



26 ORCHARD DRIVE,
TONBRIDGE, KENT, TN10 4LG.

Tel: 01732 352532

david.smith@technis.org.uk

www.technis.org.uk

CERTIFICATE of RELIABILITY and FUNCTIONAL SAFETY

This is to certify that


The CAIRN COCOON HABITAT provided by Cairn Safety Technology, 51a St. Martin Crescent, Dundee, Scotland, DD3 0SU UK has been assessed against the hazardous event:

- Gas ingress, and subsequent ignition, in the Habitat, in Zone 1 and Zone 2 environments

The assessment is a risk assessment and fault tree analysis addressing random hardware failures and was based on the assumptions and recommendations given in Technis Report T1086 (Issue 1.0). The assessment was carried out having regard to the general guidance in IEC 61508 [2010] and the related body of guidance in respect of Random Hardware Failures.

The risks are argued to be as low as reasonably practicable given credible assumptions. The integrity target for the mitigation is argued to be SIL 1. The mitigation involves redundant levels of protection (HFT [1]) and thus, each instrument function attracts a < SIL 1 target. Despite the overall SIL 1 target, the redundant mitigation nevertheless meets the overall random hardware failures target for SIL 2, given the procurement of appropriate instrumentation.

The validity of this certificate requires that the product is used in accordance with any assumptions, limitations or intervals stipulated in the underpinning reliability/integrity report. The product build state continues to conform to the drawings and issues quoted in the underpinning reliability/integrity report. The product is used having regard to the instructions, limitations of use, intervals etc as outlined in the manufacturer's Safety Manual. The manufacturer maintains a credible level of Functional Safety Management in respect of (for example) design configuration control, procurement, manufacturing and defect analysis. The certificate will not apply to any product variation/modification or to the use of functions not addressed in the original study. It is recommended that the design, defect records and the company FSM procedure are reviewed, at least every 2 years, and should any changes have occurred since the original certification then the manufacture should contact Technis to request re-certification.

Signed:  (Certificate No T1086-223) – 24 Jan 2023

Dr David J. Smith BSc, PhD, CEng, FIET, FIQA, HonFSaRS, MIGEM

This certificate does not warrant fitness for any specific applications related purpose and is based on probabilistic and statistical assessment.