

Test Certificate

CERTIFICATE No:	TRA033581CC04
ISSUE:	A
DATE:	13/02/2017

PURPOSE OF TEST: Ingress Protection

CLIENT ORDER No: P37645

CLIENT: FT Technologies (UK) Ltd, Church Lane, Teddington, Middlesex, GB. TW11 8PA.

EQUIPMENT UNDER TEST: Wind Sensor Serial No.: 9001-002 Part Number FT742-D-SM Element Stores Number TRA-033581-S24

> Serial No.: 9000-349 Part Number FT742-A-DM Element Stores Number TRA-033581-S21

Receipt date: 14/11/2016

7th December to 8th December 2016

TEST SPECIFICATIONS:

In accordance with Element quotation TRA-033581-01 dated 10th October 2016, also in accordance FT Technology Document No. A9450, Issue 1 BS EN 60529:1992

TEST DATE:

TEST LOCATION:

Element Materials Technology, Rothwell Road, Warwick, Warwickshire, CV34 5JX

WRITTEN BY:

Sam Bannan **Environmental Test** Engineer

APPROVED BY:

Rob Sutton Verification Controller

The results herein relate only to the particular samples of equipment tested and the specific tests performed, as detailed above, and in accordance with the contract. Full details of test results, modifications and marginal results are held by Element Materials Technology Warwick Ltd. The quality control arrangements are in accordance with our UKAS accreditation. No representation or warranty is given that the tests performed under the terms of contract constitute, in themselves, a sufficient programme for the client's purpose, nor that the client's equipment is suitable for any particular purpose, nor that any approval has or will be granted by Element Materials Technology Warwick Ltd or any other body. The contents of this certificate shall not be reproduced, except in full, without the written approval of Element Materials Technology Warwick Ltd. 1 of 3

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Probe: Force:

TESTS CARRIED OUT:

IP4X - Protected Against Access to Hazardous Parts and Against Solid Foreign Objects

 $1.0^{+0.05}$ mm diameter x 100mm wire 1N ± 10%

There were no components which were removable without the use of a tool. The 100mm access probe was applied to assess if the 1mm diameter probe could gain access to the openings of the enclosure at a force of 1N.

IP6X - Protected Against Access of Solid Foreign Objects - Dust Tight

 Tested in accordance with FT Technologies Document No. A9450, Issue 1, Section 10.1, which refers to BS EN 60529:1992+A2:2013

 Duration:
 If extraction rate is 40-60 volumes per hour, duration is 2 hours. If extraction rate is less than 40 volumes per hour at a depression of ≤ -20mbar, test is continued until 80 volumes have been drawn through or 8 hours elapsed.

 Maximum Flow rate:
 60 times the volume of the specimen per hour

 Maximum Vacuum:
 ≤ -20mbar

Note: All enclosures with first characteristic numeral 6 shall be deemed category 1.

IPX7 – Temporary Immersion in Water

Tested in accordance with FT Technologies Document No. A9450, Issue 1, Section 10.2, which refers to BS EN 60529:1992+A2:2013

Water Level:	1 metre above lowest point of enclosure
Duration:	30 minutes
Configuration:	Non-Operational.
Water Temperature:	Within ±5°C of equipment temperature

IPX6 - Protected Against Powerful Water Jets

Tested in accordance with FT Technologies Document No. A9450, Issue 1, Section 10.3, which refers to BS EN 60529:1992+A2:2013

Nozzle:	12.5 mm diameter
Flow Rate:	100 litres per minute ± 5%
Duration:	1 minute per m ² of surface area of enclosure from all practicable directions (3 minutes each)
Distance:	2.5 to 3 metres
Water Temperature:	Within ±5°C of equipment temperature

TEST RESULTS:

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IP4X - Protected Against Access to Hazardous Parts and Against Solid Foreign Objects The specimen was found to have no openings that could be penetrated by the access probe of 1 mm Ø reducing adequate clearance between the access probe and hazardous parts.

<u>IP6X - Protected Against Access of Solid Foreign Objects - Dust Tight</u> <u>IPX7 – Temporary Immersion in Water</u> <u>IPX6 - Protected Against Powerful Water Jets</u>



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Upon completion of all of the tests, the specimens were inspected. There was no water or dust ingress found. The specimens S21 and S24 therefore satisfies the requirements of BS EN 60529:1992+A2:2013, IP66 and IP67.



IP X6



IP X7



IP 6X

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IP6X

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