1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 04ATEX2121X** Issue: **2**

4 Equipment: **Pulsar Guard 2011 Sensor**

5 Applicant: **Pulsar Process Measurement Ltd**

6 Address: Cardinal Building
Enigma Commercial Centre
Sandy's Road
Malvern
Worcestershire WR14 1JJ
UK

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997 plus Amendments 1 and 2 EN 50020:2002 EN 50284:1999 EN 50303:2000

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 1 G and I M1
EEx ia I/IIC T6
EEx ia I/IIC T5 (Tamb = -20°C to +75°C)
EEx ia I/IIC T4 (Tamb = -20°C to +92°C)

Project Number 80061994

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechtseweg 310, Building B42,
6812AR, Netherlands

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 04ATEX2121X**
Issue 2

13 DESCRIPTION OF EQUIPMENT

The Pulsar Guard 2011 Sensor comprises a cast steel enclosure containing an encapsulated printed circuit board and an acoustic piezo ceramic transducer. Connections are made by means of a permanently connected, four core, screened cable, which provides a nominal 24 V dc power supply to the sensor and a 0-10 V analogue voltage signal from the sensor.

The sensor is primarily used to monitor flow or to detect the presence of solid particles in flow lines and is designed to be bolted onto a mechanical structure to indicate the level of acoustic energy within that structure.

There are two versions of the equipment, a zener barrier version and a galvanic isolator version. The galvanic isolator version differs in that the cable screen is attached to the case.

The electrical circuits are afforded a degree of protection of at least IP54 by the enclosure and encapsulation.

The maximum input parameters for the equipment are follows:

Signal circuits			**Power supply**		
U_i	=	18 V	U_i	=	28 V
I_i	=	15.3 mA	I_i	=	93.3 mA
P_i	=	0.07 W	P_i	=	0.653 W
Ci	=	1.1nF	Ci	=	1.1nF
Li	=	0	Li	=	0

Variation 1 - This variation introduced the following change:

i. This is to permit the company name and address to be changed:

From
Pulsar Process Measurement Ltd.
Oak House
Bromyard Road
Worcester
WR2 5HP
UK

To
Pulsar Process Measurement Ltd.
Cardinal Building
Enigma Commercial Centre
Sandy's Road
Malvern
Worcestershire WR14 1JJ
UK

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	04 May 2004	R52A10596A	The release of the prime certificate.
1	28 March 2007	R52A16191B	The introduction of Variation 1.

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 04ATEX2121X**
Issue 2

Issue	Date	Report number	Comment
2	20 January 2021	R80061994A	This Issue covers the following changes: • Transfer of certificate Sira 04ATEX2121X from Sira Certification Service to CSA Group Netherlands B.V. • EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(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. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)*

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 When the equipment circuits are earthed (screen connected version), it shall only be supplied from galavanic isolating barriers.

15.2 Because non-conductive plastic materials are used on the surface of the equipment (i.e. the label is >4 cm² in area), under certain extreme circumstances, these non-metallic parts may generate an ignition-capable level of electrostatic charge. Therefore, when it is used for applications that specifically require group II, category 1 equipment, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

CSA Group Netherlands B.V.
Utrechtseweg 310, Building B42,
6812AR, Netherlands

Certificate Annexe

Certificate Number: **Sira 04ATEX2121X**

Equipment: **Pulsar Guard 2011 Sensor**

Applicant: **Pulsar Process Measurement Ltd**

Issue 0

Drawing	Sheets	Rev.	Date	Title
D-804-0599-A	1 of 1	A	15 Apr 04	ATEX External Label
D-804-0028-H	1 of 1	H	15 Apr 04	General layout with cable screen isolated
D-804-0046-F	1 of 1	F	15 Apr 04	General layout with cable screen connected
D-804-0150-C	1 of 1	C	15 Apr 04	General assembly, cable screen isolated
D-804-0151-C	1 of 1	C	14 Apr 04	General assembly, cable screen connected
D-804-0035-C	1 of 1	C	14 Apr 04	PCB mounting in encapsulant
D-804-0152-B	1 of 1	B	14 Apr 04	Base casting
D-804-0153-B	1 of 1	B	14 Apr 04	Cap casting
D-804-0154-B	1 of 1	B	15 Apr 04	Transducer assembly
D-804-0056-F	1 of 1	F	15 Apr 96	PCB topside component placement
D-804-0057-E	1 of 1	E	15 Mar 04	PCB underside component placement
D-804-0155-B	1 of 1	B	14 Apr 04	I.S. circuit diagram
D-804-0156-B	1 of 1	B	15 Apr 04	I.S. Sensor PCB parts list
D-804-0081-C	1 of 1	C	15 Apr 04	Screen capacitor PCB layout
D-804-0082-C	1 of 1	C	14 Apr 04	Screen capacitor PCB parts list

Issue 1. No new drawings were introduced.

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
D-804-0599-B	1 of 1	B	16 Dec 2020	PULSAR guard 2011 ATEX External Label

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