



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Certificate of Conformity to IEC 61508 Safety Integrity Level (SIL) 3

Functional Safety of Safety-Related Programmable Electronic Systems

The **Position Monitors Type IQ, AQ, DQ, SRX, SRA, SLR and V Series** produced by **Imtex Controls Ltd** have been assessed and are considered capable in terms of systematic capability for use in systems up to SIL 3 low demand safety functions. As these devices are used as part of the diagnostic circuit for the final element and as these devices only form part of the diagnostics, the random failure rate SIL integrity must be verified for each application configuration.

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

- **Technic Report: T917 Issue 1.0** – (Failure Rate Assessment);
- **ESC Ltd Report: B134_FSA001 rev. 6** – (Systematic).
- **Letter from Imtex Controls Ltd confirming no change dated 07/08/2020**

The system was assessed against the following failure modes:

- Micro Switch:
 - Failure to open (normally closed contact);
 - Failure to close (normally open contact).
- Reed Switch:
 - Failure to open (normally closed contact);
 - Failure to close (normally open contact).
- Inductive Switch:
 - Failure to output a current.
- Potentiometer Device:
 - Failure to output + / - 10% change in resistance.
- Zettlex Transmitter:
 - Failure to output + / - 5% of appropriate current.

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

- Random Hardware Failures against IEC 61508:
 - Predicted failure rate:
 - Micro Switch dangerous failure <0.05E-06 /hr;
 - Reed Switch dangerous failure <0.5E-06 /hr;
 - Inductive Switch dangerous failure <0.05E-06 /hr;
 - Potentiometer dangerous failure <0.7E-06 /hr;
 - Zettlex Transmitter dangerous failure <0.5E-06 /hr.
- Architectural Constraints: Type A;
- Systematic against IEC 61511, prior use, suitable up to SIL 3.

Managing Director: Kenneth G L Simpson

Member of the IEC61508 committee

Assessment Date: February 2013

Assessment Date: September 2020, valid to September 2022

Certificate: B134_CT002 rev. 6

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UKAS-accredited ISO9001 certification
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