



Certificate of Conformity to IEC 61508 Safety Integrity Level (SIL) 2

Functional Safety of Safety-Related Programmable Electronic Systems

The **Thermocable Flexible Elements Ltd, ProReact Digital Monitoring Module (DiMM-M) and ProReact Digital Sensor Control Unit (DSCU-EN)** have been assessed and are considered capable for use in a low demand Safety Function up to SIL 2, with regard to random failure rate and architectural constraint.

The function of the ProReact DiMM-M and DSCU-EN is to simultaneously monitor up to two zones of Digital Linear Heat Detection (LHD) cable for an alarm or fault condition. If an overheat or fire situation triggers either zone of the Digital LHD cable, the DiMM-M and DSCU-EN automatically calculates and displays the distance along the cable, in feet and metres, to the alarm point.

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

- **ESC Ltd Report: F125_FM001 rev.2.**

The products were assessed against the following failure mode:

- A fault causing a failure of the DiMM-M and its ability to detect and identify a genuine fire condition when using a LHDC.
- A fault causing a failure of the DSCU-EN and its ability to detect and identify a genuine fire condition when using a LHDC.

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

- Random Hardware Failure (Predicted PFD <2.0E-03 per year, assuming a 1 year proof test);
- Architectural Constraint (Type B, SFF >90%, <99%).

IMPORTANT: It should be noted that this assessment does not include confirmation of the response time of the devices. 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.

Chairman: Kenneth G L Simpson

Member of IEC 61508 Maintenance Committee

Assessment Date: August 2017

Renewal Date: December 2020. Valid to December 2022

Certificate: F125_CT001 rev. 3

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