

The manufacturer
may use the mark:



Reports:

ERD 10/12-069 R003 V1 R5
Assessment Report

ERD 10/12-069 R002 V1 R6
FMEDA Report

Validity:

This assessment is valid for
the BM5/BM5A Series Slam-Shut Valve

This assessment is valid until
November 1, 2014.

Revision 3.0 October 18, 2011



Certificate / Certificat Zertifikat / 合格証

ERD 1012069 C002

exida hereby confirms that the:

BM5/BM5A Series Slam-Shut Valve

Emerson Process Management Regulator Technologies, Inc.

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-7

and meets requirements providing a level of integrity to:

Systematic Integrity: SIL 3 Capable

Random Integrity: Type A Element

**PFD_{AVG} and Architecture Constraints
must be verified for each application**

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.



Evaluating Assessor

Certifying Assessor

ERD 1012069 C002

Systematic Integrity: SIL 3 Capable**Random Integrity: Type A Element****PFD_{AVG} and Architecture Constraints
must be verified for each application**

SIL 3 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 without "prior use" justification by end user or diverse technology redundancy in the design.

BODY SIZE (DN)	END CONNECTION STYLE	Slam-Shut Controller
25	PN 16 PN 25 ANSI150 ANSI300 ANSI600	OS/80X-BP
40		OS/80X-BPA-D
50		OS/80X-MPA-D
65		OS/80X-APA-D
80		OS/84X
100		OS/88X
150		OS/80X-PN OS/84X-PN
The BM5/BM5A DN150 is equipped with a reinforced version OS/80X-R		
Options:		
Proximity switch		
Electrovalve for remote controlled closure - Must be exida certified to be used in a safety system		
IT/3V three-way valve for setting control pressure (Pe max 50 bar)		

IEC 61508 Failure Rates, Full Stroke, Clean Service in FIT*

BM5/BM5A Failure Rates	λ_s	λ_o
Valve Body	22	490
Piston Slam-Shut Controllers - OPSO	207	124
Piston Slam-Shut Controllers - UPSO	183	134
Piston Slam-Shut Controllers - OUPSO	207	134
Diaphragm Slam-Shut Controllers - OPSO	190	117
Diaphragm Slam-Shut Controllers - UPSO	165	137
Diaphragm Controllers - OUPSO	190	137

SIL Verification:

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

* FIT = 1 failure / 10⁹ hours

Form	Version	Date
C61508	2.7-3	Mar 2011

**BM5/BM5A Series
Slam- Shut Valve**

**Emerson Process
Management
Regulator
Technologies, Inc.**