



# Certificate / Certificat Zertifikat / 合格証

EMM 1801017 C001

exida hereby confirms that the:

**4200 Coriolis Flowmeter**

**Micro Motion, Inc.**

**Emerson**

**Boulder, CO USA**

The manufacturer  
may use the mark:



Has been assessed per the relevant requirements of:

**IEC 61508 : 2010 Parts 1-3**

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; SIL 3 @ HFT = 1; Route 2<sub>H</sub>**

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

Revision 2.1 June 2, 2023  
Surveillance Audit Due  
August 1, 2025

### Safety Function:

The 4200 Coriolis Flowmeter provides direct, high accuracy, mass flow measurement for liquids, gases or slurries and transmits a proportional signal within its safety accuracy.

### Application Restrictions:

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



*Valerie Motto*

Evaluating Assessor

*JF Moore*

Certifying Assessor

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**Random Capability: Type B Element**

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4200 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 element meets *exida* criteria for Route 2<sub>H</sub>.

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

Device	$\lambda_{SD}$	$\lambda_{SU}$	$\lambda_{DD}$	$\lambda_{DU}$
4200 Flowmeter	0	152	2130	76

\* 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 PFH/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 18-01-017 R002 V2R1 (or later)

**Safety Manual:** MMI-20049802, Rev AB or later



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