



# Certificate / Certificat Zertifikat / 合格証

EMM 1402064 C001

*exida* hereby confirms that the:

**5700 Coriolis Flowmeter  
Micro Motion, Inc.**

**Emerson Process Management  
Boulder, CO USA**

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 B Element**

**SIL 2 @ HFT = 0; Route 2<sub>H</sub>**

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

Safety Function:

The 5700 Coriolis Flowmeter provides direct, high accuracy mass flow measurement for liquids, gases or slurries and transmits a proportional signal within a safety accuracy.

Application Restrictions:

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



Evaluating Assessor

Certifying Assessor

The manufacturer  
may use the mark:



Valid until October 1, 2018  
Revision 1.0 September 16, 2015



ANSI Accredited Program  
PRODUCT CERTIFICATION  
#1004

EMM 1402064 C001

**Systematic Capability: SC 3 (SIL 3 Capable)**

**Random Capability: Type B Element**

**SIL 2 @ HFT=0; Route 2<sub>H</sub>**

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

5700 Coriolis  
Flowmeter

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	$\lambda_{SD}$	$\lambda_{SU}$	$\lambda_{DD}$	$\lambda_{DU}$
5700IxxAxxxxx / 5700CxxAxxxxx with internal core	0	1,072	1,940	107
5700RxxAxxxxx with standard core	0	1,330	1,610	138
5700RxxAxxxxx with enhanced core	0	983	1,926	78

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

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:

EMM 14-02-064 R001 V1R0 61508 Assesment Report - 5700

Safety Manual:

5700\_SIS\_MMI\_20029788 Rev. AB and later



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