[1] # EU-TYPE EXAMINATION CERTIFICATE

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

[3] EU-Type Examination Certificate Number: **UL 22 ATEX 2711 Rev. 1**

[4] Product: **ClearTrak NRX Headsets**

[5] Manufacturer: **Otto Engineering Inc.**

[6] Address: **2 E Main St., 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 product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products 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. **US/UL/ExTR22.0018/01.**

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

EN IEC 60079-0:2018 **EN 60079-11:2012**

[10] If the sign "**X**" is placed after the certificate number, it indicates that the product 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.

[12] The marking of the product shall include the following:

II 1 G Ex ia IIC T4 Ga

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product 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 product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product 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: 2022-03-30
Re-issued: 2022-11-30

Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

[13] [14]

Schedule
EU-TYPE EXAMINATION CERTIFICATE No.
UL 22 ATEX 2711 Rev. 1

[15] Description of Product

The devices covered by this certificate are intrinsically safe headsets with microphones. Power is provided though a permanently connected cable and connector assembly with intrinsic safety entity parameters assigned. The headsets may be provided with an optional push-to-talk (PTT) button.

Nomenclature for type ClearTrak NRX

Models differ in features such as housing color, type of cable connector, and presence of PTT button. The following models are covered by this certificate:

Model V4-11222-S
Model V4-11223-S
Model V4-11226-S
Model V4-11227-S
Model V4-11228-S (helmet mount)
Model V4-11229-S (helmet mount)
Model V4-11230-S
Model V4-11231-S
Model V4-11232-S
Model V4-11233-S
Model V4-11234-S
Model V4-11235-S
Model V4-11236-S (helmet mount)

Temperature range

The ambient temperature range is -30°C to +75°C.

Electrical data

Intrinsic safety parameters:

U_i : 9,6 V
I_i : 360 mA
P_i : 1,25 W
L_i/R_i : 43.2 µH/Ω
C_i : 36 nF

Routine tests

None.

[16] 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:

None.

[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.

	LABEL PART NUMBER	OTTO PART NUMBER	DESC. 1 CLASS, GROUP	DESC. 2 CLASS, GROUP	DESC. 3 CLASS	DESC. 4 MANUAL	DESC. 5 GAS GROUP	DESC. 6 ATEX REPORT	DESC. 7 GAS GROUP, EPL	DESC. 8 UL REPORT	DESC. 9 Ii	DESC. 10 Ci	DESC. 11 Li (D)	DESC. 12 OUTPUT LINE 1	DESC. 13 OUTPUT LINE 2	PRODUCT SCHEDULE DRAWING (REF)	
	601300-01	V2-10228-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804184	Ex ia IIC T4	DEMKO 05 ATEX 137483X	Ex ia IIC T4 Gb	IECEx UL 06.0008X	0.22A	1.8µF	0.38mH			V2-ISSPEAKERC	
	601300-03	V2-10031-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-05	V2-10068-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-07	V2-10134-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-09	V2-10162-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-10	V2-10168-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	2.7µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-12	V2-10230-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804184	Ex ia IIC T4	DEMKO 05 ATEX 137483X	Ex ia IIC T4 Gb	IECEx UL 06.0008X	0.22A	1.8µF	0.38mH			V2-ISSPEAKERC	
(D)	601300-14	OBS/OCN 088826															
(D)	601300-15	OBS/OCN 088826															
	601300-17	V2-10273-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-18	V2-10274-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804184	Ex ia IIC T4	DEMKO 05 ATEX 137483X	Ex ia IIC T4 Gb	IECEx UL 06.0008X	0.22A	1.8µF	0.38mH			V2-ISSPEAKERC	
	601300-19	V2-10278-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-22	V4-10001-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804185	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	10mH			V4-ISHEADSETBH	
	601300-24	V4-10006-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804185	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	10mH			V4-ISHEADSETBH	
	601300-26	V4-10080-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETOHC	
	601300-27	V4-10081-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETBHC	
	601300-28	V4-10092-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804185	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	10mH			V4-ISHEADSETOH	
	601300-31	V4-10148-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804185	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	10mH			V4-ISHEADSETOH	(D)
	601300-32	V4-10150-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	1µF	0.4mH			V4-ISHEADSETOHC	
	601300-34	V4-10316-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	1µF	0.4mH			V4-ISHEADSETOHC	
	601300-35	V4-10317-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	1µF	0.4mH			V4-ISHEADSETBHC	
	601300-39	V4-10391-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETOHC	
	601300-43	V4-10430-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETOHC	
	601300-44	V4-10431-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETBHC	
	601300-46	V4-10433-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.24A	1.3µF	0.4mH			V4-ISHEADSETLT	
	601300-47	V4-10434-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETOHC	
	601300-48	V4-10469-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804185	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	10mH			V4-ISHEADSETOH	
	601300-49	V4-10470-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804185	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	10mH			V4-ISHEADSETBH	
	601300-61	V1-T12MA117-S	Class I, Div 1, Groups C,D			804186	Ex ia IIB T4	DEMKO 06 ATEX 137482X	Ex ia IIB T4 Gb	IECEx UL 06.0009X	0.24A	13µF	0.14mH			V1-ISTHROATMIC	
(D)	601300-62	OBS/OCN 088826															
(D)	601300-63	OBS/OCN 088826															
	601300-64	V1-10432-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804335	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	1.3µF	0.1mH			V1-ISEARPHONEC	
	601300-68	V4-10693-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETOHC	
	601300-69	V4-10694-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETBHC	
	601300-71	V4-10018-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETOHC	
	601300-72	V4-10523-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETBHC	
	601300-73	V4-10019-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804339	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.01µF	0.4mH			V4-ISHEADSETBHC	
	601300-76	V2-S2KC12111-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804316	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.3mH	V2-ISSSPEAKER	
	601300-78	V2-S2ER12111-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804316	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.3mH	V2-ISSSPEAKER	
	601300-79	V2-S2MJ11111-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804316	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.3mH	V2-ISSSPEAKER	
	601300-81	V2-S2VJ11111-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804316	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.3mH	V2-ISSSPEAKER	
(D)	601300-82	V2-S2MF11111-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804424	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	1.4µF	0.23mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.3mH	V2-ISSSPEAKERC	
	601300-84	V2-10375-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	1µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=0.9µF Lo=0.1mH	V2-ISSPEAKERC	
	601300-87	V2-10318-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-88	V2-10030-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804337	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.1mH	V2-ISSPEAKER	
	601300-91	V4-HN2CM3B-S	Class I, Div 1, Groups A,B,C,D			804336	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.2µF	0.2mH			V4-ISHURRICANEC	
	601300-97	V4-HN2KB3B-S	Class I, Div 1, Groups A,B,C,D			804336	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.2µF	0.2mH			V4-ISHURRICANEC	
	601300-98	V4-HN2MJ3B-S	Class I, Div 1, Groups A,B,C,D			804336	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.24A	0.2µF	0.2mH			V4-ISHURRICANEC	
	601300-101	V1-10305-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804335	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	1.3µF	0.1mH			V1-ISEARPHONEC	
	601300-102	V1-10433-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804335	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	0.01µF	0.1mH			V1-ISEARPHONEC	
	601300-103	V1-10513-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804327	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	0.01µF	0.2mH			V1-ISPTTC	
	601300-104	V1-10514-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804327	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	0.01µF	0.2mH			V1-ISPTTC	
	601300-105	V1-10515-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804327	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	0.01µF	0.2mH			V1-ISPTTC	
(D)	601300-106	OBS/OCN 071209															
	601300-107	V1-T12MF117-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804334	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.24A	1.5µF	0.14mH	Uo=9.6V Io=0.24A Po=1.3W	Co=1.4µF Lo=0.1mH	V1-ISTHROATMIC	
	601300-132	V2-S2CM11121-S	Class I, Div 1, Groups C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804316	Ex ia IIB T4	DEMKO 09 ATEX 0907434X	Ex ia IIB T4 Gb	IECEx UL 09.0022X	0.22A	1.8µF	0.5mH	Uo=9.6V Io=0.22A Po=1.3W	Co=1.4µF Lo=0.3mH	V2-ISSSPEAKER	(D)
	601300-135	V1-11155-S	Class I, Div 1, Groups A,B,C,D	Class II, Div 1, Groups F,G	Class III, Div 1	804335	Ex ia IIC T4	DEMKO 09 ATEX 0907434X	Ex ia IIC T4 Gb	IECEx UL 09.0022X	0.22A	1.3µF	0.1mH			V1-ISEARPHONEC	
(D)		OBS/OCN 088826															

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE AS LISTED. MUST BE FREE FROM BURRS AND SHARP EDGES

TOLERANCES
.XX ± .01
.XXX ± .005
ANGLES ± 1°
SURFACES 64 MICROINCH
DO NOT SCALE DRAWING.

DRWN. DRH	SIZE	FSCM NO	DRAWING NO.		REV.
CHKD. MRW	C	21649	650118		D
APPD. COY					
WT.	THIRD ANGLE PROJECTION		Scale N.T.S.	Sheet 3 OF 3	

[1] # EU-TYPE EXAMINATION CERTIFICATE

[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.

[12] 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 UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

[13] **Schedule**

[14] **EU-TYPE EXAMINATION CERTIFICATE No.**

DEMKO 09 ATEX 0907434X Rev. 1

Report: 47876632351

[15] 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.

[13]

[14]

Schedule
EU-TYPE EXAMINATION CERTIFICATE No.
DEMKO 09 ATEX 0907434X Rev. 1
Report: 47876632351

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

[13] **Schedule**

[14] **EU-TYPE EXAMINATION CERTIFICATE No.**

DEMKO 09 ATEX 0907434X Rev. 1

Report: 47876632351

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

[16] 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.

[1] # EC-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

[3] EC-Type Examination Certificate Number: **DEMKO 05 ATEX 137483X**

[4] Equipment or Protective System: **Radio Accessories**

[5] Manufacturer: **Otto Controls Division of Otto Engineering**

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

[7] This equipment or protective system and any acceptable variation there to is 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 9 of the Council Directive 94/9/EC of 23 March 1994, 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. 04CA32183

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014: 1997 E incl. A1+A2 **EN 50020: 2002 E**

[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 EC-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.

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

Ex II 2 G EEx ia IIC T4

On behalf of UL International Demko A/S Herlev, 2005-07-28

Karina Christiansen
Certification Manager

UL International Demko A/S
Lyskaer 8, P.O. Box 514
DK-2730, Herlev, Denmark
Telephone: +45 44856565
Fax: +45 44856500

[13] # Schedule

[14] ## EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 05 ATEX 137483X

[15] Description of Equipment or protective system

These devices are intrinsically safe radio accessories intended for use with radios that have intrinsically safe connection facilities.

Types comprising the certification:

Description	Model Numbers
Speaker/Mic	V2-10023-S, V2-10024-S, V2-10025-S, V2-10031-S, V2-10034-S V2-10068-S, V2-10112-S, V2-10134-S, V2-10139-S, V2-10162-S V2-10168-S, V2-10228-S, V2-10230-S, V2-10234-S, V2-10240-S V2-10241-S, V2-10256-S, V2-10273-S, V2-10274-S, V2-10278-S V2-10316-S
Ranger Headset	V4-NR2BA1-S, V4-NR2CD1-S, V4-NR2CE1-S, V4-NR2MJ1-S V4-10421-S
Earphone Kit	V1-10432-S
Hurricane Headset	V4-HC2CD1-S, V4-HC2CE1-S, V4-HC2KB1-S, V4-HC2KB3B-S V4-HC2MA3B-S, V4-HC2MA5-S, V4-HC2MJ5-S

Temperature range:

The ambient temperature range of these devices is -40 °C to +40 °C.

Electrical data:

Intrinsically safe specifications:

Speaker/Mic		Ranger Headset		Earphone Kit		Hurricane Headset	
U_i :	9,6V	U_i :	9,6V	U_i :	9,6V	U_i :	9,6V
I_i :	0,22A	I_i :	0,11A	I_i :	0,22A	I_i :	0,11A
P_i :	1,3W	P_i :	1,3W	P_i :	1,3W	P_i :	1,3W
L_i :	0,35mH	L_i :	1,8mH	L_i :	0,35mH	L_i :	1,1mH
C_i :	1,8µF	C_i :	1,8µF	C_i :	1,8µF	C_i :	1,8µF

Routine tests:

None.

[16] Report No.

Project Report No.: 04CA31283 (Hazardous Location Testing)

Schedule

EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 05ATEX 137483X

Drawings:

Number	Date	Description
804184	2006-04	Speaker/Mic Installation Manual
V2-ISSPEAKER	2006-03-17, Revision A	Speaker/Mic Safety Critical Design
804205	2006-04	Ranger Headset Installation Manual
V4-ISRANGER	2006-03-17, Revision A	Ranger Headset Safety Critical Design
804206	2006-04	Earphone Kit Installation Manual
V1-ISEARPHONE	2006-03-31, Revision A	Earphone Kit Safety Critical Design
804203	2006-04	Hurricane Headset Installation Manual
V4-ISHURRICANE	2006-03-24, Revision A	Hurricane Headset Safety Critical Design

[17] Special conditions for safe use:

These devices are intended for use only as specified in the installation manual as follows:

Speaker /Mic:	Installation Manual Number 804184
Ranger Headset:	Installation Manual Number 804205
Earphone Kit:	Installation Manual Number 804206
Hurricane Headset:	Installation Manual Number 804203

The above OTTO ATEX certified radio accessory products are only intended for connection to intrinsically safe radios. The radio accessory products have been evaluated for intrinsic safety and can be used with any ATEX certified radio that has intrinsic safety (entity) parameters at the accessory connection conforming to the following:

$U_o \leq U_i$ $I_o \leq I_i$ $P_o \leq P_i$

$L_o \geq L_i$ $C_o \geq C_i$

[18] Essential Health and Safety Requirements

Concerning ESR this Schedule verifies compliance with the Ex standards only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

On behalf of UL International Demko A/S

Herlev, 2006-05-10

Karina Christiansen
Certification Manager