Certificate No: RED-202005

REDTRONIC ENVIRONMENTAL TEST CERTIFICATE

Company : Redtronic Ltd

Address : Unit 1-9, Wellington Business Park, Quebec Street, Elland, HX5 9BX, United Kingdom

Sample Name : Tornado X single XT1M-047-BBLL

Date Tested : 19/12/23

TESTING LABORATORY ACCREDITATION:

ISO 9001:2015 certificate is approved by Q.A. International Certification Limited
Certificate No: QAIC / UK / 501

Regulations; 72/245/EC, ECE10 as amended is approved by Vehicle Certification Agency
Registration No: VCAMC/14/0043/A

UN/ECE Regulation No 65 is approved by Unidad De Certificación Del Automovil
Certificate No: C1 29571503D

TEST METHOD:

BS EN 60068-2-38:2009: Environmental testing – Temperature/humidity cyclic test

BS EN 60529:1992+A2:2013 – Degrees of protection provided by enclosures

ISO 20653: 2013-02: high-pressure cleaning

WE HEREBY CERTIFY THAT:

The test(s) shown in the attachment were conducted according to the indicating procedures. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all personnel performing them.

	Name	Date
Technical Engineer	Dan Jackson	19/12/2023

NOTE:

1. This certificate will be invalid if reproduced in part or altered in anyway.

2. This certificate refers only to the specimen(s) submitted to test and is invalid if used otherwise.

Redtronic LTD, Units 1-10 Wellington Business Park, Quebec Street, Elland HX59BX
+44 (0)1422 310999 info@redtronic.co.uk www.redtronic.co.uk

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1. GENERAL INFORMATION

1.1 DESCRIPTION OF UNIT

Manufacturer: Redtronic Ltd
Sample name and Sample quantity:

Sample Name	Sample Quantity
Tornado X Single XT1M-047-BBLL	1 unit

1.2 UNIT OPERATING CONDITION

Unit is powered off and disconnected from power source. During testing there is a function test at beginning and end of test procedure. Unless stated otherwise in the test parameters of each test.

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2. HIGH PRESSURE CLEANING TEST

2.1 TEST EQUIPMENT

Model	Calibration Date
HAIDA	January 2023

2.2 LABORATORY AMBIENCE CONDITION

Temperature: 25°C ± 10°C

Relative Humidity: 50% ± 25% (RH)

2.3 REFERENCE DOCUMENT

This test method refers to BS EN 60529:1992+A2:2013 – Degrees of protection provided by enclosures, specifically ISO 20653: 2013-02: IPx9K high-pressure cleaning.

2.4 TEST PARAMETERS

Distance of the Nozzle to the specimen:	100 to 150mm
Water flow rate:	15l / min
Water pressure:	100 bar
Water temperature:	80°C
Speed test table:	5 U / min
Spray angle:	0°, 30°, 60°, 90°
Number of cycles:	1
Test Conditions:	The specimen is periodically in electrical operation.

2.5 SUMMARY OF TEST

A full test is carried out on each feature of the equipment to ensure no water has permeated and caused any kind of effect to the function of the product.

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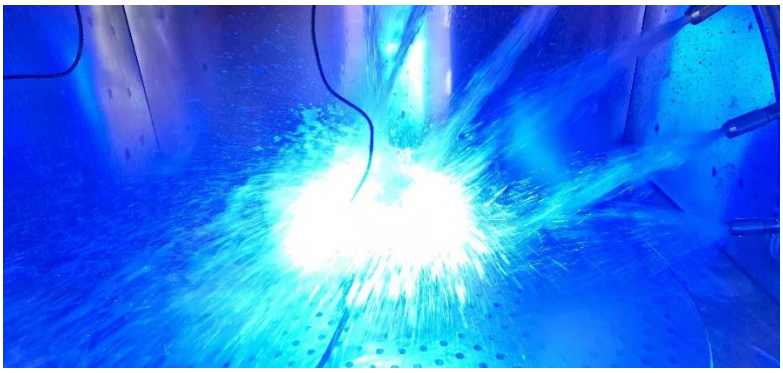
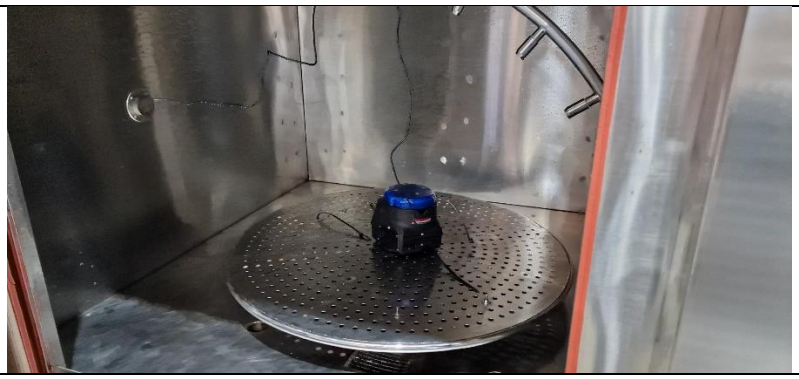
3. ATTACHMENTS HIGH PRESSURE CLEANING

SETUP

AFTER TESTING

Comments: Device passed test with no negative reaction. Lamp worked both at beginning of test cycle, during and after test cycle complete.

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4. ENVIRONMENTAL TESTING

6.1 TEST EQUIPMENT

Model	Calibration Date
HAIDA	January 2023

6.2 LABORATORY AMBIENCE CONDITION

Temperature: 25°C ± 10°C

Relative Humidity: 50% ± 25% (RH)

6.3 REFERENCE DOCUMENT

BS EN 60068-2-38:2009: Environmental testing – Temperature/humidity cyclic test

6.4 TEST PARAMETERS

Section of test:	Parameters:
Preconditioning	55°C ±2 K 20% RH for 24h
Initial measurements	Visual Inspection od specimen
Conditioning	±2K tolerance
Test cycle	25°C ±2K 93 ±3% RH at start of test the follow BS EN 60068-2

6.5 SUMMARY OF TEST

After testing, visual inspection showed only slight condensation build up due to the cold temp of the plastics which cleared naturally once the unit was beginning to warm back up to room temperature.

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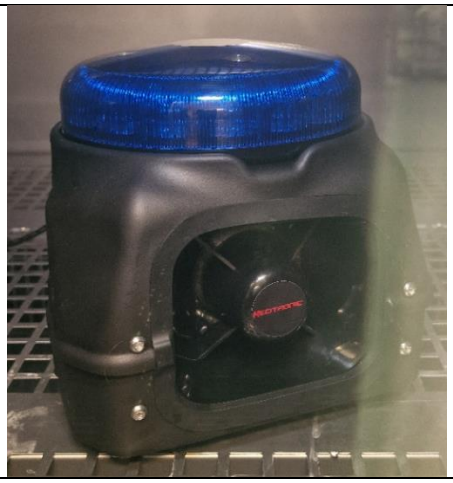
Certificate No: RED-202005

5. ATTACHMENTS ENVIRONMENTAL TEST

SETUP

AFTER TESTING

Comments: Device passed test with no negative reaction. The unit worked both at beginning of test cycle and after testing was complete. A periodic function test was run during the testing procedure.

Conclusion: The test ended with no negative effects.

	Name	Signature	Date
Technical Engineer	Dan Jackson		19/12/2023

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