Certificate / Certificat

Zertifikat / 合格証

FOX 1012062 P0009 C004

exida hereby confirms that the:

244LD / 244LVP LevelStar

Foxboro Eckardt GmbH
Stuttgart, Germany

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-7

and meets requirements providing a level of integrity to:

Systematic Capability: SC 2 (SIL 2 Capable)

Random Capability: Type B Element

SIL 2 @ HFT = 0; Route 1_H

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

Safety Function:
The 244 LevelStar Series will measure Level, Interface and Density within the stated safety accuracy.

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

Evaluating Assessor

Certifying Assessor

The manufacturer may use the mark:

Valid until October 1, 2020
Revision 1.1 September, 2017

ANSI Accredited Program
PRODUCT CERTIFICATION
#1004

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Systematic Capability: SC 2 (SIL 2 Capable)

Random Capability: Type B Element

SIL 2 @ HFT=0; Route 1_H

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

244LD / 244LVP LevelStar

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:

The SIL limit imposed by the Architectural Constraints must be met for each element.

IEC 61508 Failure Rates in FIT*

	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}	SFF
244LD LevelStar	0	0	502	42	92%
244LVP LevelStar	0	0	450	40	92%

* FIT = 1 failure / 10^9 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: Foxboro 1012-062-C R004 V1 R1

Safety Manual: 244LD: SIL Safety Information TI EML0710 S (en)
244LVP: SIL Safety Information TI EML1710 S (en)

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