



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

Functional Safety of Safety-Related Programmable Electronic Systems

The **Hochiki Europe (UK) Ltd. CHQ-DZM(SCI)-IS, CHQ-DZM/DIN(SCI)-IS, CHQ-DZM/SCI and CHQ-DZM/DIN(SCI) Dual Zone Module for use in fire detection and alarm systems** have been assessed and are 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 D004_SV002 rev.2.

The system was assessed against the following failure mode:

- Failure to transmit alarm condition to Control and Indicating Equipment (CIE).

Subject to the following requirements:

- Host system will be configured to alarm on loss of communications to the Control and Indicating Equipment (CIE).

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

- Random Hardware Failures (Predicted PFD $<5.0E-04$ (assuming a 1 year proof test and average repair time of 168 hrs.) ;
- Architectural Constraints (Type B, SFF $>90\%$).

This assessment addresses only the random hardware reliability and architectural requirements of CHQ-DZM(SCI)-IS for use in a SIL2-rated safety system, (i.e. part of the sensing subsystem). It is therefore recommended that an assessment of the complete SIF (i.e. inclusive of sensor, logic solver and final element subsystems) is carried out to ensure the complete SIF meets the hardware reliability and architectural requirements of the target SIL.

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Renewal Date: September 2016, valid to September 2018

Certificate: D004_CT002 rev. 3



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