



# 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

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

The **Talentum Dual / Triple Infrared Flame Detector** manufactured by **Fire Fighting Enterprise (FFE) Limited** has been assessed and is considered capable for use in a low demand Safety Function up to SIL 2 with regard to random failure rates.

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

- **ESC Ltd Report: C127\_SV001\_(2.0).**
- **Renewal Letter from FFE, signed by Paul Ottavio, Product Approval Manager, dated 13<sup>th</sup> September 2018.**

The system was assessed against the following failure modes:

- Failure to annunciate flame condition via Fire relay;
- Failure to annunciate flame condition via 4-20mA output.

Subject to the following requirements detailed in report C127\_SV001\_(2.0):

- The fault relay is utilised by the logic solver sub-system to detect and alarm on a fault condition;
- The flame detectors will be configured with the automatic test option.

The system assessed comprises the following modules:

- Dual IR (standard blue enclosure) – 016581;
- Dual IR (stainless steel enclosure) – 016501;
- Dual IR (Exd & IECEx, standard red Exd enclosure) – 016511;
- Dual IR (Exd & IECEx, stainless steel Exd enclosure) – 016541;
- Triple IR (standard blue enclosure) – 016589;
- Triple IR (stainless steel enclosure) – 016509;
- Triple IR (Exd & IECEx, standard red Exd enclosure) – 016519;
- Triple IR (Exd & IECEx, stainless steel Exd enclosure) – 016549.

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

- Random Hardware Failures (Predicted PFD <3.0E-04 (assuming a 1 year proof test and average repair time of 168 hrs));
- Architectural Constraint (Type B, SFF >90%, <99%).

Managing Director: Kenneth G L Simpson

Member of the IEC61508 committee

Assessment Date: December 2013

Renewal Date: September 2018, valid to September 2020

Certificate: C127\_CT003 rev. 3

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