Installation and Operating Instructions

Submersible Hydrostatic Fresh/Grey/Black Water Sensor

Part No. 4650 0 - 2 metres tank depth
Part No. 4651 0 - 4 metres tank depth



Introduction

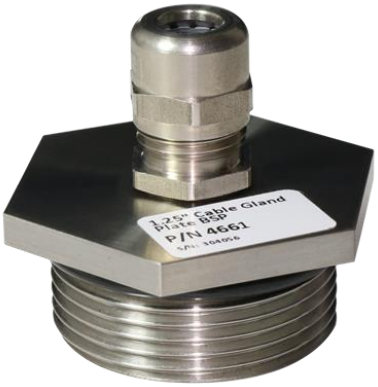
Thank you for choosing an Oceanic Systems Hydrostatic Tank Sender. This sender is made from the finest materials to give you years of reliable and accurate service when it is installed correctly.

Installation

This sender is designed to be suspended into the tank from the top surface of the tank through a suitable mounting gland plate such as Oceanic System part numbers 4660, 4661 and 4662 shown below:



PN 4660 SAE 5 Bolt Mounting Cable Gland Plate



PN 4661 1.25” BSP Mounting Cable gland Plate



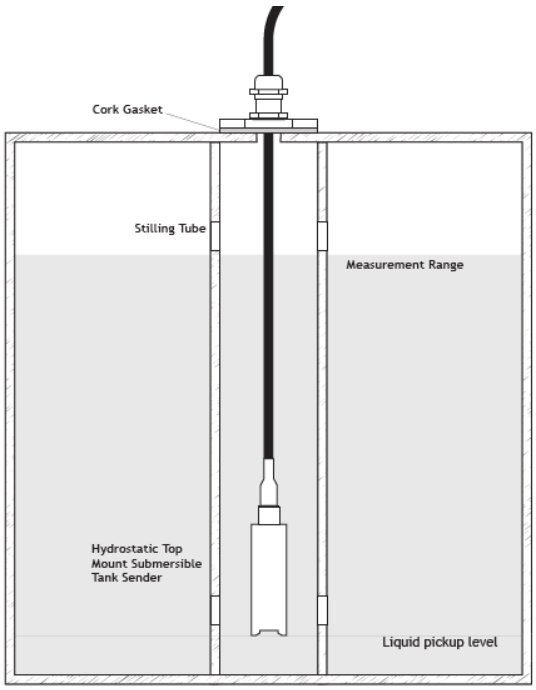
PN4662 1.5” NPT Mounting Cable Gland Plate

The chosen mounting gland plate attaches to the top of the tank and the support cable of the Hydrostatic Sender goes through the gland nut to provide a liquid proof seal but NOT compress the suspension cable and block the internal air balance tube in the support cable.

If you wish to use an alternative suspension gland please ENSURE that it doesn’t compress the suspension cable and block the internal air balance tube in the support cable. If that happens the readings will be inaccurate.

Stilling Tube

The sender needs to be protected from excessive movement if the vessel is in rough seas. If it is allowed to swing and hit the tank sides it will be damaged so we recommend it is mounted in a stilling tube built into the tank as shown:



The internal diameter of the tube should be 28 to 38mm to allow the 27mm sender head to lower in the tube freely without excessive sideways movement in a seaway. The stilling tube should have holes drilled in its sides top and bottom to allow the liquid to flow freely into the tube.

Electrical Connections

The 4650 and 4651 have three wires and an air balancing pipe in its 5 metre long attachment cable. The three wires are connected as follows:

Wire Colour	Connection
Red	+24 Volt
Black	0 Volt
Green	Ground Wire

The unit will draw between 4mA and 20mA from the red wire depending on the depth of fluid. In an empty tank it will draw 4mA and in a full tank (4650 full = 2 metres) (4651 full = 4 metres) will draw 20mA.

Do NOT cut and shorten the cable as the air balance pipe has a built in white air filter visible at the end that should not be disturbed.

Do NOT crush the cable with tight cable ties or glands as it is vital that the air balance pipe allows the sensor to measure the ambient air pressure.

Tank Breather

These senders measure the hydrostatic fluid pressure at the bottom of the tank which is referenced to the outside air pressure via the internal air balance tube built into the mounting cable. It is important that the tank has an efficient breather system that allows for filling at the normal filling speeds without excessive pressure buildup during filling. If that happens the sensor can be damage by overpressure. The breather tube also needs to have a clear run to the breather outlet without any low points in the tube that can collect fluid and make the results inaccurate.

Electrical Output

The electrical output is an industry standard 4-20mA current signal that rejects electrical interference. It can be converted into a standard NMEA2000 digital output by connecting it to an Oceanic Systems Tank Sender Adaptor Part No. 4291.

Diaphragm

The sensing end of the sender is an open corrugated diaphragm that must never be damaged or the unit will fail. If you need to clean it only use a very soft brush and water. Do NOT damage the corrugated diaphragm or it will fail.

Technical Support

If you require technical support for any Oceanic Systems products you can reach us using any of the following ways:

- Tel (UK): +44(0)1425 610022
- Email: support@osukl.com
- Web: www.osukl.com

Warranty

Oceanic's Limited Warranty covers defects in material or workmanship on new Oceanic products for a period of a year from the purchase date. Only consumers or dealers purchasing Oceanic products from authorized Oceanic resellers and installed by a qualified installer may obtain coverage under Oceanic's Warranty program.

If Oceanic authorizes a product to be returned to us, we will repair the product or replace it without charge with a functionally equivalent replacement product. Oceanic will pay to ship the repaired or replacement product to the purchaser. Labor charges at the consumer's site are not covered under this Warranty. Oceanic warrants that repaired or replaced products shall be covered under the Oceanic Warranty for the remainder of the original product warranty, or 90 days, whichever is greater.

Oceanic's Warranty does not cover any problem that is caused by (a) an accident, abuse, neglect, exposure to shock, electrostatic discharge, heat or humidity beyond the product's specifications, improper installation, inappropriate operation/misapplication, maintenance or modification, or (b) any misuse contrary to the instructions provided with the product, or (c) loss, or (d) malfunctions caused by other equipment, or (e) acts of God. Examples of conditions not warranted include: parts damaged by fire, water, freezing, lightning, collision, theft, explosion, rust, corrosion, or items damaged in route to Oceanic for repair. This Warranty is void if a product is returned with removed, damaged or tampered labels or any other alterations (including removal of any component or external cover) to the product. This Warranty does not cover labour charges or any direct, consequential, or incidental damages.

Warranty Return Process

1. Contact Oceanic Technical Support at the above number. Tech Support will review the troubleshooting steps with you to help determine if the product is defective. DO NOT return product to place of purchase.
2. Contact sales@osukl.com and request an RMA number.
3. Complete the forms and send them with the product and the original receipt showing the date of purchase to Oceanic at the address listed below. Please include the RMA number on the outside of the package.
4. Please send the product postage prepaid via a carrier that can track the package.

Once we receive the product, we will test the product to determine if the problem is due to a defect in the product. If, at our sole discretion the problem is determined to be a manufacturer defect, we will repair the product or send a replacement product.

Oceanic Systems (UK) Ltd
Unit 10/11 Milton Business Centre
Wick Drive, New Milton, BH25 6RH, UK