



# Certificate / Certificat Zertifikat / 合格証

MIT 1211024 C002

*exida* hereby confirms that the:

## Rotary Actuator

**PSV Mitech Control Valve (Pty) Ltd  
Johannesburg, Gauteng - RSA**

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, Route 2<sub>H</sub> Device**

**PFD<sub>AVG</sub> and Architecture Constraints  
must be verified for each application**

Safety Function:

The Rotary Actuator will move to the designed safe position per the actuator design 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:



Valid until February 1, 2018  
Revision 1.0 January 23, 2015



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, Route 2<sub>H</sub> Device**

**PFD<sub>AVG</sub> 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<sub>H</sub>.

**IEC 61508 Failure Rates in FIT\***

| Device                            | $\lambda_{SD}$ | $\lambda_{SU}$ | $\lambda_{DD}$ | $\lambda_{DU}$ |
|-----------------------------------|----------------|----------------|----------------|----------------|
| Spring Return                     | 0              | 127            | 0              | 427            |
| Double Acting                     | 0              | 0              | 0              | 493            |
| Spring Return w/PVST <sup>†</sup> | 126            | 1              | 287            | 140            |
| Double Acting w/PVST              | 0              | 0              | 358            | 135            |

\* FIT = 1 failure / 10<sup>9</sup> hours

† PVST = Partial Valve Stroke Test of a final element Device

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD<sub>avg</sub> 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: MIT 12-11-024 R004 V1 R1

Safety Manual: MIT4.4.6.25.1



64 N Main St  
Sellersville, PA 18960

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