1 EU - Type Examination Certificate

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: ExVeritas 23ATEX1732X Issue: 0

4 Equipment: gPIMS Ex HT Sensor (CM R2P-**in-HT-EX-**mm)

5 Manufacturer: Guided Ultrasonics Ltd.

6 Address: Unit 3, Brentwater Business Park, Wavemaker House, The Ham, Brentford, TW8 8HQ, United Kingdom.

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

EN IEC 60079-0: 2018 IEC 60079-11:2023

10 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.

11 This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:

II 1G Ex ia IIB T* Ga
Ta = -40°C to +70°C

DANAK
PROD Reg.No. 7044
Member of EA MLA

On behalf of ExVeritas

Peter Lauritzen
Managing Director

Schedule

13 Description of Equipment or Protective System

The gPIMS Ex HT Sensor (CM R2P-**in-HT-EX-**mm) is intended for fixed installation in explosive gas atmospheres identified as IECEx Zone 0, and ATEX Category 1G with gas subgroup IIB, and temperature classification dependent upon the process or ambient temperature. The device uses ultrasonic reflectometry to make an acoustic inspection of pipes for the purpose of defect detection and measurement (for example corrosion monitoring). Data gathered during the measurement is sent through a cable (with a length that is within the range of 3 m to 50 m) to either a piece of suitably selected associated apparatus (see table 2), or to the approved GP-FCU-WIFI-EX-CM (See approvals ExVeritas 21 ATEX 0947 X, ExVeritas, 21 UKEX 0949 X and IECEx EXV 21.0049 X).

Each transducer assembly is a flexible collar which is wrapped around the workpiece. A single collar can completely encircle a pipe diameter in the range of 50 mm to 600 mm (2 inches to 24 inches), however for pipe diameters in range of 660 mm to 1220 mm (26 inches to 48 inches), two independent sensors can be banded together to make a single assembly. In this case the manufacturer supplies a combined ring enclosure (Part number GP-1468) to make the appropriate electronic connections.

Depending on the application the device is either manufactured for “high” or “medium” frequency applications. The sensor can be manufactured with a variable width spacing between the sensing elements. Both manufacturing aspects are reflected in the part naming convention below.

Part number disambiguation:

Spacing options (given in millimetres):
16, 21, 24, 32.

Sensor size options (given in Inches):
2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24.

The temperature class is dependent upon the temperature of the process or upper ambient which can reach as high as +200°C. Consequently the T-class is assigned based on the table below.

Table 1: Temperature classification	
Temperature classification	Process temperature
T4	114 °C
T3	179 °C
T2	200 °C

Table 2: Limiting parameters		
Meas.	Signal pins	Logic pins
Ui	8.3 V	5.88 V
Ii	503 mA	143.4 mA
Pi	1044 mW	208 mW
Ci	50.4 nF	6.74 nF
Li	31 µH	70 µH

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report	Date	Issue	Comment
R4906/A/1	26/11/2024	0	Initial issue of the Prime Certificate

Continued overleaf.

Schedule

14.2 Compliance Drawings:

Title	Drawing	Revision	Date
GPIMS EX HT CONDUIT ASSY Two dimensional drawing.	GP-1156-00 PENDING ATEX_0.pdf	02	05/05/2023
GPIMS EX HT CONDUIT ASSY Three dimensional computer render.	GP-1156-00 PENDING ATEX_1.pdf	02	05/05/2023
GPIMS EX HT CIRCUIT ASSY PRE-MOULD Three dimensional computer render.	GP-1359-00 PENDING ATEX_0.pdf	02	23/05/2022
GPIMS EX HT CIRCUIT ASSY PRE-MOULD Computer rendered exploded view.	GP-1359-00 PENDING ATEX_1.pdf	02	23/05/2022
GPIMS EX HT CIRCUIT ASSY POST-MOULD Three dimensional computer render.	GP-1361-00 PENDING ATEX.pdf	02	23/05/2022
GPIMS EX HT GENERAL SENSOR ASSY Three dimensional wireframe render.	GP-1417-00 PENDING ATEX_0.pdf	01	12/12/2022
GPIMS EX HT GENERAL SENSOR ASSY General assembly drawing (side projection).	GP-1417-00 PENDING ATEX_1.pdf	01	12/12/2022
GPIMS EX HT GENERAL SENSOR ASSY Wireframe isometric render.	GP-1417-00 PENDING ATEX_2.pdf	01	12/12/2022
GPIMS EX HT FLEXIBLE CIRCUIT ASSY Three dimensional computer render.	GP-1424-00 PENDING ATEX_0.pdf	02	12/12/2022
GPIMS EX HT FLEXIBLE CIRCUIT ASSY Three dimensional computer render.	GP-1424-00 PENDING ATEX_1.pdf	02	12/12/2022
GPIMS EX HT FLEXIBLE CIRCUIT ASSY Flexible circuit construction options.	GP-1424-00 PENDING ATEX_2.pdf	02	12/12/2022
GPIMS EX HT COMBINED SENSOR ASSY Illustration of typical installation arrangement.	GP-1459-00 PENDING ATEX_0.pdf	01	28/07/2023
GPIMS EX HT COMBINED SENSOR ASSY Illustration of typical installation arrangement including GP-FCU-WIFI-EX.	GP-1459-00 PENDING ATEX_1.pdf	01	28/07/2023
GPIMS EX HT COMBINED SENSOR BOX Exploded assembly drawing.	GP-1468-00 PENDING ATEX_0.pdf	02	28/07/2023
GPIMS EX HT COMBINED SENSOR BOX Section view.	GP-1468-00 PENDING ATEX_1.pdf	02	28/07/2023
GPIMS EX HT COMBINED SENSOR BOX Isometric computer render.	GP-1468-00 PENDING ATEX_2.pdf	02	28/07/2023
GPIMS EX HT CONNECTOR ID PLATE Marking label.	GP-1477-00 PENDING ATEX.pdf	05	01/09/2023

Continued overleaf.

Schedule

15 Special Conditions for Safe Use

1. The surface of the enclosure is susceptible to electrostatic accumulation. To avoid the risk of incendiary discharges from this non-metallic part, the device shall not be installed in locations where such an accumulation may occur. Additionally, cleaning of this surface shall only be permitted with a damp cloth.
2. The Souriau-type connector includes a fastener which contains Aluminium alloy. This alloy exceeds the material limits from IEC 60079-0:2017 Cl, 8.3. and therefore is an ignition hazard. The device shall be installed so that the possibility of impact or friction on this part is not possible.

16 Essential Health and Safety Requirements

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 the Notified Body of any modifications to the design of the product described by this schedule.