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

Certificate No.: IECEx CML 17.0112X

Issue No: 3

Certificate history:
Issue No. 3 (2019-04-30)
Issue No. 2 (2018-10-11)
Issue No. 1 (2018-08-02)
Issue No. 0 (2017-12-01)

Status: **Current**

Date of Issue: **2019-04-30**

Applicant: **Sensonics Ltd.**
Northbridge Road
Berkhamsted
Herts.
HP4 1EF
United Kingdom

Equipment: **XPR Series Eddy Current Probes**
Optional accessory:

Type of Protection: **Intrinsic Safety "ia"**

Marking:

Driver/transmitters:	Probe*:
Ex ia IIC T4 Ga	Ex ia IIC T4/T2 Ga
Ex ia IIIC T135°C Da	Ex ia IIIC T135°C/T300°C Da
-40°C≤Ta≤+80°C	-40°C≤Ta≤+80°C/+180°C

* Refer to Annex for a note regarding the marking of the Probes.

Approved for issue on behalf of the IECEx Certification Body: R C Marshall

Position: Certification Officer

Signature:
(for printed version)

Date: 2019-04-30

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.

Certificate issued by:

Certification Management Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

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Manufacturer:	**Sensonics Ltd.** Northbridge Road Berkhamsted Herts. HP4 1EF **United Kingdom**	

Additional Manufacturing location(s):

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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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/CML/ExTR17.0131/00 GB/CML/ExTR18.0169/00 GB/CML/ExTR18.0232/00

Quality Assessment Report:

GB/BAS/QAR17.0019/01

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The XPR Series Eddy Current Probes comprise a range of driver and transmitter assemblies, eddy current probes, and extension cables. The drivers and transmitters comprise an encapsulated electronics assembly mounted in a non-metallic or aluminium alloy enclosure with external connections for the detachable probe and for connection to remote power and control equipment. The probes comprise an encapsulated sensing coil mounted within a variety of metal housing types.

Refer to Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for Specific Conditions of Use.

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Certificate No: IECEx CML 17.0112X Issue No: 3

Date of Issue: 2019-04-30

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

Issue 1

This issue introduces the following change to XPR Series Eddy Current Probes:

1. To allow a reduced value of Ci for the XED driver. As the design of the equipment is unchanged, this change also applies retrospectively to products manufactured prior to the date of this variation.

Issue 2

This issue introduces the following changes to XPR Series Eddy Current Probes:

1. To permit the option for the XPR probe coils to be unencapsulated.
2. To permit the use of non-metallic potting material as the probe body.

Issue 3

This issue introduces the following changes to XPR Series Eddy Current Probes:

1. Clarification of markings.

Annex:

IECEx CML 17.0112X Iss. 3 Certificate Annex.pdf

Annexe to:	**IECEx CML 17.0112X Issue 3**
Applicant:	**Sensonics Ltd.**
Apparatus:	**XPR Series Eddy Current Probes**

Product Description

The XPR Series Eddy Current Probes comprise a range of driver and transmitter assemblies, eddy current probes, and extension cables. The drivers and transmitters comprise an encapsulated electronics assembly mounted in a non-metallic or aluminium alloy enclosure with external connections for the detachable probe and for connection to remote power and control equipment. The probes comprise an encapsulated sensing coil mounted within a variety of metal housing types.

The drivers and transmitters are intended to be connected to two intrinsically safe sources located in the non-hazardous area. One source provides the power (nominal -24V for the XED and +24V for the DNX803x) and the other source is for connection to the equipment signal output. Three models of driver and transmitter are available. Each model has the following safety description:

XED Driver	**DNX8031 Transmitter**	**DNX8033 Transmitter**
Ui = -27V	Ui = 28V	Ui = 28V
Ii = 200mA	Ii = 200mA	Ii = 200mA
Pi = 1W	Pi = 1W	Pi = 1W
Ci = 21nF	Ci = 0	Ci = 0
Li = 270µH	Li = 0	Li = 0

Intrinsic safety is achieved by limiting energy storage and discharge, encapsulation, and by connecting to the non-hazardous area via intrinsically safe interface devices.

Marking

Regarding the marking of the probes; these are defined as ‘small equipment’, so reduced marking has been applied on the equipment. The temperature class and assigned maximum surface temperature of the probe are dependent on the upper ambient temperature, as defined in the Special Conditions for Safe Use.

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification:

i. Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate

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Specific Conditions of Use (Special Conditions for Safe Use)

The following conditions relate to safe installation and/or use of the equipment.

i. The input voltage, current, and power parameters listed on this certificate are the combined totals from the two intrinsically safe sources connected to the equipment. The user/installer shall ensure that, when combined, the voltage, current, and power from the two sources do not exceed these values.

ii. The user/installer shall ensure that, when combined, the voltage and current from the two sources is intrinsically safe and has the appropriate safety factor for the gas group and equipment protection level required.

iii. The test socket on the XED transmitter/driver shall not be connected to any other equipment whilst a hazardous atmosphere is present.

iv. The XED, DNX8031 and DNX8033 driver/transmitters shall be installed in a suitably certified enclosure providing a minimum degree of protection of IP54.

v. The XPR probes have a temperature class/rating of T4/T135°C in an ambient temperature of +80°C and a temperature class/rating of T2/T300°C in an ambient temperature of +180°C

vi. The equipment is not capable of withstanding the 500V insulation test required by Clause 6.3.12 of EN 60079-11. This shall be taken into account when installing the equipment.

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i. To allow a reduced value of Ci for the XED driver. As the design of the equipment is unchanged, this change also applies retrospectively to products manufactured prior to the date of this variation.

Issue 2

This issue introduces the following changes to XPR Series Eddy Current Probes:

i. To permit the option for the XPR probe coils to be unencapsulated.

ii. To permit the use of non-metallic potting material as the probe body.

Issue 3

This issue introduces the following changes to the XPR Series Eddy Current Probes:

i. Clarification of markings.