# Schedule of Accreditation

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# United Kingdom Accreditation Service

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**Accredited to ISO/IEC 17025:2005**

## Mariner Systems (UK) Ltd

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**Testing performed at the above address only**

DETAIL OF ACCREDITATION

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| **Electrical installations in ships - Control and instrumentation**<br><br>**Maritime navigation and radiocommunication equipment and systems** | **ENVIRONMENTAL TESTS**<br>(non-explosive items)<br><br>**CLIMATIC**<br><br>HIGH TEMPERATURE -<br>Constant/Cyclic<br>Max temp: + 70 °C<br>Max chamber size:<br>1.6 m x 1.9 m x 1.6 m<br><br>LOW TEMPERATURE -<br>Constant/Cyclic<br>Min temp: - 25 °C<br>Max chamber size:<br>1.6 m x 1.9 m x 1.6 m<br><br>HIGH HUMIDITY -<br>Constant/Cyclic<br>Humidity range: 10 % rh to 98 % rh<br>(at temps > + 10 °C)<br>Max temperature: + 55 °C<br>Max chamber size:<br>1.6 m x 1.9 m x 1.6 m<br><br>SALT MIST<br>Temp range: ambient to + 55 °C | <br><br><br><br>BS EN 60068-2-2:2007<br>IEC 60068-2-2:2007<br>BS EN 60945, section 8.2.2.2<br><br><br>BS EN 60068-2-1:2007<br>IEC 60068-2-1:2007<br>BS EN 60945, section 8.4.2.3<br><br><br>IEC 60068-2-30:2005<br>BS EN 60068-2-30:2005 Test Db<br>BS EN 60945, section 8.3<br><br><br><br>IEC 68-2-52: Kb<br>EN 60068-2-52:Kb:1996<br>BS EN 60945:2002, Cl 8.12<br>Lloyds Spec No 1:2002, Cl 16 |

| Materials/Products tested | Type of test/Properties measured/Range of measurement | Standard specifications/ Equipment/Techniques used |
|---|---|---|
| **As listed on Page 1** | **ENVIRONMENTAL TESTS** (cont'd) | |
| | **DYNAMIC** | |
| | VIBRATION - Sinusoidal<br>(ambient temperature)<br>Freq range: 2 to 3000 Hz<br>Max pk/pk displacement: ± 25 mm | BS EN 60068-2-6:1996<br>BS EN 60068-2-6:2008<br>IEC 60068-2-6:2007<br>BS EN 60945, section 8.7.2 |
| | SHOCK - Half sine<br>(ambient temperature)<br>Max severity: 15 gn<br>Pulse width: 11 ms | BS EN 60068-2-27:1993<br>BS EN 60068-2-27:2009 |
| | STATIC INCLINATION<br>Max angle: 45°<br>Max item size: 0.8 m x 0.6 m x 1.02 m<br>Max mass: 55 kg | IEC 60092-504:2001 |
| | DYNAMIC INCLINATION<br>Max angle: 45°<br>Max item size: 0.8 m x 0.6 m x 1.02 m<br>Max mass: 55 kg | IEC 60092-504:2001 |
| | ACOUSTIC NOISE<br>Sound pressure level at 1 m<br>30 to 135 dBA | BS EN 60945, section 11.1.2 |
| | **VOLTAGE TESTS** | |
| | High Voltage Tests<br>1500V ac | IACS Req:1991/issue 5:2006 E 10<br>IEC 60947-2 |
| | Insulation Breakdown<br><br>500 V dc 100 M Ohms | IEC60092-504 prior to and following Damp heat and low temperature tests in IEC 60945:2002 8.3 and 8.4 |
| | Power supply Variation | IEC 60945:2002 10.7.2 |
| | Power Supply Failure | IEC 60945:2002 10.8.2 |

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|---|---|---|
| **As listed on Page 1** | **ENVIRONMENTAL TESTS** (cont'd)<br><br>**EMC TESTS** | |
| | Electrostatic Discharge<br><br>8 kV Air Discharge<br>6 kV Contact Discharge | IEC 60945:2002 10.9.2<br>IEC 61000-4-2:2001<br>IEC 61000-4-2:2008<br>EN 61000-4-2:2009 |
| | Electrical Fast Transient Bursts<br><br>2 kV | IEC 60945:2002 10.5.2<br>IEC 61000-4-4:2004<br>EN 61000-4-4:2004 |
| | Surge<br><br>2 kV | IEC 60945:2002 10.6.2<br>IEC 61000-4-5:2005<br>EN 61000-4-5:2006 |
| | Compass Safe Distance | IEC 60945:2002 11.1.2 |
| | Radiated Immunity<br><br>80 to 2000 MHz, 10 V/m<br>2000 to 2700 MHz, 3 V/m | IEC 60945:2002 10.4.2<br>EN 61000-4-3:2006 including Amendment A1:2008 |
| | Conducted Emissions<br><br>9 kHz to 30 MHz | IEC 60945:2002 9.2.2<br>EN 55016-2-1:2009 |
| | Radiated Emissions<br><br>150 kHz to 3000 MHz | IEC 60945:2002 9.3.2<br>EN 55016-2-3:2006 |
| | END | |