

**UNITED KINGDOM CONFORMITY ASSESSMENT
UK TYPE EXAMINATION CERTIFICATE**

**Product Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1**

Type Examination Certificate Number: **ExVeritas 21UKEX0949X** Issue: **0**

Product: gPIMS® Ex Wifi Field Control Unit – Autonomous Data Upload for Oil & Gas Applications

Manufacturer: Guided Ultrasonics Ltd.

Address: Wavemaker House, 3 Brentwaters Business Park, The Ham, Brentford, TW8 8HQ
United Kingdom

This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

ExVeritas Limited Approved Body number 2585, 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 by UKSI 2019:696), 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.

Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:


EN IEC 60079-0: 2018 EN 60079-11:2012

Except in respect of those requirements listed at section 16 of the schedule to this certificate.

If the sign “X” is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

This 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 equipment shall include the following:

 II 1 G Ex ia IIB T4 Ga
T_{amb} -40 °C to +70 °C



No. 8613

On behalf of ExVeritas



**S Clarke CEng MSc FIET
Managing Director**

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The status of this certificate can be verified at www.exveritas.com

For help or assistance relating to this certificate, contact info@exveritas.com.

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Schedule

13 Description of Product

The gPIMS® Ex Wifi Field Control Unit (GP-FCU-WIFI-EX-CM) samples data from Guided Ultrasonics Ltd.'s (GUL) permanently mounted gPIMS® Sensors that provide both thickness and large area monitoring data. It is an intrinsically safe equipment designed for autonomous data upload for oil and gas applications for use in Zone 0 explosive gas environment. The equipment external enclosure is made of stainless steel. It has an internal battery pack powered design fitted with Lithium cells. There are two external ports, one for the passive external antenna and the other to connect the external gPIMS® sensor. It comes with stainless steel mounting bracket that allows the equipment to be attached to a wall or a pole.

The intrinsically safe outputs are accessed via the 55-way connector. They are designed to be connected to certified gPIMS® sensor only. The entity connection parameters for the sensor port are listed below:

Signal pins combined w.r.t GND

$U_o = 7.8 \text{ V}$, $I_o = 472 \text{ mA}$, $P_o = 0.92 \text{ W}$, $C_o = 67.3 \text{ }\mu\text{F}$, $L_o = 0.638 \text{ mH}$

Logic pins combined w.r.t GND

$U_o = 5.88 \text{ V}$, $I_o = 140 \text{ mA}$, $P_o = 0.206 \text{ W}$, $C_o = 937.3 \text{ }\mu\text{F}$, $L_o = 7.25 \text{ mH}$

U_m for RS485 = 5.9 V (Not to be connected in hazardous area)

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3441/A/1	2022-05-30	0	Initial issue of the Prime Certificate

14.2 Compliance Drawings:

Title:	Drawing No.:	Rev. Level:	Date:
Sampling module type C adapter board	SM-TYPEC-ADAPTOR_SCH	V1.1	2018-07-19
GUL Samling module Type C Adaptor PCB - Readme	SM-TYPEC-ADAPTOR_V1.0	V1.2	2018-10-03
Guided Ultrasonics gPIMS Core Board PCBA Bill of Materials	GE-0008-01	3.6	2021-08-17
Guided Ultrasonics gPIMS Core Board Schematics	GE-0006-01	3.6	2021-08-17
Guided Ultrasonics gPIMS Core Board Gerber Prints	GE-0007-01	3.5	2020-09-23
MTS TOP LABEL PLATE - 4AX CELLS (Sheet 1 of 2)	GP-0994-00	14	2022-05-05
MTS TOP LABEL PLATE - 4D CELLS (Sheet 2 of 2)	GP-0994-00	14	2022-05-05
MTS FCU TOP PLATE (EX CERTIFICATION LABEL)	GP-0999-00	04	2022-04-29

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Title:	Drawing No.:	Rev. Level:	Date:
BOM Upper Battery PCB R2	GE-0025-09	R2	2021-04
GE-0025 Upper Battery Gerber Prints	GE-0025 Upper Battery	R2	2021-05
Upper Battery Board Schematics	GE-0025-01	2	2021-05-04
BOM Lower Battery PCB	GE-0026-10 Lower Battery PCB R3	R3	2021-07
GE-0026 Lower Battery Gerber Prints	GE-0026 Lower Battery	R3	2021-07
Lower Battery Board Schematics	GE-0026-01	R3	2021-07-21
BOM EWPWRC	GE-0027-11 EWPWRC R2	R2	2021-09
EWPWRC GERBER PRINTS	GE-0027 EWPWRC GERBER PRINTS	R2	2021-09
EWPWRC PCB Schematics	GE-0027-01	2	2021-09
RF ISOLATOR R1 BOM	GE-0029-11 RF ISOLATOR R1 BOM	R1	2021-09
GE-0029 RF Isolator Gerber Prints	GE-0029 RF Isolator	R1	2021-09
RF ISOLATOR PCB Schematics	GE-0029-01 RF ISOLATOR PCB	1	2021-09
GUL Mux Board PCBA Bill of Materials	GE-0011-03	3.7	2020-10-07
GUL Mux Board Gerber Prints	GE-0010-01	3.6	2020-08-11
GUL Mux Board Schematics	GE-0009-01	3.6	2020-08-11
GUL Wireless Board PCBA Bill of Materials	GE-0017-01	1.2	2022-01-25
GUL Wireless Board Gerber Prints	GE-0016-06	1.2	2021-05-04
GUL Wireless Board Schematics	GE-0015-02	1.2	2022-01-25
User Instructions	UI-FCU-WIFI-EX-CM	1	2022-05-16
GP-FCU-WIFI-EX Assembly Drawing	GP-0980-00	04	2022-03-02
Potting Box Assembly	GP-0981-00	06	2022-03-21
FCU BATTERY LOCATOR SUB ASSEMBLY	GP-0985-00	05	2022-03-21
BATTERY MODULE ASSEMBLY 'BATM-EX-4D'	GP-0986-00 (Sheets 1-2 of 4)	11	2022-05-17
BATTERY MODULE ASSEMBLY 'BATM-EX-4AX'	GP-0986-00 (Sheets 3-4 of 4)	11	2022-05-17
WIFI-EX INTERFACE PLATE ASSEMBLY	GP-0987-00	06	2022-03-21

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15 Specific Conditions of Use

15.1 Special Conditions for Safe Use

1. Only use passive antenna with the equipment that has a gain of less than 14.9 dBm such that the overall RF power transmission remains less than 3.5 W.
2. For battery module type with replaceable cells (BATTM-EX-4D), use only new SAFT LS33600 as replacement cells, and all cells must be replaced at the same time. However, the cells shall only be accessed in non-hazardous areas.
3. The equipment hazardous area sensor connection may only be connected to a suitable gPIMS® Sensor specified in IECEx certificate reference IECEx BAS 14.0031X. The end installation shall consider the suitability of the choice of sensor along with its cable connection, for which the connection parameters would require to be matched.
4. Under certain extreme circumstances, the non-metallic parts incorporated on the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.

15.2 Routine tests

- None

16 Essential Health and Safety Requirements (Regulations Schedule 1)

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform ExVeritas of any modifications to the design of the product described by this schedule.

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