AQUALABO

Smart water solutions

NEON_OPTOD

Portable field Oxymeter for measuring and recording dissolved oxygen.

User Manual

Version 1.2

The most recent version of this manual is available on our website:

https://www.aqualabo.fr/

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SOMMAIRE

1. WARRANTY

The new materials and equipment sold by the AQUALABO company are guaranteed against all manufacturing defects for a period of one (1) year excluding consumables (unless expressly stipulated by AQUALABO) from:

- the date on which the buyer or authorized representative declares technical acceptance of the equipment at the factory,
- or alternatively,
  - for mainland France: from the date of the delivery note,
  - for other destinations: from the date of shipment certified by LTA, waybill, or bill of lading.

AQUALABO's warranty applies exclusively to malfunction resulting from a design flaw or inherent defect. It is strictly limited to the free delivery of replacement parts (except consumables) or the repair of the device in our workshops within 10 working days, transport not included.

The following are, by express agreement, formally excluded from our warranty:

- Any economic damage, such as staff costs, loss of profit, business disruption, etc.
- Any failure due to improper use of the device (unsuitable mains power, falls, attempted conversion, etc.), lack of maintenance by the user or poor storage conditions.
- Any failure due to using parts, not supplied by AQUALABO, on its equipment.
- Any failure due to transporting equipment in non-original packaging.
- Batteries, aerials, and in general, any item listed under "Accessories".

Our customers are asked to always request our consent before sending us a device for repair. No returns will be accepted without prior written consent from our after-sales service which will stipulate the return procedure. In this case, the items will be returned in their original packaging, carriage paid, to the following address:

AQUALABO - 115 Rue Michel Marion 56850 Caudan - France

We reserve the right to reship any device received without this consent. Regardless of the type and conditions of transport chosen to ship the equipment for repair under guarantee, in the original packaging, the related expenses as well as insurance costs will be the customer's responsibility.

Any damage resulting from returning the equipment falls within the framework of the guarantee on the express condition that customers have sent their claims to the carrier, by registered letter with acknowledgement of receipt, within forty-eight hours, with a copy of the letter sent to AQUALABO.

The warranty form (when received with a device) only applies if it is returned to AQUALABO duly completed.

SOFTWARE WARRANTY

The software is guaranteed by the software publisher or distributor under the conditions specified in the documentation related to those software packages.
AQUALABO does not, under any circumstances, guarantee the software packages.
By express agreement, we formally exclude from our warranty all economic damage, in particular for staff costs, loss of profit, business disruption, etc.
Customers are informed that AQUALABO may not, under any circumstances, be held responsible for any failure or bugs the software contain.

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2.2.INFORMATION

AQUALABO equipment has been designed, manufactured, tested and inspected in accordance with ISO 9001 procedures.

If the equipment is not used immediately, it should be stored in a clean, dry place. Abide by the following storage temperatures (-10 to 60°C).

AQUALABO equipment is carefully inspected before packaging. Upon receipt of your device, check the condition of the packaging and if you notice an anomaly, submit the usual reservations to the carrier **within 48 hours**. Then consult the packing list and check that everything is in order. Finally, if you notice that something is missing or the equipment damaged, contact AQUALABO without delay.

NEON_OPTOD devices are entirely designed and manufactured by AQUALABO in France.

AQUALABO

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3.3.SAFETY

3.1 SAFETY INSTRUCTIONS

This manual provides important information about the safe operation of the product. Read it carefully to familiarize yourself with the product before commissioning and using it. This manual should be kept close to the product so that you can always find the information you need.

3.2 OPERATING SAFETY

3.2.1 PROPER USE

Observe the following for safe operation:

- Store and use the device under the environmental conditions mentioned in this manual (see Features)
- Do not disassemble the device
- Power the device with the original batteries or those specified in chapter 6.1.1
- Adhere to the authorized use below

WARNING:

If the device is used in a way that is not specified by Aqualabo (environment, handling, etc.), the protection provided by the device may be compromised.

3.2.2 UNAUTHORIZED USE

The product should not be used if:
It is visibly damaged (for example after being transported),
- It has been stored under adverse conditions for a long period of time.

3.2.3 USER QUALIFICATION

We assume that operating personnel know how to manage this equipment because of their professional training and experience. In particular, operating personnel must be able to understand and correctly implement safety labels and instructions related to the use of the product. Trained personnel must be familiar with and follow the instructions in this manual.

3.3 HANDLING GUIDE

The NEON Portable Oximeter and OPTOD sensor units are electronic devices. As such, they must be treated with care. Systematically protect the device from conditions likely to damage its components. In particular, adhere to the following points:

During use and storage, the ambient temperature and humidity must be within the limits specified in the SPECIFICATIONS section.

Whatever the situation, the device must be protected from the following influences:

- Intensive exposure to light and heat
- Caustic or high solvent vapours.

Any work done on the inside of the instrument must be carried out by AQUALABO or by technicians authorized by

3.4 PACKAGING

The NEON_OPTOD Oximeter is shipped in packaging to protect it during transport. It is essential to keep the original packaging as well as the inner packaging so as to ensure optimal protection of the device from any impacts in the event of further transport. The original packaging is also required to ensure return transport, for repairs, under suitable conditions. Please note that we decline any claim under the warranty in the event of damage caused by transport under inadequate conditions.

4.4.PRESENTATION OF NEON_OPTOD OXYMETER

4.1 PACKAGE CONTENTS

Your NEON_OPTOD Oxymeter has just arrived.

The package consists of a transport bag containing:

- The NEON unit (containing 3 LR6 alkaline batteries, 1.5 volts) and OPTOD sensor (cable length varies depending on the model ordered),
- A plasticized field guide;
- One vial of sodium sulphite (reference 1SS012)

Upon receipt of your device, check the condition of the packaging and if you notice an anomaly, advise the carrier of any reservations within 48 hours. If you notice that something is missing or if the equipment is damaged, contact AQUALABO immediately.

4.2 GENERAL DESCRIPTION OF THE PRODUCT.

The NEON portable oxymeter is combined with the OPTOD Optical Oxygen sensor in Stainless Steel or Titanium (seawater applications) to measure and record the following parameters:

- Temperature,
- Oxygen dissolved in % saturation,
- Dissolved oxygen in mg/L.

The NEON portable housing also contains an Atmospheric Pressure sensor for automatic compensation of the Oxygen parameter in mg/L.

4.3 MAIN FUNCTIONS OF NEON OXYMETER.

The NEON OPTOD sensor unit, specifically designed to measure dissolved oxygen in the aquaculture field, offers the following features:

- Automatic recognition of the Oxygen sensor,
- Simultaneous display of the 3 parameters (Temperature, Oxygen % Sat, Oxygen mg/L);
- ZOOM function on a parameter selected by the operator;
- Measurement stability indicator;
- Battery charging status indicator;
- Adjustable backlight intensity function, Backlight (configurable timing) and Automatic Screen Off (screen life optimization);
- Simple calibration menu on 1 (100%sat) or 2 points (0%sat and 100%sat);
- Data recording (30000 points) in 2 modes: Punctual or Automatic with setting of the recording frequency;
- Data transfer via WiFi in "csv" format;
- Automatic compensations to calculate the concentration of Oxygen mg/L (Integrated automatic temperature, Integrated automatic atmospheric pressure, Adjustable manual salinity);
- Multilingual device: French, English, Spanish and German.

5. 5. TECHNICAL CHARACTERISTICS

5.1 NEON OPTOD SPECIFICATIONS

NEON_OPTOD specifications	
Range	Oxygen: 0,00 to 20,00 mg/L; 0-200% Temperature: 0,00 – 50,00 °C Atmospheric pressure: 450-800 mmHg (600-1065 hPa)
Resolution	Oxygen: 0,01 Temperature: 0.01
Accuracy	Oxygen: +/- 0,1mg/L ; +/- 0,1ppm ; +/- 1 % Temperature: +/- 0.5 °C
OPTOD sensor	Luminescence Optical technology

5.2 DESCRIPTION NEON HOUSING

NEON housing specifications	
Weight	880 g
Dimensions (H x L x T)	146 x 88 x 33
Protection class	IP 67
Operating temperature	-5 to 50 °C
Storage temperature	-10°C to 60°C
Screen	Colour LCD Backlit
Materials	ABS, UL 94V-0
Power supply	3 AA-size alkaline batteries
Sencor connection	Direct through spiral gland Sensor on 3, 7 et 15 m of cable

➢ Front panel description:

➢ Back panel description:

Waterproof battery compartment.

Locking by a screw (304 stainless steel, M2.5x6)

Product information label including serial number.

5.3 DESCRIPTION OF STAINLESS STEEL AND TITANIUM OPTOD SENSOR.

The OPTOD dissolved oxygen sensor uses luminescence-based optical measurement technology and measures reliably and accurately. Without consumables or maintenance, the OPTOD sensor provides an immediate return on investment. The only action required is the replacement of the oxygen active pellet every two years.
Since it does not consume oxygen, the OPTOD sensor can be used on all types of media even when low water flow is very low.

The compact and robust sensor made of 316L stainless steel or titanium (seawater applications) is particularly well suited for use in the following fields:

- Industrial and municipal wastewater treatment plants,
- Wastewater management (nitrification and denitrification),
- Natural water monitoring,
- Fish farming, aquaculture,
- Drinking water testing.

Measurements	
Measuring principle	Optical luminescence measurement
Temperature ranges	0,00 to 20,00 mg/L 0-200%
Resolution	0,01
Accuracy	+/- 0,1mg/L +/- 0,1 ppm +/- 1 %
Response time	90% of the value in less than 60s
Temperature compensation	Via CTN (active compensation for temperature below 0°C)
Temperature range	0.00 to 50.00 °C
Resolution (Temperature)	0.01 °C
Accuracy (Temperature)	0.5°C
Storage temperature	- 10°C to + 60°C

Sensors	
Maximum pressure	5 bars
Material in contact with medium	Standard version in passivated 316L stainless steel: body, strainer and no screws. For the seawater version the body, strainer and screw pitch are made of Titanium. Black active pellet – DO disk: Silicon Optical Isolation.
DO disk	No interaction with: pH 1 – 14; CO2, H2S, SO2 Sensitive to organic solvents such as acetone, toluene, chloroform or methylene chloride and chlorine gas.

(1) Strainer with DO disk membrane, 316 L stainless steel or titanium.
(2) Gasket,
(3) Sensor body with measuring electronics,
(4) Cable gland,
(5) Connection cable

6. START-UP

6.1 POWER SUPPLY

6.1.1 TYPE OF BATTERIES PERMITTED

The measuring unit comes with 3 AA-size alkaline batteries. The user should never combine batteries of different types.
Three AA-size NiMH batteries, 1.2 V (VARTA type) may be used.

6.1.2 CHANGING BATTERIES

The 3 used alkaline batteries (AA) must be replaced in a perfectly clean and dry room so as not to stain the inside of the compartment.
The user will ensure that the batteries are installed in accordance with the polarity symbols in the battery compartment.
When closing the compartment, the user will be sure to:
- replace the battery compartment cover correctly,
- firmly tighten the screw to crush the seal between the cover and the battery compartment.

Otherwise, the compartment may not be properly sealed to ensure the NEON device operates correctly.
The user shall also regularly inspect the batteries to avoid any deterioration of the device from used batteries.

6.1.3 START-UP

For the OPTOD sensor, remove the black protective cap (holding the sensor head down) by unscrewing the cap to the right (the direction is indicated on the protective case).
The sensor is delivered dry and the DO DISK needs to be rehydrated in order for the measurements to be optimized.
After dry storage, rehydrate the membrane for 12 hours (overnight) in clear water.

6.2 NEON GENERAL FUNCTIONS

6.2.1 ON/OFF

To turn the NEON oximeter on and off, hold the On/Off key for a few seconds.
NOTE: If, however, the device does not start, the user should check the power supply (batteries properly installed in the battery holder).

6.2.2 NAVIGATION KEYPAD

1	ON/OFF
2	DEL
3	Turn-on screen
4	Up arrow /Activation WIFI 1
5	MENU & ESCAPE
6	Right arrow
7	OK/Validation
8	Down arrow/Activation WIFI 2

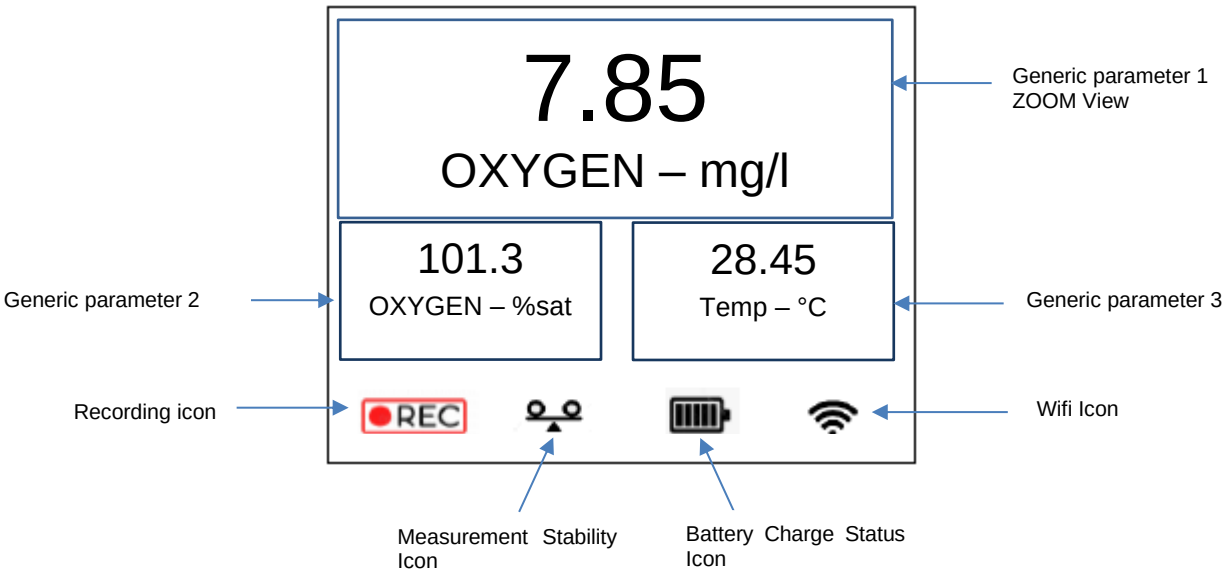
6.3 SETTING

6.3.1 MAIN SCREEN

The main screen displays the following in real time:

- Parameters measured by the Oxygen sensor along with their units of measure: Temperature (°C), Oxygen in mg/L, Oxygen in % saturation. A ZOOM function allows you to view a parameter in a larger format.

- A series of icons (at the bottom of the screen) to track the state of charge of the batteries, measurement stability, data recording activation as well as wifi activation for data transfer to a PC.

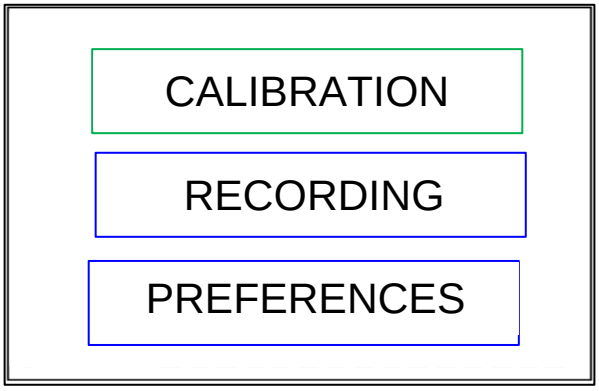


When the Generic 1 parameter changes, the measurement stability icon is missing and the measurement fluctuates. As soon as this parameter is stable, the stability icon appears and the measurement begins flashing.

- By pressing the Up and Down keys, you can scroll through the generic settings at position 1 (ZOOM), 2 or 3.
- To adjust the intensity of the Backlight, hold down the “LIGHT” key and use the UP/DOWN keys.
- To enable/disable recording, select the “OK” key. For more details refer to Section 6.3.4 Recording Menu
- To access the GENERAL MENU press the ESC key.
- Pressing the down/up keys (WIFI Activation 1 and WIFI Activation 2) simultaneoulsy takes you to the software update. This function is reserved for service operations, (access is restricted).

6.3.2 GENERAL MENU

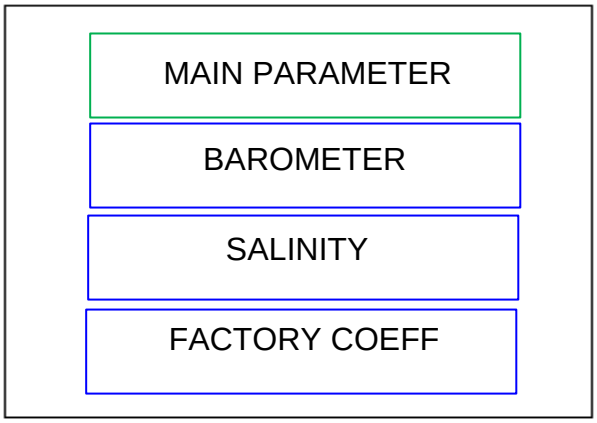
The "GENERAL MENU" screen gives access to the Calibration, Registration and Preferences settings (date/time configuration, NEON laptop and sensor information, standby time delay configuration, language selection, RESET functionality in settings).



To access the desired menu, move the cursor using the up and down arrows and confirm the selection with the “OK” key. To return to the previous screen press the ESC key.
When the cursor is positioned on a menu, the frame around the menu changes to green.

6.3.3 CALIBRATION MENU

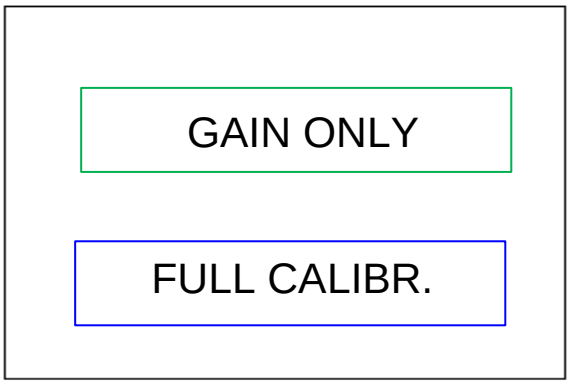
The calibration menu is used to calibrate the sensor connected to NEON (MAIN PARAMETER menu), adjust the atmospheric pressure measurement (BAROMETER menu), set the salinity value to compensate the oxygen concentration parameter (mg/L) (SALINITY menu) and restore the factory calibration coefficients (FACTORY COEFF menu).



To access the desired menu, move the cursor using the up and down arrows and confirm the selection with the “OK” key. To return to the previous screen press the ESC key.

6.3.3.1 MAIN PARAMETER

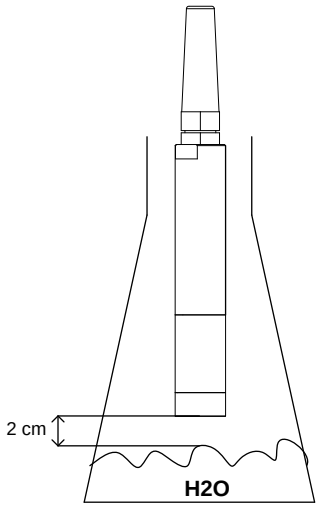
This menu allows you to calibrate the OPTOD sensor to 1 point (gain only – 100% Saturation) or 2 points (offset 0% and slope 100%).



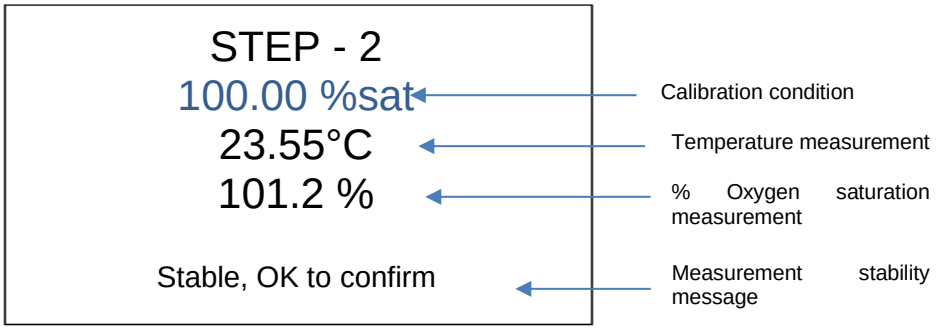
To access the desired menu, move the cursor using the up and down arrows and confirm the selection with the “OK” key. To return to the previous screen press the ESC key.

GAIN only calibration:

For the OPTOD sensor, the gain alone can be set by adjusting to 100% the air saturated with water vapor.
In theory this state can be achieved by placing the sensor in water-saturated air (for example directly above a water surface) or according to the illustration below:

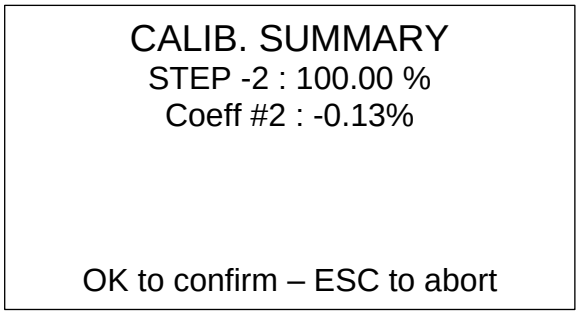


Fill the bottom of a vial with water and put the sensor just above the water. Wait for the measurement to stabilize at 100%, as soon as the message at the bottom of the screen says “Stable, OK to confirm” press the OK key.



You can interrupt the calibration sequence at any time by pressing the Escape (ESC) key.

After confirming the calibration step a screen appears with the calibration results.



OFFSET and GAIN calibration:

With two-point calibration, the zero point (0% - offset) and the gain (100%) of the sensor are calibrated. This calibration method offers the highest possible level of accuracy and is particularly recommended for measurements in environments with low oxygen concentrations.

The calibration then adopts the following procedure:

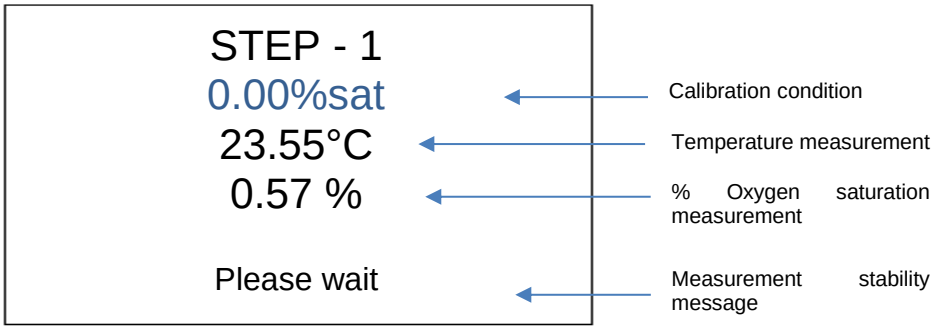
1) Offset calibration: 0% oxygen saturation.

Having first cleaned the sensor (see Cleaning section 8.1) it is immersed in a water-sulphite solution (concentration of sulphite <2% by weight, 2 g max. in 100 ml of water) to determine the zero point (saturation 0%). Mix the solution using the sensor to decrease oxygen saturation faster (oxygen attached to the DODISK must be consumed).

Caution: The sensor membrane should not be in contact with the sulphite solution for more than one hour.

Wait for the measurement to stabilize and as soon as the message "Stable, OK to confirm" appears, press the OK key.

You can interrupt the calibration sequence at any time by pressing the Escape (ESC) key.



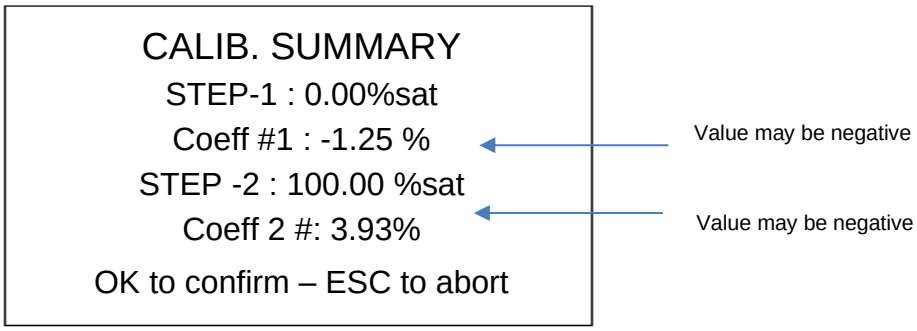
Thoroughly rinse the Oxygen sensor and active membrane with clean water and then gently dry the membrane to remove any traces of water.

2) Gain calibration: 100 % Oxygen saturation.

For this calibration step, please refer to the previous chapter "Gain Calibration Only".

↳ Calibration results:

At the end of a calibration step, Gain only or 2-point calibration (offset and gain), a screen with calibration results appears.



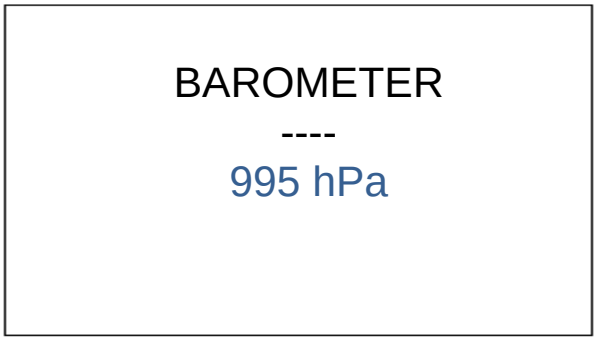
Acceptance tolerances for calibration steps are:

+/- 6.00 % for Offset,
+/- 30 % for Gain.

If tolerances are exceeded, it is advisable to check the cleanliness of the active pellet, to ensure that the membrane is not damaged. If the pellet is damaged, change it. See Section 8. OPTOD SENSOR MAINTENANCE for more information.
To confirm the calibration and finalize this procedure, press the OK key.
If the calibration fails, press the Escape (ESC) key.

6.3.3.2 BAROMETER

The atmospheric pressure parameter is used in a compensation calculation to automatically calculate the dissolved oxygen concentration of the water in mg/L. It is therefore important to be able to verify this measurement, made by the pressure sensor built into the NEON housing, and to reset this parameter in the event of fluctuation.

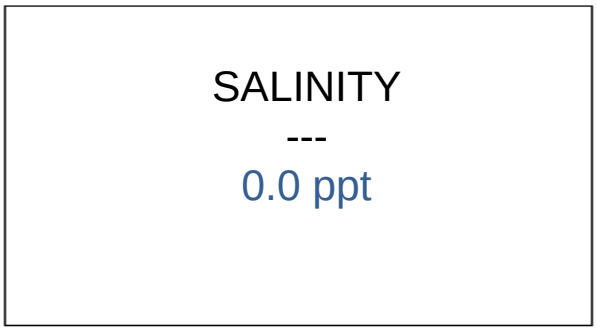


The atmospheric pressure can be adjusted to the 450-1200 hPa range.

Adjust the atmospheric pressure measurement using the up/down arrows (the entry changes to white) and confirm with the “OK” key (the entry then changes to green).
To return to the previous screen, press escape (ESC).

6.3.3.3 SALINITY

The salinity parameter is used in a compensation calculation to automatically calculate the dissolved oxygen concentration of the water in mg/L. It is therefore important to be able to enter the salinity value.



By default, the salinity value is set to 0.0 ppt and is configurable between 0.0 and 70.0 ppt.
To adjust the desired value, use the Up/Down arrows (the entry changes to white) and confirm with the OK key (the entry then changes to green) then Escape (ESC) to return to the main screen.

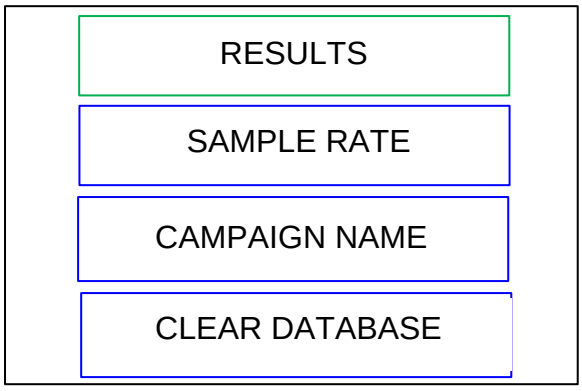
6.3.3.4 FACTORY COEFFICIENTS

In the event of incorrect handling during a calibration or to check that the sensor is operating correctly, the factory calibration coefficients can be used to restore the sensor to its original coefficients.

To reset the sensor to the factory coefficients confirm with the OK key then press Escape (ESC) to return to the previous screen.

6.3.4 RECORDING MENU

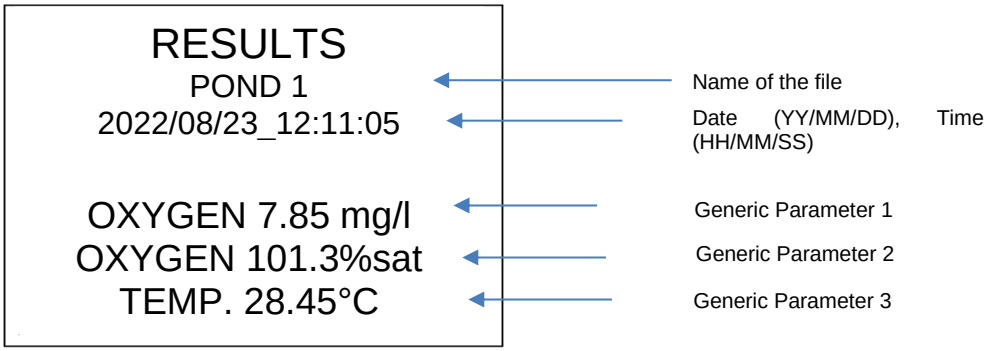
This menu allows you to view the data stored in the NEON portable device, set the recording frequency, configure the file names and erase the recorded data.



To select an option, use the up/down arrows and press OK.

6.3.4.1 RESULTS

This menu shows the data stored in the NEON laptop.



To scroll through the recordings, use the Down (previous recording) and Up (next recording) keys.
To return to the previous menu select the Escape (ESC) key.

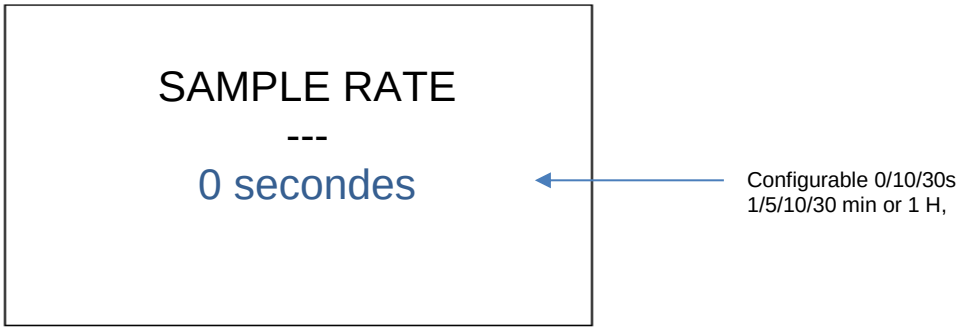
Data transfer is enabled via Wifi in the RECORDINGS menu.

6.3.4.2 RECORDING FREQUENCY

This menu allows you to configure a recording frequency for Automatic Recording mode.

The NEON laptop can record (30000 data) in 2 modes:

- Mode 1: Instant recording. In this case, the user can trigger a single recording by pressing the OK key. The measurement frequency is then set to 0 seconds,
- Mode 2: Automatic recording (with manual start). In this case, the start of the measurement campaign is activated using the OK key and the NEON device will follow the frequency set in this menu.

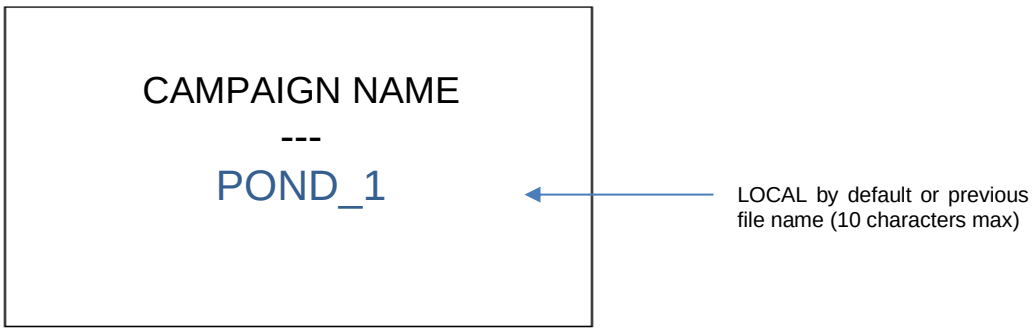


By default, the value is 0 seconds (blue writing), a SPOT sample mode that is triggered by pressing the OK key on the main screen. When the recording is enabled on the main screen, the recording icon appears REC

The frequency can be changed (on a 10s/30s, 1/5/10/30 min or 1 H basis) by using the up and down arrow keys (the writing changes to white). To confirm the chosen frequency, press the OK key (the writing goes green).
To return to the previous menu select the Escape (ESC) key

6.3.4.3 CAMPAIGN NAME

The name of the data record file can contain up to 10 characters (option to select letters, numbers, space and _ character).



Use the up/down arrows to scroll through the characters (white writing) and the OK key to confirm your choice (green writing).

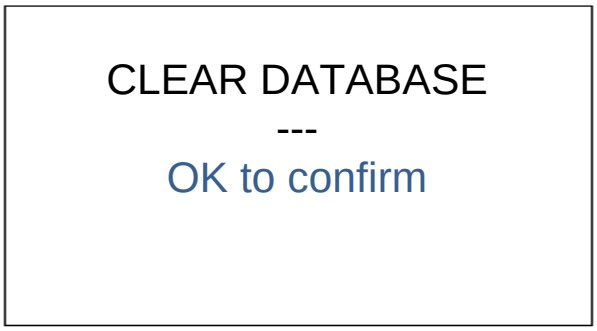
Available characters: 0 to 9, alphabet (A to Z), space and _.

Then press ESCAPE (ESC) to confirm the name and exit the menu.

6.3.4.4 ERASE DATA.

To clear all data saved in the NEON press the OK key.

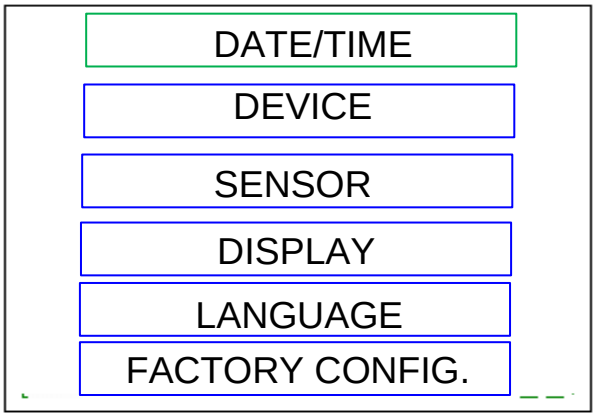
The entry changes to green and the message "Data erased" appears.



To return to the previous menu select the Escape (ESC) key.

6.3.5 PREFERENCES MENU.

The PREFERENCES menu allows you to configure the date and time of the NEON hardware (useful for time stamping stored data), to view information about the software/electronic versions of the NEON laptop and related sensor, set the standby time and then completely turn off the screen , to choose the language and return to the original hardware configuration.



6.3.5.1 DATE AND TIME

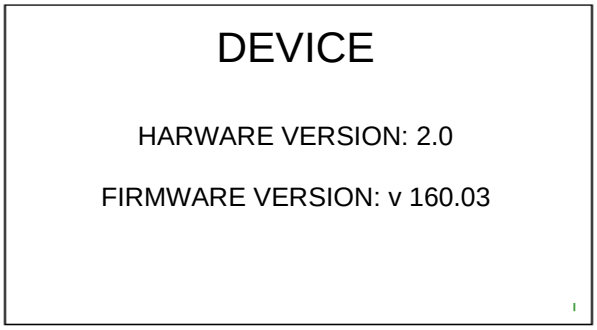
The date format is unique and cannot be changed: YYYY/MM/DD.

To change the date and time, move the cursor to the desired line and then use the up/down arrows to change the numbers from 0 to 9. The entry changes to white. Confirm your setting using the OK key (the writing goes green).

To return to the previous screen, press the Escape (ESC) key.

6.3.5.2 DEVICE

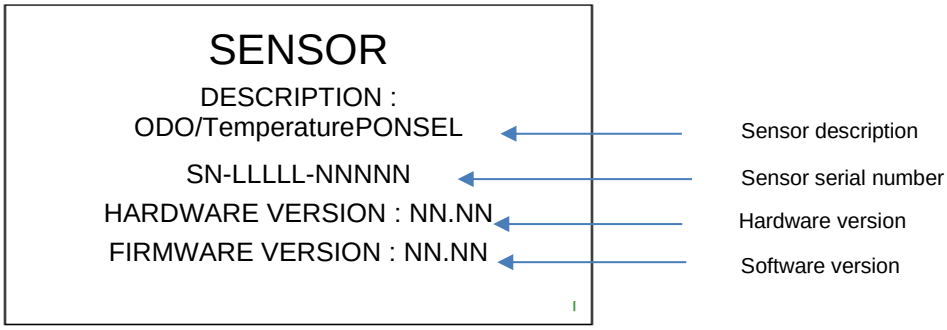
In this section you can find information about the version of the software and the version of the ecard. These items may be requested when contacting our Hotline.



To return to the previous screen, press the Escape (ESC) key.

6.3.5.3 SENSOR

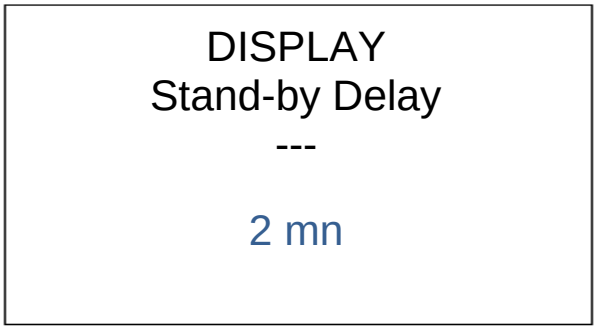
This window shows information about the sensor connected to NEON: its description, serial number, the version of the board and the software version.



To return to the previous screen, press the Escape (ESC) key.

6.3.5.4 DISPLAY

The screen configuration menu enables you to configure the delay until the screen switches to standby when the keyboard is inactive.



By default, the delay until standby mode is 12 minutes but can be set to: 2, 5, 15 or 30 minutes.
To scroll through these options, select the Up/Down keys (write goes white) and confirm with the OK key (write goes green).
To exit this menu, press the Escape key (ESC).

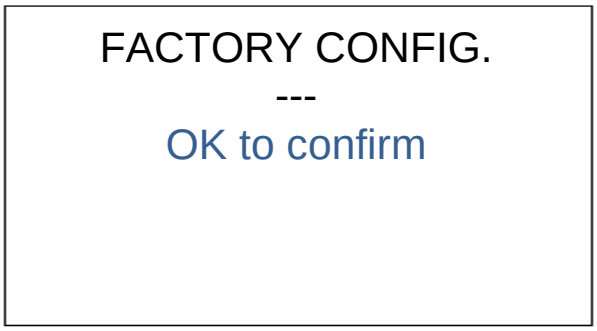
6.3.5.5 LANGUAGE

The NEON portable device offers 4 languages: English, French, Spanish and German.

To select the language, use the up/down arrows (write changes to white) and confirm with the OK key.
To return to the previous screen press the Escape key (ESC).

6.3.5.6 FACTORY CONFIGURATION

This menu lets you RESET the device to restore the factory configuration.



To confirm the reset, press the OK key.

This action will reset the factory configuration for: the Backlight intensity level, standby delay (2 min), default salinity value (0.00 ppt), default atmospheric pressure value (1013 hPa), measurement campaign name (LOCAL) and language in English.

To exit this screen press Escape (ESC).

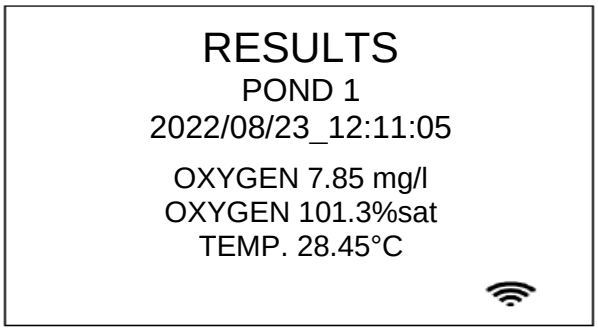
- **SERVICE GX : for AQUALABO service.**
- **SERVICE AW : for AQUALABO service**
- **SERVICE PW : for AQUALABO service**

7.7. DATA UNLOADING.

7.1 ACTIVATION AND CONNECTION.

To enable connection to the NEON on-board web page and retrieve the stored data, scroll to the following in the menu presenting data recorded in NEON: GENERAL MENU>> RECORDING>>RESULTS.
Then simultaneously press the keyboard keys with the WIFI icons (keys 4 and 8 on the picture in Section 6.2.2 Navigation keyboard.)

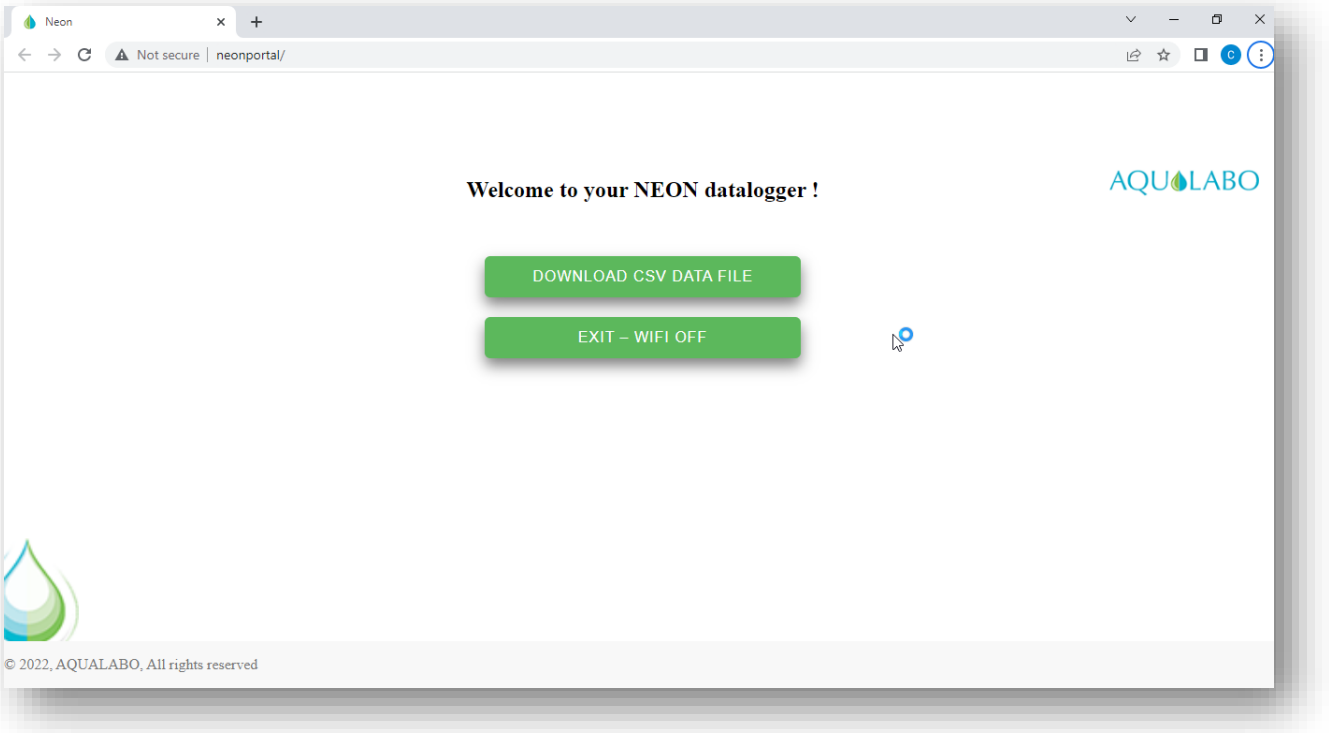
The WIFI activation ic( ) appears at the bottom of the results presentation window.



In the presentation menu of the available Wifi equipment to receive the data files, select «**NeonPortal**».
The homepage for retrieving data in csv format will then open automatically.

7.2 HOME SCREEN.

The homepage to recover data in csv format will then open automatically.



Depending on the internet browser installed on your connection equipment, the process may not be automatic. In this case, type the address http://192.168.4.1/. in your browser.

To enable data download, click on the “DOWNLOAD CSV” tab.
The recording file contains:

- Data measured by the sensor (Oxygen in %sat, Oxygen in mg/L, temperature),

- The atmospheric pressure measured by the NEON equipment,
- The salinity instruction entered by the operator,
- The temperature and internal humidity of the NEON handheld device.

7.3 DISCONNECTION

To disconnect the NEON device from the computer, click the “EXIT” tab.

The Wifi icon at the bottom of the “RESULTS” menu disappears.

8.8. OPTOD SENSOR MAINTENANCE

The sensor must always be kept clean, especially in the area around the membrane and optical part.

The presence of a biofilm on the membrane may result in measurement errors.

A soiled membrane must be cleaned with hot soapy water. A soft sponge can be used for cleaning (do not use an abrasive sponge).

If the sensor is decomissioned, it must be rinsed before being stored, the cap must be put in a protective case with a damp cotton pad to ensure the pellet remains moist.

8.1 CLEANING

Thoroughly rinse the sensor and membrane with clean water.
If deposits such as biofilm or mud persist, gently wipe the membrane with a soft cloth or paper towel.

Caution: The sensor body of the titanium version may be cleaned with acetone (do not use methyl alcohol, ethanol or methanol).

8.2 CHANGING THE ACTIVE MEMBRANE

If there is deterioration of the pellet or difficulty with the calibration processes, the DODISK should be changed.

1 Unscrew the stainless steel or titanium DODISK (1) from the sensor body with its measuring electronics (3). Make sure the optical window (2) of the sensor is clean and free of water or moisture.

2 Remove the DODISK (stainless steel version PF-CSO-C-00041, titanium version PF-ACC-C-00045) from the opaque protective film and slowly screw on the sensor body. When screwing, make sure the sensor optical window is clean and dry.

3 Rehydrate the membrane for 12 hours and recalibrate the 2-point sensor (Seciont 6.3.3.1)

Warning: *Only unscrew the strainer containing the DODISK to change it. Screwing too quickly could cause damage to the sensitive pallet*.

8.3 STORAGE

In order to restore the active pallet to operating order quickly, keep the membrane hydrated in the protective case with a damp absorbent material (cotton).

After dry storage, rehydrate the membrane for 12 hours.

9.9. ACCESSORIES AND CONSUMABLES

Spare Parts/Consumables	
PF-CSO-C-00041	Strainer with integrated DODISK for OPTOD stainless steel sensor
PF-CSO-C-00045	Strainer with integrated DODISK for OPTOD Titanium sensor
PF-ACC-C-00472	OPTOD protective strainer
ME-BOU-S-00021	Protective cap for OPTOD sensor
1SS012	25g of sodium sulphite for calibration