

CERTIFICATE



PREI 070902 P0002 C07

exida Certification S.A. hereby confirms that the

9107 HART transparent driver

Product Version 9107-002

PR electronics AS

Rønde, Denmark

Has been assessed per the relevant requirements of

IEC 61508:2000

Parts 1 - 7, and meets requirements providing a level of integrity to

Systematic Integrity : SIL 2 Capable

Random Integrity : SIL 2 Capable

Safety Function

The 9107 HART transparent driver 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 requirements in the Safety Manual.



Assessor



Certifying Assessor

Date: 19 March 2012

exida Certification SA, Nyon, Switzerland



Systematic Integrity: SIL 2 Capable

SIL 2 Capability

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 2. 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 the statement without “prior use” justification by end user or diverse technology redundancy in the design.

Random Integrity: SIL 2 Capable

Summary for the 9107 HART transparent driver

Type A device

IEC61508 failure rates

9107 configuration	SIL	λ_{safe}	λ_{dd}	λ_{du}	SFF	DC _D	MTBF
Single active input and active output	SIL2	164	127	48	85%	72%	135y

All failure rates are given in FIT=10⁻⁹/h

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{AVG} 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 subsystem must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are mandatory parts this certificate:

PR electronics 0709-02-C R017 V1R0 Assessment report.

9107 Safety Manual V1R0

The holder of this certificate may use this mark.

