BILGE DETECTOR / SWITCH

Part Numbers: 5302

INSTALLATION INSTRUCTIONS

ELECTRONIC SWITCH FOR THE BILGE PUMP
This electronic switch permits the bilge pump to be switched on in the presence of water.
The advantages are:

- Operation managed by microcontroller.
- Advanced digital filter to distinguish the pressnce of water.
- Extended power supply range.
- Remote indication of operation status by LED or remote control panel (optional).
- Manual remote pump switch-on by button or remote control panel (optional).
- Signal for prolonged bilge pump switch on (if LED or remote control panel is installed).
- Protection against excessive battery rundown.
- Switch-on/switch-off delay to avoid false switch-on/switch-off cycling of the pump caused by the roll of the boat.
- Functioning over a wide range of environmental temperatures.
- Resin-coated watertight casing.
- Easy installation

INSTALLATION

BEFORE USING THE 5302, READ THIS INSTRUCTION MANUAL CAREFULLY. IF IN DOUBT, CONTACT YOUR NEAREST OCEANIC SYSTEMS RETAILER OR CUSTOMER SERVICE.

Oceanic Systems electronic switch for the bilge pump has been designed and constructed for the purposes described in this instruction manual. The Oceanic Systems company shall accept no responsibility for direct or indirect damages caused by improper use of the instrument, or by incorrect installation or by possible errors in this manual.

ANY TAMPERING WITH THE 5302 BY UNAUTHORIZED PERSONS WILL VOID THE GUARANTEE.

THE PACKAGE CONTAINS: 5302 - user's manual.

INSTALLATION OF THE SWITCH FOR BILGE PUMPS
Install the right 5302 for the maximum current rating of the pump under work conditions.

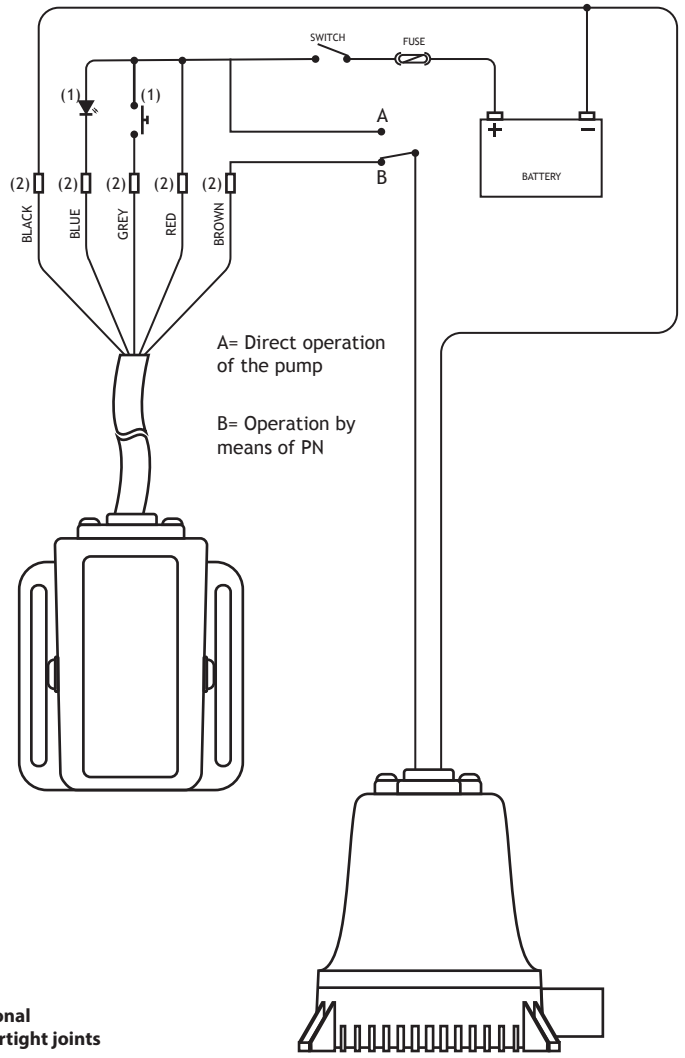
Install the 5302 in vertical position with the power supply cable facing upwards and then fasten it to the support by screwing two screws into the two lateral slots. These two slots permit the correct adjustment of the sensors' height as regards the draught of the pump. Adjust this height in such way that a complete drainage of the compartment occurs during the 20 seconds of pump disabling delay.

WARNING: If the 5302 must be fastened to electrically conductive metal walls, particular attention must be paid to the fastening screws (and any washers/brackets used),which must be made in non-electrically conductive material.

INSTALLATION

ELECTRIC CONNECTIONS

- Before connecting power supply to the 5302, make sure that all the electrical connections are correct.
- Insert a fast-acting fuse of a value adequate to the maximum current absorption value of the bilge pump on the power supply line.
- The joins between the cables leaving the 5302 and the electric system must be watertight or housed inside a watertight container. The degree of tightness (IP rating) must be selected as required by the work environment.
- The installation of the button option is only possible in conjunction with the Led option.



(1) **Optional**
(2) **Watertight joints**

AUTOMATIC OPERATION

AUTOMATIC OPERATION

Pump switch-on
Whenever water comes into continuous contact with both sensors for longer than 5 seconds, the bilge pump switches on.

Pump Switch-off
When one or both sensors are no longer in contact with water for longer than 5 seconds, a 15 second pump switch-off period will begin. After this period has elapsed, the pump will switch off.

Battery save function
Whenever the power supply falls below 9V DC (for 12V DC systems) or is in the range of 15V and 20V DC (for 24V DC systems), the 5302 will not permit bilge pump switch-on

Manual Operation
Manual pump switch-on
This button (optional) permits the bilge pump to be switched on manually. Pressing this button for more than 1 second and then releasing it switches the bilge pump on. In the same way, if the button is pressed again, the pump will switch off. After 8 minutes of continuous operation, the pump switches off automatically and the 5302 returns to automatic mode.

NOTIFICATION SIGNS
The following signals are provided only if the LED or the remote control panel has been installed (optional). Once power supply has been connected, the LED will light up for 2 seconds continuously in order to indicate the operating status described in the table below:

OPERATING STATUS	
LED STATE	**DESCRIPTION**
The LED is off	No power supply voltage is present
The LED shows slow flashes	Absence of water and pump switched off
The LED is almost always lit up and switches off only briefly	Presence of water and pump is switched on
The LED is always lit up	Manual operation by button and pump switched on even in the absence of water (8 minute maximum duration)
Rapidly flashing LED	Switch-on or switch-off delay
OTHER SIGNALS	
LED STATE	**DESCRIPTION**
The LED shows two quick flashes briefly	Battery save function. Whenever the power supply falls below 9V DC (for 12V DC systems) or is in the range of 15V and 20V DC (for 24V DC systems), the 5302 will not permit bilge pump switch-on. Check both the level of charge of the batteries and the correct sizing of the power supply cables.
The LED shows three quick flashes	Prolonged pump working condition. The sensor will continue signalling the presence of water for 8 minutes after switch-on. This signal may indicate: - normal system behaviour - a problem linked to the correct working condition of the pump - the need to service the 5302 - prolonged presence of water where the 5302 is installed

MAINTENANCE - TECHNICAL DATA

MAINTENANCE
Clean the stainless steel sensors periodically in order to ensure the regular operation of the 5302.

TECHNICAL DATA

MODEL	10 A

OUTPUT CHARACTERISTICS

Current carrying of the relay contacts (Max)	10 A

INPUT CHARACTERISTICS

Supply Voltage (1)	9 ÷ 31 Vdc
Current absorbed when idling	7,5mA (Typical value)

AMBIENT CHARACTERISTICS

Operating temperature	from - 15 to + 70°C
Degree of protection	IP68

GENERAL

Switch-on delay	5 Sec
Switch-off delay	20 Sec

GENERAL CHARACTERISTICS

Casing material	Nylon
Dimensions (W x H x D)	75 x 83 x 38 mm
Weight	415 g
EMC Class	EN 60945 - FCC Part 15 Rules 47

(1) Except zone 15-20v DC battery save function for 24V DC systems

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