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Test Report No B124-11-AR-04-e

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Test of degree of protection IP55 for the inside and IP56 for the outside

TEST SAMPLE: Electronic Escutcheon XS4 (40 mm)
MODEL: E2450U00IM38M
REQUESTED BY: Salto Systems, S.L.
 C/Arkotz N° 9 Pol. Lanbarren 20.180 OIARTZUN (Gipuzkoa)
MANUFACTURER: Salto Systems, S.L.
STANDARD: IEC 60529 ed2.1 Consol. with am1 (2001-02)
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* The present report refers only and exclusively to the sample tested and at the moment and conditions in which the measurements were made.
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1. IDENTIFICATION AND CHARACTERISTICS OF TEST SAMPLE

Electronic Escutcheon XS4 (40 mm)

Model: E2450U00IM38M

2. TESTS PERFORMED. STANDARD

Tests for degree of protection against access to hazardous parts, against ingress of solid foreign objects and against water have been performed according to EN 60529:1991+ERRATUM 1993 "Degrees of protection provided by enclosures (IP Code)".

A calculation of uncertainties for all measurements carried out is available.

3. PROTECTION AGAINST ACCESS TO HAZARDOUS AREAS, RESISTANCE AGAINST INGRESS OF FOREIGN PARTICLES AND DETRIMENTAL ENTRY OF WATER

Enclosures must provide a degree of protection **IP55 – IP56**, according to the specifications.

3.1. Protection against access to dangerous areas (IP5X)

In order to meet the requirements according to the first characteristic figure 5, a test gauge of 1 mm Ø applied with a force of 1 N ± 10% shall not penetrate into the enclosure, and if penetrated the test gauge shall stop at a safe distance from hazardous parts.

Environment conditions: 21°C – 50% RH – 1020 mbar.

RESULT. **OK:** The test gauge does not penetrate into the enclosure.

3.2. Protection against access of foreign particles (IP5X)

The test sample was placed inside a suitable test chamber containing a suspension of the required quantity (2 kg/m^3) of talcum powder (this powder must pass through a square-mesh screen of $50 \text{ }\mu\text{m}$ wire diameter and $75 \text{ }\mu\text{m}$ mesh size).

The test time was 8 hours.

Environment conditions: 21°C – 50% RH – 1020 mbar.

RESULT: **OK**. No powder deposit was observed inside the enclosure after the test.

3.3. Protection against water (IPX5) for the inside

Test is made by spraying the enclosure from all practicable directions for a test duration of 3 minutes and from a distance of 3 m. Applied water stream is as supplied from a standard nozzle (internal diameter $6,3 \text{ mm}$), with a water delivery rate of $12,5 \text{ l/min}$.

Atmospheric conditions: 20°C – 52% HR – 1024 mbar.

Water temperature: 18°C .

RESULT. **CORRECT**. No water entry is observed inside the sample.

3.4. Protection against water (IPX6) for the outside

Test is made by spraying the enclosure from all practicable directions for a test duration of 3 minutes and from a distance of 3 m. Applied water stream is as supplied from a standard nozzle (internal diameter $12,5 \text{ mm}$), with a water delivery rate of 100 l/min .

Atmospheric conditions: 19°C – 47% HR – 1019 mbar.

Water temperature: 18°C .

RESULT. **CORRECT**. No water entry is observed inside the sample.



NOTE: The successfully tested degree of protection IP56, is also applicable over the following models.

i-Button technology, models:

E145xx..., E245xx..., S145xx..., S245xx...

Proximity technology, models:

E745xx..., E845xx..., E945xx..., EH45xx..., EA45xx..., S745xx..., S845xx..., S945xx..., SH45xx..., SA45xx...