

The manufacturer
may use the mark:



Reports:

ROS 06-12-18 R001 V1 R1
Assessment Report

ROS 05/05-05 R001 V1 R3
FMEDA Report

Validity:

This assessment is valid for
the 3051S Pressure
Transmitter Series.

This assessment is valid until
February 1, 2013.

Revision 1.3 January 15, 2010


exida[®]
Certification S.A.

Certificate / Certificat Zertifikat / 合格証

ROS 061218 C001

exida hereby confirms that the:

3051S Safety Certified Pressure Transmitter

Software Revision 7.0 and Above

**Rosemount, Inc.
Chanhassen, MN**

Has been assessed per the relevant requirements of:

IEC 61508 Parts 1, 2, 3

and meets requirements providing a level of integrity to:

**Systematic Integrity: SIL 3 Capable
(SIL 3 Capable Software)**

**Random Integrity for Type B Device:
SIL 3 @ HFT=1 / SIL 2 @ HFT=0**

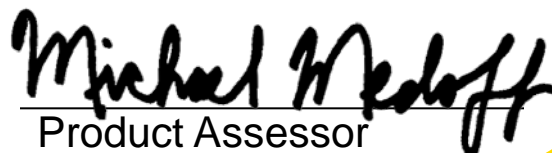
Safety Function:

The 3051S Pressure Transmitter will measure pressure within
the stated safety accuracy.

Application Restrictions:

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




Product Assessor


Auditor

ROS 061218 C001

**Systematic Integrity: SIL 3 Capable
(SIL 3 Capable Software)**

**Random Integrity for Type B Device:
SIL 3 @ HFT=1 / SIL 2 @ HFT=0**

3051S Safety Certified
Pressure Transmitter
Series

Rosemount, Inc.
Chanhasen, MN - USA

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.

Failure Rates*

Table 1: 3051S_C, 3051S_L and 3051S_F Coplanar Failure Rates

Failure category	Failure rate (in FIT)
Fail Dangerous Detected	356
Fail Detected (detected by internal diagnostics)	264
Fail High (detected by the logic solver)	59
Fail Low (detected by the logic solver)	33
Fail Dangerous Undetected	37
No Effect	138
Annunciation Undetected	5

Table 2: 3051S_T Inline Failure Rates

Failure category	Failure rate (in FIT)
Fail Dangerous Detected	340
Fail Detected (detected by internal diagnostics)	256
Fail High (detected by the logic solver)	58
Fail Low (detected by the logic solver)	26
Fail Dangerous Undetected	34
No Effect	115
Annunciation Undetected	7

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.

* FIT = 1 failure / 10⁹ hours



Form	Version	Date
C61508	2.10	Nov 2009