IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx SIR 18.0037X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2018-12-03) Issue 0 (2018-08-23)
Date of Issue:	2021-01-20		

Applicant: **Pulsar Process Measurement Ltd**
Cardinal Building
Enigma Commercial Centre
Sandy's Road
Malvern
Worcestershire WR14 1JJ
United Kingdom

Equipment: **Pulsar dB & ST Series of Ultrasonic Transducers**

Optional accessory:

Type of Protection: **Encapsulation**

Marking: Ex mb IIC T6 Gb
Ex mb IIIC T85°C Db
Ta = -40°C to +75°C

Approved for issue on behalf of the IECEx Certification Body: **Neil Jones**

Position: **Certification Manager**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

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Manufacturer: **Pulsar Process Measurement Ltd.**
Cardinal Building
Enigma Commercial Centre
Sandy's Road
Malvern
Worcestershire WR14 1JJ
United Kingdom

Additional manufacturing locations: **Pulsar Process Measurement Limited**
Unit 5, Lancaster Way
Earls Colne Business Park
Earls Colne
Essex CO6 2NS
United Kingdom

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/SIR/ExTR18.0151/00 GB/SIR/ExTR18.0219/00 GB/SIR/ExTR20.0208/00

Quality Assessment Reports:

GB/BAS/QAR15.0006/03 GB/SIR/QAR06.0030/10

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The pulsar dB series of ultrasonic Level Sensors are designed as level measurement sensors used in level measurement systems. The sensors in the series differ only in the size of the transducer crystal used and the frequency of operation. The sensor range is listed in the Annexe.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The encapsulated Type 'm' sensors in the series must be supplied from apparatus that provides protection against prospective short circuit currents of up to 4000A.
2. The enclosures surface is non-conducting and may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user shall ensure that the equipment shall not be used in a location where the external conditions are conducive to the build-up of electrostatic charge on non-conductive surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.

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Date of issue: 2021-01-20 Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 2, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. The recognition of new label drawings to account for the change of the Notified Body responsible for issuing the ATEX Quality Assurance Notification.

Annex:

IECEx SIR 18.0037X Annexe Iss 2.pdf

The sensor range is listed below for reference:

Transducer Model	Frequency (kHz)
dB3	125
dB6	75
dBS6	50
dB10	50
dB15	41
dB25	30
dB40	20
ST10	125

The equipment comprises a printed circuit board and piezo electric crystal transducer, these are all housed inside a plastic enclosure and then totally encapsulated.

An integral cable provides the connection facilities to the external circuits.

The sensors have been assessed with the following input parameters.

Rated input voltage = 24V
Maximum input power = 1.5W

The sensors have no internal fuse or any other components the will guarantee its suitability for connection to the prospective short circuit current of 4000A. Such components must be provided in the external equipment to which the sensors are to be connected.

Conditions of Manufacture

i. A visual inspection of each encapsulated sensor shall be performed in accordance with IEC 60079-18 clause 9.1
ii. At the conclusion of manufacture, and before shipping, each transducer shall be subject to a routine dielectric strength test of 500 V r.m.s ($^{+5}_{0}$%) at 48 Hz to 68Hz. Alternatively, the test voltage shall be 700 Vdc. Either test shall be conducted for a period of 60 seconds, without breakdown between the positive input and the sidewall of the enclosure closest to the bare live internals. Alternatively a test at 1.2 times the test voltage may be applied for at least 100 ms.

Full Certificate Change History:

Issue 1 – this Issue introduced the following changes:

1. A typographical error in the Applicants name was removed.
2. The introduction of the following, alternative manufacturing site:

   Pulsar Process Measurement Limited
   Unit 5, Lancaster Way
   Earls Colne Business Park
   Earls Colne
   Essex CO6 2NS
   United Kingdom

Issue 2 – this Issue introduced the following change:

1. The recognition of new label drawings to account for the change of the Notified Body responsible for issuing the ATEX Quality Assurance Notification.

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