



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Certificate of Conformity to IEC 61508 / IEC 61511 Safety Integrity Level (SIL) 2

Functional Safety of Safety-Related Programmable Electronic Systems

Manufacturer: Tyco Fire & Security GmbH (TFSG)
Victor Von Bruns-Strasse 21
8212 Neuhausen am Rheinfall
Schaffhausen
Switzerland

The **TFSG, EXI800 Intrinsically Safe (IS) Loop Interface Module** (function of this module is to provide a signal interface between the standard MX addressable loop and intrinsically safe devices connected via a safety barrier) has been assessed and is considered capable for use in a low demand Safety Function up to SIL 2 with regard to systematic (assessed under the Prior Use route), random failure rate and architectural constraint.

The assessment was based on the assumptions, data provided, and recommendations given in:

- **ESC Ltd report D152_SV003 rev.3, which includes details associated with the Safety Manual requirements in Appendix C;**
- **ESC Ltd report D152_PU001 rev.2;**
- **Renewal Letter from Tyco Fire & Security GmbH, signed by Deepika Sahni, Regulatory Engineer, Dated 2nd May 2019.**

The assessment was carried out against failure modes where the detector was unable to detect an alarm condition and process alarms over the addressable system.

The assessment was carried out to determine compliance with IEC 61508 with regards to:

- Random Hardware Failure with Predicted PFD <2.0E-03 (assuming a 1 year proof test and average repair time of 168 hrs);
- Architectural Constraint (Type B, SFF >90%, <99%);
- Systematic Capability against IEC 61511 (2004 Edition) Prior Use.

Managing Director: Kenneth G L Simpson
Member of the IEC 61508 committee
Assessment Date: April 2015
Renewal Date: May 2019, valid to May 2021
Certificate: D152_CT003 rev. 5

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