exida® CERTIFICATION

CERTIFICATE

ABB 070742 P0007 C01.02

exida Certification S.A. hereby confirms that the

Pressure Transmitter 2600T Model 261

Product Version: Hardware version V1.05, V1.06; Software version V1.05.01

ABB Automation Products GmbH

Minden, Germany

Has been assessed per the relevant requirements of

IEC 61508:2000

Parts 1 - 7, and meets requirements providing a level of integrity to

Systematic Integrity : SIL 2 Capable

Random Integrity : SIL 2 Capable

Safety Function

The Pressure Transmitter 2600T Model 261 will measure pressure within the stated safety accuracy and provide the measurement on a 4..20 mA current output.

Application Restrictions

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

Assessor

Certifying Assessor

Date: 14 October 2011

exida Certification SA, Nyon, Switzerland

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Systematic Integrity: SIL 2 Capable

SIL 2 Capability

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 2. 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: SIL 2 Capable

Summary for Pressure Transmitter 2600T Model 261:

T1 - Pressure Transmitter 2600T Model 261 – p-Piezo
T2 - Pressure Transmitter 2600T Model 261 – p-Cap
S1 - Remote Seal for S261, normal service, low trip application
S2 - Remote Seal for S261, normal service, high trip application
S3 - Remote Seal for S261, severe service, low trip application
S4 - Remote Seal for S261, severe service, high trip application

IEC 61508 failure rates:

Failure category	T1	T2	S1	S2	S3	S4
Fail Safe (λ_{SAFE})	108	143	59	1	95	1
Fail Dangerous Detected (λ_{DD})	402	464	0	0	0	0
Fail Dangerous Undetected (λ_{DU})	23	36	0	58	0	94
Total failure rate (safety function)	533	643	59	59	95	95
SFF	95%	94%	-	-	-	-
DC_D	94%	92%	-	-	-	-
MTBF	182 years	171 years	-	-	-	-

All failure rates are given in FIT=10^{-9}/h

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 mandatory parts this certificate:

ABB 0707-42-C R017 Assessment report 261 V2R1
Safety Manual, SM/261/SIL-EN Rev. 05

The holder of this certificate may use this mark.

exida Certification SA, Nyon, Switzerland

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