



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 **Patol Ltd, LDM-519-LP Monitor/Controller** 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: C050_SV001_(3.0);**
- **Renewal Letter from Patol Ltd, signed by Mark Lewis, Product Development Engineer, dated 16th July 2020.**

The system was assessed against the following failure mode:

- The unit fails to provide an alarm when there is a high temperature at the sensing element.

The system assessed comprises the following modules:

- LDM-519-LP Module (Part No. 700-101);
- Linear Heat Detecting Cable:
 - Red PVC 700-001;
 - Red PVC S.S 700-005;
 - Black Nylon 700-003;
 - Black Nylon S.S 700-004.

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

- Random Hardware Failures (Predicted PFD <1.8E-04 (assuming a 1-year proof test and average repair time of 168 hours);
- Architectural Constraints (Type A, SFF >60 <90%).

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.

Managing Director: Kenneth G L Simpson

Member of the IEC 61508 committee

Original Assessment Date: April 2013

Renewal Date: July 2020, valid to July 2022

Certificate: C050_CT001 rev. 5

ENGINEERING SAFETY CONSULTANTS LTD
is ISO9001-certified by Global Group, itself a
UKAS-accredited ISO9001 certification
body

Reg: 12Q12086

ENGINEERING SAFETY CONSULTANTS LTD

Tuition House

27-37 St George's Road Wimbledon London SW19 4EU UK

Telephone/Fax: +44 (0)20 8542 2807

E-Mail: info@esc.uk.net Web: www.esc.uk.net

Registered in England and Wales: 7006868

Registered Office: 27-37 St George's Road Wimbledon London SW19 4EU