



## ENGINEERING SAFETY CONSULTANTS

*The Global Provider of Functional Safety Expertise and Technical Consultancy*

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

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### ***Functional Safety of Safety-Related Programmable Electronic Systems***

The **Hochiki Europe (UK) Ltd. Intelligent Analogue Addressable Optical Smoke Detector for use in fire detection and alarm systems** has been assessed and is considered capable for use in a SIL 2 low demand Safety Function with regard to random failure rates. The assessment was based on the assumptions, data provided and recommendations given in:

#### **ESC Ltd report C003\_SV001\_(3.0).**

The system was assessed against the following failure mode:

- Failure to communicate fire condition to the host system.

Subject to the following requirements detailed in report C003\_SV001\_(3.0):

- Host system will be configured to detect and alarm on loss of communications to the detector (loss of response to polls).

The system assessed includes the following variants:

- ALN-E(WHT);
- ALN-EN;
- ALN-EN(WHT).

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

- Random Hardware Failures (Predicted PFD  $<1.5E-04$  (assuming a 1 year proof test and average repair time of 168 hrs);
- Architectural Constraints (Type B, SFF  $>90\%$ ).

Managing Director: Kenneth G L Simpson

Member of the IEC61508 committee

Assessment Date: February 2014

Renewal Date: September 2016, valid to September 2018

Certificate: C003\_CT001\_(4.0)



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