

**Certificate of Conformity to IEC 61508 Safety Integrity Level (SIL) 2/3 with respect to random hardware failures and architectural constraints**

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

The **Straininstall UK Ltd, Load Link (TEN 10509 & 10510 Variants)** has been assessed and is considered capable for use in a low demand Safety Function with a SIL requirement of up to (including) SIL 2/3, with respect to random hardware failures and architectural constraints only. Systematic Capability (SC) was not addressed as part of this analysis.

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

- Random Hardware Failure (Predicted PFD) with a Mean Down Time (MDT) of 168 hours, a Proof Test Interval (PTI) of 1 year (8760 hours), a Proof Test Coverage (PTC) of 95% or 90% and an Overhaul Interval of 10 years (87600 hours);
- Architectural Constraint (Type A, Predicted SFF 60% - 90%).

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

- **Engineering Safety Consultants Ltd Report: L216\_FM001 rev.1.**

The product was assessed against the following failure mode:

- To provide detection of weight during a lift and to provide mechanical load link between the load and hoist system (HRPPS).

The assessment results are as follows:

Device	Proof Test Coverage (PTC)	Selected PFD Target	Predicted PFD	HFT	Type	Predicted Overall SIL (PFD & Arch)
Load Pin (Pin 12210 and 12211 Variants)	95%	2.0E-03	1.2E-03	0	A	2
	90%	2.0E-03	1.6E-03	0	A	2
	95%	2.0E-04	8.9E-05	1	A	3
	90%	2.0E-04	1.2E-04	1	A	3

**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.



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