

## • INTRODUCTION

This manual describes features and functions of the LED tank module. The tank module is mounted onto an HP port of the first stage regulator, and its main function is to transmit tank pressure data via hoseless coded RF protocol to the dive computer. The dive computer then displays the tank pressure and also calculates gas consumption rate and time remaining before reaching the reserve value. For this to happen, the tank module and the dive computer have to be paired. For information on mounting and proper positioning on the first stage and on how to pair the two devices, please refer to the dive computer manual available at [www.mares.com](http://www.mares.com).

The LED tank module features also, as the name suggests, an LED on the top of the tank module body. The LED can be used on the surface before a dive to distinguish between a full and an empty tank without needing a dive computer to display the exact value. During a dive the LED blinks when certain pressure levels have been reached and can thus alert your dive buddy or dive guide when you have reached the half tank mark or the tank reserve.

## 1. OPERATION

The tank module turns on automatically upon pressurization to at least 10 bar / 145 psi. It turns off automatically when the pressure drops below 10 bar / 145 psi.

In order to save battery power, the tank module turns itself off also when the pressure does not change over more than 4 minutes. This prevents unnecessary battery consumption in case of a pressure check well ahead of a dive with the tank left open afterwards, or in case the tank is not closed and the first stage purged immediately after a dive, or in the case of stage tanks that are left pressurized during the dive even when not in use. The tank module turns itself on again when a difference of pressure of more than 1 bar / 14.5 psi is sensed.

## • 2. SURFACE FUNCTIONS

Upon pressurizing the tank module, if a pressure of 180bar/2600psi or more is sensed, the LED will blink 10 times in GREEN color in 4-second intervals.

## • 3. FUNCTIONS DURING DIVE

For battery preservation, the LED turns off after the surface check and stays off until a pressure of 100bar/1450psi is reached (half tank warning). At that point it blinks in YELLOW color once every 4 seconds. Once the tank pressure reaches 50bar/725psi the LED blinks in RED color once every second (tank reserve).

## • 4. TECHNICAL INFORMATION

The pressure gauge (tank module) described in this manual is manufactured by Mares SpA, Salita Bonsen 4, 16035 Rapallo, Italy.

The accuracy of the pressure measurement is:

- at 50bar ± 5bar
- at 100bar ± 10bar
- at 200bar ± 10bar
- at 300bar ± 15bar
- at 750psi ± 75psi
- at 1500psi ± 150psi
- at 3000psi ± 150psi
- at 4350psi ± 220psi

Connecting port airflow:

<100 liters/min. at a pressure of 100 bar.

Operating temperature:

-10 °C to +50 °C / 14 °F to 122 °F

Storage temperature:

-20 to 70 °C / -4 to 158 °F

Power supply:

- Genius, Quad Air, Smart Air: CR123; Sirius, Quad Ci: 1/2 AA
- Battery life: 150-200 dives. Actual battery life depends on the number of dives per year, usage of the LED, the length of each dive and the water temperature.

## CE CERTIFICATION

The pressure gauge is a Category III device as defined under European Regulation 2016/425, and complies with the specifications set out in the harmonized European Standard EN250:2014 for use with air. It is compliant with the specifications set forth in the harmonized European Standard EN 13949:2003 for use with oxygen-rich mixtures (Nitrox).

The pressure gauge described in this instruction manual has been tested and CE certified to a maximum depth of 50m by Registered Test Center 0474 - RINA Via Corsica 12, 16128, Genova, Italy.

## APPLICATION

The submersible pressure gauge is a safety device for monitoring residual pressure in the tank, designed to be used as part of a SCUBA set (open-circuit, self-contained underwater breathing apparatus).

The gauge can be used in cold water (below 10 °C / 50 °F). Maximum operating depth is 150 m / 492 ft.

The pressure gauge must not be used in conditions that preclude its use (e.g.: low or no visibility that makes it impossible to read the gauge) and under which it is necessary to use appropriate safety devices.

The pressure gauge is designed for use exclusively with Nitrox, up to 100% oxygen. The use of air (EN 12021) or any mixture other than Nitrox or oxygen would contaminate the equipment, requiring cleaning and servicing by a Qualified Technician at a Mares Lab Service Center before it can be used with nitrox or oxygen again.

It must be kept in mind that the depth and duration of the dive are strictly dependent on the percentage of oxygen in the breathable mixture.

### WARNING

Training is compulsory before the device described in these instructions may be used.

The user must have received adequate prior training on the use of SCUBA diving equipment, both for use with air and for use with Nitrox.

### WARNING

Gaskets and o-rings for the Nitrox pressure gauge must be lubricated exclusively with oxygen-compatible grease; in the presence of oxygen-rich mixtures, the use of other types of lubricants may spark an explosion.

### WARNING

In the event of use with mixtures contaminated with oil, the entire system must be cleaned and serviced by a Qualified Technician at a Mares Lab Service Center.

## CHECKS PRIOR TO USE, PREPARING FOR THE DIVE AND USE

Slowly open the tank valve to avoid the "water hammer" effect resulting from the high pressure entering the tank module.

When using Nitrox or oxygen, always open the tank valve very slowly to reduce the risk of an explosion.

Once the tank valve is open and the system is pressurized, close the valve and make sure there are no leaks, checking that the pressure indicated by the dive computer is stable and does not drop. If a drop in pressure is detected, do not dive and double check the entire system.

During the dive, remember to check the residual pressure frequently.

The tank module must only be used with CE-marked SCUBA components.

## MARKING

The instrument markings are the following:

- EN250: tested and certified according to European Norm EN250;
- CE 0474: CE conformity and identification number of notified body controlling production in compliance with Module D of European Regulation 2016/425
- 300 bar (NITROX/O2 200 bar max)

## CARE, STORAGE AND TRANSPORT

Rinse your regulator and tank module thoroughly in fresh water after every dive.

Ensure that the dust cap is installed on the first stage prior to doing so. Store the regulator and tank module in a dry place away from direct sunlight. When travelling with your equipment, it is best to use a padded bag such as is commonly used to transport diving equipment.

## • 5. MAINTENANCE

The tank module and the parts of this product used to measure tank pressure should be serviced by an authorized Mares dealer every other year or after 200 dives (whichever comes

first). Aside from that, the tank module is virtually maintenance free. All you need to do is rinse it carefully with fresh water after each dive (avoid any chemical products) and replace the battery when needed. To avoid possible problems, the following recommendations will help assure years of trouble free service:

- avoid dropping or jarring the tank module;
- do not expose the tank module to intense, direct sunlight;
- do not store the tank module in a sealed container, always ensure free ventilation.

## 5.1. REPLACING THE BATTERY IN THE TANK MODULE

### WARNING

We recommend having the battery of the tank module replaced by an authorized Mares dealer. The change must be made with particular care in order to prevent water from seeping in. The warranty does not cover damages due to an improper placement of the battery.

## • 6. WARRANTY

Mares products are guaranteed for a period of two years subject to the following limitations and conditions:

The warranty is non-transferable and applies strictly to the original purchaser.

Mares products are warranted free from defects in materials and workmanship: components that, upon technical inspection, are found to be defective, will be replaced free of charge.

Mares S.p.A. declines all responsibility for accidents of any kind that result from tampering or incorrect use of its products.

Any products returned for overhaul or repairs under warranty, or for any other reason, must be forwarded exclusively via the vendor and accompanied with a proof of purchase slip. Products travel at the risk of the sender.

### 6.1. WARRANTY EXCLUSIONS

Damage caused by water seepage resulting from improper use (e.g. dirty seal, battery compartment closed incorrectly, etc.).

Rupture or scratching of the case, glass or strap as a result of violent impact or blows.

Damage resulting from excessive exposure to elevated or low temperatures.

Damage caused by the use of compressed air to clean the dive computer.

## • 7. DISPOSAL OF THE DEVICE



Dispose of this device as electronic waste. Do not throw it away with regular rubbish.

If you prefer, you can return the device to your local Mares dealer.