Certificate / Certificat
Zertifikat / 合格証

DET 1806036 C001

exida hereby confirms that the:

FlexVu® Model UD10 Universal Display
(including Model UD10-CGS combination)

Detector Electronics Corporation
Minneapolis, MN - USA

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 2_H

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

Safety Function:

The UD10 will measure a 4-20mA input signal from a sensor and provide representative alarm status to its 4-20mA and relay outputs within the Safety Accuracy.

The UD10 display and magnetic switches, HART, Modbus, and Foundation Fieldbus options are interference-free.

Application Restrictions:

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

John C Gozallinas
Evaluating Assessor

Certifying Assessor

The manufacturer may use the mark:

Revision 1.2 July 30, 2024
Surveillance Audit Due
November 1, 2024

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

FlexVu®
Model UD10 Universal Display

and

Model UD10-CGS Universal Display with Sensor

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 Device meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT*

Device Options	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
UD10-CGS 4-20 output	0	69	2581	1356
UD10-CGS relay output	223	195	2316	1353
UD10 4-20 output	0	69	555	53
UD10 relay output	0	195	514	50

* 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: DET 18-06-036 R004 V1R2, or later

Safety Manual: 95-8668-3.1 or later

80 N Main St
Sellersville, PA 18960