



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Certificate of Conformity to IEC 61508 / IEC 61511 Safety Integrity Level (SIL) 2

Functional Safety of Safety-Related Programmable Electronic Systems

The **Apollo Fire Detectors Ltd, Fire Detectors** have been assessed and are considered capable for use in a low demand Safety Function up to SIL 2, in terms of random failure rate, architectural constraints and systematic capabilities.

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

- **Technis Report No. T595 Issue 2.0;**
- **ESC Ltd Report: E046_PU001 rev. 3;**
- **Apollo: ESC – Schedule of Renewal – Drawing Updates.xlsx;**
- **Renewal Letter from Apollo Fire Detection Ltd, signed by Chris Ellis, Head of Compliance, dated 17th September 2018.**

The certified devices can only achieve SIL 2 if used in conjunction with a fire alarm control panel that supports all elements of the Apollo protocol, including full fault diagnostic.

Products covered by this certificate should have the Technis and ESC reports referred to in the Safety Manual.

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

- Probability of Failure on Demand (PFD) with proof test interval of one year and a repair time of a detected failure of 24 hours against IEC 61508 (2010 Edition) and IEC 61511 (2016 Edition);
- Architectural Constraints (SFF) for Type B equipment against IEC 61508 (2010 Edition);
- Systematic Capability against IEC 61511 (2016 Edition), prior use, suitable up to SIL 2.

Products Assessed	PFD	SFF
55000 - 440apo XP95 I.S Heat Detector	5.5E-06	90% to < 99%
55000 - 540apo XP95 I.S Ionisation Smoke Detector	5.6E-06	90% to < 99%
55000 - 640apo XP95 I.S Optical Smoke Detector	1.4E-05	90% to < 99%

Managing Director: Kenneth G L Simpson
Member of the IEC61508 committee
Assessment Date: October 2018, valid to October 2020
Certificate: E046_CT002 rev. 5

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

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