Document number:	L078_CT001 rev. 4
Dated:	18-Aug-25
Expiry date:	18-Aug-27

IEC 61508 Functional Safety Capability Statement

Leakwise, Hydrocarbon (HC) Leak Detector (Model ID-221, ID-223/500, ID-223/2000, ID-223-2500 & ID-225) connected to the SLC-220 Controller

Manufacturer:	Leakwise Glil Yam, Israel
Product:	Leak Detector
Model:	ID-221, ID-223/500, ID-223/2000, ID-225-2500 and ID-225
Application:	Low Demand Mode Safety Instrumented Function
Safety Function:	Upon failure of the electronics to correctly process the signal to confirm the presence of a leak within the configured limits, action is initiated (Logic solver and final element subsystems not part of this analysis)
Applied standard:	IEC 61508 Ed2 2010 Parts 1-3 & IEC 61511 Ed1
Systematic Capability:	Suitable up to SIL 2
Applicable report:	ERM Report: L078_FM001 rev. 4
Assessment Route:	1_H
Hardware Fault Tolerance:	0
Type:	B
Application restrictions:	Valid on the current version of the hardware and embedded software (Version 4.43) only.

Model No.	λDU (/hr)	λDD (/hr)	λS (/hr)	SFF	SIL AC (HFT = 0)	SIL SC
ID-221	1.5E-06	1.3E-05	3.6E-08	90%	SIL 2	SC 2
ID-223/500	2.3E-06	2.2E-05	1.6E-06	91%	SIL 2	SC 2
ID-223/2000	3.6E-06	3.8E-05	1.6E-06	92%	SIL 2	SC 2
ID-223/2500	4.7E-06	5.1E-05	1.6E-06	92%	SIL 2	SC 2
ID-225	1.3E-06	1.0E-05	3.6E-08	89%	SIL 1	SC 1

SIL AC (Architectural Constraints): Represents the maximum allowable SIL of each hardware element, assuming Hardware Fault Tolerance (HFT) = 0.

SIL SC (Systematic Capability): A measure of confidence (expressed on a scale of SC 1 to SC 4) of the confidence that the systematic safety integrity of a device meets the requirements of the specified SIL.

© Copyright 2025 by The ERM International Group Limited and/or its affiliates ('ERM'). All Rights Reserved.

It should be noted that for a device to meet a required SIL that the SIL AC and SIL SC of the device needs to both be met. In addition to this, the required Probability of Failure on Demand (PFD) value for the complete Safety Instrumented Function (SIF) needs to adhere to the SIL PFDavg ranges.

IMPORTANT: It should be noted that this assessment considers only the Leakwise, Hydrocarbon (HC) Leak Detector (Model ID-221, ID-223/500, ID-223/2000, ID-223-2500 & ID-225) connected to the SLC-220 Controller and does not include confirmation of the response time of the device(s).

The Leakwise, Hydrocarbon (HC) Leak Detector (Model ID-221, ID-223/500, ID-223/2000, ID-223-2500 & ID-225) connected to the SLC-220 Controller has been assessed and is considered capable for use in a low demand mode safety function up to (and including) SIL 1 / SIL 2 with regards to random hardware failures, architectural constraints and Systematic Capability.

Note 1: The SIL of a complete SIF (sensor, logic solver and final element subsystems) must be verified to calculate the required PFD / Probability of Failure per Hour (PFH), considering any redundancy, Proof Test Interval (PTI), Proof Test Coverage (PTC), Mission Time and Mean Time To Restoration (MTTR) for all elements included in the SIF. Each subsystem should be verified to ensure compliance with the minimum HFT requirements.

Chantal Sealey FS Eng (TÜV Rheinland) Assessor chantal.sealey@erm.com	Simon Burwood FS Expert (TÜV Rheinland) Assessment Authority simon.burwood@erm.com