



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

IEC 61508 Safety Integrity Level Capability Certificate

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, T2000 MX & ZX Fire Panel** has been assessed and is considered capable for use in a low demand Safety Function up to (and including) SIL 2, with regards to systematic capability (assessed under the Prior Use route), random hardware failures and architectural constraints.

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

- **Technis Report No. T432, Issue 4.0;**
- **Engineering Safety Consultants Ltd Report: A114_TR001_(4.0);**
- **Renewal Letter from Tyco Fire & Security GmbH, signed by Deepika Sahni, Principal Regulatory Engineer, Dated 27th April 2023.**

The product was assessed against the following failure modes:

- **Failure to respond (executive output);**
- **Failure to respond (audible output).**

The assessment was carried out to determine compliance with IEC 61508 (2010 Edition) with regards to:

- SIL 2 with a HFT = 0 via Route 1_H;
- Architectural Constraint (Type B, SFF >90%, <99%);
- Systematic Capability against IEC 61508 (2010 Edition) via Route 2_S.

Note 1: The SIL of a complete SIF (sensor, logic solver and final element subsystems) must be verified to calculate the required PFD / PFH, considering any redundancy, Proof Test Interval (PTI), Proof Test Coverage (PTC), Mission Time and Mean Time To Restoration (MTTR) for all elements included in the SIF. Each subsystem should be verified to ensure compliance with the minimum HFT requirements.

IMPORTANT: It should be noted that this assessment does not include confirmation of the response time of the device. For response times (along with any relevant assumptions) reference should be made to the Safety Manual of each device and the total SIF response time **MUST** be compared against the process safety time for the specific application.

Managing Director: Simon Burwood
Assessment Date: October 2011
Renewal Date: April 2023, valid to April 2025
Certificate: A114_CT001 rev. 4

ENGINEERING SAFETY CONSULTANTS LTD

2nd Floor, Exchequer Court, 33 St. Mary Axe,
London, EC3A 8AA UK

Telephone/Fax: +44 (0)20 8542 2807

E-Mail: info@esc.uk.net Web: www.esc.uk.net

Registered in England and Wales: 7006868

Registered Office: 33 St. Mary Axe, London EC3A 8AA