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 ± 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%.
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.

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 ±0.075%.
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