1 EU - TYPE EXAMINATION CERTIFICATE

2 Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III

3	EU - Type Examination Certificate No.:	**TRAC12ATEX0023X (incorporating variations V1 to V2)**
4	Product:	**Ultrasonic Transducers, Hart dBi range models dBi 3, dBi 6, dBi 10 and dBi 15.**
5	Manufacturer:	**Pulsar Process Measurement Ltd.,**
6	Address:	**Cardinal Building, Enigma Commercial Centre, Sandy's Road, Malvern, Worcestershire, WR14 1JJ, United Kingdom**

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report **TRA-008917-33-01A & TRA-008917-33-02A.**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2009 **EN 60079-18:2009**

Except in respect of those requirements listed at section 18 of the schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

II 2 G Ex mb IIC T4 Gb **T_{amb} = -40°C to +80°C**

II 2 D Ex mb IIIC T130°C Db

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S P Winsor, Certification Manager

Issue date: 2020-12-10

Element Materials Technology Rotterdam B.V.
Zekeringstraat 33, 1014 BV, Amsterdam, Netherlands
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg No. 24170257

13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER TRAC12ATEX0023X (incorporating variations V1 to V2)

15 Description of Product

The Hart dBi ultrasonic transducers are a range of 4-20 mA loop-powered, compact acoustic measurement devices. They are intended to be powered by a control unit (not part of this certified equipment) which also processes the measurement data received. The transducers are protected by a fuse in line with the power supply.

The range of transducers consists of slightly different constructions with respect to dimensions but all have a non-metallic enclosure which houses 2 internal electronic PCBs and a piezo crystal. The free space internally is potted with 1 of 2 types of material. Each unit has an integral screened cable for the power supply and some of the models use syntactic foam as a facing material.

The equipment is marked with a maximum voltage rating of Um = 28V and is current limited by an internal fuse.

16 Test Report No. (as added for this issue of the certificate): TRA-008917-33-02A

17 Specific Conditions of Use

1. The dBi transducers must be routinely inspected to avoid the build up of dust layers when installed in a Zone 21 & 22.
2. The dBi transducers must only be wiped with a damp or antistatic cloth.
3. Only the fuse value listed on drawing D-0804-0978-A is permitted to be used with the Ex approved dBi transducers.

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

20 Routine Tests

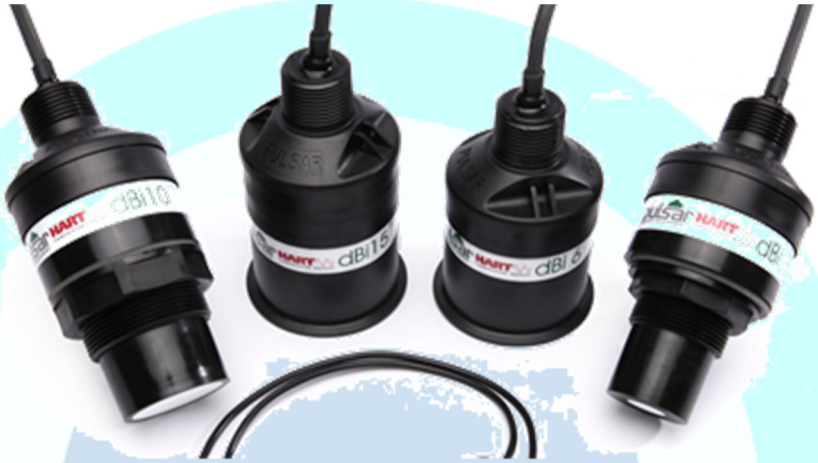
None.

21 Specific Conditions for Manufacture

1. Wiring and potting of the dBi transducers shall be manufactured in accordance with document ref. Special process instruction 9.0, dBi potting rev 1.0 dated 2012-06-13.
2. Conditions of manufacturing and production control also apply to the following related certificate:

TA1 TRAC12ATEX0031X.

22 Photographs



23 Details of Markings

24 Certificate History

Original certificate	2012-06-26	First issue.
Variation V1	2012-09-06	‘update following issue of Trade Agent certificate’. Administrative variation only.
Variation V2	2020-12-10	This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation.

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations and amendments.

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

26 Notes to this certificate

Element Materials Technology certification reference: NR-PULQ-0001.

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

TA1 TRA-TRAC12ATEX0031X

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER TRAC12ATEX0023X (incorporating variations V1 to V2)

APPENDIX A - TECHNICAL DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
Intelligent Transducer General Layout	D-804-0948-A	A	2011-12-01
HIPA (Hart, imp, PA) Schematic For ATEX Certification	D-804-0949-A	A	2012-01-03
HIPA PCB (3 pages)	D-804-0950-B	B	2012-01-03
ATEX Certified HIPA Ping BOM (2 pages)	*	1.1	2012-06-19
Hart CPU Schematic For ATEX Certification	D-804-0951-A	A	2012-01-03
Hart CPU PCB (4 pages)	D-804-0952-B	B	2012-01-03
ATEX Certified Hart Transducer Processor BOM (3 pages)	*	1.1	2012-06-19
Generic dBi 3, 6, 10 & 15 ATEX Exm Transducer Wraparound Labels	D-804-0994-B	B	2019-10-11
dBi Transducer Block Diagram For Exm	D-804-0978-A	A	2012-04-23
dBi Transducer Potting Thickness	D-804-0969-A	A	2012-03-13
dBi Transducer Cap	D-804-0980-A	A	2012-04-23
dBi 3 Standard Housing	D-804-0981-A	A	2012-04-23
dBi 6 Standard Housing	D-804-0982-A	A	2012-04-23
dBi 10 Standard Housing	D-804-0983-A	A	2012-04-23
dBi 15 Standard Housing	D-804-0984-A	A	2012-04-23
dBi 3 Threaded Nose Housing	D-804-0985-A	A	2012-04-23
dBi 6 Threaded Nose Housing	D-804-0986-A	A	2012-04-23
dBi 10 Threaded Nose Housing	D-804-0987-A	A	2012-04-23
dBi Housing Extension Ring	D-804-0988-A	A	2012-04-23
Special Process Instruction 9.0 dBi Potting	*	1.0	2012-06-13
dBi Series Intelligent Transducer ATEX instructions	M-dBi-H-001-0P	*	2012-06
* no information provided.			