



Certificate / Certificat Zertifikat / 合格証

PREI 070902 P0002 C04.1

exida hereby confirms that the:

Solenoid / Alarm Driver 9203
Version 9203-001

PR electronics AS
Rønne, Denmark

The manufacturer
may use the mark:



Revision 2.0 March 31, 2016
Surveillance Audit Date
April 23, 2019

Has been assessed per the relevant requirements of:

IEC 61508 : 2000 Parts 1-7

and meets requirements providing a level of integrity to:

Systematic Capability: SIL 2 Capable

Random Capability: Type B Device

Safety Function:

The 9203 Solenoid / Alarm Driver shall convert NPN/contact/PNP signals from safe area into digital drive signals in hazardous area.

Application Restrictions:

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



Evaluating Assessor

Certifying Assessor



ANSI Accredited Program
PRODUCT CERTIFICATION
#1004

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Systematic Capability: SIL 2 Capable

Random Capability: Type B Device

PFD_{AVG} and Architecture Constraints must be verified for each application

Solenoid / Alarm Driver 9203

Systematic 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 stated.

Random Capability:

Summary for Solenoid / Alarm Driver 9203 Low Current Type B device
 Total failure rate 520 FIT. Solenoid / Alarm Driver 9203 High Current - Type B device Total failure rate 526 FIT.

IEC 61508 Failure Rates in FIT*

Device	λ_{Safe}	λ_{DD}	λ_{DU}
Solenoid / Alarm Driver 9203 Low Current	416	61	43
Solenoid / Alarm Driver 9203 Low Current	419	61	46

* FIT = 1 failure / 10⁹ hours

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 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 0709-02C Assessment Report 9203 V1R2.pdf

Safety Manual: 9203 Safety Manual V3R0.pdf



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