



# Certificate / Certificat Zertifikat / 合格証

FLO 1905142 C003

*exida* hereby confirms that the:

## PMV WS/WM Series UltraSwitch Switch box

### PMV Automation AB Solna, Sweden

Has been assessed per the relevant requirements of:

**IEC 61508 : 2010 Parts 1-2**

and meets requirements providing a level of integrity to:

**Systematic Capability: SC 3 (SIL 3 Capable)**

**Random Capability: Type A, Route 2<sub>H</sub> Device**

**PFH/PFD<sub>avg</sub> and Architecture Constraints  
must be verified for each application**

#### Safety Function:

The Switchbox Sensor/Switch Output will change when the attached Valve moves to the Switchbox's preset position.

#### Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

The manufacturer  
may use the mark:



Revision 1.3 May 30, 2025  
Surveillance Audit Due  
November 1, 2028



Evaluating Assessor

Certifying Assessor

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## Systematic Capability :

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

## Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2<sub>H</sub>.

### Versions:

| Group   | Description / Application  | Applicable Switch Codes              |
|---------|--|--------------------------------------|
| Group 1 | Namur Proximity Sensors  | N3, N4, N8, NG, NM, NP, NQ, NW, & NY |
|         | MicroSwitches and Proximity Reed Switches, rated up to 2 Amps and external Current Limiting/Protection | MG & P5                              |
| Group 2 | Proximity Reed Switches, rated up to 2 Amps and external Current Limiting/Protection                   | PE, PP, & PT                         |
| Group 3 | MicroSwitches (Applications with Switches rated up to 15 Amps)   | M1                                   |

### IEC 61508 Failure Rates in FIT<sup>1</sup>

| Application/Device/Configuration   | $\lambda_{SD}$ | $\lambda_{SU}$ | $\lambda_{DD}$ | $\lambda_{DU}$ | #  |
|--|----------------|----------------|----------------|----------------|----|
| Group 1 – NAMUR Proximity Sensors, MicroSwitches*, or Proximity Reed Switches* | 0              | 16             | 0              | 89             | 37 |
| Group 2 – Proximity Reed Switches*   | 0              | 5              | 0              | 74             | 38 |
| Group 3 – MicroSwitches (Applications with Switches rated up to 15 Amps)       | 0              | 18             | 0              | 118            | 40 |

## SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD<sub>avg</sub> considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

**Assessment Report:** FLO 19/05-142 R005 V2R2 Switchbox Assessment Report (or later)

**Safety Manual:** Ultra-Switch Safety Manual \_ V1R2 (or later)



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