

# Test Report




## Nº B24-12-BG-03-e



### Test of degree of protection IP34

<b>TEST SAMPLE</b>	WALL READER
<b>MODEL</b>	WRM 6000
<b>REQUESTED BY</b>	SALTO SYSTEMS, S.L.
<b>MANUFACTURER</b>	SALTO SYSTEMS, S.L. Arkotz 9 Pol. Lanbarren 20180 OIARTZUN (Gipuzkoa)
<b>STANDARD</b>	IEC 60529:1989+A1:1999
<b>RECEPTION DATE</b>	8th May 2012
<b>TEST DATE</b>	9th May 2012
<b>ISSUE DATE</b>	17th May 2012

**This document is a copy in pdf of the original Report, as requested by the client**

Test Chief	Head of Electrical Equipment Laboratory
 	
Endika Mendiola	Luis Martínez

\* The present report refers only and exclusively to the sample tested and at the moment and conditions in which the measurements were made.  
 \* The partial reproduction of the present document is categorically forbidden without the permission in writing of TECNALIA Research & Innovation

**ÍNDEX**

- 1. IDENTIFICATION AND CHARACTERISTICS OF TEST SAMPLE ..... 3
- 2. TEST FACILITIES ADDRESS ..... 3
- 3. TESTS PERFORMED. STANDARD ..... 3
- 4. PROTECTION AGAINST ACCESS TO HAZARDOUS AREAS, RESISTANCE AGAINST INGRESS OF FOREIGN PARTICLES AND DETRIMENTAL ENTRY OF WATER..... 3
  - 4.1. Protection against access to dangerous areas (IP3X) ..... 3
  - 4.2. Protection against access of foreign particles (IP3X)..... 4
  - 4.3. Protection against water (IPX4)..... 4

## 1. IDENTIFICATION AND CHARACTERISTICS OF TEST SAMPLE

WALL READER

Model: Smart WRM 6000

## 2. TEST FACILITIES ADDRESS

The performance of the tests were made in the TECNALIA's Laboratory allocated in Burtzeña-Barakaldo - Bizkaia- Spain.

## 3. 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 IEC 60529:1989+A1:1999 "Degrees of protection provided by enclosures (IP Code)".

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

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

Enclosures must provide a degree of protection **IP34**, according to the specifications.

### 4.1. Protection against access to dangerous areas (IP3X)

In order to meet the requirements according to the first characteristic 3, a test gauge of 2,5 mm Ø applied with a force of 3 N ± 10% shall not penetrate into the enclosure, and if penetrated the test gauge shall stop at a safe distance from hazardous parts.

Ambient conditions: 20°C – 65% HR – 1014 mbar.

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

#### 4.2. Protection against access of foreign particles (IP3X)

In order to meet the requirements according to the first characteristic 3, a test gauge of 2,5 mm Ø applied with a force of 3 N ± 10% no penetration is permitted (the whole diameter of the test probe shall not pass through any opening of the enclosure).

**Note:** For first characteristic numerals 3 and 4 the probes are intended to simulate foreign objects which may be spherical.

Ambient conditions: 20°C – 65% HR – 1014 mbar.

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

#### 4.3. Protection against water (IPX4)

The test is performed by spraying the enclosure for 5 minutes from all possible directions 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 l/min.

Ambient conditions: 20°C – 65% HR – 1005 mbar.

Water temperature: 20°C

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



Test sample