Certificate / Certificat
Zertifikat / 合格証

PRE 21-09-063 C001

exida hereby confirms that the:

Staset Pressure Indicating Switch

Precision Sensors

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 A Element

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

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

Safety Function:

The Staset Gen 3 Series Pressure Switch sets the switch output to the de-energized state when the measured pressure exceeds one of up to two switch points.

Application Restrictions:

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

The manufacturer may use the mark:

Revision 1.0 June 14, 2022
Surveillance Audit Due
July 1, 2025

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

exida Certification

Evaluating Assessor

Certifying Assessor

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Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A Element

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

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

Staset Pressure Indicating Switch

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

IEC 61508 Failure Rates in FIT*

Application/Device/Configuration	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Open High Iout	0	165	0	74
Open High Vout	0	164	0	74
Open Low Iout	0	144	0	100
Open Low Vout	0	142	0	100
Open In Window Iout	0	144	0	81
Open In Window Vout	0	143	0	81
Open Out of Window Iout	0	156	0	69
Open Out of Window Vout	0	155	0	69

* 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: PRE 21-09-063 R002 V1R0

Safety Manual: Staset Gen 3 Series – Safety Manual (Rev. B or later)

80 N Main St
Sellersville, PA 18960