



# 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 **Vegase Controle Digital Linear Heat Detector Interface (LDM-519-DIM)** by **Patol Ltd** (OEM for the unit), 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\_FM004 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:

- LDM-519-DIM Module;
- Linear Heat Detecting Cable (LHDC):
  - 700-070 Digital LHDC. Alarm temperature 70°C, max ambient 45°C;
  - 700-090 Digital LHDC. Alarm temperature 90°C, max ambient 70°C;
  - 700-140 Digital LHDC. Alarm temperature 140°C, max ambient 110°C;
  - 700-180 Digital LHDC. Alarm temperature 180°C, max ambient 150°C;
  - 700-071 Digital LHDC. Alarm temperature 70°C, max ambient 45°C;
  - 700-091 Digital LHDC. Alarm temperature 90°C, max ambient 70°C;
  - 700-141 Digital LHDC. Alarm temperature 140°C, max ambient 110°C;
  - 700-181 Digital LHDC. Alarm temperature 180°C, max ambient 150°C.

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\_CT004 rev. 2

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