



# Certificate / Certificat Zertifikat / 合格証

PREI 070902 P0002 C006

exida hereby confirms that the:

## 9106 HART Transparent Repeater Product Version 9106-002

**PR electronics A/S  
Rønne - Denmark**

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 1<sub>H</sub> Device**

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

### Safety Function:

The 9106 HART transparent repeater isolates 4-20 mA process signals and realizes a ground loop elimination.

### 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 3.0 August 01, 2024  
Surveillance Audit Due  
August 01, 2027



  
Evaluating Assessor

  
Certifying Assessor

# 9106 HART Transparent Repeater

Product Version 9106-002

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

**Random Capability: Type A Route 1<sub>H</sub> Device**

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

### 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.

### 9106 Configurations

	$\lambda_S$	$\lambda_{DD}$	$\lambda_{DU}$
Single active input and active output	0	173	41
Single active input and passive output	0	174	41
Single passive input and active output	0	160	40
Single passive input and passive output	0	160	41
Dual active input and dual active output	0	382	9
Dual active input and dual passive output	0	381	9
One passive input and one active input and dual active output	0	368	9
One passive and one active input and dual passive output	0	368	9

### IEC 61508 Failure Rates in FIT\*

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

### 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:** PR 23/12-098 R035 V1R0

**Safety Manual:** 9106 Safety Manual V1R2



80 N Main St  
Sellersville, PA 18960

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Transparent Repeater