



Certificate / Certificat Zertifikat / 合格証

ASH 1207077 C001

exida hereby confirms that the:

A-Series Pressure Switch

**Ashcroft Inc.
Stratford, CT - USA**

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-2

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

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

Safety Function:

The A-Series Switch will de-energize the associated circuit when the trip pressure is reached. The de-energized switch position is with the NC switch contact open on a high pressure trip, or the NO switch contact open on a low pressure trip.

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 5.0 June 2, 2023
Surveillance Audit Due
July 1, 2026



Evaluating Assessor

Certifying Assessor

ASH 1207077 C001

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

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

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 device meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT*

Single Switch		λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}	#
S-1	High Trip	0	26	0	89	67
	Low Trip	0	88	0	51	50
S-2	High Trip	0	24	0	68	65
	Low Trip	0	70	0	48	48
BV-1	High Trip	0	24	0	128	290
	Low Trip	0	100	0	78	273
BV-2	High Trip	0	24	0	139	309
	Low Trip	0	100	0	88	292
BV-3	High Trip	0	24	0	173	279
	Low Trip	0	130	0	92	262

* 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 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: ASH 16/02-007 R002 V3 R1 (or later)

Safety Manual: I&M009-10210



80 N Main St
Sellersville, PA 18960

A-Series Pressure
Switch