

The manufacturer  
may use the mark:



**Reports:**

FRS 06-11-27 R002 FMEDA  
Report V1 R1

FRS 07-11-05 R002  
Assessment Report V1 R1

**Validity:**

This assessment is valid for  
the DeltaV Voltage Monitor  
Accessory, KJ2231X1-EB1

This assessment is valid  
until May 1 2010.

Revision 1.3 June 16, 2008

  
**exida**  
Certification S.A.

# Certificate / Certificat Zertifikat / 認証

FRS 060530 C002

*exida* hereby confirms that the:

**DeltaV Voltage Monitor Accessory,  
KJ2231X1- EB1**

**Emerson Process Management  
Fisher Rosemount Systems, Inc.  
Austin, TX USA**

Has been assessed per the relevant requirements of:

**IEC 61508 Parts 1, 2**

and meets requirements providing a level of integrity to:

**Systematic Integrity: SIL 3 Capable**

**Random Integrity for Type A device:  
SIL3, Single Module;**

**Therefore can be used as part of a safety  
instrumented system as per IEC 61511**

**Safety Function:**

The DeltaV Voltage Monitor Accessory will control its output  
state in accordance with the input signal.

**Application Restrictions:**

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

  
*Michael Medloff*

Product Assessor

*[Signature]*

Auditor

**Systematic Integrity: SIL 3 Capable**  
**Random Integrity for Type A device:**  
**SIL3, Single Module;**

**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.

**IEC 61508 Failure Probabilities**

**Table 1: DeltaV Voltage Monitor Accessory Failure Rates**

Failure category	Failure rate (in FIT)
Fail Dangerous Undetected	0.72
Fail Safe Detected	1.0
Fail Safe Undetected	68.0
No Effect	65.5

**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.



Form	Version	Date
C61508	2.00	May 2008