

Enhanced Safety 2600T
Pressure Transmitters
Pressure measurement made safe

TÜV certified to IEC 61508 with all benefits and features of 2600T Series

As a result of new international standards and to contribute to the evolution of safety products, ABB introduces a TÜV certified to SIL 2 safety pressure transmitter.

- Reduced maintenance costs thanks to the 10 years proof test interval
- Hardware and software redundancy with MTBF of over 100 years
- Up to $\pm 0.15\%$ stability of the URL for 10 years
- SIL3 capability in redundant architecture (1oo2)
- Full compliance with PED Category IV
- Dangerous Undetected Failure IDU = 11 FIT, the best value on the market
- Hardware Fault Tolerance = 1



SIL certification

Model 268 is the IEC 61508 TÜV certified Safety 2600T transmitter for SIS and critical applications where safety and performances are the main requirement. The new 268 Rev.2 has been designed and manufactured according to a certified process which lead to a product specifically suitable for critical applications.

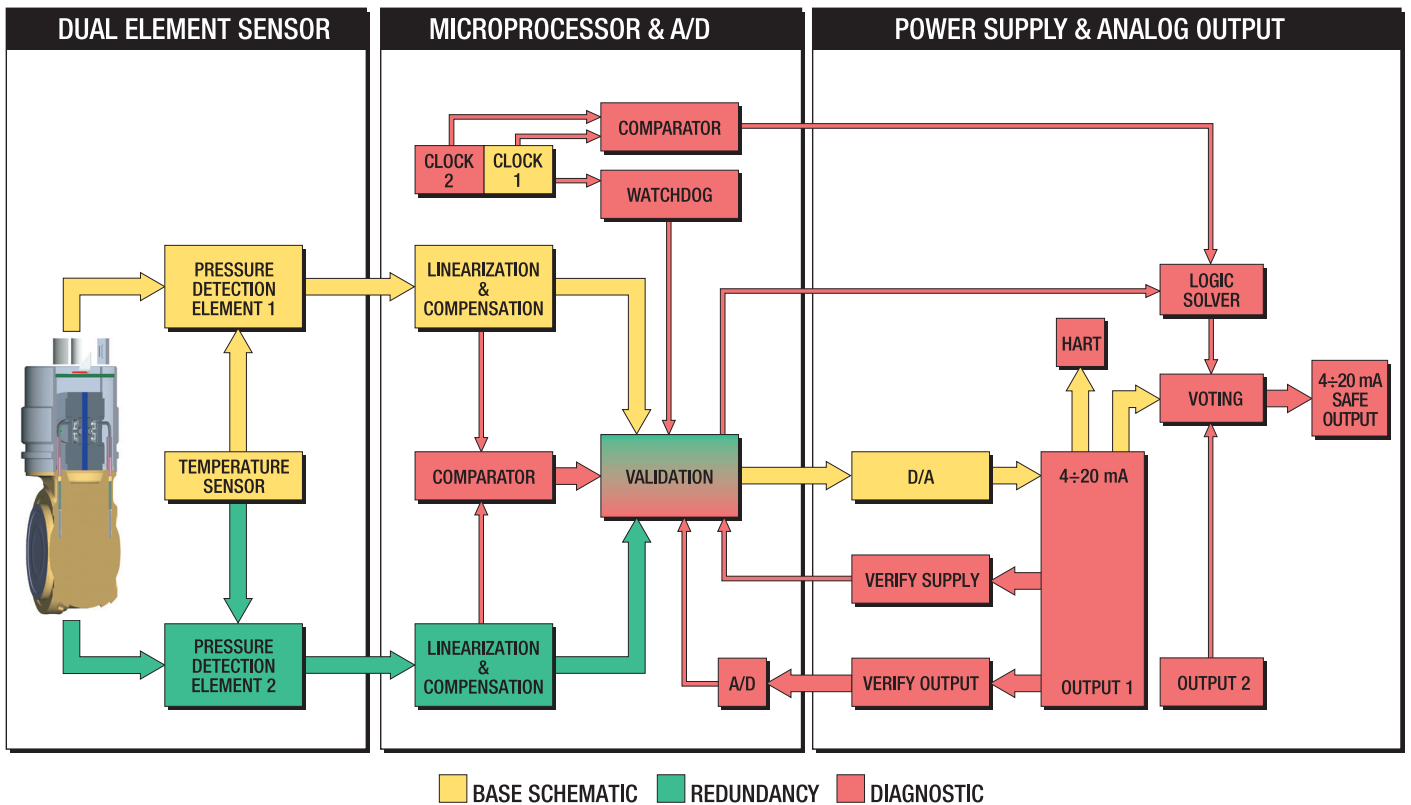
Thanks to the internal software and hardware redundancy, the 268 models have got the IEC 61508 certifications which not only allows installation in conformance with SIL2 (1oo1) but also to SIL3 in a 1oo2 architecture.

The 2600T Safety transmitter exceeds the IEC 61508 requirements for SIL2 with a Hardware Fault Tolerance of 1 (HFT = 1) and a Safe Failure Fraction of 98.6%; the Diagnostic Coverage is 97.7%. In addition the following requirements of IEC 61508 have been assessed as part of the certification process:

- functional safety (hardware/software) testing;
- electrical safety testing;
- EMC testing;
- environmental testing;
- Quality Assurance in production and product maintenance;
- verification of product development process.

Furthermore, with a very low probability of Dangerous Undetected Failures (IDU = 11 FIT), the 2600T safety transmitters allow to extend the Proof Test Interval reducing maintenance costs by 50%.

ZERTIFIKAT CERTIFICATE		Nr./No. 988/EZ 251.0007	
Prüfgegenstand Product tested	2500T Pressure Transmitters	Zertifizierungs-leiter holder of the certificate	ABB SACE S.p.A. Via Stabile, 113 22018 Lenno (CO) Italy
Typbezeichnung Type designation	Model 268	Verwendungs-zweck intended application	Safety related pressure transmitter for use in Safety Instrumented Systems
Prüfgrundlagen Codes and standards forming the basis of testing	IEC 61508, parts 1 - 7:2000 IEC 60770-1:1997 EN 50011(AZ:2003 EN 50065-2-1:1999 EN 61000-6-2:2002 EN 61005-1:1999		
Prüfungsergebnis Test results	Suitable for safety related applications up to and including SIL 2 (if used as a single device) and SIL 3 (if used in a redundant configuration) according to IEC 61508 and to the results of the test report: 988/EZ 251.0007.		
Besondere Bedingungen Specific requirements	The information and requirements of the Operating Instructions and the prerequisites of the test report must be considered.		
<p>Der Prüfbericht-Nr.: 988/EZ 251.0007 vom 2007-03-28 ist Bestandteil dieses Zertifikats. Dieses Zertifikat ist nur gültig für Erzeugnisse, die mit dem Prüfgegenstand übereinstimmen. Es wird ausdrücklich bei jeder Änderung der Prüfgrundlagen für den angegebenen Verwendungszweck. The test report no.: 988/EZ 251.0007 dated 2007-03-28 is an integral part of this certificate. This certificate is valid only for products which are identical with the product tested. It becomes invalid at any change of the codes and standards forming the basis of testing for the intended application.</p>			
<p>TÜV Rheinland Industrie Service GmbH Geschäftsfeld (AS) Autoren, Software und Informationsdienste Am Kreuzweg 11, 51106 Köln Postfach 81 30 81, 51101 Köln Firmenname/Company name</p>			
<p>2007-03-28 Date/Date</p>			



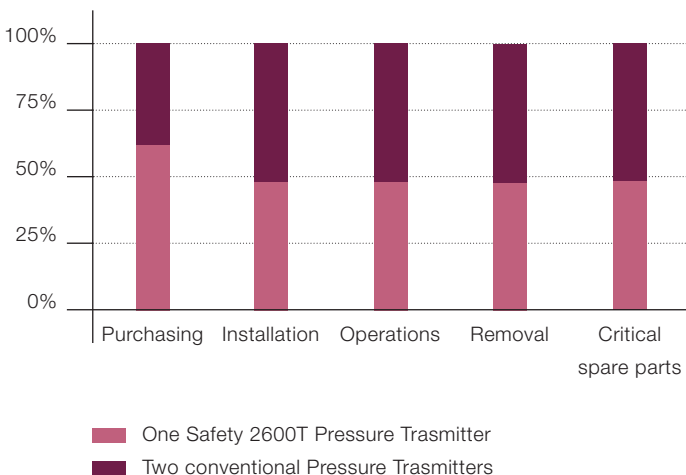
Lower your instrumentation cost

In a SIL 2 environment, a single Safety 2600T transmitter provides the same level of protection as two parallel connected conventional transmitters, while retaining the performance and accuracy characteristics of standard 2600T Series.

In a SIL 3 environment, two Safety 2600T transmitters could be used instead of three regular ones. The reduced number of transmitters results in lower lifecycle cost: purchasing, wiring, installation and maintenance costs are decreased by up to 50%.

In case of a SIL 3 environment, two Safety transmitters will also decrease the probability of spurious failures (i.e. that may cause a plant shut-down because of internal failures) when compared to 3 conventional transmitters.

Comparison of lifecycle cost
one Safety 2600T vs. two conventional pressure transmitters



Principle of operation

Two inductive signals from the device are independently detected, and analyzed internally. The signals are compared in the microcontroller to validate the output pressure signal. If a difference between the two measurements is detected, the analog output is driven up-, or downscale to a safe condition. Internal diagnostics algorithms are implemented to verify correctness and validity of all processing variables and the correct working of memories. The output stage is also checked by reading back the analog output signal. The feedback loop is obtained by adding an additional A/D converter at the end of the output stage, which translates the 4-20 mA signal into a digital form suitable to be analyzed by the microcontroller.

Functionality

The Safety 2600T transmitter is a 4-20mA unit with the functionality of the basic model. In addition it has:

- HFT = 1 ensuring that even in the case of 1 hardware failure, the transmitter can enact the safety function, as required by IEC 61508 part 2 and
- a diverse software solution that results in the same calculation being carried out by different algorithms, as required by IEC 61508 part 3, therefore providing an external alarm on its analog output signal according to the NAMUR convention.

The base accuracy of the Safety 2600T transmitter is $\pm 0.075\%$.

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