

exida[®]

The manufacturer
may use the mark:

Certificate / Certificat
Zertifikat / 認証

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**

Reports:

- ROS 05/05-05 R001
FMEDA Report V1 R3
- ROS 06-12-18 R001
Assessment Report V1 R1

Validity:

This assessment is valid for
the 3051S Pressure
Transmitter.

This assessment is valid
until December 22,2009.
Revision 1.2 August 31, 2007

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.

Michael Medoff
Product Assessor

William M. Holt
Auditor

Form	Version	Date
C61508	1.9	June 2007



3051S Safety Certified Pressure Transmitter

Rosemount, Inc., 8200 Market Blvd., Chanhassen, MN. 55317 USA

Systematic Integrity: SIL 3 Capable

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 the statement without "prior use" justification by end user or diverse technology redundancy in the design.

Random Integrity, Type B: SIL3 @ HFT=1, SIL2@HFT=0

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.