



Certificate / Certificat Zertifikat / 合格証

ABB 080349 C001

exida hereby confirms that the:

**AT100, AT100S, AT200
Magnetostrictive Level Transmitter**

The manufacturer
may use the mark:



Valid until August 1, 2017
Revision 4.0 July 31, 2014

ABB

**18321 Swamp Road Prairieville, LA 70769
USA**

Has been assessed per the relevant requirements of:

IEC 61508:2000 Parts 1, 2, 3

and meets requirements providing a level of integrity to:

Systematic Integrity: SIL 3 Capable

Random Integrity for Type B Device:

SIL 3 @ HFT=1 / SIL 2 @ HFT=0

Safety Function:

The AT100, AT100S, and AT200 Magnetostrictive Level Transmitter uses a probe with float to detect a fluid level in a vessel. It subsequently communicates this level to a logic solver.

Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements, only the 4-20mA output is certified for use in functional safety applications.



Evaluating Assessor

Certifying Assessor



ANSI Accredited Program
PRODUCT CERTIFICATION
#1004

ABB 080349 C001

Systematic Integrity: SIL 3 Capable

Random Integrity for Type B Device:

SIL 3 @ HFT=1 / SIL 2 @ HFT=0

**AT100, AT100S, and
AT200 Magnetostrictive
Level Transmitter**

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 Rates in FIT*

| Device | λ_{SD} | λ_{SU} | λ_{DD} | λ_{DU} | SFF |
|----------------------|----------------|----------------|----------------|----------------|-------|
| AT100, AT100S, AT200 | 0 FIT | 99 FIT | 377 FIT | 45 FIT | 91.3% |

* FIT = 1 failure / 10⁹ hours

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.

The following documents are a mandatory part of certification:

Assessment Report: ABB 08-03-49 R001 V2R1

Safety Manual: OI_AT100-EN_M and OI_AT200-EN_L



64 N Main St
Sellersville, PA 18960