



Certificate / Certificat Zertifikat / 合格証

ERD 1506175 C001

exida hereby confirms that the:

BM6X Series Slam Shut Valve

Emerson Process Management Regulator Technologies, Inc.

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 A Element

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

**PFDAVG and Architecture Constraints
must be verified for each application**

Valid until October 1, 2018
Revision 1.0 September 29, 2015

Safety Function:

The Slam Shut Valve will move to the designed safe position within the specified safety time.

Application Restrictions:

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



ANSI Accredited Program
PRODUCT CERTIFICATION
#1004



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

PFDAVG 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.

BM6X Series Slam Shut Valve

BODY SIZE (DN)	END CONNECTION STYLE	Slam Shut Controller
80	PN 16 PN 25 ANSI150 ANSI300 ANSI600	OS/80X-BP
100		OS/80X-BPA-D
150		OS/80X-MPA-D
200		OS/80X-APA-D
250		OS/84X
300		OS/88X
		OS/80X-PN
		OS/84X-PN
Options:		
Proximity switch		
Electrovalve - Must meet the requirements of IEC 61511, Part 1, Para 11.5 to be used in a safety system		
IT/2V bypass valve for balancing pressures across the valve when resetting the valve.		

IEC 61508 Failure Rates in FIT (FIT = 1 failure / 10⁹ hours)

BM6X Failure Rates	λ_S	λ_D
Valve, Full Stroke	35	423
Piston Controllers OPSO	157	111
Piston Controllers UPSO	133	121
Piston Controllers UOPSO	157	121
Diaphragm Controllers OPSO	188	117
Diaphragm Controllers UPSO	163	137
Diaphragm Controllers UOPSO	188	137

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFDAVG 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 subsystem must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Safety Manual: D104094X012 SIL Safety Manual Type BM6X Slam Shut Valve

Assessment Report: ERD10/12-069 R003



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