

## 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 capability.

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

- **Technis Report No. T663 Issue 2.0;**
- **Engineering Safety Consultants Ltd (ESC) Report: E046\_PU001 rev. 6;**
- **Renewal Letter from Apollo Fire Detection Ltd, signed by Chris Ellis, Head of Compliance, dated 22<sup>nd</sup> September 2020.**

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.

The Safety Manual for each product covered by this certificate should provide a reference to the ESC assessment report: E046\_PU001 rev. 6.

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

- Probability of Failure on Demand (PFD) with a proof test interval ( $T_p$ ) of one year, a proof test coverage (PTC) of 95% or 100%, an Overhaul Interval of 10 years 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 ( $T_p = 1$ year, PTC = 100%)	PFD ( $T_p = 1$ year, PTC = 95%)	SFF
55000-855apo XP95 Protocol Translator (Single)	9.9E-06	1.4E-05	90% to < 99%
55000-856apo XP95 Protocol Translator (Dual)	9.8E-06	1.4E-05	90% to < 99%

**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  
Member of IEC 61508 (MT61808-1-2) & IEC 61511 (MT61511) Maintenance Committees  
Assessment Date: May 2016  
Renewal Date: October 2020, valid to October 2022  
Certificate: E046\_CT007 rev. 8

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

Reg: 12Q12086

**ENGINEERING SAFETY CONSULTANTS LTD**  
2nd Floor, Exchequer Court, 33 St. Mary Axe,  
London, EC3A 8AA UK  
Telephone/Fax: +44 (0)20 8542 2807  
E-Mail: [info@esc.uk.net](mailto:info@esc.uk.net) Web: [www.esc.uk.net](http://www.esc.uk.net)  
Registered in England and Wales: 7006868  
Registered Office: 233 St. Mary Axe, London, EC3A 8AA