



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 TSA 11.0016X

Issue No: 3

Certificate history:

Status: **Current**

Issue No. 3 (2016-03-01)

Issue No. 2 (2014-11-28)

Date of Issue: **2016-03-01**

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Issue No. 1 (2011-05-24)

Issue No. 0 (2011-03-14)

Applicant: **Sensear Pty Ltd**
197-199 Great Eastern Highway
Belmont WA 6104
Australia

Equipment: **Type SM1xSR Electronic Ear-Muff**

Optional accessory:

Type of Protection: **Ex ia**

Marking: Sensear
SM1xSR
Ex ia IIB T3 Gb
Ex ia I Ma
IECEX TSA 11.0016X
S. No:

*Approved for issue on behalf of the IECEx
Certification Body:*

Ujen Singh

Position:

Quality & Certification Manager

*Signature:
(for printed version)*

Date:

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](http://www.iecex.com).

Certificate issued by:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia





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Manufacturer: **Sensear Pty Ltd**
197-199 Great Eastern Highway
Belmont WA 6104
Australia

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 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition:4.0
IEC 60079-11 : 2006 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:5

*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:

[AU/TSA/ExTR11.0017/00](#) [AU/TSA/ExTR11.0017/01](#) [AU/TSA/ExTR11.0017/02](#)
[GB/SIR/ExTR11.0043/01](#) [GB/SIR/ExTR11.0044/00](#)

Quality Assessment Report:

[AU/TSA/QAR10.0006/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type SM1xSR Electronic Ear-Muff is a battery powered, noise cancelling headphone set designed to reduce background noise and being able to maintain communication effectively. It contains two plastic ear cups, each provided with a ear cushion providing hearing protection, a speaker and two small microphones. The left cup contains a battery that is recharged only in the non-explosive area by a jack socket using an external charger. A boom microphone is also able to be plugged in to a connector on the left cup. The right cup has a compartment provided with a lid, containing a USB connector and a 3.5mm stereo connector, both of which shall not be used in the explosive area. An external connector on the right cup allows connection to a SRCK0045 SM1xSR IS Interface cable provided with a MiniXLR connector. This cable can be use to connect to an external radio provided the parameters provided in the Annexe to this certificate are taken into consideration.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annexe to this certificate for details.



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

Issue 3:

- 1) Inclusion of Boom Microphone detailed in the drawing MFP00148.
- 2) Inclusion of Ear bud MFP00133 instead of existing speaker.
- 3) SRCK0400 inline radio connection updated to revision AC.01.
- 4) Inclusion of Low capacitance inline radio connection SRCK0500 and related BOM IECEX043.

Annex:

[Annexe of IECEX TSA 11.0016X-3.pdf](#)



IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 11.0016X	Issue No.:	3
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Drawing list pertaining to Issue 3 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SRCK0400	1	SM1xSR IS Inline Radio Connection	AC.01	2015-09-29
SRCK0500	1	Low capacitance intrinsically safe inline radio connection	AB.01	2015-10-07
MFP00133	1	MFP SDP SPEAKER HARNESS	AA.01	2015-01-28
MFP00148	1	SM1R-Boom Mic	01	2015-07-15
IECEX043	1	PCB00040 BOM for use in SRCK0500 cables	AA.01	2015-01-19

The changes are assessed in Testsafe report AU/TSA/ExTR11.0017/02.


Conditions of Certification pertaining to Issue 3 of this Certificate:

1. The external connector on the right cup allows connection to a SRCK0045 SM1xSR IS Interface cable provided with a MiniXLR connector. This cable can be used to connect to an external radio provided the following parameters are taken into consideration.

Ui = 10V	Uo = 4.1V
Ci = 0.69µF	Io = 26.9mA
Li = 0	Po = 27.6mW
	Co = 1000µF
	Lo = 196mH

2. Connection to the above external connector shall only be made by the Interface cable described above. No direct connection to this connector is permitted.
3. The battery shall only be charged when the equipment is located in a safe area via the jack socket on the left hand ear cup. The maximum permitted voltage at this charging input is Um = 6V.
4. User connection to the USB connector located in the connector compartment of the right hand ear cup is not permitted
5. Connection to the 3.5mm stereo connector in the connector compartment of the right hand ear cup is only to be made in the safe area. The maximum permitted voltage at this connector is Um = 0.6V and the maximum permitted power at this connector is Pm = 0.1W
6. The SM1xSR Electronic Ear-Muff and Interface Cable enclosures provide minimum IP20 protection. Therefore this equipment shall only be used in environments appropriate to this level of protection.

Certificate issued by:

	TestSafe Australia 919 Londonderry Road Londonderry NSW 2753 Australia
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