



Certificate / Certificat Zertifikat / 合格証

P+F 1406079 P0006 C014

exida hereby confirms that the :

HiC2853R1, HiC2853R4, HiC2853R6

Product versions see second page

**Pepperl + Fuchs SE
Mannheim, Germany**

The manufacturer
may use the mark:



Revision 3.1 March 18, 2024
Surveillance Audit Due
March 31, 2027

Have 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_H Device

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

Safety Function:

The HiC2853R1, R4, R6 shall provide the following Type A safety function for the low and high demand mode of operation: The device shall transfer discrete signals from a hazardous area to a safe area. The binary input signal controls directly the electronic output and the resistive output for use in safety applications.

Application Restrictions:

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



Evaluating Assessor

Certifying Assessor

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Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 1_H Device

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

HiC2853R1

HiC2853R4

HiC2853R6

Systematic Capability :

This 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.

IEC 61508 Failure Rates in FIT*

Device	λ_{Safe}	λ_{DD}	λ_{DU}
Electronic output	135	0	3,3
Resistive output	151	0	5,1

* 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 PFH/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: P+F 1406-079-C R035 V3 R0 Assessment Report

Safety Manual: Safety Manual Switch Amplifier HiC2853R1, HiC2853R4, HiC2853R6 Ver: DOCT-3712C 01/2024

Product Versions:

Product Name	Hardware Version
HiC2853R1	05-6498C / FS-0005EA-02B / 09.01.2023
HiC2853R4	05-6498C / FS-0005EA-02B_2 / 09.01.2023
HiC2853R6	05-6498C / FS-0005EA-02C / 30.06.2023

