ODC SENSOR PRESSURE TRANSMITTER
USER MANUAL

EN 13319:2000 CE EN 250:2014
EN 13949:2003

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This ODC SENSOR pressure transmitter User Manual must be used in conjunction with the ODYSSEY dive computer User Manual, version 1.9 dated 2026/01/08.

The combination of the dive computer and the pressure transmitter constitutes Personal Protective Equipment (PPE) of Category III as defined by European Regulation 2016/425, and complies with the requirements set out in European Standard EN 250:2014 for use with air compliant with Standard EN 12021:2014 (with an oxygen content of 21%).

The personal protective equipment described below complies with the health and safety requirements set out in Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment.

This high-pressure electronic transmitter with a “high-pressure gauge” type transmitter for scuba diving, Category III PPE, is designed to protect the scuba diver against the risk of breathing gas depletion by providing continuous digital visual information on the available gas pressure on the associated dive computer, and by visual and/or audible alarms when a predefined safety reserve pressure level is reached.

CE certification procedures and performance testing in accordance with Standard EN 250:2014 are understood to be applicable up to a maximum depth of 50 metres.

The full text of the EU Declaration of Conformity is available at the following address: https://o-dive.com/declaration-de-conformite/

⚠ WARNING

The pressure transmitter – or digital pressure gauge – presented in this document is intended for scuba diving.

Prior to any use, the user must have received training in the use of self-contained diving equipment for diving with AIR and for diving with NITROX or OXYGEN.

The transmitter does not indicate gas composition. Do not use the pressure indicated by the transmitter to determine the depth or the usable duration of a breathing gas mixture. Observe the maximum operating depth imposed by the oxygen content of the breathing mixture. Strictly apply oxygen exposure limits (CNS/OTU). The transmitter provides no information related to these limits.

Proper operation of the transmitter must not be considered as an indication of safety with regard to the breathing mixture used, nor as authorization to exceed physiological limits related to oxygen.

⚠ WARNING

Seals of pressure gauges intended for use with oxygen-enriched gases (NITROX or OXYGEN) must be lubricated exclusively with oxygen-compatible grease. In the presence of oxygen-enriched gases, other types of lubricants may trigger an explosion.

Pressure transmitters intended for use with oxygen-enriched gases must not be used with air; the use of breathing air, even if compliant with Standard EN 12021, may lead to contamination of the device. They must be maintained in an oxygen-compatible state of cleanliness after each use.

Contamination by pollutant agent(s) may result in oxygen ignition.

In the event that gases contaminated with oil or hydrocarbons are used, the entire system exposed to contamination must be cleaned by a qualified technician who is a member of the Azoth Systems network.

1. Introduction

The ODC SENSOR pressure transmitter is a device for measuring gas pressure in scuba diving cylinders. It operates with AZOTH SYSTEMS dive computers. The transmitter measures pressure and continuously transmits this information wirelessly to the associated dive computer.

ODC SENSOR pressure transmitters bearing the EN 250:2014 marking are intended for use with air. Transmitters bearing the EN 13949:2003 marking may be used with gas mixtures containing more than 22% oxygen and must not be used with air (EN 12021).

2. Installation

The ODC SENSOR pressure transmitter is installed on the first stage (HP) of the regulator, either directly (photo a) or via a high-pressure hose also connected to the first stage (photo b).

Transmitter screwed* onto the first stage – on the same side as the dive computer wrist arm.

* Use an open-end wrench for tightening. A torque of 4 to 5 Nm is required. Never overtighten. Check the condition of the O-ring and ensure it is correctly positioned. Replace it if damaged.

3. Removal of the pressure transmitter

Never attempt to remove the transmitter while it is pressurized. Before removing the pressure transmitter, ensure that the valve upstream of the HP regulator first stage to which it is attached is closed, and fully purge the circuit downstream of the regulator first stage. Then carefully unscrew the transmitter.

Perform this operation in a clean area, free of grease or contaminants that could react with oxygen (if applicable). Once the thread is dry and free of any impurities, reinstall the protective cap over the transmitter thread.

4. Operating principle and use

Powered by a battery located inside the transmitter (see section “Battery replacement”), the transmitter automatically activates when the detected gas pressure exceeds 15 bar.
The cylinder pressure is then transmitted via radio frequency to the dive computer as long as the pressure remains above 5 bar (transmitter deactivation threshold).

The transmitter is equipped with a three-color LED indicator (green, orange, and red), each corresponding to one of three pressure levels in the diving cylinder:

- Green: cylinder pressure greater than or equal to 100 bar;
- Orange: pressure between 100 and 50 bar;
- Red: pressure below 50 bar.

As the transmitter is installed on the first stage of the regulator, slowly open the outlet valve to avoid a pressure surge caused by a sudden gas introduction into the regulator first stage.
When using oxygen or oxygen-enriched gas, to reduce the risk of explosion, ensure that the valve is opened very slowly.

Pre-use check:
After opening the valve, verify the successive illumination of the **three indicator lights**: green, orange, and red. Each indicator must flash once, allowing verification of proper operation. Then, the indicator corresponding to the measured cylinder pressure (green, orange, or red) **must flash every 4 seconds.**

Transmitter positioning and signal reception volume:
As the transmitter is screwed onto the regulator first stage, **ensure that its positioning is as horizontal as possible** (see figure above in the “Installation” section, reference a). **The link with the dive computer is optimal within the grey-shaded volume below, when the transmitter and computer antennas shown as dashed lines are parallel (Fig. 1):**

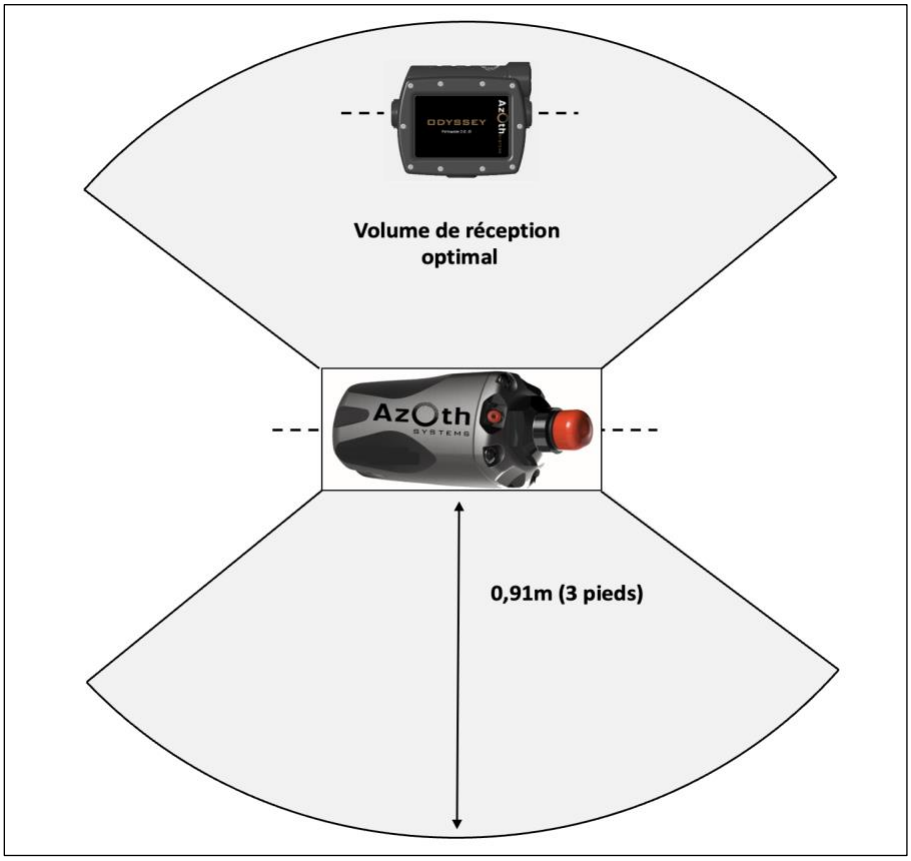


Fig.1. Optimal reception volume shown in grey; the transmission and reception antenna axes (dashed lines) should preferably be parallel.

At the surface or during a dive, the computer may temporarily move outside the optimal reception volume, and signals may no longer be received.

Bringing the computer closer to the pressure transmitter, with antennas parallel, within the optimal volume will restore the link, with data updates occurring within a few seconds. See also: ODYSSEY Dive Computer User Manual.

Important note: Signal transmission may be disrupted by the presence of magnetic fields generated by other electronic equipment (e.g. underwater scooters or propulsion devices). Such equipment should be kept at a distance from your computer to avoid transmission interruptions.

Although the reliability of ODC SENSOR pressure transmitters is subject to stringent testing, a failure or malfunction of the device during a dive can never be completely ruled out. It is recommended to have a redundant means of pressure measurement, such as an analog pressure gauge, and to ensure throughout the dive that the readings provided by each device are consistent.

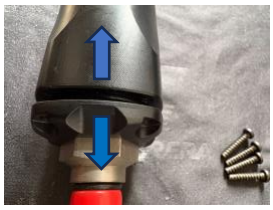
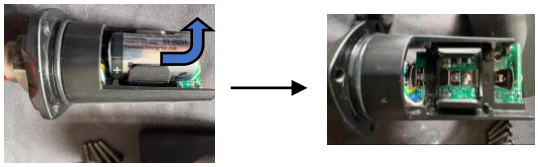
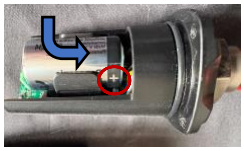
5. Battery replacement (CR2 type – 3V lithium)

When the battery charge level reaches 10%, a **Low Battery** alert is displayed in a dialog box, prompting the user to replace it. In this situation, the remaining battery level still allows several hours of operation.

It is possible to check the remaining battery charge level from the pairing menu by selecting **CHANGE**. The sensor number, the measured pressure, and the battery charge level (%) are then displayed.

6. Battery replacement – procedure

Replace the battery (CR2 type – 3V lithium) when the low battery indicator is displayed on the computer, or at least once a year. To replace the battery of the ODC SENSOR pressure transmitter, proceed as follows:

N°	Opération	Illustration
1	Unscrew the 4 screws using a cross-head screwdriver.	
2	Separate the transmitter base from its cover by pulling on each part.	
3	Remove the used battery	
4	Insert the new battery, observing polarity: the + terminal facing the transmitter base.	
5	Check that the O-ring is correctly positioned in its groove and lubricate it using a grease of suitable quality for the gas used (oxygen-compatible grease if applicable). Replace it if damaged.	
6	Tighten the 4 screws without overtightening using a cross-head screwdriver.	

7. Care

Rinse with fresh water after use, with the transmitter still screwed onto the regulator. Do not use solvents. Do not allow water to enter the pressure measurement port. Allow to dry away from direct sunlight. Take care of the product: do not lift the cylinder by the regulator first stage fitted with the transmitter. To transport the regulator equipped with the ODC SENSOR transmitter, place it in a soft case or pouch to protect it from impacts with other diving equipment.

8. Storage

Store the transmitter clean and dry in a dry, well-ventilated place, protected from direct light.

9. Periodic maintenance

The transmitter and its components must undergo a measurement accuracy check every two years or after 200 dives, whichever comes first, as well as after any significant impact or in case of doubt. This check may be carried out by any technical center (equipped with appropriate facilities and measuring instruments) that is a member of and approved by Azoth Systems.

10. Marking

The ODC SENSOR pressure transmitter is classified as Category III under European Regulation 2016/425. It complies with the following harmonized European standards:
• **EN 250:2014:** for use with air compliant with Standard EN 12021. CE certification and performance testing in accordance with this standard apply up to a maximum depth of 50 m.
• **EN 13949:2003:** for use with oxygen-enriched gases (**NITROX** and **OXYGEN**).

The transmitter bears the **CE 3061** marking, attesting to its CE conformity and the identification number of the notified body.

11. Risk assessment related to the use of the dive computer and pressure transmitter system

Risk	Probability	Severity	Risk mitigation measures
Loss of data transmission with the computer	Medium	Medium	Indication via display and vibration Redundant means of pressure measurement (e.g. analog pressure gauge) Regular monitoring and consideration of pressure indications by the diver Immediately terminate the dive
Lack of visibility preventing pressure reading	High	Medium	Indication (via display and) by vibration when entering reserve Dive management – diver training and vigilance
Loss of gas reserves due to rupture or detachment of the pressure transmitter during the dive	Low	High	Flow restrictor limiting leak rate Immediately terminate the dive

This equipment, when used in combination with the ODYSSEY recreational dive computer, is not designed for use in an underwater work environment or for immersion in polluted, contaminated, or heavily particle-laden waters.

12. Technical specifications

Product reference (AIR quality – EN 12021)	ODC-AI.01.001.25
Product reference (NX/O2 quality – EN 13949)	ODC-O2.01.001.25
Number of connectable transmitters	4 on the same dive computer
Maximum depth	200 m
Operating temperature (air)	-20°C à +50°C
Operating temperature (water)	-4°C à +35°C
Storage temperature	Rinsed and dried product to be stored in a clean, dry environment, protected from light. Temp.: −20°C to +50°C.
Dimensions	L 71 mm (excluding HP insert – 10 mm) × Ø 36 mm
Weight ready for use	105 g
Measurement accuracy (maintenance)	Inspection at an Azoth Systems–approved technical center: every 2 years or every 200 dives, whichever comes first.
High-pressure outlet thread	7/16" - 20 UNF
Maximum service pressure (Air)	300 bar

Maximum service pressure O2 and Nitrox	300 bar
Pressure display resolution	1 bar (or 1 psi (0.14 bar), depending on the selected scale)
HP outlet test pressure	450 bar
Pressure measurement accuracy	5% of the full scale
Pressure measurement sampling frequency	Every 5 seconds
Zero offset	< 3.5 bar (adjustable setting)
Activation pressure	15 bar (adjustable setting)
Deactivation pressure	5 bar (adjustable setting)
Battery	CR2 type – 3V lithium
4 cover retaining screws	Dia. 4 x .625”
Base O-ring	AS568-022 - dia.25,12 x 1,78 NBR 90sh
HP outlet O-ring	AS568-012 - dia.9,25 x 1,78 NBR 90sh

13. Warranty

The ODC SENSOR pressure transmitter is covered by a two-year warranty against manufacturing and operational defects.

14. Manufacturer

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The device must be disposed of as electronic waste through an appropriate recycling channel.
Do not dispose of it with ordinary waste.

Appendix – Spare parts and accessories

Designation	Azoth Systems reference
Connected pressure transmitter ODC SENSOR (AIR)	ODC-AI.01.001.25
Connected pressure transmitter ODC SENSOR (O2)	ODC-O2.01.001.25
HP flexible hose 45 cm for ODC SENSOR pressure transmitter (AIR)	ODC-AI.01.002.25
HP flexible hose 45 cm for ODC SENSOR pressure transmitter (O2)	ODC-O2.01.002.25
HP connector pin for ODC SENSOR hose (AIR)	ODC-AI.01.003.25
HP connector pin for ODC SENSOR hose (O2)	ODC-O2.01.003.25
O-ring for ODC SENSOR pressure transmitter housing (AIR)	ODC-AI.01.004.25
O-ring for ODC SENSOR pressure transmitter housing (O2)	ODC-O2.01.004.25
HP insert O-ring for ODC SENSOR pressure transmitter (AIR)	ODC-AI.01.005.25
HP insert O-ring for ODC SENSOR pressure transmitter (O2)	ODC-O2.01.005.25
Set of 4 stainless steel 316 screws with PVD vapor-deposited coating	ODC-O2.01.006.25
Removable protective cap / HP insert thread ODC SENSOR	ODC-O2.01.007.25
Oxygen-compatible lubricant	ODC-O2.01.008.25
3V lithium battery 850 mAh CR2 for ODC SENSOR pressure transmitter	ODC-M.IEC-CR2

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