



The manufacturer  
may use the mark:



Revision 1.0 January 7, 2020  
Surveillance Audit Due  
January, 2023



ISO/IEC 17065  
PRODUCT CERTIFICATION BODY  
#1004

# Certificate / Certificat Zertifikat / 合格証

PRS 1902138 C001

*exida* hereby confirms that the:

## **W Series Pressure Switch Precision Sensors Milford, Connecticut - USA**

Has been assessed per the relevant requirements of:

**IEC 61508 : 2010 Parts 1-7**

**ISO 13849 : 2015**

and meets requirements providing a level of integrity to:

**Systematic Capability: SC 3 (SIL 3 Capable)  
PL e (PL e 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 safety function of W Series Pressure Switch is to switch when a set point is reached.

### **Application Restrictions:**

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



*Brad Ritzbank*

Evaluating Assessor

*Steve J. Chase*

Certifying Assessor

PRS 1902138 C001

**Systematic Capability: SC 3 (SIL 3 Capable)****PL e (PL e 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****W Series Pressure  
Switch****Systematic Capability :**

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3 and Performance Level (PL) e. 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>.

**IEC 61508 Failure Rates in FIT\***

| Application/ | $\lambda_{SD}$ | $\lambda_{SU}$ | $\lambda_{DD}$ | $\lambda_{DU}$ |
|--------------|----------------|----------------|----------------|----------------|
| High Trip    | 0              | 30             | 0              | 82             |
| Low Trip     | 0              | 35             | 0              | 85             |

\* FIT = 1 failure / 10<sup>9</sup> hours

† PVST = Partial Valve Stroke Test of a final element Device

**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:** PRS 19/02-138 R002 V1 R1 (or later)

**Safety Manual:** SAFETY MANUAL W SERIES



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