Certificate / Certificat
Zertifikat / 合格証

MEG 2112114 C001

exida hereby confirms that the:

Vibro-meter GSI127

Meggitt SA
Fribourg, Switzerland

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-3

and meets requirements providing a level of integrity to:

Systematic Capability: SC 2 (SIL 2 Capable)

Random Capability: Type A Element

SIL 2 @ HFT=0; Route 2_H

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

Safety Function:

The GSI127 galvanic separation unit is used for long distance current-signal transmission (µA to mV transfer function) or as a safety barrier unit in measurement chains using V to V transfer function for short-distance voltage-signal transmission..

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:

Revision 1.0 November 17, 2023
Surveillance Audit Due
December 1, 2026

ANSI National Accreditation Board
ACCREDITED
ISO/IEC 17065
PRODUCT CERTIFICATION BODY
#1004

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Systematic Capability: SC 2 (SIL 2 Capable)

Random Capability: Type B Element

SIL 2 @ HFT=0; Route 2_H

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

Vibro-meter GSI127

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. This element meets *exida* criteria for Route 2_H.

GSI127 Variant	Environment	Signal Range	Transfer Sensitivity	Compatible Sensors
A1 B0X-B1X	Standard	Input (Sensor side): 0 to 20 mA / 0 to 20 VDC Output (Monitor side): 2 to 20 VDC	• 1 V/mA ±1% • 3.2 V/mA ±1% • 1 V/V ±1% • - 1 V/V ±1%	• IPC707 signal conditioner (CA and CP sensors) • CE sensors with current output • IQS450 signal conditioner (TQ sensors) • VE210 sensor
A2 B0X-B1X	Explosive (Ex)			
A1 B2X-B3X	Standard		1 V/V ±1%	• IEPE Vibration Sensors
A2 B2X-B3X	Explosive (Ex)			

IEC 61508 Failure Rates in FIT*

Variant	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}	#
A1 B0X-B1X (Standard)	0	7	279	208	147
A2 B0X-B1X (Ex)	0	7	296	223	181
A1 B2X-B3X (Standard)	0	7	248	195	137
A2 B2X-B3X (Ex)	0	7	271	211	178

* 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 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: MVG 21/12-114 R002 V1R1 (or later)

Safety Manual: MAGSI127-FS/E Edition 1

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