

BE15 – Ruggedised 4 Station Bilge Alarm

Installation and User Notes

Description

The 4 station bilge alarm system comprises a control panel fitted with LED's for flood warning and "Power ON", a 90 dB siren, and push button switchable -"Power ON / OFF" and Alarm Silence. Where supplied as a kit, the BE51 sensors are of the optical switch type and are sealed, together with their control cable, into an acetal tube fitted with a stainless steel mounting bracket.

Installation

Carefully remove the lid from the box ensuring that the interconnecting cable loom is not strained. The fixing screw holes are at the bottom of the voids below the lid fastening screws. Mount the box in any convenient location where it can be easily accessed; bear in mind that the alarm siren is loud and penetrating.

Note:

When installing, please ensure that the display is located a minimum of 1m. away from radar sets, VHF and other electronic and radio equipment. Please also ensure that the cable to the sensor(s) is routed away from any likely source of interference.

Sensors

Sensor bodies should be mounted horizontally at a level above which a warning is required. Great care should be taken when installing the cables so that they cannot become damaged. Cleat every 25cm.

Connecting up

Connect sensors before the power lead. Unscrew the three fastenings which secure the gland top to the body and remove the pre-drilled sealing bung. Four of the holes are for the sensor leads, while the 5th is for the optional remote alarm / beacon cable. The sensor holes are slit to the outside diameter for ease of assembly. Cut back any surplus cable and then strip back 150mm of the sheath to expose the cores and prepare the ends. Pass the sensor cables through the gland top and then through the bung ensuring that the sheath and not the cores are inside bung and checking that there will be adequate cable inside the box to reach the connector block without strain. Pass the cable into the box and tighten the 3 fastening screws. The terminal block is fitted with shorting links, the purpose of which is to prevent the alarm sounding should less than 4 sensors be connected. Connect sensors into the numbered 12 way connector block, shown below, removing the appropriate shorting link as each one is connected. If four sensors are to be connected all the shorting links should be removed.

Sensor Number	Wire Colour			
	C1 Red	C2 Green	C3 Yellow	C4 Blue
1	1	5	9	11
2	2	6	9	11
3	3	7	10	12
4	4	8	10	12

Make sure that each wire is inserted fully into the terminal socket, and that it is being gripped by the tinned screw when tightened, and that the screw is tight. Be especially careful when two wires are fitted in to one terminal. Carefully replace the lid and tighten the lid securing screws.

To connect remote panel: (where applicable)

- 13 Black
- 17 Blue
- 21 Grey and Black -ve
- 14 Void
- 18 Green
- 22 Purple
- 15 White
- 19 Yellow
- 23 Brown
- 16 Pink
- 20 Orange
- 24 Red and Red +ve

Operation

Switch on the main power by depressing the POWER push button. At first "Switch On", all LED's on the front panel will illuminate and the audible alarm will sound, for about one second. This is to check that the warning devices are working correctly. The state of the sensors is then checked and the LED's will indicate the condition, illuminating if water is detected. The alarm will not continue to sound even if water is detected on one or more of the sensors as the user is obviously at the panel. Assume that the unit is switched on and no water has been detected, so all sensor LEDs are OFF and the audible alarm is not sounding. Bilge level in all four positions is checked only every 20 seconds to conserve power. The sensors are switched on for about one second, during which time they are allowed to stabilise and check for bilge water. At the end of the one second period, the state of the sensors is checked and stored in an electronic memory. If water is detected on one or more sensors, then the relevant LED will come ON, and the audible alarm will sound. If the unit is left unattended, and at the next detection time no water is detected, the LEDs and audible alarm will both go OFF. If any sensor is still detecting water the relevant LED(s) and audible alarm will stay ON. If a detection persists, the user may silence the audible alarm by pressing the SILENCE push button, but the LEDs will not be switched OFF while a water detection is still present. Pressing the SILENCE push button also forces an immediate sensor check, so if water is not detected, then LEDs may go OFF. If the audible alarm is silenced, the detecting systems remain operational and if another station detects water, its LED will come on and the audible alarm will re-start.

Specification

- Power Supply: 7 to 33V DC
- Current Consumption at 12VDC:
 - a) Quiescent current: <20mA
 - b) While sampling sensors (4 sensors connected): 190mA for 1sec every 25sec
 - c) Buzzer sounding & all 4 alarm LED's lit: 56mA
 - d) Peak current (sensors sampling, buzzer sounding, all 4 LEDs lit): <250mA (+ external buzzer current)
- Bilge Sensor Inputs: Up to 4
- Operating ambient temperature range: 0 to +35 degC
- External alarm output: 5V DC, max current 50mA
- Enclosure: Grey polystyrol
- Supply cable: 1m

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