



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Certificate of Conformity to IEC 61508 Safety Integrity Level (SIL) 2 in Terms of Random Hardware Performance Requirements

Functional Safety of Safety-Related Programmable Electronic Systems

The **Linesense Fire Detection Ltd, Digital Interface Module (Heat) (52101-001)**, has been assessed and is considered capable for use in a low demand Safety Function up to SIL 2 with regard to random failure rate and architectural constraint.

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

- **ESC Ltd Report: H033_FM001 rev. 2.**

The product was assessed against the following failure mode:

- **A fault causing a failure of the fire detection unit to identify a genuine high temperature alarm.**

The system assessed comprises the following modules:

- 52101-001 Digital Interface Module;
- Linear Heat Detecting Cable (LHDC):
 - 51100-068 Model H8040N Digital LHDC. Alarm temperature 68°C, max ambient 45°C. Black nylon outer sheath;
 - 51100-085 Model H8045N Digital LHDC. Alarm temperature 85°C, max ambient 45°C. Black nylon outer sheath;
 - 51100-105 Model H8028 Digital LHDC. Alarm temperature 105°C, max ambient 70°C. Black PVC outer sheath;
 - 51100-176 Model H8069 Digital LHDC. Alarm temperature 176°C, max ambient 105°C. Red PVC outer sheath;
 - 51100-240 Model H9650 Digital LHDC. Alarm temperature 240°C, max ambient 200°C. White fluoropolymer outer sheath.

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

- Random Hardware Failure (Predicted failure rate $<3.7E-04$ per year);
- Architectural Constraint (Type A, SFF $>60 <90\%$).

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Member of the IEC61508 committee
Assessment Date: July 2018, valid to July 2020
Certificate: H033_CT001 rev. 3

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