



# 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 **Hochiki Europe (UK) Ltd, CHQ-ISM and CHQ-ISM/DIN Intrinsically Safe Sounder Module** (function is to allow a sounder output to be driven through an IS barrier, and also monitors for an open circuit which is fed back to indicate a detected line fault through the IS barrier) 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 and architectural constraints.

The following product variants are also covered under this certificate, with the product labels being the only difference:

- CHQ-ISM/SIL;
- CHQ-ISM/DIN/SIL .

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

- **ESC Ltd Report: E029\_SV002 rev. 4;**
- **Renewal letter from Hochiki Europe (UK) Ltd, signed by Richard Anderson, Approvals & Certification Engineer, dated: 17/08/2020.**

The system was assessed against the following failure mode:

- Failure to drive sounder output when demanded.

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

- Random Hardware Failures (Predicted PFD  $<1.1E-03$  (assuming a 1-year proof test and average repair time of 168 hrs));
- Architectural Constraint (Type A, SFF  $>60\%$ ,  $<90\%$ ).

Note: The CHQ-ISM Module is not itself an intrinsically safe device, but is designed to connect to intrinsically safe barriers.

**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.

Chairman: Kenneth G L Simpson  
Member of the IEC 61508 committee

Assessment Date: May 2015

Renewal Date: October 2020, valid to October 2022

Certificate: E029\_CT002 rev. 7

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