OXY 7 NEX

MADE IN ITALY

DO (mg/l) – DO (%) - mbar

USER MANUAL

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1.Introduction

XS Instruments, globally recognized as a leading brand in the field of electrochemical measurements, has developed this new line of portable instruments, entirely manufactured in Italy, striking the perfect balance between performance, attractive design, and ease of use.
The robustness and integrity of the case, the compact dimensions that allow for one-handed use, and the practical carrying case make this instrument ideal for measurements directly in the field.
The innovative high-definition graphic display shows all necessary information, such as the measurement, temperature, buffers used for the last calibration, and stability status, to offer the user an exceptional measurement experience.
Anyone can use these instruments thanks to the instructions that appear directly on the display. Calibration is guided step-by-step, and the instrument's configuration menu is intuitive and easy to navigate. In low-light conditions, you can activate full-screen measurement display.
pH calibrations of up to 3 points can be performed using the USA and NIST buffer series. It is also possible to use user-defined values. To facilitate the reading of the pH value, three different levels of signal stability can be selected, or the HOLD function can be activated, which locks the measurement when the signal is sufficiently stable.
It is also possible to perform a guided calibration using a pH simulator.
Using the ORP parameter, you can adjust the offset of a redox sensor using a known standard value.
The instrument automatically recognizes 5 conductivity standard solutions, and one can be entered manually.
A total of 100 values can be saved in the instrument's non-volatile memory.
The ideal solution for an accurate and precise measurement is to use an *XS Instruments* device with an electrochemical sensor from the extensive *XS Sensor* range and to perform calibrations using certified *XS Solution* calibration solutions.

2.Safety Information

Definitions of Warning Words and Symbols

The safety information contained in this manual is extremely important to prevent personal injury, damage to the instrument, malfunctions, or incorrect results caused by failure to follow these instructions. Read this manual carefully in its entirety and make sure you are familiar with the instrument before putting it into operation and starting to work with it. This manual must be kept near the instrument so that the operator can consult it when necessary. Safety instructions are indicated by warning terms or symbols.



Warning
This symbol indicates a potential risk and warns you to proceed with caution



Warning
This symbol draws attention to a possible hazard due **to electrical current**



Caution
The instrument must be used in accordance with the instructions in the user manual. Read the instructions carefully



Notice
This symbol draws attention to possible damage to the instrument or individual instruments parts



Notes
This symbol highlights further information and tips



Additional documents providing safety information

The following documents can provide the operator with additional information for working safely with the measurement system:

- operating manual for electrochemical sensors;
- safety data sheets for buffer solutions and other maintenance solutions (e.g., storage solutions);
- specific product safety notes.

Intended Use

This instrument is designed exclusively for electrochemical measurements both in the laboratory and directly in the field. Pay particular attention to the technical specifications listed in the INSTRUMENT SPECIFICATIONS / TECHNICAL DATA table; any other use outside of these specifications is to be considered unauthorized.
This instrument left the factory in perfect technical and safety condition (see the test report included in each package). The proper functioning of the device and the safety of the operator are guaranteed only if all standard laboratory safety regulations are followed and all specific safety measures described in this manual are observed.



Essential requirements for safe use

The proper functioning of the device and operator safety are guaranteed only if all of the following instructions are followed:

- The instrument may only be used in accordance with the specifications mentioned above;
- The instrument must operate exclusively under the environmental conditions specified in this manual;
- The only part of the instrument that can be opened by the user is the battery compartment.

Perform other operations only if explicitly authorized by the manufacturer.

Unauthorized use



The instrument must not run if:

- it is visibly damaged (e.g., due to transport);
- it has been stored for a long period of time under adverse conditions (exposure to direct light, heat sources, or enviroments saturated with gases or vapors) or in environments with conditions different from those mentioned in this manual.

Maintenance Of the Device



When used correctly and in a suitable environment, the instrument does not require any special maintenance procedures. It is recommended to occasionally clean the instrument case with a damp cloth and a mild detergent. This should be done with the instrument turned off. The housing is made of ABS/PC (acrylonitrile butadiene styrene/polycarbonate). This material is sensitive to certain organic solvents, such as toluene, xylene, and methyl ethyl ketone (MEK).
If liquids enters the housing, they could damage the instrument.
Do not open the instrument housing: it contains no parts that can be maintained, repaired, or replaced by the user. If you encounter any problem with the instrument, contact your local distributor. We recommend using only original spare parts. Contact your local distributor for more information. The use of non-original spare parts may lead to malfunction or permanent damage to the instrument. Furthermore, the use of spare parts not guaranteed by the supplier may be dangerous to the user. For maintenance of electrochemical sensors, refer to the documentation included in their packaging or contact the supplier.

Responsibility of the Instrument Owner



The person who owns and uses the instrument or authorizes its use by others is the instrument owner and, as such, is responsible for the safety of all users of the instrument and third parties. The instrument owner must inform users about the safe use of the instrument in their workplace and the management of potential risks, while also providing the required protective equipment. When using chemicals or solvents, follow the manufacturer's safety data sheets.

3.Instrument Specifications

Parameters



OXY 7 NEX: DO (mg/l), DO (%), mbar, Temp

Technical Data

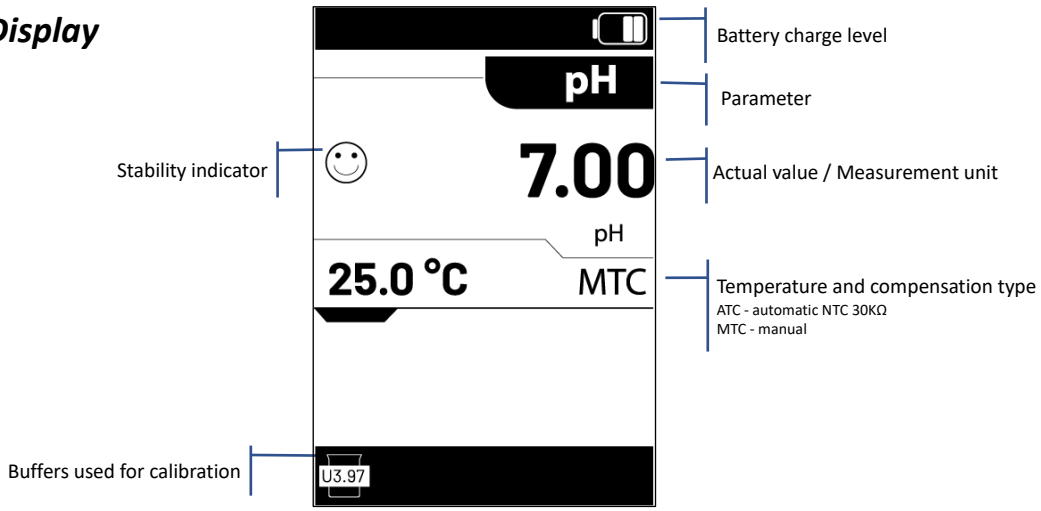


	OXY 7 NEX (polarographic)
Dissolved O_2	
Measuring range	0.00…19.99 mg/l / 20.0…50.0 mg/l
Resolution	0.1 / 0.01
Accuracy	± 1.5 % F.S. (full scale)
Dissolved O_2 saturation measuring range	0.0…199.9 % / 200…400 %
Resolution	0.1 / 1 %
Accuracy (with sensor)	± 10 %
Oxygen calibration points	1 or 2 (automatic)
Calibration point indication	Yes
Calibration report	Yes
Barometric pressure measuring range	300…1100 mbar
Resolution	1 mbar
Accuracy	± 0.5 %
Automatic pressure compensation	Automatic

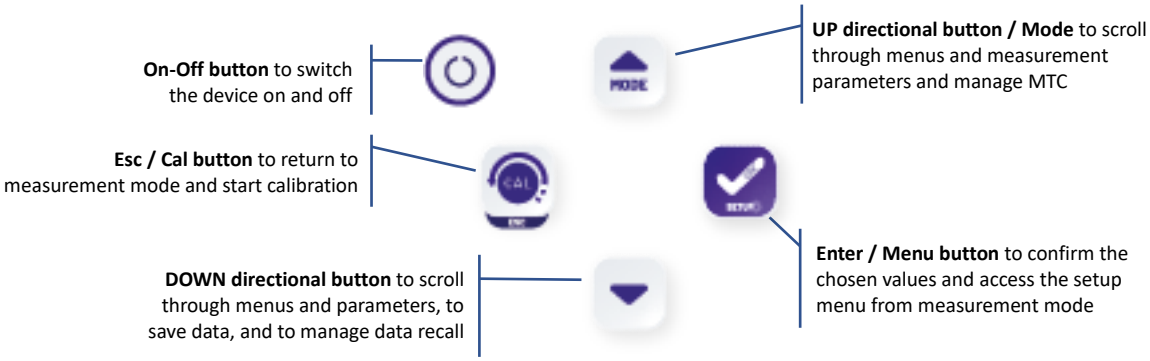
Temperature	
Measuring range	0.0…100.0 °C
Resolution	0.1 °C
Accuracy	± 0.5 °C
Temperature compensation	Automatic (NTC 30KΩ) or Manual 0...100 °C
Salinity	
Measuring range	0…50 ppt
Salinity compensation	Manual
System	
Display	High-definition TFT, backlit
Brightness and contrast control	Manual
IP protection rating	IP 65
Power supply	3 x 1.5 V AA batteries
Sound level during standard operation	< 80 dB
Operating environmental conditions	0…+60 °C
Maximum permissible humidity	< 95 RH%, non-condensing
Maximum operating altitude	2000 m
System Dimensions	160 x 75 x 45 mm
System weight	320 g
Applicable Standards	EMC 2014/30/EU RoHS 2011/65/EU EN 61326-1 EN 61010-1

4.Instrument Description

Display



Keypad



5. Installation

Supplied Components



The instrument is always supplied in its own carrying case.
Included are batteries, Standard Zero Oxygen, screwdriver, quick guide, and test report. Contact your local distributor for the latest information on the correct contents of the sales kit and any spare parts.

Commissioning

- The device leaves the factory ready to be used by the user.
- Batteries are already included.

Powering On

Turn on the system by pressing the button. The display initially activates all segments, then the following appear:

- Device model and software version.
- Settings for the most important parameters.



Note: *Every time you turn the device on or restart it after use, the Polarization Time automatically begins (see following paragraphs).*

Battery Replacement

The instrument operates on 3 x 1.5 V AA batteries. To replace them:

1. switch off the device;
2. turn the device with the display facing down, making sure to protect the display and keypad with a cloth;
3. using the screwdriver provided, unscrew the 4 screws on the cover;
4. slide the cover off; the screws are captive;
5. remove the 3 used batteries and insert the new ones. Ensure the polarity is correct;
6. reinsert the cover and tighten the 4 screws.

Instrument Transport



The instrument is always supplied with a dedicated carrying case. Use only the original case to transport the instrument. If you need to repurchase it, contact your local distributor. The interior of the case is contoured to accommodate the instrument and the sensors while they are still connected.

Button Functions

Button	Press	Function
	Short	Press to switch the device on or off.
MODE	Short	In measurement mode, press to scroll through the different parameters. In the setup and sub-setup menus, press to scroll. In the setup submenus, press to change the value. In memory recall mode, press to scroll through the saved values. In MTC and customer calibration modes, press to change the value.
	Long press (3s)	In measurement mode, hold down to change the temperature in MTC mode (manual compensation, without probe). When the value starts flashing, the user can change the temperature value by entering the correct one. Confirm with .
CAL	Short	In calibration, setup, and memory recall modes, press to return to measurement mode.
	Long press (3s)	In measurement mode, press and hold to start calibration.

	Short	In measurement mode, press to enter setup. In the setup menus, press to select the desired program and/or value. During calibration, press to confirm the value.
	Long press (3s)	In measurement mode, press and hold to access full-screen display. Press again to return to the standard display.
	Short	In measurement mode, press to save the data. In the setup and sub-setup menus, press to scroll. In the setup submenus, press to change the value. In memory recall mode, press to scroll through the saved values. In MTC and customer calibration mode, press to change the value. In measurement mode, press to recall saved data.
	Long press (3s)	In measurement mode, press to recall saved data.

IMPORTANT:

- When Sleep mode is active (by default after one minute of inactivity), press any button to reactivate the display backlight.
- Only at this point do the buttons regain their function.

Inputs / Outputs Connections

Use only original accessories guaranteed by the manufacturer.

If necessary, contact your local distributor. The BNC connector is protected by a plastic cap at the time of sale. Remove the cap before connecting the probe.

OXY 7 NEX top panel



READ THE MANUAL BEFORE CONNECTING PROBES OR PERIPHERALS

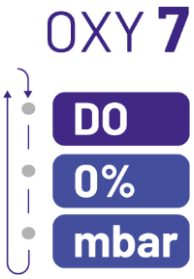
Symbols and icons on the display

Symbol	Description	Symbol	Description
65	Number of measurements stored in Data Logger mode on the instrument's memory.		Battery charge indicator.
HOLD	HOLD mode, reading locked when stable.		Measurement stability indicator.

6.How the Device works

- After switching on, the instrument enters measurement mode on the last screen displayed before shutdown.
- **To scroll through the different parameter screens, press the MODE button.**

Sequence of parameters in measurement mode:

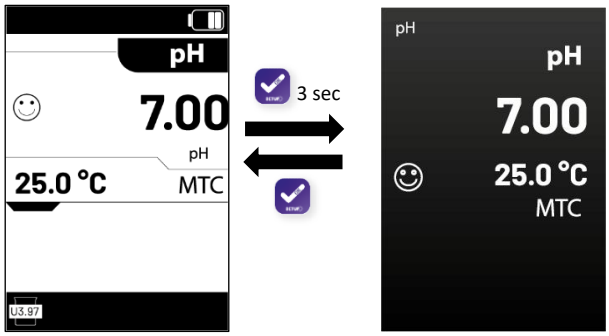


***Note:** Pressing the MODE button after the last parameter causes the instrument to automatically restart from the first.*

On the DO% and DO mg/l measurement screen, press the CAL button to start calibrating the active parameter. (See following sections).

Full-screen view

To obtain a clearer view of the measured value, in measurement mode, press and hold the button for 3 seconds to activate full-screen view. Press again to return to the standard view.

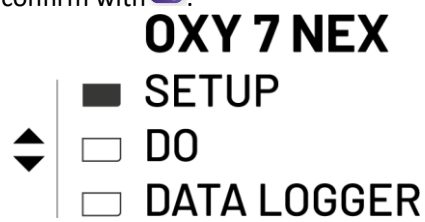


Sleep Mode

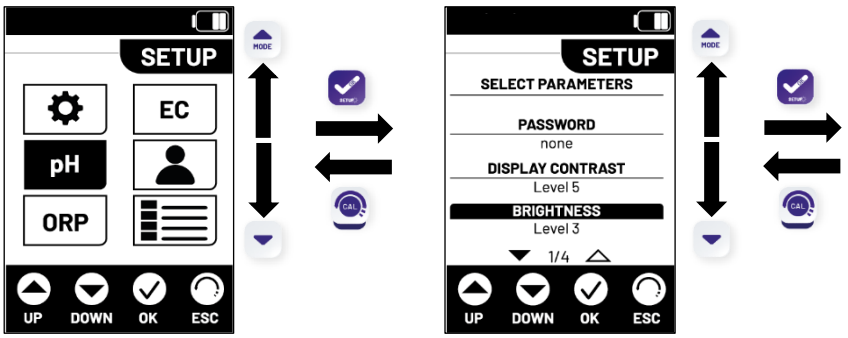
When Sleep mode is active (*see* ***the Instrument Setup Menu*** *section*), the display brightness is reduced to a minimum, significantly saving battery power. To exit Sleep mode and return the display to normal brightness, press any button. Once the display brightness is restored, the buttons will resume their normal functions (*see the* ***Button Functions*** *section*).

7. Setup Menu

- In measurement mode, press the button to enter SETUP mode, select the parameter you wish to change using the directional buttons, and confirm with .



- Within the selected menu, move between the different programs using the directional buttons and press the button to access the submenu you want to edit.
- **Using the and buttons, select the desired option or change the numerical value and confirm with .**
- Press the button to return to the previous menu.



SETUP submenu

Setup menu structure

GENERAL SETTINGS



DISPLAY CONTRAST
BRIGHTNESS
SLEEP MODE
READING WITH HOLD
TEMPERATURE MEAUREMENT UNIT
AUTO OFF
RESET SETTINGS

DO SETTINGS



ZERO-POINT CAL
SALINITY COMPENS.
CALIBRATION DATA
TEMPERATURE CAL
RESET SETTINGS

DATA LOGGER



DELETE MEMORY

8.ATC – MTC Temperature Measurement

- **ATC**: The sample temperature is measured directly for all parameters using the 30KΩ NTC probe integrated into the sensor.
- **MTC**: If no temperature probe is connected, the value must be changed manually: hold down MODE until the value starts flashing; then adjust it using the directional buttons and press SETUP to confirm.

Note: *With the polarographic sensor supplied with the instrument, manual temperature adjustment (**MTC**) **MUST NOT BE PERFORMED***

9.DO Parameter

Connect the polarographic sensor to the BNC and RCA connectors located on the top panel of the instrument.
It is not necessary to connect a separate temperature probe, as the temperature sensor is integrated into the sensor itself.

Setup for the DO parameter

- In measurement mode, press SETUP to access the SETUP menu.
- Press the SETUP button to access the **DO SETTINGS** menu OXY.
- Use the arrow buttons to select the program you wish to access and press SETUP.

Setup menu structure for the DO parameter

The table below shows the structure of the setup menu for the DO parameter; for each program, the options available to the user and the default value are listed:

Program	Description	Options	Factory Settings
OXY	ZERO-POINT CAL.	-	-
	SALINITY COMPENS.	0.0 – 50.0	0.0
	CALIBRATION DATA	-	-
	TEMPERATURE CAL	-	NO
	RESET SETTINGS	YES – NO	-

ZERO-POINT CAL. (Calibration with Standard Zero DO)

- Access this setup to select calibration with the Standard Zero Oxygen (NOT included in the kit - see the following sections “Calibration with the Standard Zero Oxygen”).
- Once the operation is confirmed, in measurement mode at the bottom left of the display, the beaker indicates the % DO = 0.0 % point at which the calibration was performed.

SALINITY COMPENS. (Salinity Compensation)

The salinity of the sample to be measured affects the partial pressure of dissolved oxygen. For a correct measurement, it is necessary to set the sample’s salinity value. If oxygen measurements are taken on saltwater or seawater samples, it is important to correct the measurement by setting the sample’s indicative salinity value.
The default value is 0 ppt; to change it, access the **SALINITY COMPENS.** parameter in the setup menu and set the desired value between 0.0 and 50.0 ppt. **The average salinity of seawater is 35 ppt.**

CALIBRATION DATA (DO Calibration Data)

Access this menu to view information about the last calibration performed. The display will show:

- Calibration temperature.
- Barometric pressure at which the calibration took place.
- Salinity value.
- Offset %.
- Efficiency %.

***Note**: The instrument accepts calibrations with oxygen sensors having a slope % between 80–120 %. Outside this acceptable range, the instrument will not allow the calibration to be completed and will display the error message* “SLOPE OUT OF RANGE” *(see Section 13 Maintenance of the polarographic probe)*

TEMPERATURE CAL (Temperature Calibration)

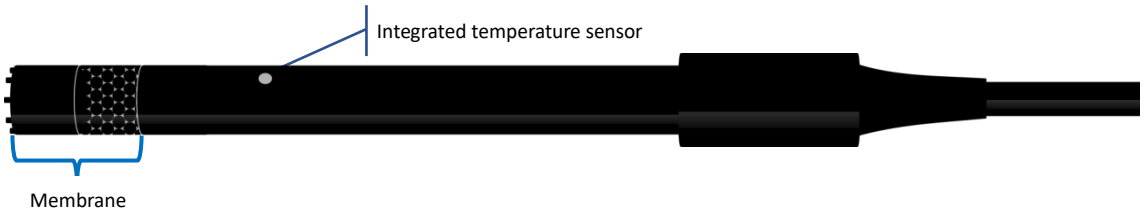
All instruments in this series are pre-calibrated for accurate temperature readings. However, if there is a noticeable difference between the measured and actual temperatures (usually due to a probe malfunction), you can adjust the offset by ± 5 °C. With the temperature probe connected, use the directional buttons to correct the temperature offset value and confirm.

RESET SETTINGS (Reset DO Parameter)

If the instrument is not functioning properly or incorrect calibrations have been performed, select YES and confirm to reset all parameters in the DO menu to their default settings.

Information on the DO 7 Probe

The DO 7 probe is a polarographic type with an integrated temperature sensor. The oxygen sensor uses a BNC connector, while the temperature sensor uses an RCA connector.



Sensing element

The permeable membrane allows only the gases present in the sample to pass through, blocking the passage of liquids. After passing through the membrane, oxygen reacts with the electrolyte solution, which changes its chemical and physical properties depending on the oxygen concentration. The sensing elements detect this change and generate a signal proportional to the amount of dissolved oxygen. The oxymeter reads this signal and displays the value on the screen.

Membrane

The membrane, which must allow only oxygen to pass through, must be in perfect condition. If it is wrinkled, uneven, or punctured, it must be replaced with a new one.

Electrolyte

The electrolyte is an alkaline solution that reacts to the presence of oxygen and becomes saturated with use and over time; therefore, it must be replaced regularly.

Polarization Time

The polarographic sensor must be polarized before taking measurements. Connect the probe to the instrument and turn it on using the button; the instrument will turn on and the countdown for the polarization time will begin. The instrument will then enter measurement mode and be ready to take measurements.
The polarization time is 10 minutes.

New sensor with new instrument

The sensor is supplied with the membrane filled with electrolyte; it is necessary to hydrate the membrane by leaving it immersed in distilled water for half an hour. Turn on the instrument and wait for the polarization time to elapse.

Probe Storage

When the probe is not in use, store it in the provided storage cap containing distilled water. This keeps the membrane protected and hydrated, ready for use.

Not using the sensor for long periods of time: more than one month

If the instrument and sensor are not used for an extended period (more than one month), it is recommended to empty the electrolyte from the membrane and accurately rinse the sensor. Dry the sensor and reattach the membrane without the electrolyte, protecting the sensor with its rubber cap.

Oxygen Sensor Calibration

The polarographic sensor is an active sensor whose response changes with wear and aging; therefore, it must be calibrated regularly in air.

Calibration in 100% air

Routine calibration is performed at 100% in air. Switch on the instrument by pressing the button, immerse the probe in water, and wait for the 10-minute polarization time. Next, dry the probe thoroughly with paper towels and proceed as follows:

- Place the probe in the air with the membrane facing down and wait 2 minutes. Then connect the sensor to the device.
- In measurement mode, press the button to enter calibration mode. The message “Rinse electrode and press OK” appears on the display; confirm. The device will search for a DO (%) value = 100 %. Leave the sensor in the air, in a vertical position with the membrane facing down.
- When the signal is stable, the stability icon will appear. Press the button as indicated by the message. The actual measured value flashes on the display, and the instrument will show the calibration data.

Press any button to return to the main menu, and the beaker icon will appear in the bottom left corner, indicating that the instrument is calibrated to a DO value of 100 %.

Calibration with the Standard Zero Oxygen

Normally, it is sufficient to calibrate the instrument at 100 % air as explained above. However, in some cases it may also be necessary to calibrate at 0 %, for example when:

- The probe is replaced with a new one.
- The probe is not used for a long period (more than a month).
- A complete sensor maintenance is performed.
- The instrument does not calibrate to 100 %; in this case, calibrate to 0 % first.
- The instrument is not measuring correctly.

To calibrate to 0 %, proceed as follows: **Before proceeding, perform maintenance on the DO 7 probe** (section 13). Switch on the instrument, immerse the probe in water, and wait for the 10-minute polarization time. Next, dry the probe thoroughly with paper towels and proceed as follows:

- Place the probe in the Standard Zero Oxygen and wait 5 minutes.
- In measurement mode, press the button, enter the OXY menu, and confirm again by pressing the button.
- Press the button again to confirm entry into the **"ZERO-POINT CAL"** submenu. The display shows the message "Rinse electrode and press OK"; confirm. The device will search for the DO (%) value = 0 %. Leave the sensor in the air, in a vertical position with the membrane facing down.
- Gently swirl the probe in the Standard solution, check for any air bubbles under the membrane, and remove them by moving the sensor.
- When the signal is stable, the stability icon will appear.
- Confirm the value by pressing .
- The actual measured value flashes on the display, and the instrument will show the calibration data.
- In the lower left corner, the "0.0" beaker icon will appear, indicating that the instrument has been calibrated to a DO value of 0 %.

ATTENTION: *Before proceeding with calibration, carefully review the safety data sheets for the substances involved:*

- *Standard Zero Oxygen Calibration Solutions.*

Note: *The Standard Zero Oxygen solution is SINGLE-USE ONLY! After use, contact your local dealer to purchase more.*

Also perform the 100 % air calibration. This procedure remains in memory even after the device is turned off.

Calibration Range

The time interval between two calibrations (100 % air) depends on the type of sample, the sensor's efficiency, and the desired accuracy; generally, the instrument must be calibrated at least once a week, but for greater accuracy, it is advisable to calibrate the instrument more frequently. The instrument must be recalibrated if any of the following conditions apply:

- New probe, or one that has not been used for a long time.
- After sensor maintenance.

Errors reported during calibration

- **NOT STABLE:** The button was pressed while the signal was still unstable. Wait for the icon to appear to confirm the point.
- **SLOPE OUT OF RANGE**: The slope of the sensor's calibration line is outside the acceptable range of 80–120 %.
- **CALIBRATION TOO LONG:** Calibration has exceeded the time limit; only the point calibrated up to that point will be kept.

10.Measurement of Dissolved Oxygen

Before starting

To minimize measurement errors and achieve the highest possible accuracy, follow these rules before beginning:

- the sensor must be calibrated;
- the sensor must be in a vertical position with the membrane facing down;
- remove the protective cap;
- the probe must be at the same temperature as the sample to be analyzed; if necessary, leave the probe immersed in the sample until thermal equilibrium is reached.

Measurement Mode

This instrument can operate in 2 measurement modes:

- **Dissolved DO saturation** expressed in %.
- **Dissolved DO concentration** expressed in mg/l.
- **Barometric pressure.**

During measurement, press the MODE button to change the unit of measurement.

Performing the measurement

Remove the sensor's protective cap, rinse the sensor with distilled water; dab it dry with a towel paper and immerse it in the solution to be analyzed. Gently stir and wait until the value stabilizes; when the ☺ icon appears on the display, take the reading.

***Note**: The polarographic sensor tends to consume oxygen, leading to a gradual decrease in the value detected by the instrument. Therefore, ensure there is a minimum flow in the sample to be analysed; if working in a laboratory, gently stir the sample.*

Barometric Pressure Compensation

Since the measurement of the partial pressure of dissolved oxygen is also linked to barometric pressure, this instrument, thanks to its integrated barometric sensor, is able to compensate for even the slightest variation. To view the barometric pressure detected by the instrument, press the MODE button during measurement and scroll through the measurement parameters: DO (%) ↔ , DO (mg/l) ↔ , mbar.

11. Data Logger Function

This series of devices allows you to manually record up to 100 measurements (Value + temperature), which can then be recalled and viewed on the display. Once the memory is full, the values are NOT overwritten. In measurement mode, the number of measurements stored for the parameter in use appears next to the notepad icon.65 .

Using the Data Logger Function

In measurement mode for the parameter of interest, press the ▼ button to capture the value and corresponding temperature. At the bottom right of the display, next to the notepad icon, the number of saved measurements for the current parameter appears:65 .

Recall saved data

- In measurement mode for the parameter of interest, press the ▼ button for 3 seconds to access **RECALL MEMORY** mode and view the data stored for that specific parameter on the display.
- Use the MODE and ▼ buttons to scroll through the various data pages.

- Press to exit and return to measurement.

Delete saved data

- To delete the data stored in the instrument memory, access the **DATA LOGGER SETTINGS** setup menu (→ **DELETE MEMORY)** and select the **YES** option using the button**.**

12. Instrument Setup Menu

- In measurement mode, press to access the **SETUP** menu.
- Use the arrow buttons and confirm with to access the **GENERAL SETTINGS** menu **.**
- Use the directional buttons to move to the program you want to access and press**.**

Setup menu structure for the Configuration menu

The following table shows the structure of the setup menu for the instrument's general settings; for each program, the options available to the user and the default value are listed:

Program	Description	Options	Factory settings
	DISPLAY CONTRAST	LEVEL 1 … 9	LEVEL 5
	BRIGHTNESS	OFF – LEVEL 1 … 4	LEVEL 2
	SLEEP MODE	OFF – ON (1 … 20 min)	ON (1 min)
	READING WITH HOLD	YES – NO	NO
	TEMPERATURE UNIT	°C - °F	°C
	AUTO OFF	YES - NO	NO
	RESET SETTINGS	YES - NO	-

DISPLAY CONTRAST (Display contrast management)
Access this setup menu to adjust the 9 display contrast levels:
Level 1 (low contrast) **-> Level 9** (high contrast).
The instrument is set by default to a medium contrast level (level 5).

BRIGHTNESS (Display Brightness Control)
Access this setup menu to adjust the 5 display brightness levels:
Off (no brightness) **-> Level 4** (maximum brightness).
The instrument is set by default to a medium brightness level (level 2).
Note*: For outdoor use, especially on sunny days, it is recommended to set the brightness to "Off"*

SLEEP MODE (Display mode with minimum brightness)
Access this setup menu to manage the device's standby mode:

- **OFF**: Sleep mode disabled, brightness always on.
- **ON (1…20 min)**: Use the directional buttons to select how many minutes of keyboard inactivity will trigger standby mode. By default, it activates after one minute.

Note: *To exit standby mode and return the display to normal brightness, press any button.*

READING WITH HOLD (Activating the HOLD Function)
Access this setup menu to enable or disable the **HOLD** stability criteria:

- **NO**: -default option- The reading is not held.
- **YES**: When this option is enabled, the measurement is locked on the display as soon as it reaches stability.

To unlock and restart the measurement until the next stabilization, press.

TEMPERATURE UNIT (Temperature measurement unit)
Access this setup menu to select the temperature unit of measurement. Use:
- **°C -default-**
- **°F**

AUTO OFF (Auto-shutdown)
Access this setup menu to enable or disable the instrument's auto-shutdown:
- **YES:** The instrument switches off automatically after **20 minutes** of inactivity.
- **NO** – default option – The instrument always remains on, even when not in use.

RESET SETTINGS (General Reset)
Access this setup menu to restore the instrument to factory settings.

IMPORTANT: *Restoring factory settings does not delete stored data.*
Note*: The screens shown in this manual may not match the version of the instrument you purchased.*

13. Maintenance of the Polarographic Probe

If the instrument does not calibrate or the reading does not stabilize, the probe must be maintenanced. To do this, follow these steps in order:
- Replacement of the Electrolyte.
- Cleaning the anode and cathode.
- Replacement of the membrane.

Replacement of the electrolyte

- Unscrew the membrane from the sensor and check that it is not punctured or damaged; if it is intact, it can be reused; otherwise, it must be replaced.
- Thoroughly wash both the membrane and the sensitive part of the sensor with distilled water; remove any salt residues and dry with paper towels.

Handle the sensor and membrane with great care. Drops, impacts, or crushing can damage the sensor and/or the membrane.

- Fill the membrane cap halfway with distilled water and screw it onto the sensor (be very careful when tightening, as the membrane should not be screwed on tightly all the way; otherwise, it may be damaged). Gently shake it, unscrew the membrane again, and empty it completely; this will remove any remaining traces of water or dust.
- Refill the membrane with fresh electrolyte; this time, fill it completely, and screw it onto the sensor, making sure no air bubbles form inside. A slight leakage of electrolyte while screwing on the membrane ensures that there are no air bubbles inside.
- Wash the probe and leave it in distilled water for at least half an hour to rehydrate the membrane.

Finally, perform **sensor calibration**. If it does not work, proceed with **anode and cathode maintenance.**

Anode and Cathode Maintenance

The sensitive part of the probe consists of an anode and a cathode; both elements are made of precious metals. Over time, these metals can become passivated, reducing the probe's efficiency to the point where it no longer calibrates. In this case, remove the membrane and remove the passivation layers with super-fine sandpaper, gently scraping the metal parts; wash everything with distilled water and proceed with **replacing the electrolyte**.
Perform **sensor calibration**. If it does not work, proceed with **replacing the membrane.**

Replacement of the Membrane

If the membrane shows ripples or irregularities, it must be replaced with a new one. Remove the membrane and replace it with a new, undamaged one. With the new membrane, follow the **electrolyte replacement** procedure.
If the probe still does not calibrate after completing all these steps, replace the probe.

14.Warranty



Warranty Period and Limitations

- The manufacturer of this device offers the end consumer of the new device a three-year warranty from the date of purchase, provided that the device is maintained and used in accordance with best practices.
- During the warranty period, the manufacturer will repair or replace defective components.
- This warranty applies only to the electronic components and does not apply if the product has been damaged, used incorrectly, exposed to radiation or corrosive substances, if foreign materials have entered the product, or if modifications not authorized by the manufacturer have been made.

15.Disposal



This equipment is subject to regulations for electronic devices.
Dispose of in accordance with applicable local regulations.