

# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** FM19CA0066X
3. **Equipment:**  
(Type Reference and Name) Pulsar dB a Series of Ultrasonic Transducers  
Pulsar dB 3 Series of Ultrasonic Transducers  
Pulsar ST-10 Ultrasonic Transducer
4. **Name of Listing Company:** Pulsar Process Measurement Limited
5. **Address of Listing Company:** Cardinal Building – Enigma Commercial Center  
Malvern, Worcestershire WR14 1JJ  
United Kingdom
6. The examination and test results are recorded in confidential report number:  
  
3028563 dated 4<sup>th</sup> May 2007
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
C22.2 No. 142:R1987, C22.2 No. 157-92:R1992, C22.2 No. 25:R1966,  
ISA-S12.00.01:R2002, ISA-S12.12.01:R2003, C22.2 No. 94:R1991
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. **Equipment Ratings:**  
  
Intrinsically Safe (Entity) for use in Class I, II and III, Divisions 1 and 2 Groups A, B, C, D, E, F and G indoor and outdoor Hazardous Locations when connected in accordance with Control Drawing D-804-0532-E. Temperature Class T4 at an ambient of -40°C to +75°C, Type 4X.

**Certificate issued by:**

J.E. Marquedant  
VP, Manager - Electrical Systems

26 May 2020

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

# SCHEDULE



Canadian Certificate Of Conformity No: FM19CA0066X

Suitable for use in Class I, II and III, Division 1 and 2 Groups A, B, C, D, E, F and G indoor and outdoor Hazardous Locations. Temperature Class T4 at an ambient of -40°C to +75°C. Type 4X.

11. The marking of the equipment shall include:

Pulsar dB a Series of Ultrasonic Transducers

Pulsar dB 3 Series and ST-10 Ultrasonic Transducers

Intrinsically Safe For:

Class I, Division 1, Groups A, B, C, D; T4 Ta = -40°C to +75°C; D-804-0532-E, Type 4X

Class II, Division 1, Groups E, F, G, Class III, Division 1; T4 Ta = -40°C to +75°C; D-804-0532-E, Type 4X

Pulsar dB a Series of Ultrasonic Transducers

Pulsar dB 3 Series and ST-10 Ultrasonic Transducers

IPA For:

Class I, Division 1, Groups A, B, C, D; T4 Ta = -40°C to +75°C; D-804-0532-E, Type 4X

Class II, Division 1, Groups E, F, G, Class III, Division 1; T4 Ta = -40°C to +75°C; D-804-0532-E, Type 4X

12. **Description of Equipment:**

**General** - The Pulsar dB Series of Ultrasonic Level Sensors are designed as level measurement sensors used in level measurement systems.

**Construction** – Each Pulsar dB sensor is comprise of a printed circuit board, piezo electric transducer, encapsulated within a plastic enclosure. An integral cable provides the connection to external circuits. The enclosures of the dB3 and ST-10 differ from other dB sensors, and are comprised of two endcaps of dB a series sensors.

**Ratings** - Pulsar dB sensors are rated for use in an ambient temperature range of -40°C to +75°C.

Pulsar dB a Series of Ultrasonic Transducers.

Entity parameters

Ui = 30 V, li = 600 mA, Pi = 1.5 W, Ci = 0, Li = 0.

a = 6, 10, 15, 25, 40[nominal measuring distance in metres].

Pulsar dB 3 Series and ST10 Ultrasonic Transducers.

Entity parameters

Ui = 30 V, li = 600 mA, Pi = 1.5 W, Ci = 0, Li = 0

Pulsar dB a Series of Ultrasonic Transducers.

a = 6, 10, 15, 25, 40 [nominal measuring distance in metres].

13. **Specific Conditions of Use :**

IPA For:

1. The dB 3 and ST10 Transducers are not suitable for use in the presence Aliphatic Hydrocarbons Esters or Ketones.

2. The dB 3 and ST10 Transducers shall be connected to a source that provides protection against a prospective short circuit current of at least 1500A.

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14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
4 <sup>th</sup> May 2007	Original Issue.
26 <sup>th</sup> May 2020	<u>Supplement 2:</u> Report Reference: – RR2223081 dated 26 <sup>th</sup> May 2020. Description of the Change: Addition of the ST10 Ultrasonic Transducer. Reformat of Certificate.

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