Certificate / Certificat
Zertifikat / 合格証

CIC 2307021 C001

exida hereby confirms that the:

PrevEx 700

of

Control Instruments Corp.

Fairfield, NJ,USA

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 3 (SIL 3 Capable)
Random Capability: Type B, Route 2_H Device

SIL 2 @ HFT=0; Route 2_H

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

Safety Function:

The purpose of the PrevEx 700 is to continuously measure flammability and to signal when the flammability exceeds a safe level, Flammability is measured as a fraction of the Lower Flammable Limit (LFL).

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 1.1 Nov 4, 2024
Surveillance Audit Due
October 1 , 2027

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

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Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type B, Route 2_H Device

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

PrevEx 700

SIL 3 Capability:

The process has met design process, testing and installation 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 following this process must not be used at a SIL level higher than stated without "prior use" justification by the end user or diverse technology redundancy in the design.

IEC 61508 Failure Rates in FIT*

Application/Device/Configuration	λ_{SD}	λ_{SU}[3]	λ_{DD}	λ_{DU}
All Safety Functions Included	1573	159	599	163
All Relays (4 to 20mA Outputs Not Used)	1554	156	549	161
4 to 20mA Output used (no Danger or Warning Relays)	1003	159	549	161

* FIT = 1 failure / 10^9 hours

† PVST = Partial Valve Stroke Test of a final element Device

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: CIC 23-07-021 R006 V1R0 IEC61508- AssessmentReport-PrevEx. 700 pdf

Safety Manual: H7FTA712_Rev0_PrevEx_safety_manual.pdf

80 N Main St
Sellersville, PA 18960

T-002, V7R2