



Certificate / Certificat Zertifikat / 合格証

ROS 1501149 C001

exida hereby confirms that the:

**Rosemount™ 5408 Level Transmitter
(4-20 mA HART)**

**Rosemount Tank Radar
(an Emerson company)
Sweden**

The manufacturer
may use the mark:



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 3 (SIL 3 Capable)

Random Capability: Type B Element

SIL 2 @ HFT=0; SIL 3 @ HFT = 1; Route 1_H

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

Revision 4.1 January 17, 2023
Surveillance Audit Due
December 31, 2025

Safety Function:

The Rosemount 5408 Level Transmitter will measure Level 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

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Random Capability: Type B Element

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Rosemount™ 5408
Level Transmitter

Systematic Capability:

The 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, Route 1 _H	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}	SFF
Rosemount™ 5408 Series Level Transmitter (4-20mA HART Non-Contact Radar)	0	260	736	79	92.7%

* 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 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: ROS 15-01-149 R001 V2R1

Safety Manual: #00809-0400-4408, Rev AB and later



80 N Main St
Sellersville, PA 18960