



1. **EU-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 2014/34/EU**

3. Reference: **VTT 13 ATEX 040X Issue 6**

4. Equipment: **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 and
C-C440/TK2260 Ex**

5. Applicant: **Savox Communications
Sinikalliontie 3
FI-02630 ESPOO
Finland**

Manufacturing locations:

**SAVOX Communications Oy Ab
Laitaatsillantie 3
FI-57170 SAVONLINNA
Finland**

or

**Savox Communications (Shenzen) Co. Ltd
7th Floor, Building #2, Hong Hui Industrial
Park, Liu Xian 2nd Road, 68th Subdistrict,
Baoan, Shenzen
China**

6. This equipment or protective system and any acceptable variations thereto is specified in the schedule and possible supplement(s) to this Certificate and the documents therein referred to.

7. VTT Expert Services Ltd, notified body number 0537, in accordance with Article 21 of the Directive 2014/34/EU of February 2014, 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 system 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. VTT-S-04121-17.



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

EN 60079-0 (2012)

EN 60079-11 (2012)

9. 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.

10. This EU-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. This certificate does not cover these.

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



II 2 G

Ex ib IIC T4 Gb

II 2 D

Ex ib IIC T110 °C Db

Espoo, 15.8.2017
VTT Expert Services Ltd



Martti Siirola
Senior Expert



Kari Koskela
Expert



12. **Schedule**

13. **EC-TYPE EXAMINATION CERTIFICATE VTT 13 ATEX 040X Issue 6**

14. Description of Equipment

The SAVOX C-C440/MTP850Ex, C-C440/Sailor Ex, C-C440/DP4000X, C-C440/Waris Ex, C-C440/PD79aEx, C-C440/E-Tech Ex and C-C440/TK2260 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 of types C-C440/MTP850Ex, C-C440/Sailor Ex, C-C440/Waris Ex, C-C440/PD79aEx and C-C440/TK2260 Ex are:

U_i = 9 V I_i = 3 A P_i = 6.75 W C_i = 0.1 μF L_i = 10 μH

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

U_i = 9 V I_i = 75 mA P_i = 314 mW C_i = 0.1 μF L_i = 2 mH

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

U_i = 9 V I_i = 3 A P_i = 6.75 W C_i = 0.1 μF L_i = 5 μH

Allowed plug-in accessories

- a) SAVOX TC-1 Ex or POA61-Ex
- b) SAVOX MP-H ATEX or POA104-Ex
- c) SAVOX IS-Com ATEX
- d) SAVOX MS-Com ATEX
- e) SAVOX HC-1 ATEX or POA34-Ex
- f) SAVOX HC-2 ATEX or POA100-Ex
- g) SAVOX HC-E ATEX or POA101-Ex
- h) SAVOX L-H Ex or POA65-Ex
- i) SAVOX N-H Ex or POA62-Ex
- j) Con-space Facemask Com/Sabrecom 2
- k) Peltor Adapter Cable Ex
- l) Holmco HL-09, HL19
- m) Invisio H-M3x-2-xxxX-xxx
- n) FRR Ele. Mic Ex QR4
- o) FPS-COM-PLUS VA R-C
- p) FPS-COM 5000
- q) FPS-COM 7000*
- r) SAVOX N-C ATEX or POA102-Ex
- s) MT7H79F-50, MT7H79B-50, MT7H79P3E-50

Limited conditions

- n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a
n/a (Ref. ATEX-certificate ITS 11 ATEX 27318X)
n/a (Ref. ATEX-certificate ITS 16 ATEX 28437X)
n/a (Ref. ATEX-certificate ITS 16 ATEX 28340X)
Gas Group IIC T4 only, dust excluded
Gas Group IIC T4 only, dust excluded. Allowed Tamb -20 °C
... +50 °C

Documents:

Title:	Drawing No.:	Rev.	Date:
Ex Safety Declaration	D23313	D*	28.3.2017
Declaration of conformity and safety guide	D23328	H*	17.3.2017
Ex label C-C440/MTP850 Ex, Waris Ex, Sailor Ex, PD79aEx	D23321	C	5.9.2016
Ex label C-C440/DP4000 Ex	D23327	B	11.4.2016
Ex Label C-C440/E-Tech Ex	D23794	B	11.4.2016
440AV / Generic Ex Component list (Product K16160_A)	D16160	A	28.10.2013
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	-	-	-



Title:	Drawing No.:	Rev.	Date:
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
E-Tech Cable, p/n: K17026	D17026	A	20.8.2015
Conn.Cable C-C1/NX200 Ex SAVOX C-C1	D16549	B	28.6.2016
PD790EX cable	D16219	B*	5.9.2016

The accessory documents are listed in the document "Headset documents in PTT Ex certificates". Doc.nr. D22115. Rev.N . Date: 25.8.2016.

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 documents*

15. Report: VTT-S-04121-17

16. Special conditions for safe 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 14 shall be observed.
3. Connection of SAVOX C-C440 Com-Control Units shall be done according to radio manufacturer's instructions.
4. Impact test was made according to low risk of mechanical danger. The device shall be protected from high-level impacts.

17. Essential Health and Safety Requirements

Met by compliance with the standards referred in point 9.

Certificate history:

Issue	Date	Report No.	Comment
-	19.12.2013	VTT-S-08630-13	Prime certificate
1	29.6.2015	-	Minor changes. Compatibility with Ex radios of certified type C-C440/PD79aEx clarified.
2	6.11.2015	VTT-S-05197-15	Certified type C-C440/E-Tech Ex added. New or revised documents.
3	25.4.2016	VTT-S-03879-16	Certified type C-C440/TK2260 Ex added. New or revised documents.
4	1.7.2016	-	List of accessories updated. New accessories assessed.
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
6	15.8.2017	VTT-S-04121-17	Addition of FPS-COM 7000 plug-in accessory.

Espoo, 15.8.2017
VTT Expert Services Ltd



Martti Siirola
Senior Expert



Kari Koskela
Expert



Certificate without signatures shall not be valid

This certificate, including the schedule, may only be reproduced in its entirety and without change.