



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, IOB800 Expansion Board**, which allows discrete input / outputs to be connected to the MX Fire Panel, 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 in conjunction with the **T2000, MX & ZX Fire Panel**.

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

- **Technis Report No. T432, Issue 4.0;**
- **ESC Ltd report D152_SV010 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 29th April 2019.**

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 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 A, SFF >60%, <90%);
- 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: April 2019, valid to April 2021
Certificate: D152_CT010 rev. 5

ENGINEERING SAFETY CONSULTANTS LTD
is ISO9001-certified by Global Group, itself a
UKAS-accredited ISO9001 certification
body

Reg: 12Q12086

ENGINEERING SAFETY CONSULTANTS LTD
Tuition House

27-37 St George's Road Wimbledon London SW19 4EU 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: 27-37 St George's Road Wimbledon London SW19 4EU