



ENGINEERING SAFETY CONSULTANTS

The Global Provider of Functional Safety Expertise and Technical Consultancy

Random Hardware Reliability Certificate

Functional Safety of Safety-Related Programmable Electronic Systems

The **Seagull Safety Ltd, SS76-TX CAT Transmitter** has been assessed and is considered capable for use in a low demand Safety Function up to (and including) SIL 2, with regard to random hardware failures and architectural constraints.

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

- **Seagull Safety Ltd, SS76-TX CAT Transmitter, Hardware Safety Manual, SS55100-992, Issue 1.2, Date: 14th October 2015;**
- **Renewal letter from Seagull Safety Ltd, signed by Andrew Dove, Technical Director, Dated: 19th August 2022.**

The SS76-TX CAT Transmitter consists of the following modules:

- Transmitter Board – Part no. SS55100-301, Issue 3;
- Relay Board – Part no. SS55100-401, Issue 2.

The assessment was carried out against the following failure mode:

- **Inability to read the pellistors impedance and give the correct 4-20mA analogue output signal within the specified tolerance.**

The assessment was carried out to determine compliance with IEC 61508 (2010 Edition) with regards to:

- Random Hardware Failure with predicted PFD <4.0E-04 (assuming a 6-month proof test and a Mean Time to Repair of 8 hours);
- Architectural Constraint (Type B, SFF >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: October 2015
Renewal Date: September 2022, valid to September 2024
Certificate: C138_CT001 rev. 5

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