

EU-TYPE EXAMINATION CERTIFICATE



[1]

[2]

**Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 2014/34/EU**

[3]

EU-Type Examination Certificate Number: **DEMKO 09 ATEX 0907434X Rev. 0**

[4]

Product: **Radio Accessories**

[5]

Manufacturer: **Otto Engineering Inc.**

[6]

Address: **2 East Main Street, Carpentersville, IL 60110, USA**

[7]

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

[8]

UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. **4786632351**

[9]

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

EN 60079-0:2012+A11:2013

EN 60079-11:2012

[10]

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe 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 the certificate.

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The marking of the equipment or protective system shall include the following:

II 2 G Ex ia IIC T4 or Ex ia IIB T4 -40°C ≤ Ta ≤ +40°C

Certification Manager

Jan-Erik Storgaard

This is to certify that the sample(s) of the Equipment described herein ("Certified Equipment") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Equipment Certification Program Requirements. This certificate and test results obtained apply only to the equipment sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured equipment. UL has not established Follow-Up Service or other surveillance of the equipment. The Manufacturer is solely and fully responsible for conformity of all equipment to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2010-01-13

Re-issued: 2016-06-17

Notified Body

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Description of Equipment or protective system

The apparatus is a series of accessories to be connected to intrinsically safe radios by entity parameters.

Speaker Microphones:

Models: V2-10030-S, V2-10031-S, V2-10068-S, V2-10134-S, V2-10162-S, V2-10168-S, V2-10240-S, V2-10241-S, V2-10273-S, V2-10278-S, V2-10318-S, V2-10375-S, V2-S2ER12111-S, V2-S2KC12111-S, V2-S2MF11111-S, V2-S2MJ11111-S, V2-S2VJ11111-S, V2-S2CM11121-S.

A speaker microphone consisting of a speaker, microphone, a press to talk switch, with or without a high/lo volume control, with or without antenna connection, with or without an emergency switch, a straight or coil cord, various connections facilities to an intrinsically safe radio. Connection to intrinsically safe radio via entity parameters. Optional output connection provided with entity parameters.

Note: Models numbers beginning in "V2-S2" are considered Storm Speaker Microphones.

Throat Microphone:

Model V1-T12MF117-S.

Throat microphone with consisting of a microphone which attaches to the throat, an earphone connected by a cannon type connector, a body press to talk switch connected by a plug and socket connection, a coil cord to the intrinsically safe radio, a coil cord for the earphone, and a straight cord for the other connections. Electrical connection to intrinsically safe apparatus is made via entity parameters.

Headsets:

Models: V4-10018-S, V4-10019-S, V4-10080-S, V4-10081-S, V4-10150-S, V4-10316-S, V4-10317-S, V4-10391-S, V4-10430-S, V4-10431-S, V4-10433-S, V4-10434-S, V4-10523-S, V4-10693-S, V4-10694-S.

Either behind the head, over the head, or light weight style headset with one or two speakers, one microphone, either straight or coil cord, with or without press to talk switch, with or without clothing clip and with a connection to an intrinsically safe radio via entity parameters.

Hurricane Headsets:

Models: V4-HN2CM3B-S, V4-HN2KB3B-S, V4-HN2MJ3B-S,

Headset with two eartip style speakers, a microphone, a straight cord, a press to talk switch, and a clothing clip and with connection to an intrinsically safe radio via entity parameters.

Earphone Kits:

Models V1-10305-S, V1-10432-S, V1-10433-S, V1-11155-S.

Earphone consisting of a speaker, coil cord, connection clip, secondary coil cord and plug-in connection to an intrinsically safe apparatus. Electrical connection to intrinsically safe apparatus is made via entity parameters.

PTT Adapter Kits:

Model V1-10513-S, V1-10514-S, V1-10515-S.

A press to talk switch consisting of a switch assembly, a straight or coil cord, with or without a connection strap and a plug-in connection to the intrinsically safe apparatus. Electrical connection to intrinsically safe apparatus is made via entity parameters.

The relation between ambient temperature and the assigned temperature class is as follows:

The ambient temperature range is -40 °C to +40 °C with a T4 Temperature Classification.

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Electrical data

Model	Ui (Volts)	Pi (Watts)	Ii (Amps)	Li (mH)	Ci (uF)	Uo (Volts)	Po (Watts)	Io (Amps)	Lo (mH)	Co (uF)	Group
Speaker Microphones											
V2-10030-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10031-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10068-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10134-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10162-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10168-S	9.6	1.3	0.22	0.5	2.7	9.6	1.3	0.22	0.1	1.4	IIB
V2-10240-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10241-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10273-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10278-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10318-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.1	1.4	IIB
V2-10375-S	9.6	1.3	0.22	0.5	1.0	9.6	1.3	0.22	0.1	0.9	IIC
Storm Speaker Microphones											
V2-S2ER12111-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.3	1.4	IIB
V2-S2KC12111-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.3	1.4	IIB
V2-S2MJ11111-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.3	1.4	IIB
V2-S2VJ11111-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.3	1.4	IIB
V2-S2CM11121-S	9.6	1.3	0.22	0.5	1.8	9.6	1.3	0.22	0.3	1.4	IIB
V2-S2MF11111-S	9.6	1.3	0.22	0.23	1.4	9.6	1.3	0.22	0.1	1.3	IIC
Throat Microphone											
V1-T12MF117-S	9.6	1.3	0.24	0.14	1.5	9.6	1.3	0.24	0.1	1.4	IIB
Headsets											
V4-10018-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10019-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10080-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10081-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10150-S	9.6	1.3	0.24	0.4	1.0	None	None	None	None	None	IIC
V4-10316-S	9.6	1.3	0.24	0.4	1.0	None	None	None	None	None	IIC
V4-10317-S	9.6	1.3	0.24	0.4	1.0	None	None	None	None	None	IIC
V4-10391-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10430-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10431-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10433-S	9.6	1.3	0.24	0.4	1.3	None	None	None	None	None	IIB
V4-10434-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10523-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10693-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
V4-10694-S	9.6	1.3	0.24	0.4	0.01	None	None	None	None	None	IIC
Hurricane Headsets											
V4-HN2CM3B-S	9.6	1.3	0.24	0.2	0.2	None	None	None	None	None	IIC
V4-HN2KB3B-S	9.6	1.3	0.24	0.2	0.2	None	None	None	None	None	IIC
V4-HN2MJ3B-S	9.6	1.3	0.24	0.2	0.2	None	None	None	None	None	IIC
Earphone Kits											
V1-10305-S	9.6	1.3	0.22	0.1	1.3	None	None	None	None	None	IIC
V1-10432-S	9.6	1.3	0.22	0.1	1.3	None	None	None	None	None	IIC
V1-10433-S	9.6	1.3	0.22	0.1	0.01	None	None	None	None	None	IIC
V1-11155-S	9.6	1.3	0.22	0.1	0.01	None	None	None	None	None	IIC
PTT Adapter Kits											
V1-10513-S	9.6	1.3	0.22	0.2	0.01	None	None	None	None	None	IIC
V1-10514-S	9.6	1.3	0.22	0.2	0.01	None	None	None	None	None	IIC
V1-10515-S	9.6	1.3	0.22	0.2	0.01	None	None	None	None	None	IIC

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Installation instructions

Installation Manuals are provided for each product type as follows:

Earphone:	Installation Manual Number 804335
Hurricane Headsets:	Installation Manual Number 804336
PTT Adapter Kit:	Installation Manual Number 804327
Throat Mic:	Installation Manual Number 804334
Headsets:	Installation Manual Number 804339
Speaker Microphones:	Installation Manual Number 804337
Speaker Microphones:	Installation Manual Number 804316
Speaker Microphone (IIC):	Installation Manual Number 804424

Mounting instructions

Refer to "Instructions".

Routine tests

None

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Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17]

Specific conditions of use:

- These radio accessories are only intended for connection to intrinsically safe radios that have been evaluated to have intrinsically safe (entity) parameters at the accessory connection.

[18]

Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.