Certificate / Certificat

Zertifikat / 合格証

VEGA 1202050C P0011 C004

exida hereby confirms that the:

Radiation-based Transmitters
PROTRAC 30 Series

VEGA Grieshaber KG
Schiltach - Germany

Have 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 PROTRAC 30 Series Transmitter will measure the level of the process material 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:

Revision 2.5 June 15, 2022
Surveillance Audit Due
July 1, 2024

ANAB
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 1_H

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

PROTRAC 30 Series Transmitter

Systematic Capability:

These Products have 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 these products 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.

Versions:
Applications with continuous level measurement and level limit detection of liquids and bulk solids.
Hardware version 2.0.0 and Software version 3.0.0

Single or Master devices:
C1 – Point Level PT31, MT31, MT32 using relay output (MIN/MAX)
C2 – Point Level PT31, MT31, MT32 using 8/16mA current output (MIN/MAX)
C3 – Level MT31, MT32, FT31/32 (short), ST31 using 4..20mA current output (MIN/MAX/RANGE)
C4 – Level FT31/32 (long) using 4..20mA current output (MIN/MAX)

Slave devices:
C5 – Level FT31/32, ST31 (MIN/MAX/RANGE)
C6 – Level FT31/32 (long scintillator) (MIN/MAX)

Configuration	λ_s	λ_{DD}	λ_{DU}	λ_H	λ_L	λ_{AD}	λ_{AU}
C1: MIN/MAX limit detection	476	1119	123			24	30
C2, C3, C4: MIN/MAX limit detection	123	1435	125	12	74	86	11
C3: RANGE measurement	0	1529	154	12	74	86	11
C5: RANGE measurement 2014	0	1467	149			19	2
C5, C6: MIN/MAX limit detection	123	1373	120			19	2
C3 with 2 slaves C5: RANGE measurement	0	4463	452	12	74	124	15
C4 with 2 slaves C6: MIN/MAX limit detection	369	4181	365	12	74	124	15

All failure rates are given in FIT (failures / 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: VEGA 1202-050-C R008 V1R6

Safety Manual: PROTRAC 30 Series 66111

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