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

The **Linesense Fire Detection Ltd, Digital Linear Heat Detection Interface 52101-001-28** has been assessed and based on the information provided and assumptions given in the report, is considered capable for use in a low demand Safety Function up to SIL 2.

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

- Random Hardware Failure (Predicted PFD per year is 3.7E-04) with a Mean Down Time (MDT) of 168 hours, a Proof Test Interval (PTI) of 1 year (8760 hours);
- Architectural Constraint (Type A, SFF 60-<90%).

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

- **ESC Ltd Report: K155_FM002 rev. 1.**

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:

- 52101-001-28 digital interface module;
- Linear heat detecting cable:
    - 51100-068 Model H8040N Digital Linear Heat Detection Cable (LHDC). Alarm temperature 68°C, max ambient 45°C. Black nylon outer sheath;
    - 51100-085 Model H8045N Digital Linear Heat Detection Cable (LHDC). Alarm temperature 85°C, max ambient 45°C. Black nylon outer sheath;
    - 51100-105 Model H8028 Digital Linear Heat Detection Cable (LHDC). Alarm temperature 105°C, max ambient 70°C. Black PVC outer sheath;
    - 51100-176 Model H8069 Digital Linear Heat Detection Cable (LHDC). Alarm temperature 176°C, max ambient 105°C. Red PVC outer sheath;
    - 51100-240 Model H9650 Digital Linear Heat Detection Cable (LHDC). Alarm temperature 240°C, max ambient 200°C. White fluoropolymer outer sheath.

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.

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Member of the IEC 61511 Maintenance Committee (MT61511)
Assessment Date: November 2020, valid to November 2022
Certificate: K155_CT002 rev. 1

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