



TL17013A ISSUE 4

Test Report

Marine Type Approval Sealing Tests

E2S Warning Signals

8th December 2023

4	Update to Model numbers to cover range	S. Lee	8 th December 2023
3	Sealing only report	S. Lee	16 th November 2023
2	IP test correction of test time	S. Lee	15 th December 2017
1	Original Issue	S. Lee	17 th November 2017
ISSUE	MODIFICATION	ISSUED BY	DATE



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1 SCOPE OF WORK

Test requirements

This file contains the results of tests carried out to meet the consolidated Environmental Compatibility (ENV) (Sealing test only) requirements of IACS E10: 2014, BS EN 60945: 2002 + Corr 2008 and the major class society requirements. Mariner Systems Test Requirements (Issue 12). The worst-case test levels have been applied.

2 EQUIPMENT UNDER TEST

Item	Model
Electronic Sounder	STExS & STExL
Metal Call Point	STExCP8
Beacon	STExB2
Glass Call Point	STExCP8 (variants BG, PB, PM and PT)
Junction Box	STExJ2

Date of Receipt	13 th February 2017
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Date of Testing	13 th February 2017 – 20 th October 2017
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Client: E2S Warning Signals
 Impress House
 Mansell Road
 London
 United Kingdom
 W3 7QH

Contact: Mr Martin Streetz

Test Results

The equipment under test complied with the electromagnetic compatibility requirements of the specification including any deviations or exclusions listed in section 4.1 of this report. This test report may not be reproduced in whole or part without the prior written approval of the laboratory. The test results in this report are facts and any opinions or interpretations derived from these facts shall be marked *

Signed

Mr Stephen Lee
Laboratory Manager



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3 TEST LABORATORY

The tests were carried out at MS Testing, located in Newton Aycliffe, Co. Durham, UK.

Laboratory accreditation:

MS Testing is UKAS Accredited Test Laboratory No. 4413 and has also been recognized by Bureau Veritas as per BV Note NR320.

Required ambient conditions in the laboratory:

PARAMETER	Required (Lloyd's Specification 1)
Temperature °C	15 – 35
Humidity % RH	42 – 78
Barometric pressure mbar	860 - 1060



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4 TEST SPECIFICATION, METHODS AND PROCEDURES

Mariner Systems Test Requirements (Issue 12) refers to the following tests.

Below is a list of the applied standards and UKAS accreditation status

Basic Standard	Date	Description	UKAS Status
BS EN 60529:2013	2013	Environmental testing Ingress protection	<i>Accredited</i>



5 OPERATION OF THE EUT DURING TESTING

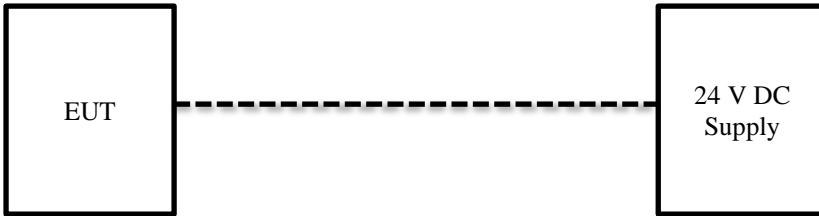
5.1 Configuration and peripherals

Supply Voltage	24V DC
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5.2 System Configuration

Beacons and Sounder



Call points





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5.3 Operating Mode and Environmental Conditions

Beacons and Sounder– The EUT is powered from a 24 V DC supply.

Call points – The contacts of the call points are checked to ensure that they activate state the call point is activated.

5.4 Performance Criterion

Performance Criterion A

The Equipment Under Test (EUT) shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed as defined in the technical specification published by the manufacturer.

Performance Criterion B

The EUT shall continue to operate as intended after the tests. No degradation of performance or loss of function is allowed as defined in the technical specification published by the manufacturer. During the test, degradation or loss of function or performance which is self recoverable, is however allowed but no change of actual operating state or stored data is allowed.

Performance Criterion C

Temporary degradation or loss of function or performance is allowed during and after the test provided function is self recoverable, or can be restored by the operation of the controls as defined in the technical specification published by the manufacturer. No corruption or loss of data is allowed.

5.4 Monitoring of the EUT

Beacons and Sounder – The Beacons were monitored visually to ensure that they continued to flash at the correct rate and brightness. The sounder was monitored to ensure the alarm continued to sound throughout the test and that there was no change in state/volume or tone.

Call points – The call points were checked with a Multimeter to ensure that the contacts did not activate unless the call point was pressed.

5.6 EUT Specific Performance Criterion

Performance Criterion A

Beacons and Sounder – There shall be no change in brightness or flash rate of the beacons and no change in sound from the sounder.

Call points – There shall be no false activation of the call point and will activate when the call point is pressed.

Performance Criterion B

Beacons and Sounder – There shall be no change in brightness or flash rate of the beacons and no change in sound from the sounder.

Call points – There shall be no false activation of the call point and will activate when the call point is pressed.

Performance Criterion C

Beacons and Sounder – There shall be no change in brightness or flash rate of the beacons and no change in sound from the sounder.

Call points – There shall be no false activation of the call point and will activate when the call point is pressed.



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6 TEST RESULTS

6.1 Modifications made to the EUT

Sample 1: Original sample (all EUT's Sample 1)



6.2 Summary of test results

Basic Standard	Test	Result	Sample
EN 60529	Sealing Test	Complied	Sample 1

Results

In the configuration tested, the EUT complies with the specifications detailed above.



7 TEST RESULTS ENVIRONMENTAL

7.1 Equipment Performance †

Specification

The conformance to drawings is checked and a functional performance test is demonstrated to ensure that the system operates in accordance with the customer's instructions.

Test Procedure

Beacons and Sounder – The Beacons were monitored visually to ensure that they continued to flash at the correct rate and brightness. The sounder was monitored to ensure the alarm continued to sound throughout the test and that there was no change in state/volume or tone.

Call points – The call points were checked with a Multimeter to ensure that the contacts did not activate unless the call point was pressed.



7.2 Sealing Test (EN 60529)

Specification

All EUT's will be tested to IPX6
STExCP8 (variants BG, PB, PM and PT) will be additionally tested to IP6X

Test Procedure

IP6X test

During the test the EUT is supported in its normal operating position inside a dust chamber for 8 hours (with under pressure) with talcum powder circulated throughout the chamber with the enclosure under vacuum. After 8 hours the EUT was opened and checked for the presence of dust.

IPX6

The EUT was sprayed from all practical directions at a distance of 3m with water through a 12.5mm nozzle and at a flow rate of 100 l/minute for a period of not less than 30 minutes. After the test the housing was opened and checked for the presence of water.

Results

There was no ingress of water and all the samples complied with IPX6
Additionally STExCP8 (variants BG, PB, PM and PT) complied with IP6X



Environmental Conditions

Temperature	20°C
Humidity	45%
Atmospheric Pressure	1013mBar
Supply	24 V DC

Test Equipment

Equipment	Model	Serial
Water Tank	-	-
Intermediate Bulk Container Tank	-	-
Clarke Water Pump	PW50A	7140640
Tape Measure	RS Pro	-
Thermocouple	Fluke 52	6209074
Test Lance	Jet – 6K	-
12.5mm Jet Nozzle	Jet – 6K	-
Pressure Gauge	SSI	120328012
Pressure Gauge	Wika	11015Y2M



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This test report relates only to the actual item(s) tested, details of which can be found in Section 2 of this report

The test results in this report are facts and any opinions or interpretations derived from the results of these tests shall be marked *

Any testing not presently covered by the scope of our UKAS Schedule of Accreditation shall be marked †

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