

CERTIFICATE OF CONFORMITY



- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM19US0126X
- Equipment:**
(Type Reference and Name) Pulsar dB a Series of Ultrasonic Transducers
Pulsar dB 3 Series of Ultrasonic Transducers
Pulsar ST-10 Ultrasonic Transducer
- Name of Listing Company:** Pulsar Process Measurement Limited
- Address of Listing Company:** Cardinal Building – Enigma Commercial Center
Malvern, Worcestershire WR14 1JJ
United Kingdom
- The examination and test results are recorded in confidential report number:

3015726 dated 2nd June 2003
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3610:2010, FM Class 3810:2005,
ISA 12.00.01:1998, ISA 12.23.01:1998, NEMA 250:2003
- 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.
- 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.
- 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 (Classified) 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

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

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SCHEDULE



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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 (Classified) Locations. Temperature Class T4 at an ambient of 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
Suitable 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:**

Intrinsically Safe:
1. The enclosure of the transducer is considered to constitute an electrostatic discharge hazard. Clean only with a damp cloth.

Suitable For:
1. The dB 3 and ST10 Transducers are not suitable for use in the presence Aliphatic Hydrocarbons Esters

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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.
3. The enclosure of the transducer is considered to constitute an electrostatic discharge hazard. Clean only with a damp cloth.

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

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

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
2 nd June 2003	Original Issue.
26 th May 2020	<u>Supplement 4:</u> Report Reference: – RR223081 dated 26 th May 2020. Description of the Change: Addition of the ST10 Ultrasonic Transducer. Reformat of Certificate. Standard update: 3600 from 1998.

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