



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Certificate of Conformity to IEC 61508 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, Manual Call Points with Short Circuit Isolators** have been assessed and are considered capable for use in a low demand Safety Function up to SIL 2, with regards to random failure rates and architectural constraints.

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

- **MCP Range of Manual Call Points With Short Circuit Isolator, Review Report Iss1 by Thorn Security, FMEDA 514.800.609/610/611/612, Dated 21/11/2013;**
- **MCP Range of Manual Call Points With Short Circuit Isolator, FMEDA Iss1 by Thorn Security, Dated 21/11/2013;**
- **Renewal Letter from Tyco Fire & Security GmbH, signed by Deepika Sahni, Regulatory Engineer, Dated 29th April 2019.**

The assessment was carried out against failure modes where the manual call points were unable to detect and process alarms over the addressable system. The following models were assessed:

- **MCP820;**
- **MCP820M;**
- **MCP830;**
- **MCP830M.**

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

- Random Hardware Failures (Predicted PFD <1.0E-03), based on a year's proof test;
- Architectural Constraint (Type B, SFF >90%, <99%).

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The following models are covered by this certificate:

Model Name	Product Description	λ DU Dangerous Undetected Failures	λ DD Dangerous Detected Failures	λ S Safe Failures	Safe Failure Fraction	PFD _{avg}
MCP820	Indoor Addressable Manual Call Point with Short Circuit Isolator	1.7E-07 /hr	1.6E-06 /hr	4.4E-07 /hr	93%	<1.0E-03
MCP820M	Indoor Addressable Manual Call Point with Short Circuit Isolator (Marine Version)	1.7E-07 /hr	1.6E-06 /hr	4.4E-07 /hr	93%	<1.0E-03
MCP830	Outdoor Addressable Manual Call Point with Short Circuit Isolator	1.7E-07 /hr	1.6E-06 /hr	4.4E-07 /hr	93%	<1.0E-03
MCP830M	Outdoor Addressable Manual Call Point with Short Circuit Isolator (Marine Version)	1.7E-07 /hr	1.6E-06 /hr	4.4E-07 /hr	93%	<1.0E-03

Managing Director: Kenneth G L Simpson
Member of the IEC 61508 committee
Assessment Date: November 2013
Renewal Date: April 2019, valid to April 2021
Certificate: B181_CT001 rev. 2

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