Base Load Power Hub (BLPH)

EQUIPMENT HAZARDOUS AREA REGISTER and CERTIFICATE

Document Number: 1724000452-QC-CER-00013

Document Class: 2

02	29/01/2025	Accepted for Costruction (AFC)	L.Pizzigati	S.Montanari	S.Montanari
01	09/01/2025	Accepted for Costruction (AFC)	L.Pizzigati	S.Montanari	S.Montanari
00	11/09/2024	Issue for Review (IFR)	L.Pizzigati	M.Manenti	M.Manenti
Rev.	Date	Description	Prepared	Reviewed	Approved

FORES ENGINEERING

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Costruction (AFC)
02	Accepted for Costruction (AFC)

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CROSSWIND

FORES ENGINEERING

HOLLANDSE KUST NOORD WIND PARK Project
Contract No. CW-I-WP4-2023-05

ROSETTI MARINO

Sh. 4 of 47

Date: 29/01/2025

Rev. 02

Document Title: **EQUIPMENT HAZARDOUS AREA REGISTER and CERTIFICATE**

Number	PO_No	Supplier Name	AREA	Tag_No	Serial_No	Description	Manufacturer	Type / Model No	Area Classification ZONE	ATEX Category	ATEX Marking / Type of Protection	Gas Groups	Temp Class	IP Rating (IEC60529)	EPL	EU Type Examination Certificate No.	Special Conditions of safe use Applicable	Barrier Certificate Number	Barrier Calculation Ref.	Comments	Non-Electrical Equipment	System	Sub-System
1	1724000452	FORES ENGINEERING	N.A.	Y-89-25-THG-001	3800920071	GMDSS VHF Marine Portable Radio (1)	SAILOR	SP3540	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	TÜV 08 ATEX 353822 X	YES	N.A.	N.A.	(1) SAILOR SP3540 package include: PTT Control Unit (SAVOX C-C440 Ex)	N.A		
2	1724000452	FORES ENGINEERING	N.A.		05100049	PTT Control Unit	SAVOX	C-C440 Ex	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	EESF 18 ATEX 008X	YES	N.A.	N.A.		N.A		
3	1724000452	FORES ENGINEERING	N.A.	Y-89-25-THG-002	3906540303	GMDSS VHF Marine Portable Radio (1)	SAILOR	SP3540	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	TÜV 08 ATEX 353822 X	YES	N.A.	N.A.	(1) SAILOR SP3540 package include: PTT Control Unit (SAVOX C-C440 Ex)	N.A		
4	1724000452	FORES ENGINEERING	N.A.		05100030	PTT Control Unit	SAVOX	C-C440 Ex	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	EESF 18 ATEX 008X	YES	N.A.	N.A.		N.A		
5	1724000452	FORES ENGINEERING	N.A.	Y-89-25-THS-001	2224112069	Twin cup headset for VHF Marine Portable Radio	Peltor	MT72H540P3E-50	Zone 2	2G	Ex ib	IIC	T4	IP66	Gb	Nemko 09 ATEX 1119 X	YES	N.A.	N.A.		N.A		
6	1724000452	FORES ENGINEERING	N.A.	Y-89-25-THS-002	2224112070	Twin cup headset for VHF Marine Portable Radio	Peltor	MT72H540P3E-50	Zone 2	2G	Ex ib	IIC	T4	IP66	Gb	Nemko 09 ATEX 1119 X	YES	N.A.	N.A.		N.A		
7	1724000452	FORES ENGINEERING	N.A.	Y-89-06-THU-001	627TZD0512	UHF DMR Portable Radio (2)	MOTOROLA	DP4801 Ex	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	BS 12 ATEX E 117 X	YES	N.A.	N.A.	(2) MOTOROLA DP4801 Ex package include: Remote Speaker (PMMN4094)	N.A		
8	1724000452	FORES ENGINEERING	N.A.		CAB24TD1931	Remote Speaker	MOTOROLA	PMMN4094	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	BVS 15 ATEX E 054 X	YES	N.A.	N.A.		N.A		
9	1724000452	FORES ENGINEERING	N.A.	Y-89-06-THU-002	627TZB0584	UHF DMR Portable Radio (2)	MOTOROLA	DP4801 Ex	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	BS 12 ATEX E 117 X	YES	N.A.	N.A.	(2) MOTOROLA DP4801 Ex package include: Remote Speaker (PMMN4094)	N.A		
10	1724000452	FORES ENGINEERING	N.A.		CAB24TD2037	Remote Speaker	MOTOROLA	PMMN4094	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	BVS 15 ATEX E 054 X	YES	N.A.	N.A.		N.A		
11	1724000452	FORES ENGINEERING	N.A.	Y-89-06-THS-001	106577738	Twin cup headset for UHF DMR Portable Radio	MOTOROLA	PMLN6333	Zone 2	2G	Ex ib	IIC	T4	IP66	Gb	Nemko 09 ATEX 1119 X	YES	N.A.	N.A.		N.A		
12	1724000452	FORES ENGINEERING	N.A.	Y-89-06-THS-002	106792880	Twin cup headset for UHF DMR Portable Radio	MOTOROLA	PMLN6333	Zone 2	2G	Ex ib	IIC	T4	IP66	Gb	Nemko 09 ATEX 1119 X	YES	N.A.	N.A.		N.A		
13	1724000452	FORES ENGINEERING	N.A.	(3)	CAB24TD0999	Remote Speaker	MOTOROLA	PMMN4094	Zone 2	2G	Ex ib	IIC	T4	IP67	Gb	BVS 15 ATEX E 054 X	YES	N.A.	N.A.	(3) SPARE PART	N.A		
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CERTIFICATE COLLECTION

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GMDSS VHF Marine Portable Radio

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SAILOR

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EU Declaration of Conformity

Hereby manufacturer,

Thrane & Thrane A/S
Lundtoftegaardsvej 93 D
2800 Kgs. Lyngby
Denmark

The object of the declaration described below is in conformity with the relevant Union harmonization legislation: Directive 2014/34/EU

Equipment

Model	Description	Part no.
SAILOR SP3540	ATEX Portable maritime VHF radiotelephone	623540A
SAILOR B3503	ATEX Primary Lithium Battery	403503A
SAILOR B3504	ATEX Rechargeable Li-ion Battery	403504A

Associated equipment for use in non-ATEX area

Model	Description	Part no.
SAILOR CH3505	Battery Compact Charger for ATEX	403505A
SAILOR CH3507	Battery Charger for ATEX	403507B
SAILOR CH3508	Dual Battery Charger for ATEX	403508B
	AC/DC Adapter	88-125538

Equipment Applicability

SAILOR SP3540 is a simplex/semi-duplex handheld ATEX / VHF radiotelephone designed for maritime communication within the Global Maritime Distress and Safety System, GMDSS.

SAILOR SP3540 is able to operate on all international VHF channels.

Declaration

The requirement with respect to the ATEX Directive 2014/34/EU is met by conforming to the harmonized EU standards EN IEC 60079-0:2018 and EN 60079-11:2012.

SAILOR SP3540 meets the ATEX requirement for gas environments of class II 2 G Ex ib IIC T4.

SAILOR SP3540 also meets the requirement for Ingress Protection to the level of IP67.

Certified by:

TÜV NORD	Notified Body Id. No. 0044	Certificate No. TÜV 08 ATEX 353822 X	Issue: 01
ExVeritas	Notified Body Id. No. 2804	Certificate No. ExVeritas 21PQAN0192	

Place and date

Pandrup, 25 October 2021

Program Director R&D
Peter Haslev

Document no.: 99-129012-H

0044
2804

Thrane & Thrane A/S trading as Cobham SATCOM. Registered no.: DK - 65 72 46 18. Registered address: Lundtoftegaardsvej 93 D, 2800 Kgs. Lyngby, Denmark
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Translation

(1) EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3)	**Certificate Number**	**TÜV 08 ATEX 353822 X**
(4)	for the equipment:	Radio Transceivers Type: SAILOR SP3540 VHF GMDSS
(5)	of the manufacturer:	**Thrane & Thrane A/S**
(6)	Address:	Porsvej 2 DK-9200 Aalborg SV, Denmark
	Order number:	8000353822
	Date of issue:	2008-12-29

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential report No. 08 203 353822.

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

EN 60079-0:2006 **EN 60 079-11:2007**

(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 in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

Ex **II 2G** **Ex ib IIC T4**

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body

Schwedt

Hannover office: Am TÜV 1, 30519 Hannover, phone +49 (0)511 986 1455, Fax +49 (0)511 986 1590

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Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH

CERT A4 VU-H 06.05 5000 dia

(13) **SCHEDULE**

(14) **EC-Type Examination Certificate No. TÜV 08 ATEX 353822 X**

(15) Description of equipment

The ATEX VHF radio transceiver type SP3540 VHF GMDSS are designed as intrinsically safe for use onboard ships and on land in classified areas Zone 1 and Zone 2.
The SP3540 is a special GMDSS approved radio for use in emergency situations onboard ships. SP3540 are orange and are supplied either from the ATEX Primary battery type B3503 or alternatively the Secondary battery type B3504. The ATEX Primary battery B3503 is orange and can not be charged. The ATEX Secondary battery B3504 is blue and is rechargeable. Charging takes place in the belonging non ATEX charger. Charging takes place outside protected ATEX area.
Both the primary and the secondary batteries are constructed with intrinsically safe connection facilities and they can be changed inside the hazardous area and fulfils Ex ib IIC T4 specifications.
The cabinet of the radio is designed to fulfil antistatic ATEX requirements even without the accessory leather case.

Technical data

The accessory interface connector on top of radio is intrinsically safe with the following entity parameters:

Uo: 8.4 V
Io: 0.45 A
Lo: 10 µH
Co: 150 nF

Only ATEX certified accessories matching the above mentioned entity parameters must be connected.

Approved accessories:

Charger CH3505	403505A
Charger CH3507	403507B
Charger CH3508	403508B
VHF Antenna	88-124370-A
VHF Antenna	62-124370
Lanyard	41-124375-A
Belt clips	62-124320
Leather case	403500-207
Service cable	403500-958

Ingress protection: IP 67

Permitted range of the ambient temperature - 20 °C to +55 °C

(16) Test documents are listed in the test report No. 08 203 353822.

(17) Special conditions for safe use the following 2 conditions should be added:

- Do not change the battery in wet or humid environments.
- Always keep battery connectors dry and clean.
- Use only with Sailor ATEX approved accessories.
  Alternatively ATEX approved accessories in compliance with the accessory connector ATEX specification may be used.
- Do not change accessories in wet or humid environments.
- Do not charge the battery in hazardous area.
- For charge of battery use
  Part no: 403505A - ATEX CH3505 Compact Charger,
  Part no: 403507B - ATEX CH3507 Single Position Charger or
  Part no: 403508B - ATEX CH3508 Dual Position Charger
- Use only battery type Sailor B3503 or B3504.
- Do not use a mechanically damaged radio.
- Unpacking of the radio and accessories and the removal of the protective film in front of the display window must not take place in the ATEX protected area.

(18) Essential Health and Safety Requirements

no additional ones

CERTIFICAT ◆ CERTIFICADO ◆ СЕРТИФИКАТ ◆ 認證證書 ◆ CERTIFICATE ◆ ZERTIFIKAT

DANAK
PROD Reg.No. 7035
Member of EA MLA

TÜV SÜD
Danmark

Marine Equipment Directive
EC Type Examination Module B Certificate

This is to certify that TÜV SÜD DANMARK ApS did undertake the relevant type approval procedures for the equipment identified below, which was found to be in compliance with the Marine Equipment Directive (2014/90/EU) requirements, under the following Implementing Regulation for the listed types of equipment

Implementing Regulation	**(EU)2023/1667**
Certificate Holder and Manufacturer	**Thrane & Thrane A/S** **Lundtoftegaardsvej 93 D** **DK-2800 Kgs. Lyngby** **Denmark**
Product(s)	**SAILOR SP3540**
Product Sector	**Radio-communication equipment**
Product Type	**MED/5.17** **Portable survival craft two-way VHF radiotelephone apparatus**

and on the basis of the Technical Data and information detailed in the Annex to this certificate.

Valid from: 28 November 2023 (M J Hardy) M Hardy Expiry Date: 27 September 2028

This certificate has been issued in accordance with the TÜV SÜD Testing and Certification Regulations and constitutes page 1 of the combined Certificate and Annex.
The Conditions for the validity of this certificate are listed in the Annex.
For further details, related to this certification please contact BABT@tuvsud.com

2443

Issued by TÜV SÜD DANMARK ApS under document number DK-MED000162 Issue 01

TÜV SÜD DANMARK ApS • Strandvejen 125 • 2900 Hellerup • Denmark

TÜV®

1 Equipment Description

Portable VHF Survival Craft ATEX (GMDSS) Transceiver Note 1

1.1 Models

Model
SAILOR SP3540

1.1.1 System Components

Model	Part no.	Description
SAILOR SP3540	623540A	VHF Survival Craft ATEX (GMDSS)
SAILOR B3503	403503A	Primary Battery – Lithium

1.1.2 Optional Components

Model	Part no.	Description
SAILOR B3504	403504A	Secondary Battery – Rechargeable Li-Ion
SAILOR CH3505	403505A	Compact Charger
SAILOR CH3507	403507B	Single Position Charger ATEX
SAILOR CH3508	403508B	Dual Position Charger ATEX
-	88-125538	AC/DC Adapter

1.2 Software Note 2

Identity	Description
2.00.xx Note 3	Firmware for SP3500 Series

2 Assessed Requirements

2.1 Implementing Regulation (EU)2023/1667

2.2 Compliance Requirements for MED/5.17 Row 1 of 2

IMO Resolutions	International Testing Standards	
Resolution A694(17)	IEC 60945 (2002) inc. Corr.1 (2008)	Maritime navigation and radiocommunication equipment and systems – General requirements
	ETSI EN 301 843-2 v2.2.1 (2017-11)	ElectroMagnetic Compatibility (EMC) standard for marine radio equipment and services; Harmonised Standard for electromagnetic compatibility; Part 2: Specific conditions for VHF radiotelephone transmitters and receivers
IMO Res. MSC.149(77)	ETSI EN 300 225 V1.5.1 (2015-12)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and methods of measurement for survival craft portable VHF radiotelephone apparatus
ITU-R M.489-2 (10/95)		

3 Technical Documentation

3.1 Declaration of Conformity

99-153102-L Declaration of Conformity SAILOR SP3540 VHF GMDSS ATEX	Modified	2023-09-19

3.2 User Guide

98-124307-M SAILOR SP3540 Portable VHF ATEX GMDSS User Manual	Dated	2021-12-14

3.3 Test Reports

3.3.1 IEC 60945:2002 inc. Corr.1:2008

180514	Dated	2012-04-11
20082907200	Dated	2008-10-29
99788220	Dated	2007-04-05
99788230 Rev 2	Dated	2007-04-03
DANAK-19K0457	Dated	2009-06-15
E11128.00	Dated	2011-08-01
DANAK-19K0469	Dated	2007-09-18
99-185387	Dated	2023-11-17

3.3.2 ETSI EN 301 843-2 v2.2.1 (2017-11)

19/18030	Dated	2017-06-26
99-175132-A_	Dated	2020-11-25
180514	Dated	2012-04-11
20082907200	Dated	2008-10-29

3.3.3 ETSI EN 300 225 V1.5.1 (2015-12)

99788230 Rev 2.0	Dated	2007-04-03
99822231	Dated	2007-04-03
99-185388-A	Dated	2023-11-17

3.4 Build Status

3.4.1 Hardware

59-127182_BOM_list(G.05)	Modified	2023-09-19
TT93–127182–U	Dated	2018-11-12
38-127182-G01_ASB	Dated	2016-03-16
38-127182-G01_AST	Dated	2016-03-16

3.5 Notes

Note 1 ATEX approval is not a requirement of item MED/5.17 and has not been assessed as part of this Type Approval.

Note 2 This approval remains valid for equipment including subsequent minor software amendments which have been formally accepted in accordance with the TÜV SÜD Testing and Certification Regulations.

Note 3 The first two digits in the Software Version indicate Major revisions (1.0, 1.1, etc.), whereas “xx” represent minor revision numbers (0, 1, 2, etc.) with no impact on type approved functionality.

Danmark

4 Conditions of Validity

This certificate ceases to be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with TÜV SÜD DANMARK ApS or a person appointed by TÜV SÜD DANMARK ApS to perform that role.

During the period of validity of this certificate the applicable regulations (international conventions and relevant resolutions and circulars of the IMO) and testing standards of the Commission Implementing Regulation may change, therefore the product conformity may need to be re-assessed by TÜV SÜD DANMARK ApS.

The Mark of Conformity may only be affixed to the above type approved equipment and a manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of the directive is fully complied with and controlled by a written inspection agreement with a notified body.

Signature: M Hardy

(M J Hardy)

Date: 28/11/2023

On behalf of TÜV SÜD DANMARK ApS

PTT Control Unit

-

SAVOX

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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: **EESF 18 ATEX 008X Issue 1**

4. Product: **Com-Control Unit**

   Certified types: **C-C440/MTP850Ex, C-C440/DP4000X, C-C440/Waris Ex, C-C440/Sailor Ex, C-C440/PD79aEx, C-C440/E-Tech Ex, C-C440/TK2260 Ex and C-C440/S4 Ex**

5. Manufacturer: **Savox Communications Oy Ab**

6. Address: **Keilaranta 15 B, FI-02150 ESPOO, Finland**

   Additional manufacturing locations:

   1. **SAVOX Communications Oy Ab, Schaumanintie 26, FI-57230 SAVONLINNA, Finland**
   2. **Savox Communications (Shenzen) Co. Ltd, 7th Floor, Building #2, Hong Hui Industrial Park, Liu Xian 2nd Road, 68th Subdistrict, Baoan, Shenzen, China**

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

8. Eurofins Electric & Electronics Finland Oy, Notified Body number 0537, 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 product has been found to comply with the Essential Health and Safety Requirements relating to the 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. EUFI29-23003878-T1.

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

   EN 60079-0 (2018) **EN 60079-11 (2011)**

10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of 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 this certificate.

12. The marking of the product shall include the following:

    II 2G Ex ib IIC T4 Gb
    II 2D Ex ib IIIC T110°C Db

Espoo, 11.10.2023
Eurofins Electric & Electronics Finland Oy

Jenni Hirvelä
Senior Expert

Kari Koskela
Senior Expert

This document is digitally signed.

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13. **Schedule**

14. **EU-Type Examination Certificate EESF 18 ATEX 008X Issue 1**

15. **Description of Product**

The SAVOX C-C440/MTP850Ex, C-C440/Sailor Ex, C-C440/DP4000X, C-C440/Waris Ex, C-C440/PD79aEx, C-C440/E-Tech Ex, C-C440/TK2260 and C-C440/S4 Ex Com-Control Units are to be used with intrinsically safe radio types according to unit type marking. Com-control unit type C-C440/PD79aEx is also compatible with certified PD71aEx, HD795Ex, PT790Ex and PT710Ex radios. The units consist of permanent cable, IP5X (according to EN 60079-0 and -11) enclosure with integrated PTT (Push-To-Talk) button and an electronics board. The plastic material of the enclosure is conductive.

Electrical data:

The maximum input values for types C-C440/MTP850Ex, C-C440/Sailor Ex, C-C440/Waris Ex, C-C440/PD79aEx and C-C440/TK2260 Ex are:

Ui = 9 V Ii = 3 A Pi = 6.75 W Ci = 0.1 µF Li = 10 µH

The maximum input values for type C-C440/DP4000X are:

Ui = 9 V Ii = 75 mA Pi = 314 mW Ci = 0.1 µF Li = 2 mH

The maximum input values for type C-C440/E-Tech Ex are:

Ui = 9 V Ii = 3 A Pi = 6.75 W Ci = 0.1 µF Li = 5 µH

The maximum input values for type C-C440/S4 Ex are:

Ui = 8.8 V Ii = 1.7 A Pi = 14.95 W Ci = 0.1 µF Li = 10 µH

Allowed plug-in accessories:

a) Savox TC-1 Ex or POA61-Ex
b) SAVOX MS-Com ATEX
c) SAVOX HC-1… ATEX or POA34-Ex
d) SAVOX HC-2… ATEX or POA100-Ex
e) SAVOX HC-E… ATEX or POA101-Ex
f) SAVOX L-H Ex or POA65-Ex
g) Peltor Adapter Cable Ex
h) FPS-COM-PLUS VA R-C* (ITS 11 ATEX 27318X)
i) FPS-COM 5000* (ITS 16 ATEX 28437X)
j) FPS-COM 7000* (ITS 16 ATEX 28340X)
k) MSA F1XF Communication Headset** (Not for Group III)
l) MT7H79F-50, MT7H79B-50, MT7H79P3E-50 (Not for Group III, Max Tamb +40 °C)
m) Dräger ANP-Com* (Not for Group III, Max Tamb +40 °C, VTT 17 ATEX 064X)
n) Savox NOISE-COM 400 Ex / Hytera IS Helmet N.C. headset (EESF 20 ATEX 087X)

**) S4 Ex excluded*
***) For Waris Ex and Sailor Ex only*

16. **Report Number:**

EUFI29-23003878-T1

17. **Specific Conditions of Use**

1. Allowed ambient temperature range is Tamb -20 °C to +55 °C.
2. When used with allowed plug-in accessories inside hazardous areas, the limited conditions in Clause 15 shall be observed.
3. Connection of SAVOX C-C440 Com-Control Units shall be done according to radio manufacturer's instructions.

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4. Impact test was made according to low risk of mechanical danger. The device shall be protected from high-level impacts.

18. **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed at item 9.

19. **Drawings and Documents**

Title:	Drawing No.:	Rev.	Date:
*EX SAFETY DECLARATION FOR PRODUCT C-C440 /DP4000EX /MTP850EX /WARIS EX /SAILOR EX / PD79aEx/E-Tech Ex/TK2260 Ex / S4 Ex	D23313	H	20.9.2023
C-C440_ICOM S4 Ex Safety Calculations	D24477	C	6.8.2018
*EU DoC and Safety Guide Savox C-C440 VTT13 ATEX 040X	D23328	K	9.10.2023
Ex label C-C440/MTP850 Ex, Waris Ex, Sailor Ex, PD79aEx	D23321	D	3.9.2018
Ex label C-C440/DP4000 Ex	D23327	C	3.9.2018
Ex Label C-C440/E-Tech Ex	D23794	C	3.9.2018
C-C440_S4 Ex Label Instruction	D24461	B	3.9.2018
440AV / Generic Ex Component list (Product K16160_A)	D16160	A	28.10.2013
440AV ICOM S4 EX Part list (PCBA BoM)	D18289	A	24.8.2018
PCBA 440AV Sailor Ex Component list (Product K16161_B)	D16161	B	25.8.2014
PCBA 440AV DP4000Ex Component list (Product K16231_A)	D16231	A	28.10.2013
PCBA 440AV Waris Ex Component list (Product K16237_A)	D16237	A	28.10.2013
Schematic diagram Savox 440AV K15915	S15915	C	2.12.2013
PCB and Component layout, K15915_C_440AV	-	-	-
PCB Specification K15915_C_440AV	-	-	2.12.2013
Epoxy casting description for ATEX component boards	D21487	E	19.11.2014
C-C440 Main ASM Emergency Ex K14906	D14906	E	24.10.2014
Connector cable SAVOX C-C440/Sailor Ex, p/n: K16233	D16233	B	17.5.2016
Conn cable 440/MTP850 Ex SAVOX C-C440, p/n: K14060	D22319	B	25.6.2015
Connector cable Motorola DP4000 Ex SAVOX C-C440, p/n: K16221	D23332	A	22.10.2013
Conn cable 440/Waris Ex SAVOX C-C440, p/n: K14060	D22320	B	25.6.2015
Conn Cable E-Tech Cable	D17026	A	20.8.2015
Conn.Cable TK2260 Ex Cable	D16549	B	28.6.2016
PD790EX cable	D16219	B	5.9.2016
ICOM_S4_Ex_Cable	D18212	B	7.6.2018

*The accessory documents are listed in the document “Headset documents in PTT Ex certificates”. Doc.nr. D22115. Rev.Q. Date: 6.10.2023.

SAVOX C-C440/MTP850Ex complies with the Documentation Manual for Motorola ATEX, UC connector interface mentioned in Motorola documents:

- Accessory Interface Definition, Document 6866546D07_02_06, Rev B, date 27-Jun-08
- Specification of External Loudspeaker used at Accessory Interface, Document 6866546D07_02_07, Rev B, date 27-Jun-08

**) New/ revised documents*

20. **Certificate History**

Issue	Date	Report No.	Change
-	19.12.2013	VTT-S-08630-13	Prime certificate
VTT 13 ATEX 040X Issue 1	29.6.2015	-	Minor changes. Compatibility with Ex radios of certified type C-C440/PD79aEx clarified.
VTT 13 ATEX 040X Issue 2	6.11.2015	VTT-S-05197-15	Certified type C-C440/E-Tech Ex added. New or revised documents.
VTT 13 ATEX 040X Issue 3	25.4.2016	VTT-S-03879-16	Certified type C-C440/TK2260 Ex added. New or revised documents.
VTT 13 ATEX 040X Issue 4	1.7.2016	-	List of accessories updated. New accessories assessed.

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VTT 13 ATEX 040X Issue 5	5.10.2016	VTT-S-03879-16	Extend of compatibility with Ex radios of certified type C-C440/PD79aEx. Alternative names entered, New revisions, New doc. replaces D12666D
VTT 13 ATEX 040X Issue 6	15.8.2017	VTT-S-04121-17	Addition of FPS-COM 7000 plug-in accessory.
VTT 13 ATEX 040X Issue 7	10.7.2018	VTT-S-02835-18	Certified type C-C440/S4 added. Addition of SAVOX NOISE-COM 200 Ex and Dräger ANP-Com accessories.
EESF 18 ATEX 008X	19.9.2018	S-04487-18	NB name changed from VTT Expert Services to Eurofins Expert Services. Addition of SAVOX NOISE-COM 400 Ex or Hytera IS Helmet N.C. headset plug-in accessory. Manufacturers address changed.
Issue 1	11.10.2023	EUFI29-23003878-T1	Accessories list updated. Obsolete products removed and MSA F1XF Communication Headset added.

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Twin cup headset for VHF Marine Portable Radio

-

PELTOR

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[1] EU-TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protected System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] EU-Type Examination Certificate Number: **Nemko 09ATEX1119X** **Issue 5**

[4] Product: **Headset with microphone and speaker, twin cup.**

[5] Manufacturer: **3M Svenska AB**

[6] Address: **Malmstensgatan 19**
Box 2341
SE-33102 Värnamo
Sweden

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] Nemko Group AS, notified body number 0470, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential report no. **PRJN-393177**

[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 the Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the technical design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate

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

II 2G **Ex ib IIC T4 Gb, Ta : -20°C to +50°C**

2023-02-16

Bernt Jonny Orderud
Certifier name

[13] Schedule

[14] EU-TYPE EXAMINATION CERTIFICATE No Nemko 09ATEX1119X Issue 5

[15] Description of Product:

The headset consists of two headphones and a microphone connected to a common plug (jack plug). This certificate covers two models, one with headband and one with helmet attachment.

Type Designations:
MT72H540A-50, MT72H540P3E-50

Intrinsic Safety Data
Ui: 14V, Ii: 450mA, Pi: 1,3W, Ci: Negligible, Li: 0,8mH

Ambient temperature:
-20°C to +50°C

Routine tests:
None.

[16] Report No. PRJN-393177

Descriptive Documents:

Number	Title	Rev	Date
P080137	Assembly Drawing MT72H540P3E-50	d	2023-01-19
P210148	Assembly Drawing MT72H540A-50	a	2023-01-19
P080139	Wiring Instruction MT72H540**-50	a	2008-02-22
P080436	Ex Label MT72H540P3E-50	f	2023-01-19
FP3768	Instruction Manual	d	Same as certificate

Certificate History and Associated Reports:

Issue	Date	Report No.	Description
0	2009-04-27	Nemko 126520	Prime Certificate released
1	2011-09-20	Nemko 187494	Increased the current in safety parameters for intrinsically safe connection and added a microphone, M01N-02.
2	2015-05-08	D0001834-0 / Nemko 284573	Update to new standards.
3	2018-10-04	D0001834-1 / Nemko 361471	Minor update of marking label and instructions due to PPE regulation 2016/425/EU.
4	2020-12-14	D0001834-02 / PRJN-200955-2020-PA-NOR	Update of datasheet for microphone and speaker. Model type MT72H540F-50 removed from certificate. Minor update of marking label and instructions manual. Upgrade to standard EN 60079-0: 2018.
5	2023-02-03	PRJN-393177	- Update of marking due to UKEX certification. - Included new variant of headset, MT72H540A-50. - Remove variant MT72H540F-50. - Minor updates of descriptive documents.

[17] Specific Conditions of Use:
Only for connection to a certified intrinsically safe circuit with a linear resistive output, that complies with the following values for the intrinsic safety parameters of MT72H540A-50 and MT72H540P3E-50:

Ui: 14V, Ii: 450mA, Pi: 1,3W, Ci: Negligible, Li: 0,8mH

[18] Essential Health and Safety Requirements:
Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] Remarks and additional Information:
None

UHF DMR Portable Radio

-

MOTOROLA

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Translation

1 # EU-Type Examination Certificate

2 **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

3 EU-Type Examination Certificate Number: **BVS 12 ATEX E 1117 X** Issue: **01**

4 Equipment: **Radio telephone type XPR ****Ex, type XiR P**** Ex, type DP**** Ex and type DGP**** Ex**

5 Manufacturer: **Motorola Solutions Systems Polska Sp.z.o.o.**

6 Address: **Ul. Czerwone Maki 82, 30-392 Krakow, Polen**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, 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 product has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential Report No. BVS PP 12.2167 EU.
This issue of the EU-Type Examination Certificate replaces the previous issue of the EU-Type Examination Certificate BVS 12 ATEX E 117 X including supplements 1 to 5.

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

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the “Specific Conditions of Use” listed under item 17 of this certificate.

11 This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

II 2G Ex ib IIC T4 Gb
II 2D Ex ib IIIC T130°C Db
I M2 Ex ib I Mb

DEKRA Testing and Certification GmbH
Bochum, 2023-01-27

Signed: Dr. Rolf Krökel

Managing Director

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 12 ATEX E 117 X issue 01

15 **Product description**

15.1 **Subject and type**

Radio telephone type XPR ****Ex, type XiR P**** Ex, type DP**** Ex and type DGP**** Ex

The asterix (*) in the type designation is replaced by numbers per the list below :

Name	Model number	Type description
VHF version 136 to 174 MHz		
XPR 7550 Ex	PMUD3214ABCNAA	North American Full Keypad Model (NAG FKP)
DP4801 Ex	PMUD3214ABCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP
DP4801 Ex	PMUD3214BBCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUD3214BPCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUD3214ACCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 EX	PMUD3214APCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
XiR P8668 Ex	PMUD3214ABCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ABDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ABEAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ABFAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214BBCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214BBFAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214BBEAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214BBDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ACCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ACDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ACAAAA	Asia Pacific Full Keypad Model (APAC FKP)
DGP 8050 EX	PMUD3214ABALAA	Latin American Caribbean Region Full Keypad (LACR NKP)
DGP 8550 EX	PMUD3214ABCLAA	Latin American Caribbean Region Full Keypad (LACR FKP)
DGP 8550 EX	PMUD3214BBCLAA	Latin American Caribbean Region Full Keypad (LACR FKP)
DGP 8050 EX	PMUD3212BBALAA	Latin American Caribbean Region Non Keypad (LACR NKP)
XiR P8608 Ex	PMUD3212ABAAAA	Asia Pacific Non Keypad Model (APAC NKP)
XiR P8608 Ex	PMUD3212BBAAAA	Asia Pacific Non Keypad Model (APAC NKP)
XiR P8608 Ex	PMUD3212ACAAAA	Asia Pacific Non Keypad Model (APAC NKP)
DP4401 Ex	PMUD3211AAAEAA	Europe, the Middle East, Africa, Australia and New Zealand Non Keypad Model (EMEA NKP)
DP4401 Ex	PMUD3211BAAEAA	Europe, the Middle East, Africa, Australia and New Zealand Non Keypad Model (EMEA NKP)

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UHF version 403 to 470 MHz

XPR 7550 Ex	PMUE3750ABCNAA	North American Full Keypad Model (NAG FKP)
DP4801 Ex	PMUE3750ABCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUE3750BBCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUE3750BPCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUE3750ACCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUE3750APCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
XiR P8668 Ex	PMUE3750ABCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ABDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ABEAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ABFAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750BBCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750BBFAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750BBEAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750BBDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ACCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ACDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ACAAAA	Asia Pacific Full Keypad Model (APAC FKP)
DGP 8550EX	PMUE3750ABCLAA	Latin American Caribbean Region Full Keypad (LACR FKP)
DGP 8550EX	PMUE3750BBCLAA	Latin American Caribbean Region Full Keypad (LACR FKP)
DGP 8050EX	PMUE3754ABALAA	Latin American Caribbean Region Non Keypad (LACR NKP)
DGP 8050EX	PMUE3754BBALAA	Latin American Caribbean Region Non Keypad (LACR NKP)
XiR P8608 Ex	PMUE3754ABAAAA	Asia Pacific Non Keypad Model (APAC NKP)
XiR P8608 Ex	PMUE3754BBAAAA	Asia Pacific Non Keypad Model (APAC NKP)
XiR P8608 Ex	PMUE3754ACAAAA	Asia Pacific Non Keypad Model (APAC NKP)
DP4401 Ex	PMUE3755AAAEAA	Europe, the Middle East, Africa, Australia and New Zealand Non Keypad Model (EMEA NKP)
DP4401 Ex	PMUE3755BAAEAA	Europe, the Middle East, Africa, Australia and New Zealand Non Keypad Model (EMEA NKP

15.2 **Description**

Reason for this issue

- Add models
- Changes in the part lists
- Circuit changes by the radio telephone
- Hardware changes by the radio telephone
- Layout changes

Description of Product

The radio telephone types XPR **** Ex, XiR P**** Ex, DP**** Ex and DGP ****EX are portable radios that serve communication in the VHF (136 to 174 MHz) and UHF (403 to 470 MHz) band.

The radios telephones are only used with the battery type NNTN8359A or type NNTN8359B or type NNTN8359C or type NNTN8359CR and the Dust Cover with the part number 15012157001 or one of the approved accessories listed in this certificate.

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The antennas listed below can be connected to the radio telephones.

For use with the 136 – 174 MHz versions

Part No	Description
PMAD4126A	GPS helical antenna (136 – 147 MHz) Ex
PMAD4127A	GPS helical antenna (147 – 160 MHz) Ex
PMAD4128A	GPS helical antenna (160 – 174 MHz) Ex
PMAD4129A	Stubby antenna 11cm (136 – 147 MHz) Ex
PMAD4130A	Stubby antenna 11cm (147 – 160 MHz) Ex
PMAD4131A	Stubby antenna 11cm (160 – 174 MHz) Ex
PMAD4132A	Wideband antenna (136 – 174 MHz) Ex

For use with the 403 to 470 versions

Part No	Description
PMAE4081A	DMR folded monopole (403 – 433 MHz) Ex
PMAE4082A	DMR folded monopole (430 – 470 MHz) Ex
PMAE4083A	DMR stubby antenna (403 – 433 MHz) Ex
PMAE4084A	DMR stubby antenna (430 – 470 MHz) Ex
PMAE4085A	DMR whip antenna (403 – 470 MHz) Ex

The following carry devises can be used with the radio telephones:

Part No	Description
PMLN6086A	ATEX Belt Clip 2.5-Inch Belt Width
PMLN6096A	Hard Leather Carry Case 2.5-Inch Swivel Belt Loop for Non-Keypad Radio
PMLN6097A	Hard Leather Carry Case 2.5-Inch Swivel Belt Loop for Full-Keypad Radio
PMLN6098A	Soft Leather Carry Case 2.5-Inch Swivel Belt Loop for Non-Keypad Radio
PMLN6099A	Soft Leather Carry Case 2.5-Inch Swivel Belt Loop for Full-Keypad Radio
PMLN5610A	2.5-Inch Replacement Swivel Belt Loop

The following audio accessories, separately certified, can be connected to the radios:

Part No	Description	Certificate
PMMN4067B	ATEX CSA Remote Speaker Microphone	BVS 12 ATEX E 027 X
PMLN6047A	Audio Adapter with Molex jack	BVS 12 ATEX E 074 X

The Audio Adapter with Molex jack is only approved for use in gas hazardous (Group II) and dust hazardous (Group III) environments.

Furthermore, the following audio accessories, separately certified, with a secondary audio interface to allow the connection of headsets can be connected to the radios:

PMMN4094A	ANC RSM ATEX 20 Ohm Standard Cable	BVS 15 ATEX E 054X
PMNN4100A	ANC RSM ATEX 20 Ohm Long Cable	BVS 15 ATEX E 054X
PMMN4110A	OMNI RSM 20 Ohm Standard Cable	BVS 15 ATEX E 054X
PMMN4111A	OMNI RSM 20 Ohm Long Cable	BVS 15 ATEX E 054X
FL5263-34 (Motorola Part Number PMLN6368A)	PTT Adapter for use with Headset	Nemko 13 ATEX1521X (Issue 2)

Approved for use in Mining (Group I) and Gas hazardous (Group II) environments
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

FL4063-50-34 (Motorola Part Number PMLN6803A)	Small PTT adaptor	Nemko 13 ATEX1521X (Issue 2)

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Approved for use in Mining (Group I) and Gas hazardous (Group II) environments
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

Part No	Description	Certificate
AK6760T (Motorola Part Number PMLN7310ASP01)	Key Switch (PTT unit)	Presafe 15 ATEX 6928 (Issue 1)

Approved for use in Gas hazardous (Group II) environments.

The headsets listed below can be connected to the audio accessories.
Other accessories that have certified compatible interface parameters may also be connected.

MT7H79F-50 (Motorola Part Number PMLN6087A)	Standard Headset with microphone	Nemko 09 ATEX E 1114 X (Issue 2)

Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT7H79P3E-50 (Motorola Part Number PMLN6092A)	Standard Headset with microphone	Nemko 09 ATEX E 1114 X (Issue 2)

Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT72H540P3E-50 (Motorola Part Number PMLN6333A)	Standard Headset with microphone	Nemko 09 ATEX E 1119 X (Issue 2)

Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT7H79B-50 (Motorola Part Number PMLN7531A)	Headset series, Tactical XP	Nemko 09 ATEX1114X (Issue 2)

Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT1H7F2-07-51 (Motorola Part Number PMLN6090A)	Headset series, Tactical XP	Nemko 10 ATEX 1029 X (Issue 2)

Approved for use in Mining (Group I) and Gas hazardous (Group II) environments.
Ambient temperature range: -10 °C ≤ T_a ≤ +40 °C

MT1H7P3E2-07-51 (Motorola Part Number PMLN6089A)	Headset series, Tactical XP	Nemko 10 ATEX 1029 X (Issue 2)

Approved for use in Mining (Group I) and Gas hazardous (Group II) environments.
Ambient temperature range: -10 °C ≤ T_a ≤ +40 °C

MT1H7B2-07- 51 (Motorola Part Number PMLN7535A)	Headset series, Tactical XP	Nemko 10 ATEX 1029X (Issue 2)

Approved for use in Mining (Group I) and Gas hazardous (Group II) environments.
Ambient temperature range: -10 °C ≤ T_a ≤ +40 °C

The accessories, the antennas and the battery can only be connected or disconnected outside the potentially hazardous environment.

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The permissible ambient temperature range for the radio, the battery type NNTN8359A or type NNTN8359B or type NNTN8359C or type NNTN8359CR, the ATEX CSA Remote Speaker Microphone type PMMN4067B, the ANC RSMs type PMMN4094A and PMNN4100A, the OMNI RSM type PMMN4111A and PMMN4110A and the Audio Adapter with Molex Jack type PMLN6047A is -20 °C ≤ T_a ≤ +55 °C.

The battery type NNTN8359A, NNTN8359B, NNTN8359C and NNTN8359CR can only be charged outside the hazardous environment with chargers listed in the safety leaflet (document 68012007083).

15.3 Parameters

15.3.1 Electrical Data

15.3.1.1 Frequency range

VHF-version	136 – 174 MHz
UHF-version	403 – 470 MHz

15.3.1.2 Output power 2 W max. (ib)

15.3.1.3 Supply voltage

The radio is supplied by the battery type NNTN8359A or NNTN8359B or NNTN8359C or NNTB8359CR with the following supply voltage:

Nominal voltage:	7.6 V DC
Peak open voltage:	8.4 V DC

15.3.1.4 When the Audio Adapter PMLN6047A (BVS 12 ATEX E 074 X) is used with the radios and the battery types NNTN8359A or NNTN8359B or NNTN8359C or NNTN8359CR the following interface parameters must be considered for secondary audio devices connected to the Audio Adapter:

Max. output voltage:	U_o = 8.4 V
Max. output current:	I_o =75 mA
Max. output power:	P_o = linear characteristic
Effective internal capacitance:	C_i = negligible
Effective internal inductance:	L_i = negligible

Connectable values for the Group IIC and IIIC in combination:

Max. external capacitance:	C_o= 0.1 µF
Max. external inductance:	L_o = 2 mH

15.3.2 Ambient temperature range -20 °C ≤ T_a ≤ +55 °C

15.3.3 Ingress protection for the radio telephone and the battery IP64

16 Report Number

BVS PP 12.2167 EU, as of 2023-01-27

17 Specific Conditions of Use

17.1 The antennas can only be connected / disconnected to the radios outside the hazardous environment.

17.2 The ATEX CSA Remote Speaker Microphone type PMMN4067B can only be connected / disconnected outside the hazardous environment.

17.3 The Audio Adapter type PMLN6047A with Molex jack can only be connected / disconnected outside the hazardous environment.

17.4 The ANC RSM type PMMN4094A and type PMMN4100A can only be connected / disconnected outside the hazardous environment.

17.5 The OMNI RSM type PMMN4110A and type PMMN4111A can only be connected / disconnected outside the hazardous environment.

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17.6 The PPT Adapter type FL5263-34 PTT and type FL4063-50-34 can only be connected / disconnected outside the hazardous.

17.7 The Key Switch type AK6760T can only be connected / disconnected outside the hazardous environment.

17.8 For all separately certified accessories additional safety conditions listed in these certificates will apply.

17.9 When the Audio Adapter type PMLN6047A is connected, the radio can only be used in gas (Group II) or dust (Group III) hazardous environments.

17.10 When the PTT Adapter type FL5263-34 or the Small PPT Adapter type FL4063-50-34 with one of the approved headsets is connected, the radio can only be used in Mining (Group I) or Gas (Group II) hazardous environments.

17.11 When the Key Switch type AK6760T is connected, the radio can only be used in a gas (Group II) hazardous environment.

17.12 The battery type NNTN8359A or type NNTN8359B or type NNTN8359C or type NNTN8359CR can only be changed or charged outside the hazardous environment.

18 Essential Health and Safety Requirements

Met by compliance with the requirements mentioned in item 9.

19 Remarks and additional information

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2023-01-27
BVS-Ha/MGR A 20211108 / 342463200



Managing Director

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Translation

1 EU-Type Examination Certificate Supplement 5

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 12 ATEX E 117 X**

4 Product: **Radio telephone type XPR ****Ex, type XiR P**** Ex, type DP**** Ex and type DGP**** Ex**

5 Manufacturer: **Motorola Solutions Systems Polska**

6 Address: **Cezerwone Maki 83, 30-392 Krakow, Poland**

7 This supplementary certificate extends EU-Type Examination Certificate No. BVS 12 ATEX E 117 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, 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 product has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential Report No. BVS PP 12.2167 EU.

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

EN IEC 60079-0:2018	**General requirements**
EN 60079-11:2012	**Intrinsic Safety "i"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix 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 this certificate.

12 The marking of the product shall include the following:

II 2G Ex ib IIC T4 Gb
II 2D Ex ib IIIC T130°C Db
I M2 Ex ib I Mb

DEKRA Testing and Certification GmbH
Bochum, 2020-05-29

Signed: Jörg-Timm Kilisch

Managing Director

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 12 ATEX E 117 X
Supplement 5

15 **Product description**

15.1 **Subject and type**

Radio telephone type XPR ****Ex, type XiR P**** Ex, type DP**** Ex and type DGP**** Ex

The asterix (*) in the type designation is replaced by numbers per the list below :

Name	Model number	Type description
VHF versions 136 to 174 MHz		
XPR 7550 Ex	PMUD3214ABCNAA	North American Full Keypad Model (NAG FKP)
DP4801 Ex	PMUD3214ABCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUD3214APCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUD3214ACCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
XiR P8668 Ex	PMUD3214ABCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ABFAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ABEAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ABDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ACCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUD3214ACDAAA	Asia Pacific Full Keypad Model (APAC FKP)
DGP 8550EX	PMUD3214ABCLAA	Latin American Caribbean Region Full Keypad (LACR FKP)
DGP 8050EX	PMUD3212ABALAA	Latin American Caribbean Region Non Keypad (LACR NKP)
XiR P8608 Ex	PMUD3212ABAAAA	Asia Pacific Non Keypad Model (APAC NKP)
XiR P8608 Ex	PMUD3212ACAAAA	Asia Pacific Non Keypad Model (APAC NKP)
DP4401 Ex	PMUD3211AAAEAA	Europe, the Middle East, Africa, Australia and New Zealand Non Keypad Model (EMEA NKP)
UHF versions 403 to 470 MHz		
XPR 7550 Ex	PMUE3750ABCNAA	North American Full Keypad Model (NAG FKP)
DP4801 Ex	PMUE3750ABCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUE3750APCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
DP4801 Ex	PMUE3750ACCEAA	Europe, the Middle East, Africa, Australia and New Zealand Full Keypad Model (EMEA FKP)
XiR P8668 Ex	PMUE3750ABCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ABFAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ABEAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ABDAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ACCAAA	Asia Pacific Full Keypad Model (APAC FKP)
XiR P8668 Ex	PMUE3750ACDAAA	Asia Pacific Full Keypad Model (APAC FKP)
DGP 8550EX	PMUE3750ABCLAA	Latin American Caribbean Region Full Keypad (LACR FKP)
DGP 8050EX	PMUE3754ABALAA	Latin American Caribbean Region Non Keypad (LACR NKP)
XiR P8608 Ex	PMUE3754ABAAAA	Asia Pacific Non Keypad Model (APAC NKP)
XiR P8608 Ex	PMUE3754ACAAAA	Asia Pacific Non Keypad Model (APAC NKP)
DP4401 Ex	PMUE3755AAAEAA	Europe, the Middle East, Africa, Australia and New Zealand Non Keypad Model (EMEA NKP)

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DAkkS Deutsche Akkreditierungsstelle D-ZE-12438-02-00

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15.2 **Description**

Reason for the supplement:

- Mechanical drawing updates for front housing assembly (add screw torque spec and revise manufacturer's name)
- Add battery variant
- Mechanical drawing update for Assembly Housing for battery
- Mechanical drawing update for battery latch
- Mechanical drawing update for cover for battery
- Documentation updates

Description of Product

The radio telephones types XPR **** Ex, XiR P**** Ex, DP**** Ex and DGP ****EX are portable radios that serve communication in the VHF (136 to 174 MHz) and UHF (403 to 470 MHz) band.

The radios telephones are only used with the battery type NNTN8359A or type NNTN8359B or type NNTN8359C or type NNTN8359CR and the Dust Cover with the part number 15012157001 or one of the approved accessories listed in this certificate.

The antennas listed below can be connected to the radio telephones

For use with the 136 – 174 MHz versions

Part No	Description
PMAD4126A	GPS helical antenna (136 – 147 MHz) Ex
PMAD4127A	GPS helical antenna (147 – 160 MHz) Ex
PMAD4128A	GPS helical antenna (160 – 174 MHz) Ex
PMAD4129A	Stubby antenna 11cm (136 – 147 MHz) Ex
PMAD4130A	Stubby antenna 11cm (147 – 160 MHz) Ex
PMAD4131A	Stubby antenna 11cm (160 – 174 MHz) Ex
PMAD4132A	Wideband antenna (136 – 174 MHz) Ex

For use with the 403 to 470 versions

Part No	Description
PMAE4081A	DMR folded monopole (403 – 433 MHz) Ex
PMAE4082A	DMR folded monopole (430 – 470 MHz) Ex
PMAE4083A	DMR stubby antenna (403 – 433 MHz) Ex
PMAE4084A	DMR stubby antenna (430 – 470 MHz) Ex
PMAE4085A	DMR whip antenna (403 – 470 MHz) Ex

The following carry devises can be used with the radio telephones:

Part No	Description
PMLN6086A	ATEX Belt Clip 2.5-Inch Belt Width
PMLN6096A	Hard Leather Carry Case 2.5-Inch Swivel Belt Loop for Non-Keypad Radio
PMLN6097A	Hard Leather Carry Case 2.5-Inch Swivel Belt Loop for Full-Keypad Radio
PMLN6098A	Soft Leather Carry Case 2.5-Inch Swivel Belt Loop for Non-Keypad Radio
PMLN6099A	Soft Leather Carry Case 2.5-Inch Swivel Belt Loop for Full-Keypad Radio
PMLN5610A	2.5-Inch Replacement Swivel Belt Loop

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The following audio accessories, separately certified, can be connected to the radios:

Part No	Description	Certificate
PMMN4067B	ATEX CSA Remote Speaker Microphone	BVS 12 ATEX E 027 X
PMLN6047A	Audio Adapter with Molex jack	BVS 12 ATEX E 074 X

The Audio Adapter with Molex jack is only approved for use in gas hazardous (Group II) and dust hazardous (Group III) environments.

Furthermore the following audio accessories, separately certified, with a secondary audio interface to allow the connection of headsets can be connected to the radios:

PMMN4094A	ANC RSM ATEX 20 Ohm Standard Cable	BVS 15 ATEX E 054X
PMNN4100A	ANC RSM ATEX 20 Ohm Long Cable	BVS 15 ATEX E 054X
PMMN4110A	OMNI RSM 20 Ohm Standard Cable	BVS 15 ATEX E 054X
PMMN4111A	OMNI RSM 20 Ohm Long Cable	BVS 15 ATEX E 054X

FL5263-34 PTT Adapter for use with Headset — Nemko 13 ATEX1521X
(Motorola Part Number PMLN6368A) — (Issue 2)
Approved for use in Mining (Group I) and Gas hazardous (Group II) environments
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

FL4063-50-34 Small PTT adaptor — Nemko 13 ATEX1521X
(Motorola Part Number PMLN6803A) — (Issue 2)
Approved for use in Mining (Group I) and Gas hazardous (Group II) environments
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

AK6760T Key Switch (PTT unit) — Presafe 15 ATEX 6928
(Motorola Part Number PMLN7310ASP01) — (Issue 1)
Approved for use in Gas hazardous (Group II) environments.

The headsets listed below can be connected to the audio accessories.
Other accessories that have certified compatible interface parameters may also be connected.

MT7H79F-50 Standard Headset with microphone — Nemko 09 ATEX E 1114 X
(Motorola Part Number PMLN6087A) — (Issue 2)
Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT7H79P3E-50 Standard Headset with microphone — Nemko 09 ATEX E 1114 X
(Motorola Part Number PMLN6092A) — (Issue 2)
Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT72H540P3E-50 Standard Headset with microphone — Nemko 09 ATEX E 1119 X
(Motorola Part Number PMLN6333A) — (Issue 2)
Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT7H79B-50 Headset series, Tactical XP — Nemko 09 ATEX1114X
(Motorola Part Number PMLN7531A) — (Issue 2)
Approved for use in Gas hazardous (Group II) environments.
Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C

MT1H7F2-07-51 Headset series, Tactical XP — Nemko 10 ATEX 1029 X
(Motorola Part Number PMLN6090A) — (Issue 2)
Approved for use in Mining (Group I) and Gas hazardous (Group II) environments.
Ambient temperature range: -10 °C ≤ T_a ≤ +40 °C

MT1H7P3E2-07-51 Headset series, Tactical XP — Nemko 10 ATEX 1029 X
(Motorola Part Number PMLN6089A) — (Issue 2)
Approved for use in Mining (Group I) and Gas hazardous (Group II) environments.
Ambient temperature range: -10 °C ≤ T_a ≤ +40 °C

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MT1H7B2-07- 51 Headset series, Tactical XP Nemko 10 ATEX 1029X
(Motorola Part Number PMLN7535A) (Issue 2)
Approved for use in Mining (Group I) and Gas hazardous (Group II) environments.
Ambient temperature range: -10 °C ≤ T_a ≤ +40 °C

The accessories, the antennas and the battery can only be connected or disconnected outside the potentially hazardous environment.

The permissible ambient temperature range for the radio, the battery type NNTN8359A or type NNTN8359B or type NNTN8359C or type NNTN8359CR, the ATEX CSA Remote Speaker Microphone type PMMN4067B, the ANC RSMs type PMMN4094A and PMNN4100A, the OMNI RSM type PMMN4111A and PMMN4110A and the Audio Adapter with Molex Jack type PMLN6047A is -20 °C ≤ T_a ≤ +55 °C.

The battery type NNTN8359A, NNTN8359B, NNTN8359C and NNTN8359CR can only be charged outside the hazardous environment with chargers listed in the safety leaflet (document 68012007083).

15.3 **Parameters**

15.3.1 Electrical Data

15.3.1.1 Frequency range

VHF-versions	136 – 174 MHz
UHF-versions	403 – 470 MHz

15.3.1.2 Output power 2 W max. (ib)

15.3.1.3 Supply voltage

The radio is supplied by the battery type NNTN8359A or NNTN8359B or NNTN8359C or NNTB8359CR with the following supply voltage:

Nominal voltage:	7.6 V DC
Peak open voltage:	8.4 V DC

15.3.1.4 When the Audio Adapter PMLN6047A (BVS 12 ATEX E 074 X) is used with the radios and the batteries types NNTN8359A or NNTN8359B or NNTN8359C or NNTN8359CR the following interface parameters have to be considered for secondary audio devices connected to the audio adapter:

Max. output voltage:	U_o = 8.4 V
Max. output current:	I_o =75 mA
Max. output power:	P_o = linear characteristic
Effective internal capacitance:	C_i = negligible
Effective internal inductance:	L_i = negligible

Connectable values for the Group IIC and IIIC in combination:

Max. external capacitance:	C_o= 0.1 µF
Max. external inductance:	L_o = 2 mH

15.3.2 Ambient temperature range -20 °C ≤ T_a ≤ +55 °C

15.3.3 Ingress protection for the radio telephone and the battery IP64

16 **Report Number**

BVS PP 12.2167 EU, as of 2020-05-29

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17 Special Conditions for Use

17.1 The antennas can only be connected / disconnected to the radios outside the hazardous environment.

17.2 The ATEX CSA Remote Speaker Microphone type PMMN4067B can only be connected / disconnected outside the hazardous environment.

17.3 The Audio Adapter type PMLN6047A with Molex jack can only be connected / disconnected outside the hazardous environment.

17.4 The ANC RSM type PMMN4094A and type PMMN4100A can only be connected / disconnected outside the hazardous environment.

17.5 The OMNI RSM type PMMN4110A and type PMMN4111A can only be connected / disconnected outside the hazardous environment.

17.6 The PPT Adapter type FL5263-34 PTT and type FL4063-50-34 can only be connected / disconnected outside the hazardous.

17.7 The Key Switch type AK6760T can only be connected / disconnected outside the hazardous environment.

17.8 For all separately certified accessories additional safety conditions listed in these certificates will apply.

17.9 When the Audio Adapter type PMLN6047A is connected, the radio can only be used in gas (Group II) or dust (Group III) hazardous environments.

17.10 When the PTT Adapter type FL5263-34 or the Small PPT Adapter type FL4063-50-34 with one of the approved headsets is connected, the radio can only be used in Mining (Group I) or Gas (Group II) hazardous environments.

17.11 When the Key Switch type AK6760T is connected, the radio can only be used in a gas (Group II) hazardous environments.

17.12 The battery type NNTN8359A or type NNTN8359B or type NNTN8359C or type NNTN8359CR can only be changed or charged outside the hazardous environment.

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 Drawings and Documents

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, dated 2020-05-29
BVS-Ha/Mu A 20180233

Managing Director

DAkkS Deutsche Akkreditierungsstelle D-ZE-17435-02-00

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Remote Speaker

-

MOTOROLA

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

1 # EU-Type Examination Certificate

2 **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

3 EU-Type Examination Certificate Number: **BVS 15 ATEX E 054 X** Issue: **01**

4 Equipment: **Remote speaker microphone type PMMN4***A**

5 Manufacturer: **Motorola Solutions Systems Polska Sp.z.o.o.**

6 Address: **Ul. Czerwone Maki 82, 30-392 Krakow, Poland**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, 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 product has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential Report No. BVS PP 15.2080 EU.
This issue of the EU-Type Examination Certificate replaces the previous issue of the EU-Type Examination Certificate BVS 15 ATEX E 054 X including supplement 1.

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

EN IEC 60079-0:2018	**General requirements**
EN 60079-11:2012	**Intrinsic Safety "i"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

11 This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance with the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

II 2G Ex ib IIC T4 Gb
II 2D Ex ib IIIC T90°C Db
I M1 Ex ia I Ma

DEKRA Testing and Certification GmbH
Bochum, 2024-10-10

Managing Director

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 15 ATEX E 054 X issue 01

15 **Product description**

15.1 **Subject and type**

Remote speaker microphone type PMMN4***A

Model number	Name	Type description
PMMN4093A	ANC RSM Ex 16ohm Std Cbl	for MTP….Ex radios, Short cable
PMMN4094A	ANC RSM Ex 20ohm Std Cbl	for DP….Ex radios, short cable
PMMN4100A	ANC RSM Ex 20ohm Long Cbl	for DP….Ex radios, long cable
PMMN4101A	ANC RSM Ex 16ohm Long Cbl	for MTP….Ex radios, long cable
PMMN4109A	IMPRES EX OMNI RSM STD CBL/NEX/16Ohm	for MTP….Ex radios, short cable
PMMN4110A	IMPRESS EX OMNI RSM STD CBL/NEX/20Ohm	for DP….Ex radios, short cable
PMMN4111A	IMPRES EX OMNI RSM LONG CBL/NEX/20Ohm	for DP….Ex radios, long cable
PMMN4112A	IMPRESS EX OMNI RSM LONG CBL/NEX/16Ohm	for MTP…Ex radios, long cable

15.2 **Description**

The Remote Speaker Microphone types PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101, PMMN4109A, PMMN4110A, PMMN4111A and PMMN4112A are audio accessories for connection to the Motorola ATEX certified radios of the series MTP….Ex and DP….Ex.

The Remote speaker microphones connect to the radios with the Motorola proprietary GCAI connector.

The Remote Speaker Microphones can only be connected or disconnected outside the potentially hazardous environment.

All versions feature two audio interfaces for connection additional ATEX certified accessories:

a) Nexus connector for connection of talk and listen accessories
b) 3.5 mm audio jack for connection of listen only accessories

to a)
The following separately certified accessories can be used by the Nexus connector with the accessories:

Type (Motorola reference number)	EC Type Examination Certificate
MT7H79F-50 (PMLN6087A) Standard Headset, with Microphone and Speaker (Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C)	Nemko 09 ATEX1114X Issue 2 (For Group II application)
MT1H7P3E2-07-51 (PMLN6089A) Headset Series, Tactical XP (Ambient temperature range: -20 °C ≤ T_a ≤ +40 °C)	Nemko 10 ATEX1029X Issue 2 (For Group I and II applications)
MT1H7F2-07-51 (PMLN6090A) Headset Series, Tactical XP (Ambient temperature range: -20 °C ≤ T_a ≤ +40 °C)	Nemko 10 ATEX1029X Issue 2 (For Group I and II applications)

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MT7H79P3E-50 (PMLN6092A) Standard Headset, with Microphone and Speaker (Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C)	Nemko 09 ATEX1114X Issue 2 (For Group II applications)
MT72H540P3E-50 (PMLN6333A) Headset with Microphone and Speaker, Twin cup (Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C)	Nemko 09 ATEX1119X Issue 2 (For Group II applications)
MT7H79B-50 (PMLN7531A) PELTOR Basic Headset Neckband (Ambient temperature range: -20 °C ≤ T_a ≤ +50 °C)	Nemko 09 ATEX1114X Issue 2 (For Group II applications)
MT1H7B2-07-51 (PMLN7535A) PELTOR Tactical Headset Neckband (Ambient temperature range: -20 °C ≤ T_a ≤ +40 °C)	Nemko 10 ATEX1029X Issue 2 (For Group I and II applications)
SAVOX HC-1 Ex (RMN5123A) Headset (Ambient temperature range: -20 °C ≤ T_a ≤ +55 °C)	listed in VTT15 ATEX 061 X Issue 1 (For Group II and III applications)
SAVOX HC-2 Ex (GMMN4580A) Headset (Ambient temperature range: -20 °C ≤ T_a ≤ +55 °C)	listed in VTT15 ATEX 061 X Issue 1 (For Group II and III applications)

to b) The earpiece type PMLN 7188A and type PMLN7188B can be connected to the 3.5 mm audio jack.

The accessories can only be connected or disconnected with the remote speaker microphone outside the potentially hazardous environment.

The ambient temperature range for the remote speaker microphone and the earpiece PMLN 7188A and PMLN7188B is -20 °C ≤ T_a ≤ +55 °C.

Reasons for this issue

- Manufacturer's address changed from Motorola Solutions Berlin to Motorola Solutions Krakow
- Update of the used standard IEC 60079-0:2011 to IEC 60079-0:2017
- Update of the CE marking label
- Update of the PMLN7188B label
- Additional regional flag label
- Change of the name of the encapsulation
- Add additional sources for electrical parts
- Change of the cable construction
- Documentation update

Listing of all components used referring to older standards
None

15.3 **Parameters**

15.3.1 Electrical data

15.3.1.1 Input parameter when the remote speaker microphone type PMMN4093A, PMMN4101A, PMMN4109A and PMMN4112A is used for Gb and Db (under 1 fault condition):

Max. Input voltage	U_i	8.4	V DC
Max. Input current	I_i	1.43	A
Max. Input power	P_i	2.83	W (linear characteristic)
Max. Internal effective capacitance	C_i	negligible	
Max. Internal effective inductance	L_i	120	uH

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15.3.1.2 Input Parameter when the remote speaker microphone type PMMN4094A, PMMN4100A, PMMN4110A and PMMN4111A is used for Gb and Db applications (under 1 fault condition):

Max. Input voltage	U_i	8.4	V
Max. Input current	I_i	2.2	A
Max. Input power	P_i	2.8	W (linear characteristic)
Max. Internal effective capacitance	C_i	negligible	
Max. Internal effective inductance	L_i	120	uH

15.3.1.3 Input Parameter when the remote speaker microphone type PMMN4094A, PMMN4100A, PMMN4109A, PMMN4110A, PMMN4111A, and PMMN4112A is used for Ma applications (under 2 fault conditions)

Max. Input voltage	U_i	8.4	V
Max. Input current	I_i	5.6	A
Max. Input power	P_i	2.8	W (linear characteristic)
Max. Internal effective capacitance	C_i	75	uF
Max. Internal effective inductance	L_i	120	uH

15.3.1.4 Input Parameter when the remote speaker microphone type PMMN4093A and PMMN4101A for Ma applications (under 2 fault conditions)

Max. Input voltage	U_i	8.4	V
Max. Input current	I_i	5.6	A
Max. Input power	P_i	2.8	W (linear characteristic)
Max. Internal effective capacitance	C_i	90	uF
Max. Internal effective inductance	L_i	120	uH

15.3.1.5 Remote speaker microphone has the following output parameters for Group I Ma, Group II Gb and Group III Db for:

15.3.1.5.1 Nexus Jack (under 2 fault conditions)

Max. Output voltage	U_o	7	V
Max. Output current	I_o	0.160	A
Max. Output power	P_o	0.275	W (linear characteristic)
Max. External capacitance	C_o	1	uF
Max. External inductance	L_o	1	mH

15.3.1.5.2 3.5mm Audio Jack (under 2 fault conditions)

Max. Output voltage	U_o	8.4	V
Max. Output current	I_o	0.142	A
Max. Output power	P_o	0.243	W (linear characteristic)
Max. External capacitance	C_o	1	uF
Max. External inductance	L_o	1	mH

15.3.2 Ambient Temperature Range $-20\ °C \leq T_a \leq +55\ °C$

15.3.3 IP protection grade RSM IP64/67 (EN/IEC 60079-0)

16 Report Number

BVS PP 15.2080 EU, as of 2024-10-10

17 Specific Conditions of Use

17.1 Connect and disconnect the Remote Speaker Microphones or the optional plug in accessories only outside the potentially hazardous area.

17.2 For group I application the connection of the Remote Speaker Microphones type PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101A, PMMN4109A, PMMN4110A, PMMN4111A und PMMN4112A with the headsets type MT1H7P3E2-07-51 (PMLN6089A) and MT1H7F2-07-51 (PMLN6090A) are in the scope of this certification. The ambient temperature range for these headsets is -20 °C ≤ Ta ≤ +40 °C.

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17.3 The connection of the SAVOX HC-1 Ex (RMN5123A) und SAVOX HC-2 Ex (GMMN4580A) to the Remote Speaker Microphones type PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101A, PMMN4109A, PMMN4110A, PMMN4111A und PMMN4112A is subject of this certificate.

17.4 The PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101A, PMMN4109A, PMMN4110A, PMMN4111A, PMMN4112A, PMLN7188A, PMLN7188B and the accessories connected to the Nexus and 3.5mm jack are only protected to low risk of mechanical danger when used in Group I potentially hazardous area.

18 Essential Health and Safety Requirements

Met by compliance with the requirements mentioned in item 9.

19 Remarks and additional information

Drawings and documents are listed in the confidential report.

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DAkkS Deutsche Akkreditierungsstelle D-ZE-17438-02-00

Twin cup headset for UHF DMR Portable Radio

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MOTOROLA

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[1] EU-TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protected System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3]	**EU-Type Examination Certificate Number:**	**Nemko 09ATEX1119X**	**Issue 5**
[4]	**Product:**	**Headset with microphone and speaker, twin cup.**	
[5]	**Manufacturer:**	**3M Svenska AB**	
[6]	**Address:**	**Malmstensgatan 19 Box 2341 SE-33102 Värnamo Sweden**	

[7] **This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.**

[8] **Nemko Group AS, notified body number 0470, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential report no. PRJN-393177

[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 the Specific Conditions of Use specified in the schedule to this certificate.**

[11] **This EU-Type Examination Certificate relates only to the technical design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate**

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

II 2G Ex ib IIC T4 Gb, Ta : -20°C to +50°C

2023-02-16

Bernt Jonny Orderud
Certifier name

[13] Schedule

[14] EU-TYPE EXAMINATION CERTIFICATE No Nemko 09ATEX1119X Issue 5

[15] Description of Product:

The headset consists of two headphones and a microphone connected to a common plug (jack plug). This certificate covers two models, one with headband and one with helmet attachment.

Type Designations:
MT72H540A-50, MT72H540P3E-50

Intrinsic Safety Data
Ui: 14V, Ii: 450mA, Pi: 1,3W, Ci: Negligible, Li: 0,8mH

Ambient temperature:
-20°C to +50°C

Routine tests:
None.

[16] Report No. PRJN-393177

Descriptive Documents:

Number	Title	Rev	Date
P080137	Assembly Drawing MT72H540P3E-50	d	2023-01-19
P210148	Assembly Drawing MT72H540A-50	a	2023-01-19
P080139	Wiring Instruction MT72H540**-50	a	2008-02-22
P080436	Ex Label MT72H540P3E-50	f	2023-01-19
FP3768	Instruction Manual	d	Same as certificate

Certificate History and Associated Reports:

Issue	Date	Report No.	Description
0	2009-04-27	Nemko 126520	Prime Certificate released
1	2011-09-20	Nemko 187494	Increased the current in safety parameters for intrinsically safe connection and added a microphone, M01N-02.
2	2015-05-08	D0001834-0 / Nemko 284573	Update to new standards.
3	2018-10-04	D0001834-1 / Nemko 361471	Minor update of marking label and instructions due to PPE regulation 2016/425/EU.
4	2020-12-14	D0001834-02 / PRJN-200955-2020-PA-NOR	Update of datasheet for microphone and speaker. Model type MT72H540F-50 removed from certificate. Minor update of marking label and instructions manual. Upgrade to standard EN 60079-0: 2018.
5	2023-02-03	PRJN-393177	- Update of marking due to UKEX certification. - Included new variant of headset, MT72H540A-50. - Remove variant MT72H540F-50. - Minor updates of descriptive documents.

[17] Specific Conditions of Use:
Only for connection to a certified intrinsically safe circuit with a linear resistive output, that complies with the following values for the intrinsic safety parameters of MT72H540A-50 and MT72H540P3E-50:

Ui: 14V, Ii: 450mA, Pi: 1,3W, Ci: Negligible, Li: 0,8mH

[18] Essential Health and Safety Requirements:
Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] Remarks and additional Information:
None