



EU Type Examination Certificate CML 17ATEX2201X Issue 3

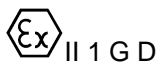
- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **XPR Series Eddy Current Probes**
- 3 Manufacturer **Sensonics Ltd.**
- 4 Address **Northbridge Road
Berkhamsted
HP4 1EF
United Kingdom**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Koopvaardijweg 32, 4906CV Oosterhout The Netherlands, Notified Body Number 2776, 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 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 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-11:2011

- 10 The equipment shall be marked with the following:

Drivers/transmitters:



II 1 G D

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

-40°C ≤ Ta ≤ +80°C

Probe*:



II 1 G D

Ex ia IIC T4/T2 Ga

Ex ia IIIC T135°C/ T300°C Da

-40°C ≤ Ta ≤ +80°C/+180°C

* The probes 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; Section 14.



11 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
$U_i = -27V$	$U_i = 28V$	$U_i = 28V$
$I_i = 200mA$	$I_i = 200mA$	$I_i = 200mA$
$P_i = 1W$	$P_i = 1W$	$P_i = 1W$
$C_i = 21nF$	$C_i = 0$	$C_i = 0$
$L_i = 270\mu H$	$L_i = 0$	$L_i = 0$

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

Variation 1

This variation introduces the following change:

- i. To allow a reduced value of C_i 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.

Variation 2

This variation introduces the following changes:

- 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.

Variation 3

This variation introduces the following changes:

- i. Update label.
- ii. To update the certificates to the latest editions of the standards.



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Issue 3

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	01 Dec 2017	R2416A/00	Issue of the prime certificate.
1	02 Aug 2018	R11893A/00	The introduction of Variation 1
2	11 Oct 2018	R12005A/00	The introduction of Variation 2
3	10 Feb 2021	R13576A/00	The introduction of Variation 3

Note: Drawings that describe the equipment or component are listed in the Annex.

13 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.

14 Specific Conditions of Use (Special Conditions)

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.

Certificate Annex

Certificate Number CML 17ATEX2201X
Equipment XPR Series Eddy Current Probes
Manufacturer Sensonics Ltd.



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
EA3799C	1 of 1	4	01 Dec 2017	XPR & XPD E.C. Probes, XEC extensions, XED drivers, DNX8031 & DNX8033 transmitters, General Assembly
EA3792A	1 of 1	1	01 Dec 2017	XED Current Driver PCB Assembly
046/6230A	1 to 2	2	01 Dec 2017	XED Driver PCB Assembly (Parts List)
047/2005B	1 of 1	2	01 Dec 2017	ECD PCB Circuit Diagram
045/2265A	1 to 3	1	01 Dec 2017	XED Eddy current Driver (PCB Artwork)
EA3793A	1 of 1	4	01 Dec 2017	DNX8031/DNX8033 PCB Assembly
046/6231A/1	1 to 4	4	01 Dec 2017	DNX8031 Driver PCB Assembly (Parts List)
046/6231A/2	1 to 4	4	01 Dec 2017	DNX8033 Driver PCB Assembly (Parts List)
047/2006C	1 of 1	4	01 Dec 2017	DNX8031 Vibration & DNX8033 Thrust signal conditioning driver (+24V supply) Circuit Diagram
045/2266A	1 to 3	4	01 Dec 2017	DNX8031/DNX8033 (PCB Artwork)
045/2281A	1 of 1	2	01 Dec 2017	ATEX & IECEx certification label details for XPR Eddy Current Probe and Driver range including DNX8031 and DNX8033 Transmitters.

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
046/6230A	1 to 2	3	02 Aug 2018	XED Driver PCB Assembly (Parts List)

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
EA3799C	1 of 1	5	11 Oct 2018	XPR & XPD E.C. Probes, XEC extensions, XED drivers, DNX8031 & DNX8033 transmitters, General Assembly

Certificate Annex

Certificate Number CML 17ATEX2201X
Equipment XPR Series Eddy Current Probes
Manufacturer Sensonics Ltd.



Issue 3

Drawing No	Sheets	Rev	Approved date	Title
045/2281A	1 of 1	3	10 Feb 2021	ATEX and IECEx Certification label Details for XPR Eddy current probe & Driver Range. Including DNX8031 and DNX8033 Transmitters. Sensonics Standard