



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEX SIR 18.0037X

Issue No: 1

Certificate history:

Status: **Current**

Issue No. 1 (2018-12-03)

Issue No. 0 (2018-08-23)

Date of Issue: **2018-12-03**

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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:*

C Ellaby

*Position:*

Deputy Certification Manager

*Signature:  
(for printed version)*

*Date:*

  
2018-12-03

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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





# IECEX Certificate of Conformity

Certificate No: IECEX SIR 18.0037X Issue No: 1

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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 location(s):

**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 apparatus 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 electrical 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 Report:

[GB/SIR/ExTR18.0151/00](#) [GB/SIR/ExTR18.0219/00](#)

#### Quality Assessment Report:

[GB/BAS/QAR15.0006/02](#) [GB/SIR/QAR06.0030/08](#)



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## Schedule

### 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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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

**This issue, Issue 1, recognises the following change; refer to the certificate annex to view a comprehensive history:**

1. A Typographical error in the Applicants name was removed.
2. The recognition of an alternative manufacturing location:

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

### Annex:

[IECEX SIR 18.0037X Annexe Iss 1.pdf](#)

**Annexe to:** IECEx SIR 18.0037X Issue 1  
**Applicant:** Pulsar Process Measurement Ltd  
**Apparatus:** Pulsar dB & ST Series of Ultrasonic Transducers



The sensor range is listed below for reference:

Transducer Model	Frequency (kHz)
dB3	125
dB6	75
dB56	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 that 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 ( $\pm 5\%$ ) 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 change:

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

**Date:** 03 December 2018

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Form 9530 Issue 1

### Sira Certification Service

Unit 6 Hawarden Industrial Park,  
Hawarden, CH5 3US, United Kingdom

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Web: [www.csagroupuk.org](http://www.csagroupuk.org)