



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Random Hardware Reliability Certificate

Functional Safety of Safety-Related Programmable Electronic Systems

The **Apollo Fire Detectors Ltd, Manual Call Points** have been assessed and are considered capable for use in a low demand Safety Function up to (and including) SIL 2, with respect to random hardware failures and architectural constraints.

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

- **Technis Report No. T616 Issue 2.0;**
- **Renewal Letter from Apollo Fire Detection Ltd for products with no changes, signed by Billy Blakeman, Head of Conformance, Dated 23rd August 2022;**
- **Renewal Letter from Apollo Fire Detection Ltd for products with PCB / component changes with no impact to safety function, signed by Billy Blakeman, Head of Conformance, Dated 23rd August 2022;**
- **Manual Call Points 55100-940 & 55100-940APO Update Letter from Apollo Fire Detection Ltd, signed by Mark Schofield, Systems Engineer, dated 20th February 2019.**

However, although not included in the initial assessment, 55100-940 and 55100-940APO Intrinsically Safe Call Points (SIL) are the same in functionality and design as the 55000-940CD SIL Intrinsically Safe Call Point with the only difference being the label.

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 carry the applicable Technic report number.

The system assessed comprises the following modules:

- 58100 – 908CD SIL Isolated Call Point
- 55000 – 940CD SIL Intrinsically Safe Call Point
- 55100 – 940APO Intrinsically Safe Call Point (SIL)

The assessment was carried out to determine compliance IEC 61508 (2010 Edition) with regards to:

- Random Hardware Failures (providing a minimum proof test interval of one year and a repair time of a detected failure of 24 hours has a PFD of $<1E-04$), and;
- Architectural Constraints (Type B, SFF $>92\%$).

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: Simon Burwood
Assessment Date: February 2012
Renewal Date: September 2022, valid to September 2024
Certificate: A191_CT003 rev. 6

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