

Test Certificate

CERTIFICATE No: TRA029400CC01

ISSUE: A

DATE: 09/12/2015

PURPOSE OF TEST: Ingress Protection Testing

CLIENT ORDER No: 5972

CLIENT: Bradley Markham
Bull Products Limited, Beacon House, 4 Beacon Road,
Rotherwas Industrial Estate, Hereford, HR2 6JF.

EQUIPMENT UNDER TEST: Cygnus Call Point & First Aid Alarm
Part Number: CYG2F
Element Stores Number: TRA-029400-S1

Receipt date: 24/11/2015

TEST SPECIFICATIONS: In accordance with quotation TRA-029400-00
BS EN 60529:1992 + A2:2013

TEST DATE: 24/11/2015 and 25/11/2015

TEST LOCATION: Element Materials Technology, Rothwell Road, Warwick,
Warwickshire, CV34 5JX

NOTE: The sounder beacon is classed as an external
component and not part of this certification.

WRITTEN BY:



P. Bullock
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.

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EMTEACC02



TESTS CARRIED OUT:IP4X - Protected Against Access to Hazardous Parts and Against Solid Foreign Objects

Probe: $1.0^{+0.05}_{-0}$ mm diameter x 100mm wire
Force: $1N \pm 10\%$

The EUT was visually assessed and no openings found to apply the probe at a force of 1N.

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

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 depression of $\leq -20\text{mbar}$, test is continued until 80 volumes have been drawn through or 8 hour elapsed.

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

Maximum Vacuum: $\leq -20\text{mbar}$

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

The EUT was connected to a vacuum pump, pressure indicator and flow meter to calculate the test duration. The EUT was then placed in the dust chamber and re-connected to the vacuum pump to provide a vacuum of 20mbar below laboratory ambient pressure during the test. The test was carried out for a period of 2 hours, in accordance with the specification, Figure 1.

IPX5 – Protected Against Water Jets

Nozzle: 12.5 mm diameter

Flow Rate: 100 litres per minute $\pm 5\%$

Duration: 1 minute per m^2 of surface area of enclosure from all practicable directions (3 minutes minimum)

Distance: 2.5 to 3 metres

Water Temperature: Within $\pm 5^\circ\text{C}$ of equipment temperature

The temperature of the water and EUT was measured to ensure the differential was within 5°C . The EUT was mounted in its normal operating orientation and sprayed from all practicable directions for a period of 3 minutes, in accordance with the specification.

TEST RESULTS:IP4X - Protected Against Access to Hazardous Parts

The EUT was found to have no openings that could be penetrated by the access probe of 1 mm \emptyset

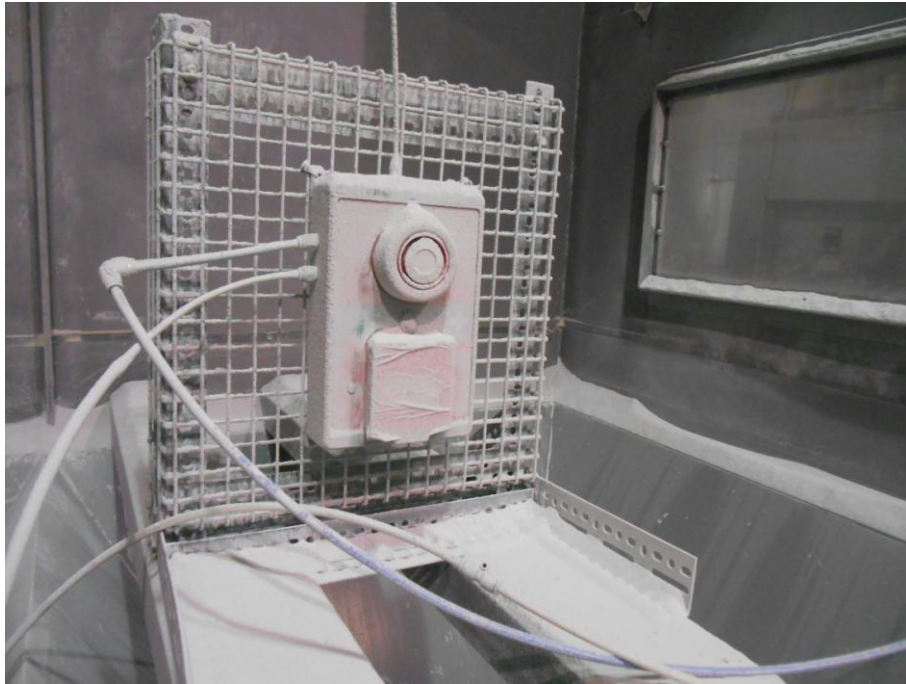
IP6X- Protected Against Access of Solid Foreign Objects - Dust Tight

After testing, The EUT was cleaned externally before being opened for internal inspection. No Dust ingress was found.

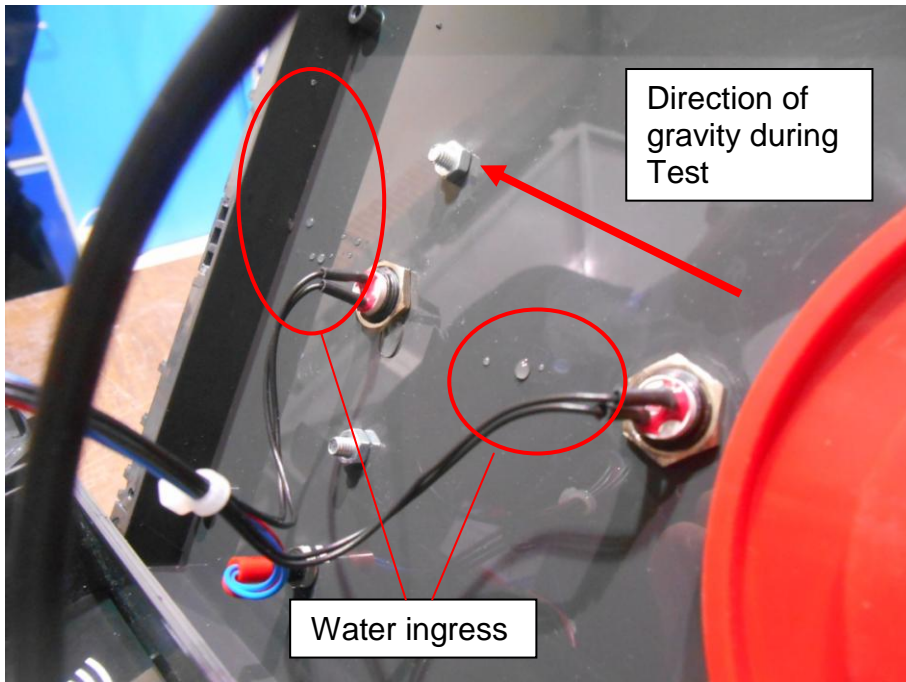
IPX5 – Protected Against Water Jets

After testing, The EUT was dried externally before being opened for internal inspection. Water ingress was found at the rear of the non latching switches, Figure 2, a pool at the base of the specimen. However the quantity and location of the ingress found was deemed insufficient to affect function.

The EUT TRA-029400-S1 therefore satisfies the requirements of BS EN 60529: 1992+A2:2013 IP65.



EUT After Undergoing IP6X Dust Test
Figure 1



EUT Inspected for Water Ingress
Figure 2