

SIL Declaration of Conformity

Functional Safety according to

IEC 61508/61511

Manufacturer: Hansford Sensors, Ltd
Address: Artisan, Hillbottom Rd
High Wycombe, HP12 4 HJ, UK
Product Description: HS-510 Series Vibration/Trip Display Module

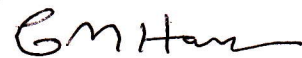
Based on functional safety assessment according to IEC 61508 requirements and dependable reliability data from field experience, Hansford Sensors, Ltd. declare that Vibration/Trip Display Modules of HS-510 Series meet criteria of operation in safety instrumented systems to Safety Integrity Levels SIL 1 and SIL 2 with a hardware fault tolerance down to 0 in low/high demand/continuous modes.

The appropriate SIL safety instructions of the HS-510 Series Manual should be observed.

The assessment was based on the Route 1_H procedure as defined by IEC 61508, Parts 2, 6.

Product revisions will be carried out by Hansford Sensors, Ltd in accordance with IEC 61508/61511 guidance.

Appendix to this document summarises safety related data for HS-510 Series transmitters.



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Appendix.

SIL Declaration of Conformity

Product description: HS-510 Series Vibration Sensor/Transducer

| | |
|-----------------------------------|---------------|
| Device Group | B |
| SIL (Safety Integrity Level) | 1 and 2 |
| HFT (Hardware Fault Tolerance) | 0 |
| MTBF (Mean Time Between Failures) | 615,000 hours |
| SFF (Safe Failure Fraction) | 91% |
| PFD (over 5 years) | 115 FIT |

The data above is calculated assuming a calibration check every 5 years. The mean time to repair a unit is 8 hours. A PFD value of 115 FIT gives a risk reduction of $8.64 \text{ E}+6$ which indicates in accordance with IES 61508 that when correctly installed the unit can be used in a SIL 1 or SIL 2 loop.