

# Test Report

## Nº 24-17-BY-02E



### Degree of protection test IP53-IP55

TEST SAMPLE	ELECTRONIC SHIELD SERIES Ei7xx....5
MODEL	E9750U00IMW385
REQUESTED BY	SALTO SYSTEMS, S.L.
MANUFACTURER	SALTO SYSTEMS, S.L. Arkotz 9 Pol. Lanbarren 20180 OIARTZUN (Gipuzkoa)
STANDARD	IEC 60529:1989+A1:1999+A2:2013
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TEST DATE	27 de julio de 2017
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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 SHIELD SERIES Ei7xx...5

Model: E9750U00IMW385

The tested sample was selected and delivered by the applicant. It is shown in the photographs below.

## 2. TESTS PERFORMED. STANDARD

Tests for degree of protection IP53-IP55 against access to hazardous parts, against ingress of solid foreign objects and against water have been performed according to IEC 60529:1989+A1:1999+A2:2013 "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 (IP53-IP55)

### 3.1. Protection against access to dangerous areas (IP5X)

In order to meet the requirements according to the first characteristic 5 the access probe of 1 mm Ø applied with a force of 1 N  $\pm$  10% shall not penetrate into the enclosure.

Ambient air conditions: 22 °C – 45% HR – 101,1 kPa.

RESULT. **CORRECT:** The test access probe does not penetrate into the enclosure.

### 3.2. Protection against access of foreign particles (IP5X category 2)

The test sample was placed inside a suitable test chamber containing a suspension of the required quantity ( $2 \text{ kg/m}^3$ ) 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) is maintained in suspension.

Ambient air conditions:  $22 \text{ }^\circ\text{C}$  – 45% HR –  $101,1 \text{ kPa}$ .

Test duration: 8 h

RESULT: **CORRECT**. No powder deposit was observed inside the sample after the test.

### 3.3. Protection against ingress of water for indoor (IPX3)

The test is performed by spraying the enclosure for 5 minutes at  $\pm 60^\circ$  with respect to the vertical at a distance of between 300 and 500 mm using a spray nozzle with the exact size indicated in the standard. The water flow rate is  $10 \text{ l/min}$ .

Ambient air conditions:  $22 \text{ }^\circ\text{C}$  – 45% HR –  $101,1 \text{ kPa}$ .

Water temperature:  $20 \text{ }^\circ\text{C}$ .

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

### 3.4. Protection against ingress of water for outdoor (IPX5)

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  $12,5 \text{ l/min}$ .

Ambient air conditions:  $22 \text{ }^\circ\text{C}$  – 45% HR –  $101,1 \text{ kPa}$ .

Water temperature:  $20 \text{ }^\circ\text{C}$ .

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

#### 4. ANNEX



Test sample