Certificate / Certificat
Zertifikat / 合格証

ASC 2112125 C001

exida hereby confirms that the:

Series 327/8327G Solenoid Valves

ASCO
Ede, The Netherlands

Have 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 Valve will move to the designed safe position when de-energized within the specified safety time.

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 2.9 December 17, 2024
Surveillance Audit Due
January 1, 2026

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

exida Certification

Evaluating Assessor

Certifying Assessor

Certificate / Certificat / Zertifikat / 合格証

ASC 2112125 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

Series 327/8327G Solenoid Valves

Systematic Capability :

These products have 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 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. This device meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT[1]

Model	Application	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
327B0/8327G…	De-energize to Trip, NC	0	416	0	58
	De-energize to Trip, NO	0	368	0	96
	Energize to Trip, NC	0	9	0	199
	Energize to Trip, NO	0	48	0	160
327B1…, 327B2…, 327H	De-energize to Trip, NC	0	174	0	58
	De-energize to Trip, NO	0	126	0	96
	Energize to Trip, NC	0	9	0	162
	Energize to Trip, NO	0	48	0	123
327B3	De-energize to Trip, NC	0	130	0	58
	De-energize to Trip, NO	0	82	0	96
	Energize to Trip, NC	0	9	0	144
	Energize to Trip, NO	0	48	0	105
327B3NFIS… & 327B3WSCRIS…	De-energize to Trip, NC	0	168	0	64
	De-energize to Trip, NO	0	120	0	103
	Energize to Trip, NC	0	14	0	188
	Energize to Trip, NO	0	53	0	150
327A	De-energize to Trip, NC	0	395	0	57
	De-energize to Trip, NO	0	367	0	87
	Energize to Trip, NC	0	13	0	173
	Energize to Trip, NO	0	43	0	138
327B0 Redundant	De-energize to Trip, (2oo2 NC)	0	57	0	315
	Energize to Trip (1oo2 NC)	0	151	0	36
327B1, B2, H Redundant	De-energize to Trip (2oo2 NC)	0	30	0	315
	Energize to Trip (1oo2 NC)	0	151	0	33
327B3 Redundant	De-energize to Trip (2oo2 NC)	0	20	0	315
	Energize to Trip (1oo2 NC)	0	151	0	27
MO Option Adder	De-energize to Trip, NC & NO	0	45	0	39
NVR Option Adder	De-energize to Trip, NC & NO	0	45	0	59

[1] 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: ASC 21/12-125 R001 V2R8 (or later)

Safety Manual: V9629 Rev JE (or later)

80 N Main St
Sellersville, PA 18960