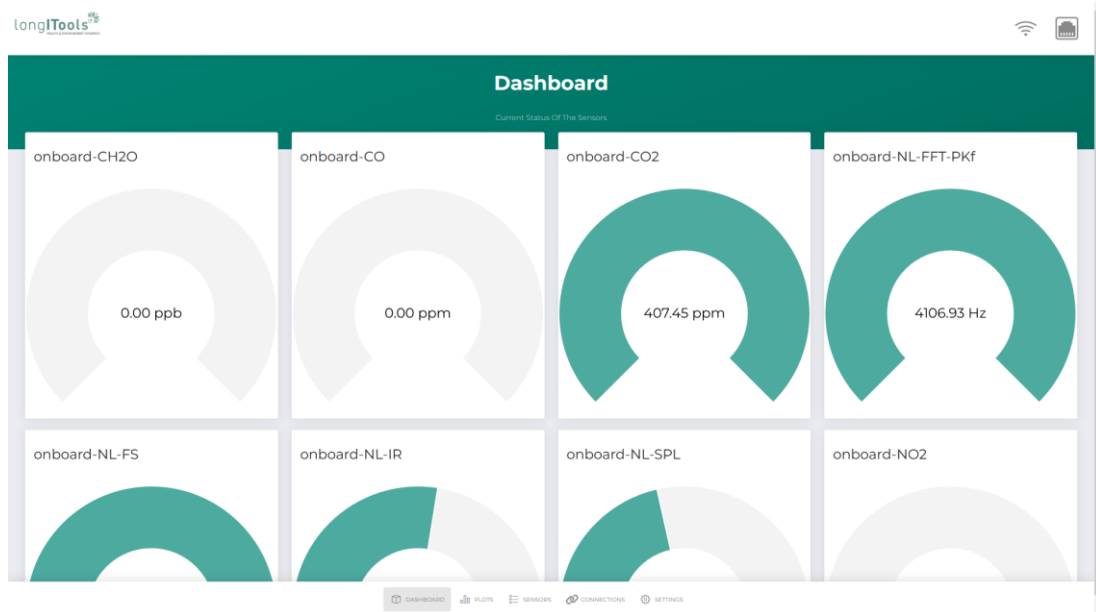


Figure 19: Web Interface - Dashboard

### 6.3 Plots page

The “plots” page contains graphs displaying the average values of the chosen sensors (see ...) over a user specified timeframe. The default and minimum timeframe for all sensors is one hour and can be increased up to one month by with the gear icon in the top right-hand corner of each plot.

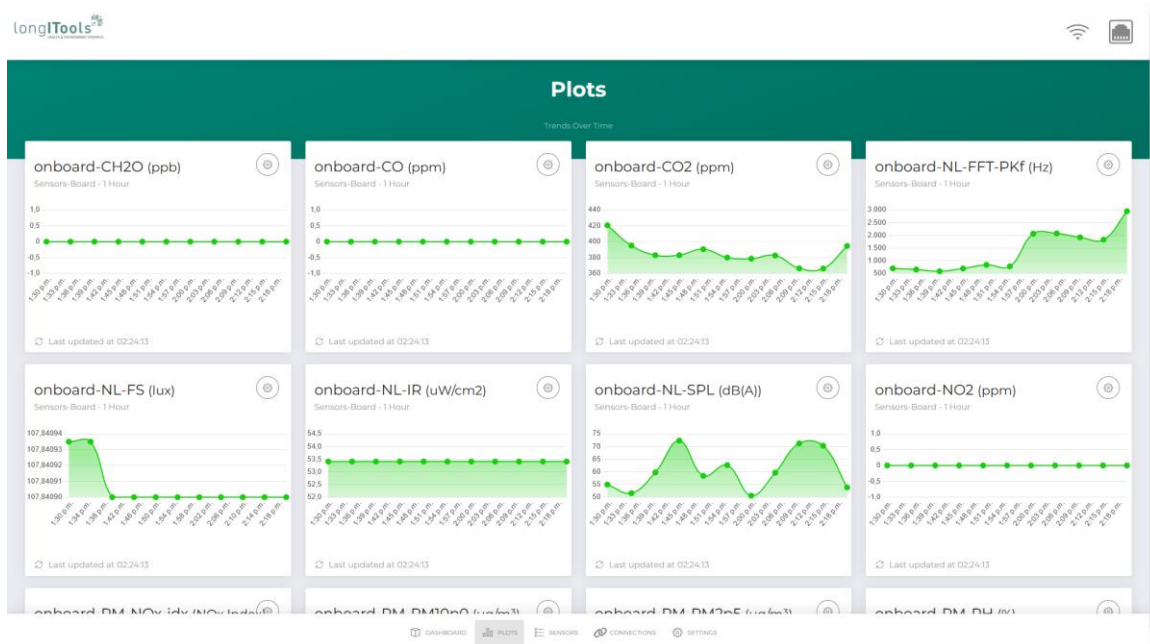


Figure 20: Web Interface - Plots

### 6.4 Sensors page

The “sensors” page contains a list of all registered sensors with corresponding parent device, the variable measured and the current status of the sensor, i.e. online, offline or in error state.

In this page you can select which sensors should be shown in the “dashboard” and the “plots” pages. You will also find a link to download the stored data for each sensor, or for all sensors (top right-hand corner of page). All data is exported in CSV format.

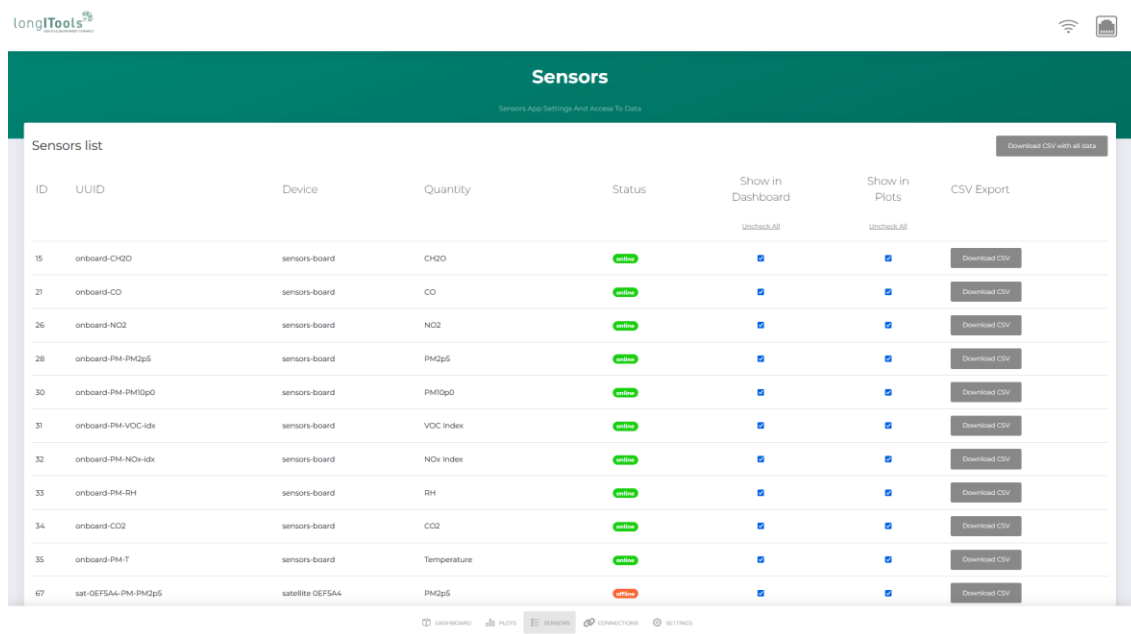


Figure 21: Web Interface - Sensors

After clicking on the download link, but before downloading the CSV file, you can choose the specific timeframe of the data to be exported. Downloaded data will not be deleted from the devices internal storage.

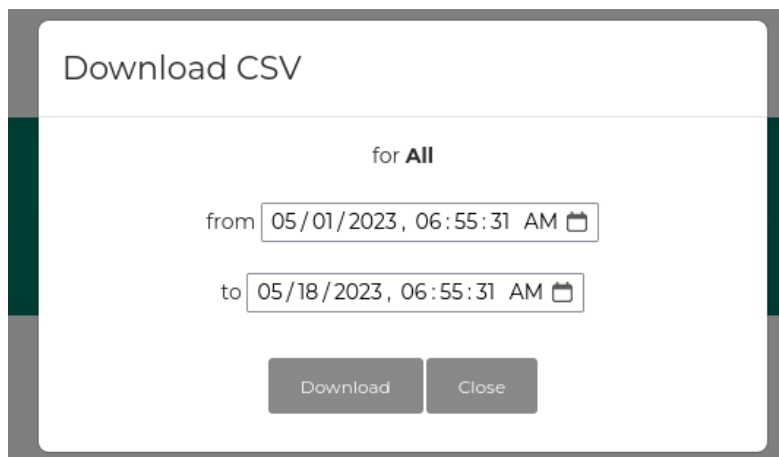


Figure 22: Web Interface – CSV Download

The exported CSV file can be easily converted to column data and will contain the following format:

	A	B	C	D	E	F	G	H	I
1	sensor UUID	quantity	start date	start time	end date	end time	average	minimum	maximum
2	onboard-CO2	CO2	2023-05-01	12:25:00	2023-05-01	12:30:00	552.96893	549.9417	554.93256
3	onboard-CO2	CO2	2023-05-01	12:30:00	2023-05-01	12:35:00	548.9606	547.8953	550.59735
4	onboard-CO2	CO2	2023-05-01	12:35:00	2023-05-01	12:40:00	549.32825	546.80646	551.64966
5	onboard-CO2	CO2	2023-05-01	12:40:00	2023-05-01	12:45:00	548.93933	546.326	550.9627
6	onboard-CO2	CO2	2023-05-01	12:45:00	2023-05-01	12:50:00	548.38293	546.8704	550.023
7	onboard-CO2	CO2	2023-05-01	12:50:00	2023-05-01	12:55:00	550.46045	548.4314	552.3945
8	onboard-CO2	CO2	2023-05-01	12:55:00	2023-05-01	13:00:00	551.1334	549.70795	552.82074
9	onboard-CO2	CO2	2023-05-01	13:00:00	2023-05-01	13:05:00	551.6191	549.3171	553.8843

Figure 23: Web Interface – CSV data converted to column format

### 6.5 Connections page

The “connections” page contains the list of available Wi-Fi networks and buttons to connect/disconnect to a wireless network, and to manage automatic connections.

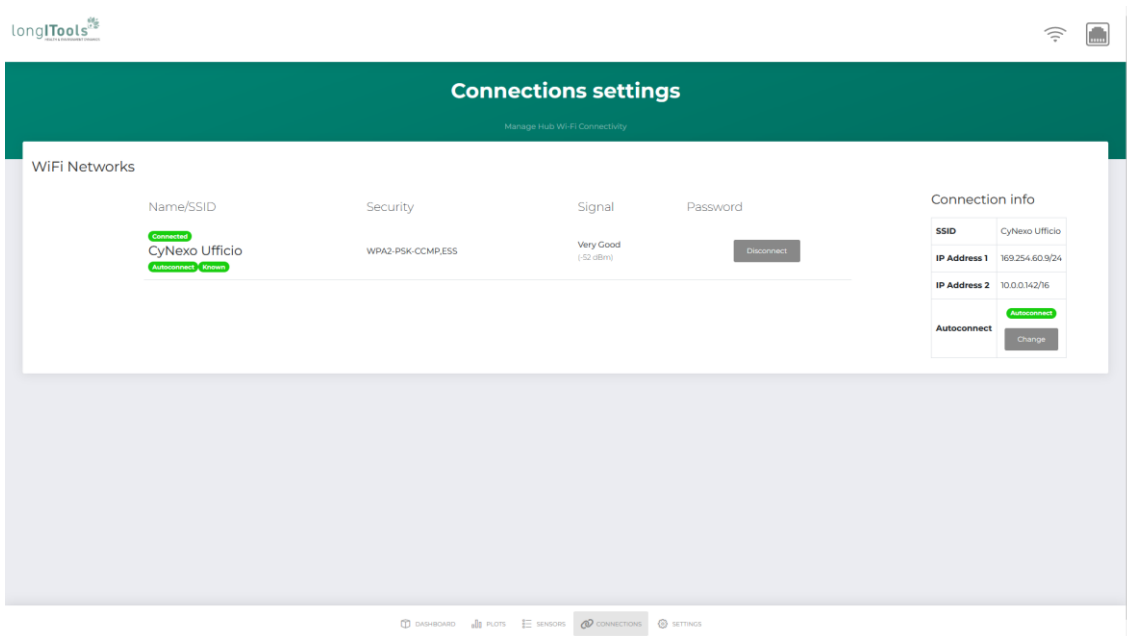


Figure 24: Web Interface – Connections settings

In order to connect to a new network you will be need to insert the wireless network password and click “connect.”

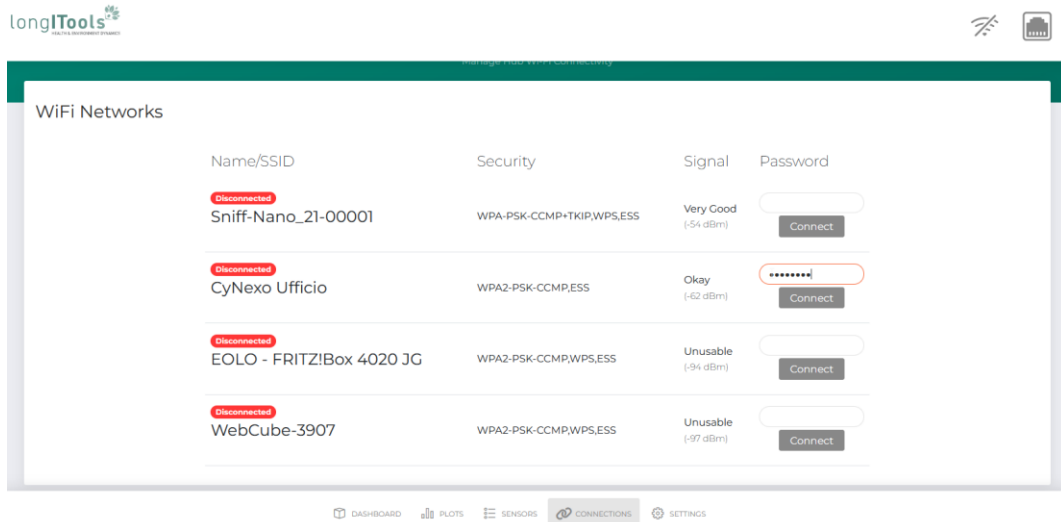


Figure 25: WiFi network password input

Please note that in order to prevent accidental modifications to your settings, all changes in this page will require authentication using the device’s settings password as displayed in the figure below.

The settings password for your device is: **longitools23**

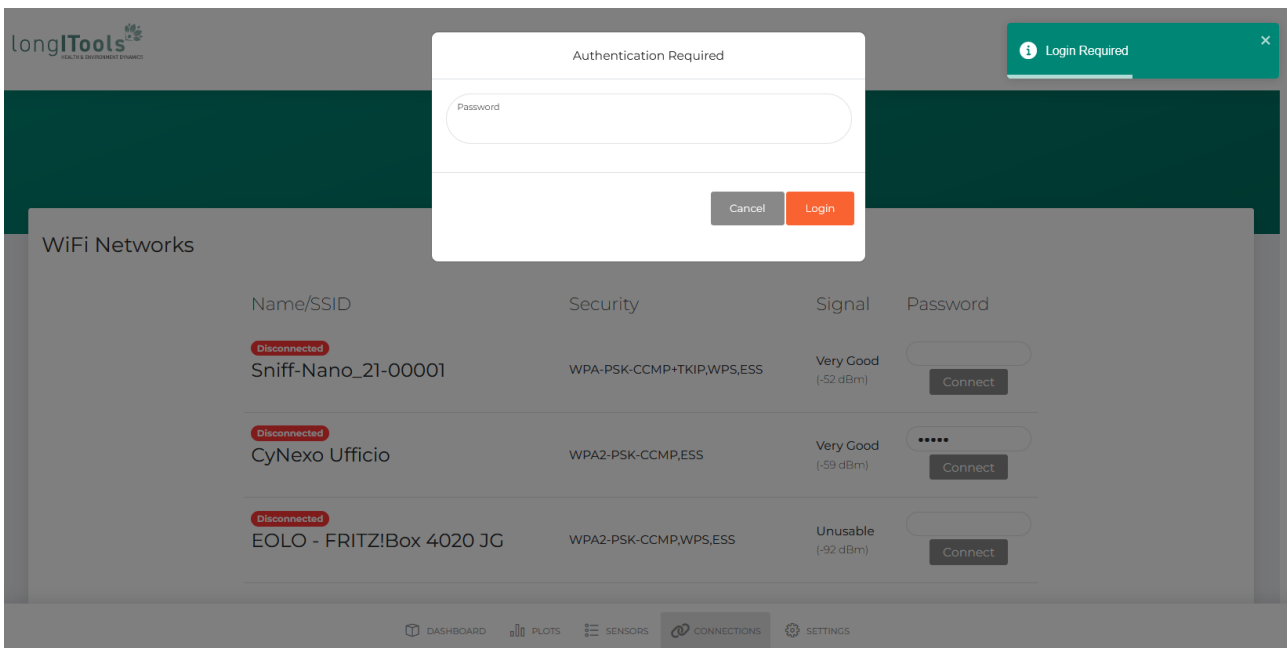


Figure 26: Authentication password form

For details network connections please see the respective section in this document

### 6.6 Settings page

The “settings” page provides access to special device functions, the installation of updates and granting remote assistance access to CyNexo technical support.

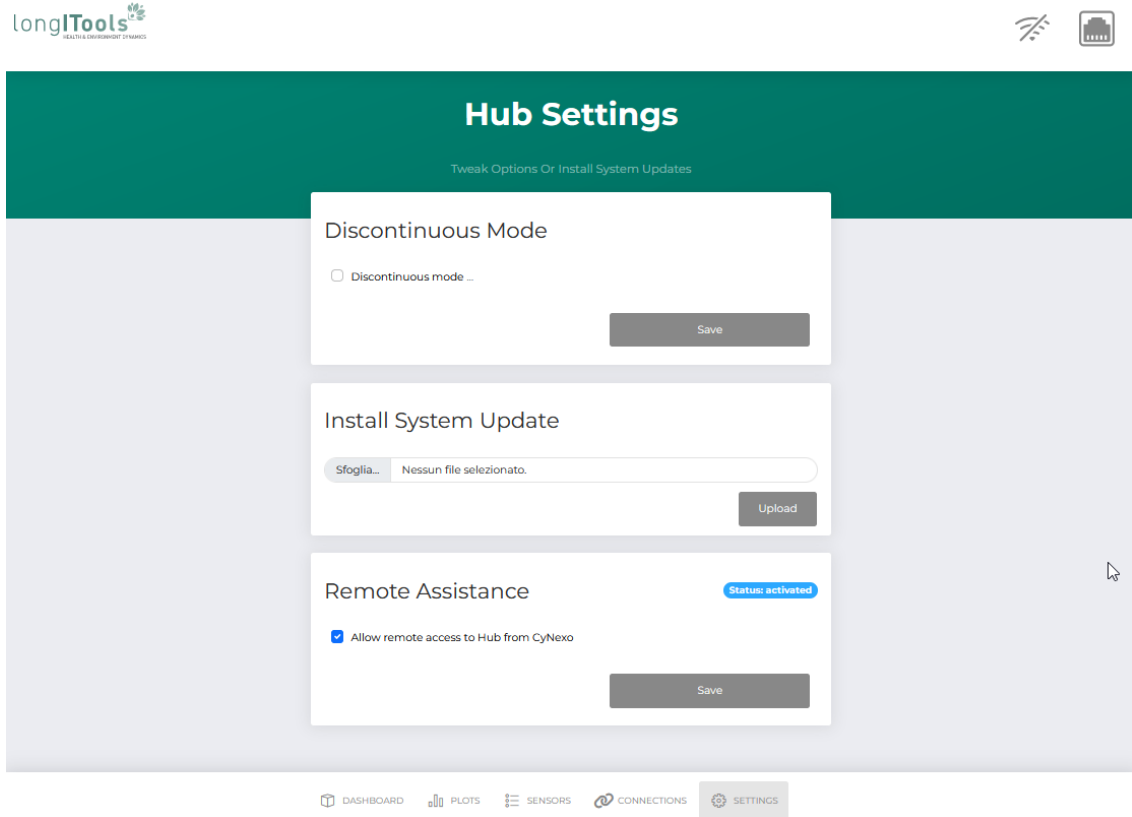


Figure 27: Settings page

All modifications to settings on this page require authentication using the settings password: **longitools23**



### 6.6.1 Discontinuous Mode

A power saving configuration can be activated by ticking the Discontinuous Mode check box. By doing so you will be able to set ON and OFF durations for each cycle. Based on these parameters and the normal warm-up and cool-down periods for the sensors, the device will estimate the duration of the actual data collection within each cycle.

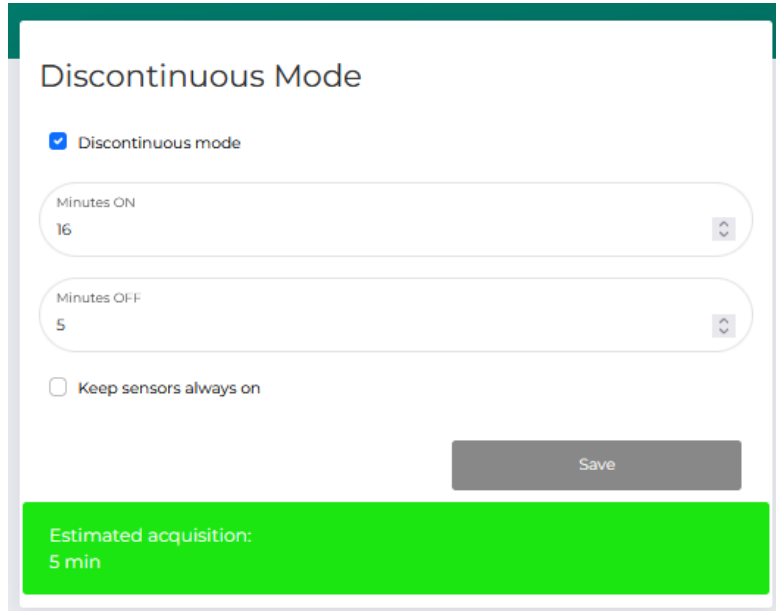


Figure 28: Discontinuous mode form

The system will alternate between regular operation and a low power mode, where all services will be suspended to conserve power. The discontinuous mode is particularly useful during battery powered operation to increase the overall data logging period at the cost of a non-continuous sampling rate.

By selecting the “keep sensors always on” only the device controller will go into low power mode, while all sensors will remain in standby and thus not require any warm up or cool down period, thus maximising data collection time per cycle.

**Note:** During the OFF cycle all sensors will NOT log any data.

**Note:** Please do not use this mode during any pilot or continuous data acquisition campaign:

### 6.6.2 Install System Update

Should a system update be necessary, this will be possible through a manual update process. Your CyNexo technical support staff will provide you with a file package and guide you through the process.

**Note:** Please do not try to upload any package which has not been authorized by CyNexo.

For any update or specific requests please contact us through our customer service as indicated in the [Contact Details](#) section of this document.

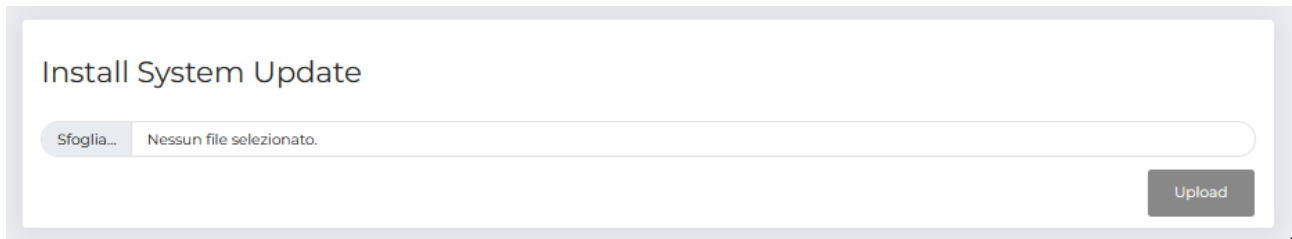


Figure 29: System Update form

### 6.6.3 Remote Assistance

In case of issues, the device is configured to allow remote access to CyNexo technicians. As this option is off by default, you will need to enable this function before a remote connection is possible. This is done by ticking the “Allow remote access to Hub from CyNexo”. This will create a secure connection to our servers so that remote support can be provided safely.

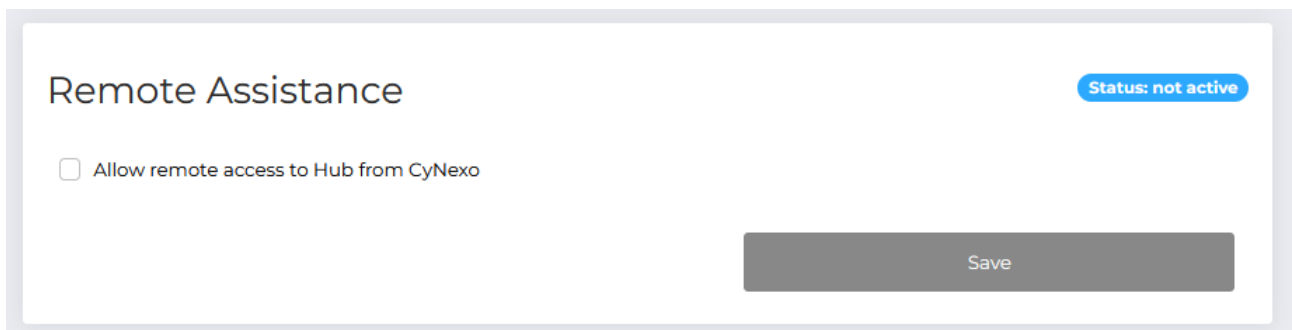


Figure 30: Remote Assistance form

## 7 System installation, handling and dismantling

### 7.1 General Information

Before installation, make sure that the area on which the system will be installed is completely clear from any type of sharp, abrasive or hot surfaces.

Always ensure the device is lifted safely. In the case of heavier items, please ensure two or more people execute the lift. In case of doubt contact your health and safety officer or contact us for advice.

### 7.2 Set up for system installation

#### 7.2.1 Unpacking

Before installing the system, we recommend checking its general condition by following these instructions:

- Make sure that the external enclosure has not been damaged due to transportation or storage

All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, whether electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of CyNexo srl

- Remove any stains and marks from the plastic surfaces using a soft, non-abrasive lint free cloth dampened with glass cleaner. To avoid scratches or deposits, do not use any other materials.
- Check external and internal surfaces searching for any scratches or damage

The packing materials should be stored for possible return shipment of the system to CyNexo srl (such as for repairs, maintenance, upgrades, etc.)

### 7.2.2 Mechanical installation

Check that the surfaces where you are going to place the system can abundantly sustain the weight of this device, are stable and safe for this device.

At least 5 cm of clearance is required on both ventilation grilles (air in, air out) and light measurement sensors should not be pointed directly to light sources.

### 7.2.3 Power cabling

This device is delivered with a standard power adapter and power cable. Should any cabling for power supply to the intended area of use be necessary, this must be carried out by a qualified installer. Please pay attention to:

- The supply voltage must be in the range of 110 to 230 VAC (50-60Hz)
- When laying any cable, make sure the external insulation is not damaged
- Avoid crushing or any other mechanical stress to the cable

### 7.2.4 USB communication cables

The installation of any fixed communication cabling must be carried out by a suitably qualified installer. We recommend the use of shielded cables rated for USB 2.0 or better. Please pay attention to:

- When laying any cable, make sure the external insulation is not damaged
- Avoid crushing or any other mechanical stress to the cable

### 7.2.5 Ethernet communication cables

The installation of any fixed communication cabling must be carried out by a suitably qualified installer. We recommend the use of shielded cables rated CAT5e or better. Please pay attention to:

- When laying any cable, make sure the external insulation is not damaged
- Avoid crushing or any other mechanical stress to the cable
- Avoid using cables with a broken locking latch on the connectors

### 7.2.6 Installation and connection

Once the above conditions have been checked, proceed with the installation by:

- Checking the connection between the power supply and the main unit using the supplied cable
- Check the correct installation of the optional Ethernet cable

### 7.2.7 Dismantling or disassembly

The steps to be followed for disconnecting and dismantling your device are listed below:

- Turn off the power switch of the device
- Disconnect all USB, I/O, power supply and any other cables and connectors from the device
- Pack the device into its original container or an alternative suitable container ensuring the device and all accessories snugly held in place and cannot move excessively

## 7.3 Disposal

Please dispose of all parts and materials responsibly.

### 7.3.1 Packaging materials

Packaging materials should be placed in appropriate collection points as per your local material disposal regulations.

### 7.3.2 Device disposal

To dismantle the system, separate the parts according to the type of material, place the various parts in the appropriate collection points following the disposal regulations of the location at which the equipment is installed. Please dispose of this device responsibly.

For any questions, please contact us as indicated in the [Contact Details](#) section.

## 8 System maintenance

### 8.1 Cleaning and maintenance



Don't use sharp objects on the device that can scratch or damage surfaces or cables.



Any standard glass cleaner can be used to clean the surface, but avoid products containing ammonia, acetone, alcohol, or other solvents. Alternatively, you may use warm water and a light detergent.



Depending on dust environmental conditions, we recommend cleaning exposed surfaces and ventilation grilles at least once a month using a damp cloth.

Exposure to heat sources, thinners, corrosive or other chemical substances as well as strong electromagnetic or other forms of irradiation should be avoided both while cleaning the device and its components and in general, unless expressly indicated otherwise in this manual.

## 9 Spare parts codes

We offer a wide range of replacement, spare and add-on parts for all our equipment. Below is a table with some of those most applicable to this device:

CyNexo Code	Description
1APS0030016A	Power supply, DC 5V 25W, medical grade EN60601-1
1ACA0010014A	Power supply cable with Italian (S11) plug, 1.8mt
1ACA0010002A	Power supply cable with Schuko (CEE7/VII) plug, 1.8mt

Table 8: List of most common spare parts

For any of the above items as well as other spare parts or custom solutions, please contact CyNexo directly. You will find our contact details in the [Contact Details](#) section of this document.

## 10 Technical specifications

Specifications	
<b>OS support</b>	GNU/Linux embedded
<b>Communication</b>	Wi-Fi, wired Ethernet 10/100, Bluetooth® 5.0 BR/EDR and BLE
<b>Status</b>	configurable RGB LED and buzzer
<b>Power</b>	5V 15W max
<b>Dimensions (max)</b>	218 x 109 x 58 mm
<b>Weight</b>	720 g (depending on configurations)

Table 9: system specifications

Variable	Range	Variable	Range
Temperature	-40 +80 °C	NO <sub>2</sub>	0.05-10 ppm
Relative Humidity	0-100 %	CO	1-1000 ppm
NO <sub>x</sub> Index	1-500	H <sub>2</sub>	1-1000 ppm
VOC Index	1-500	CH <sub>4</sub>	> 1000 ppm
CO <sub>2</sub>	400-10000 ppm	C <sub>2</sub> H <sub>5</sub> OH (Ethanol)	10-500 ppm
CO <sub>2</sub> HR (optional)	0-100 %	H <sub>2</sub> S (optional)	0-50 ppm
CH <sub>2</sub> O (Formaldehyde)	0-1000 ppb	O <sub>2</sub> (optional)	0-25 %
PM 1.0, 2.5, 4.0, 10	0-1000 µg/m <sup>3</sup>	Ambient pressure	300-1200 mbar
Light (full spectrum)	10-5000 lux	Noise (average)	30-120 dB(A)
Light (IR spectrum)	5-500 µW/cm <sup>2</sup>	Accelerometer	-2 +2 g
NH <sub>3</sub>	1-500 ppm	Gyroscope	-250 +250 dps

Table 10: measured variables

## 11 Warranty

### 11.1 General terms

We guarantee that products and materials supplied are new and not damaged and guarantee this product for a period of twelve (12) months from the date of delivery. Should the shipping of this product not have been our responsibility, the warranty period will start no later than one (1) month from the date of notification that the goods are ready for delivery.

During the warranty period, we will be responsible to correct any defects or malfunctions related to its components, construction and assembly which impact the intended functionality of the product.

We additionally provide remote assistance for a period of 30 days after product delivery, via telephone and email, during normal Continental European business hours (9am to 5pm CET). Please note that in order to provide remote assistance, the product must be connected either directly to the internet (where applicable) or to a PC, itself connected to both the unit and the internet, and able to accept remote access sessions as requested by our support technicians. The lack of such an unhindered connection will significantly reduce our ability to provide you with the level of support foreseen.

This warranty does not however cover components subject to wear, or any problems due to the misuse of the equipment, lack of proper care or failed maintenance by you as the customer or anyone acting on your behalf. For consumable or replacement components, repairs and support outside of the warranty period, please refer to the section in this user manual named "Maintenance".

Under the terms of this warranty, we do not accept any responsibility for injury, damage or losses incurred by you or any third parties (including, without limitation, injury or material damages caused by an interruption to normal activities, lost funding or profits, loss of information or other losses) caused during or related to the use of the product provided. In such cases, we shall be liable only for the product provided and to a maximum of the net purchase value of the product supplied.

As the buyer you assume all responsibilities for damage caused due to the incorrect use of the product, abnormal variations in the product's working environment or to services connected directly or indirectly too it (such as abnormalities in the electrical, air or water supply, electromagnetic or thermal shock, network issues or malignant computer software) or any other act attributed to or permitted by your personnel or by anyone acting on your behalf.

All information provided related to this product shall be considered Confidential. You shall not disseminate, copy, decompile, modify, reverse engineer, or create derivative works out of any product or information provided without our explicit written consent.

Should a dispute arise, which cannot be amicably resolved, legal jurisdiction will fall under the courts of Udine, Italy.

In the case of a malfunction please contact us for assistance from one of our service technicians. Should the device need to be returned to CyNexo, we will issue you with an RMA. Please do not send equipment to us without an RMA as it may be refused, delayed or cause additional charges.

In case of an RMA, the customer will be responsible for suitably packaging, where possible in the original packaging materials and containers, and shipment of the device to CyNexo via insured courier service. CyNexo cannot accept any liability for damages occurred during shipment. Upon receipt CyNexo will perform

the necessary checks and contact you to discuss the results of these checks and next steps. CyNexo will be responsible for packaging and shipping of the device back to the customer.

### 11.2 Voiding of warranty

The warranty becomes void if a malfunction or failure is caused by:

- Tampering with the equipment
- Removal of identification labels or seals
- Installation or incorrect or improper use of software and/or hardware
- Any intervention and attempt to restore the equipment by the customer, without the prior written authorization of CyNexo srl
- Damage, accidents and breakdowns caused by transport performed by the customer or transport company, even if previously authorized by CyNexo srl
- Misuse or use not intended by CyNexo srl
- Maintenance or repairs carried out by unauthorized personnel and/or use of non-original spare parts

### 11.3 Warranty exclusions

The warranty is not applicable to the products and to the parts subject to wear if the failure is due to normal wear and tear thereof and not to a manufacturing defect (e.g.: tubes, gaskets, jar caps, electrical or fibre optical cables, etc.).

The warranty does not apply if our technical service and, subsequently, that of our suppliers are unable to find or reproduce the alleged defect.

## 12 Contact Details

Please feel free to contact us with any requests, specific needs or concerns at:

### **CyNexo srl**

Via Roma n. 6  
33050 Trivignano Udinese (UD)  
Italy

**Tel: +39 (0432) 184 3913**

**E-mail:**  
[info@cynexo.com](mailto:info@cynexo.com)

**Website:**  
[www.cynexo.com](http://www.cynexo.com)

**Certified e-mail (PEC):**  
[cynexosrl@pec.it](mailto:cynexosrl@pec.it)