

# UK-TYPE EXAMINATION CERTIFICATE

## Product or Protective Systems Intended for Use in Potentially Explosive Atmospheres

### UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

- UK-Type Examination Certificate Number:** ITS21UKEX0474X      **Issue 01**
- Product:** Gas Sensing Device  
Model SulfiLogger™ X1 (See Description of Product for details)
- Manufacturer:** SulfiLogger A/S
- Address:** Stokagervej 8G, 8240 Risskov, Denmark
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Intertek Testing and Certification Limited, Approved Body number 0359, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.  
  
The examination and test results are recorded in the confidential report 104799609DAL-003 Issue: 00 Dated: 2022-03-03.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018 and EN 60079-11:2012 except in respect of those requirements referred to within item 14 of the Schedule.
- If the sign “X” is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
- This UK-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- The marking of the product shall include the following:

II 1 G



Ex ia IIC T4 Ga

-20°C ≤ Ta ≤ +60°C

**Certification Officer:** \_\_\_\_\_



Todd L. Relyea

**Date:** \_\_\_\_\_

10 August 2023

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. This Certificate is accredited under UKAS schedule 0010

Intertek Testing & Certification Limited, Cleeve Road, Leatherhead, Surrey, KT22 7SA  
Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

## SCHEDULE:

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### 11. Description of Product or Protective System

The product covered by this report is a Gas Sensing Device Model SulfiLogger™ X1. The gas sensing device is designed to quantify the concentration of a specific gas, e.g., H<sub>2</sub>S, O<sub>2</sub>, or H<sub>2</sub>. The device can be used in several media such as air, natural gas, oil or water.

The SulfiLogger™ X1 sensor can be used in different configurations, such as, (a) free hanging, (b) fixed – liquid phase measurement, (c) inline installation, and (d) fixed – gas phase measurement. Each configuration can have subvariants, e.g., different insertion lengths or thread types.

The product is supplied through a barrier module located in the ordinary location. It is also possible to connect to an RS-232 communication port through a barrier. M12 connectors for power/4-20mA supply and RS-232 communication are in the back end of the sensor housing. An outer stainless steel metal enclosure protects the device against mechanical impact.

#### Model Similarity:

SulfiLogger™ X1-BCDE-F, where:

X1 for devices for Ex applications.

B is the analyte:

- 1: H<sub>2</sub>S
- 2: O<sub>2</sub>
- 3: H<sub>2</sub>
- 4: NO
- 5: N<sub>2</sub>O
- 6-9: Other gas

C is the mechanical design of the sensor:

- 0: Flush front;
- 1: Threaded front (G1") – type A;
- 2: Threaded front (G1") – type B;
- 3: Flush front and conduit through sensor;
- 4: Threaded front (G1") and conduit through sensor
- 5-9: other sensors

D is a number 0-9 defining the sensor/software configuration

E is 0

F is the maximum concentration including unit

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### 12. Report Number

Intertek Report: 104799609DAL-003 Issue: 00 Dated: 2022-03-03.

### 13. Special Conditions of Certification

#### (a). Special Conditions of Use

- The sensor has been considered an isolated metal part and has a max capacitance of 97.2 pF on the screws of the enclosure body. The end user shall ensure that this part is incapable of being charged, either through grounding or installation conditions. Please refer to the installation manual for details on the mitigation of electrostatic charging.
- The sensor must not be disassembled.
- It is the end user's responsibility to select proper barriers for the sensor.

#### (b). Conditions of Manufacture - Routine Tests

- N/A

### 14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104799609DAL-003 Issue: 00 Dated: 2022-03-03.

### 15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
*Core PCB + Battery	1908d026	V03-113	06/29/2022
Core PCB	1908d027	V03-108	10/01/2021
C00021V03_Assembly instructions_106	C00021V03_Assembly instructions_106	V03_106	12/03/2021
C00021V03_Assembly instructions_107	C00021V03_Assembly instructions_107	V03_107	02/22/2022
*C00021V03_Assembly instructions_108	C00021V03_Assembly instructions_108	V03_108	07/06/2022
C00021V03_BOM_103	C00021V03_BOM_103	V03_103	10/07/2021
C00021V03_BOM_104	C00021V03_BOM_104	V03_104	02/24/2022
*C00021V03_BOM_105	C00021V03_BOM_105	V03_105	07/06/2022
X1-BCDE-F	1902d001	V01-106	09/29/2021
Overview Core PCB	C00042_v2r0	v2r0	04/09/2019
C00042_v2r02_BOM	C00042_v2r02	C00042_v2r02	01/27/2022
Specification Page 1	C00042_v2r0-00.art	--	04/08/2019
Overview Core PCB	C00042_v2r2	v2r2	09/14/2021
*Overview Core PCB	C00042_v2r3	v2r3	08/23/2022
C00042_v2r2_BOM	C00042_v2r2_BOM	v2r2_103	01/27/2022

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## 15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
*C00042_v2r3_BOM	C00042_v2r3_BOM	v2r3_101	08/19/2022
Specification Page 1	C00042_v2r2-00.art	--	09/26/2021
*ATEX/UKEX Installation Drawing	F00001QAX01	100	04/14/2023
*F00001_Label marking	F00001_Label marking	204	04/25/2023

Note: An \* is included before the title of documents that are new or revised.

## 16. Details of Certificate changes Issue 1

- Updated address from: "Tueager 1, Aarhus N, 8200, Denmark" to "Stokagervej 8G, 8240 Risskov, Denmark" and updated below drawings accordingly: "F00001\_Label marking" and "SulfiLogger™ sensor and PowerCom Box\_Inst. Manual".
- Added alternate resistance value of R36: 270 Ohm, changed R21, R22 and R23 values from OR, OR, NM to NM, NM, OR and updated below drawings accordingly:
  - Added drawing "C00042\_v2r3\_BOM", revision level: v2r3\_101, date: 8/19/2022.
  - Added drawing "1908d026", revision level: V03-113, date: 06/29/2022.
  - Added "C00021V03\_Assembly instructions\_108", revision level: V03\_108, date: 07/06/2022.
  - Added "C00021V03\_BOM\_105", revision level: V03\_105, date: 07/06/2022.
  - Added "C00042\_v2r3", revision level v2r3, date: 08/23/2022.
- Performed measurement capacitance test and updated special condition of use from "The SulfiLogger™ X1 sensor must be grounded." to "The sensor has been considered an isolated metal part and has a max capacitance of 97.2 pF on the screws of the enclosure body. The end user shall ensure that this part is incapable of being charged, either through grounding or installation conditions. Please refer to the installation manual for details on the mitigation of electrostatic charging." and updated manual revision level and date to: 25, April 2023.
- C2, C3, C4 and C5 have been added to suppress burst signal. D6 and D7 have been added to protect RS232 lines. Capacitance does not exceed 22nF.