

[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 03ATEX165X** Issue 12

[4] Product: **Key Switch**

[5] Manufacturer: **Jatronic A/S**

[6] Address: **Borgeskogen 5
3160 Stokke
Norway**

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

[8] Nemko AS, notified body number 0470, 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.

PRJN-172659-2019-PA-NOR

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

EN 60079-0:2012/A11:2013 and 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 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

Oslo, 2019-10-30



Geir Hørthe
Certification Manager

[13] Schedule

[14] **EU-TYPE EXAMINATION CERTIFICATE No** **Nemko 03ATEX165X** **Issue 12**

[15] **Description of Product**

Key switch device for connection to certified intrinsically safe radio transceivers and certified intrinsically safe accessories for instance headset. The key switch device is incorporated in an enclosure. All models are equipped with a microphone amplifier board.

Type Designations

AB12-13NXX-2, AB12-16NXX-2, AB12-16L, AB12-33NX, AB12-33L, AB12-34T, AB12-35T, AB12-36T, AB12-DPEX.

Intrinsic Safety Data

AB12-13NXX-2, AB12-16NXX-2, AB12-16L, AB12-33NX, AB12-33L and AB12-34T:

Maximum input voltage	Ui=Uo:	9V
Maximum input power	Pi=Po:	1,3W
Maximum internal capacitance	Ci:	433nF
Maximum internal inductance	Li:	0

Output voltage, current and power are equal to input voltage, current and power.

AB12-DPEX:

Maximum input voltage	Ui=Uo:	9V
Maximum input power	Pi=Po:	1,3W
Maximum internal capacitance	Ci:	98nF
Maximum internal inductance	Li:	0

Output voltage, current and power are equal to input voltage, current and power.

AB12-35T:

Maximum input voltage	Ui=Uo:	9V
Maximum input power	Pi=Po:	1,3W
Maximum internal capacitance	Ci:	90nF
Maximum internal inductance	Li:	0

Output voltage, current and power are equal to input voltage, current and power.

AB12-36T:

Maximum output voltage	Uo:	6,51V
Maximum output current	Io:	169mA
Maximum output power	Po:	274mW
Maximum external capacitance	Co:	300nF
Maximum external inductance	Lo:	1,2mH

AB12-36T: The key switch can only be used together with Sepura STP8X series TETRA Radio certified in Baseefa12ATEX0002X and in accordance to document SPR-DOC-04100 rev. 1, date 02/04/15. ATEX certified accessories for instance headset must comply with the output parameters from the keyswitch.

Ambient temperature: -20°C to +40°C

Routine tests: N / A

[16] Report No. PRJN-172659-2019-PA-NOR

Descriptive Documents

Name/Number	Rev.	Date	Title/Description	Sheets
AB12-13NXX-2				
75146	A	30.11.2011	Connection drawing 13NNX-2	1
85013	A	05.05.2011	AB12 13 NNX-2 Keyswitch	1
75113	01	03.08.2011	8NX-J forsterkerkort. Forsterkerkort AB12/AB40	1
75130		19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75138	A	14.06.2013	8NX-J FORSTERKERKORT Moddet	1
75138	A	26.04.2011	Forsterkerkort modifisert	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75137	A	05.05.2011	Spiralkabel komplett 13 NNX-2	1
75108	C	01.07.2014	United label general	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-16NXX-2				
75142	A	30.11.2011	Connection drawing 16NX	1
85026	A	03.05.2011	AB12 16NX Keyswitch	1
75113	01	03.08.2011	8NX-J forsterkerkort. Forsterkerkort AB12/AB40	1
75130	C	19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75004	B	25.04.2012	Spiralkabel kompl. 16NX/L	1
75041	A	18.07.2011	Pluggkort 16NX-J AB12-16NXX-2 / L	1
75001	A	07.11.2011	PCB 16NX-J Pluggkort delvis	1
75001	A	18.04.2011	Pluggkort 16NX-J	1
75150	A	11.04.2012	Plugghus GP 900 maskinert	1
75108	C	01.07.2014	United label general	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-16L				
75143	A	30.11.2011	Connecting drawing 16 L	1
85004	B	24.06.2013	AB12 16 L Keyswitch	1
85004	B	26.06.2013	AB12-16L	1
75130	C	04.12.2014	PCB	1
75113	01	03.08.2011	8NX-J forsterkerkort. Forsterkerkort AB12/AB40	1
75130	C	19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75004	B	25.04.2012	Spiralkabel kompl. 16NX/L	1
75041	A	18.07.2011	Pluggkort 16NX-J AB12-16NXX-2 / L	1
75001	A	07.11.2011	PCB 16NX-J Pluggkort delvis	1
75001	A	18.04.2011	Pluggkort 16NX-J	1
75150	A	11.04.2012	Plugghus GP 900 maskinert	1

75108	C	01.07.2014	United label general	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-33NX				
75140	A	30.11.2011	Connection drawing 33NX	1
85006	A	24.01.2013	AB12 33NX Keyswitch	1
85006	A	26.06.2013	AB12-33NX	1
75113	01	03.08.2011	8NX-J forsterkerkort. Forsterkerkort AB12/AB40	1
75130	C	19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75067	B	20.09.2019	*Spiralkabel m/plugg kompl.	1
75067	B	08.10.2019	*Spiralkabel komplett 33NX/L	1
75070	C	08.10.2019	*Pluggkort for 33 NX	1
75070	C	20.09.2019	*Prod.stykklistehode Pluggkort for 33NX	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75108	C	01.07.2014	United label general	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-33L				
75141	A	30.11.2011	Connection drawing 33 L	1
85002	B	24.01.2013	AB12 33 L Keyswitch	1
85002	B	26.06.2013	AB12-33L	1
75113	01	03.08.2011	8NX-J forsterkerkort. Forsterkerkort AB12/AB40	1
75130	C	19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75067	B	20.09.2019	*Spiralkabel m/plugg kompl.	1
75067	B	08.10.2019	*Spiralkabel komplett 33NX/L	1
75070	C	08.10.2019	*Pluggkort for 33 NX	1
75070	C	20.09.2019	*Prod.stykklistehode Pluggkort for 33NX	1
75108	C	01.07.2014	United label general	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-34T				
75140	A	30.11.2011	Connection drawing 33NX	1
85044	A	25.05.2012	AB12 34 T Keyswitch	1
75178	A	25.05.2012	PCB	1
75176	A	06.02.2012	Forsterkerkort AB12-34T	1
75130	C	19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75067	B	20.09.2019	*Spiralkabel m/plugg kompl.	1
75067	B	08.10.2019	*Spiralkabel komplett 33NX/L	1
75070	C	08.10.2019	*Pluggkort for 33 NX	1
75070	C	20.09.2019	*Prod.stykklistehode Pluggkort for 33NX	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1

75108	C	01.07.2014	United label general	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-35T				
75140	A	30.11.2011	Connection drawing 33NX	1
85035	B	10.12.2013	AB12 35T Keyswitch	1
85035	B	28.01.2014	AB12-35T	1
75077	E	11.10.2019	*PCB, DUPLEX	1
75197	D	12.03.2015	AB12-35T	1
75067	B	20.09.2019	*Spiralkabel m/plugg kompl.	1
75067	B	08.10.2019	*Spiralkabel komplett 33NX/L	1
75070	C	08.10.2019	*Pluggkort for 33 NX	1
75070	C	20.09.2019	*Prod.stykklistehode Pluggkort for 33NX	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75305	C	19.01.2015	Unit label 35T	1
75129	B	07.09.2012	Serial Number label	1
75077	E	15.10.2019	*Forsterkerkort AB12-35T	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-DPEX				
85046	A	24.06.2014	AB12-DPEX version	1
85046	A	01.04.2014	AB12-DPEX	1
75128	B	04.12.2014	8NXJ Modifisert, DP4xx serie	1
75198	A	22.03.2014	Forsterkerkort AB12-DPEX	1
75209	B	20.06.2014	Spiralkabel komplett støpt AP12-38DP Ex ver	1
75073	A	29.04.2011	Hus + Lokk	1
75075	A	26.03.2012	Hus + Lokk GRILON BM-15-2-EC	1
75208	A	07.04.2014	Unit label AB12-DPEX	1
75129	B	07.09.2012	Serial Number label	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75207	A	12.03.2014	Connection drawing AB12-38DP	1
75128	B	21.06.2016	8NXJ-Forsterkerkort mod. 38 DP	1
75130	C	19.01.2015	8NX-J FORSTERKERKORT COMBI	1
75130	C	04.12.2014	PCB	1
75209	D	17.01.2017	Spiralkabel komplett 12 DP Ex	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1
AB12-36T				
85037	C	29.01.2018	AB12- 36T	1
85037	C	25.01.2018	Prod.stykklistehode AB12-36T	2
75329	B	29.06.2016	Connection drawing AB12 36T	1
75330	B	01.02.2016	Spiralkabel komplett, RuSC Sepura	1
75327	F	31.01.2018	PCB komplett Sepura AB12-36T	2
75327	F	31.01.2018	PCB 36T	1
75328	G	31.01.2018	AB12-36T Sepura w/mute	1
CAM350 V 10.5		09.08.2011	Layout Sepura STP8X plug	11
D14724	B	07.09.2011	Sepura RuSC	1
S14723	B	18.10.2011	Sepura RuSC	1
D14905	E	21.05.2013	RuSC cable asm EX	2
75331	B	24.06.2016	Unit label 36T	1

75332	C	04.11.2015	Spesialskrue Sepura	1
75129	B	07.09.2012	Serial Number label	1
75131	A	03.05.2011	Gummitetning for Nexus	1
75127	C	27.01.2014	Nexus komplett TJT Plugg	1
75122	A	15.04.2011	PTT Bryter P8-9000040	1
75375	A	29.01.2018	Hus + Lokk Alumide PA12-MED(AI)	1

Certificate History and Associated Nemko Reports

Issue	Date	Report	Description
0	2003.08.19	200315170	Prime Certificate released
1	2005.06.07	46314	New key switch included
2	2005.11.15	55133	New key switch included
3	2009.10.22	136431	New key switch included
4	2011.11.30	179379	Update to new versions of the standards and new descriptive documents.
5	2012.06.26	207009	New plug house on the AB12-16L and AB12-16NXX-2 models
6	2012.10.01	222088	New key switch, AB12-34T, included and updated serial number label.
7	2013.07.03	238821	New key switch, AB12-35T, included and minor changes of descriptive documents.
8	2014.01.29	D0000819 / 251844	Minor changes of the model AB12-35T including changes of descriptive documents.
9	2014.07.11	D0000819 / 262114	New model, AB12-DPEX, is added to the certificate. The suffix "X" is also added.
10	2016.06.30	D0000819/4	New model, AB12-36T is added to the certificate. New Ci value for AB12-35T and AB12-DPEX. Update to new standard of EN 60079-11. Minor changes of descriptive documents.
11	2018.03.07	D0000819/5	Minor changes in BOM for AB12-36T and a new cable for AB12-DPEX. An alternative enclosure is added for the AB12 range.
12	2019.10.30	PRJN-172659-2019-PA-NOR	Minor changes on pcb size in plug for the products AB-12-33NX, AB12-33K, AB12-34T and AB12-35T. Changed resistance on R8 in the product AB12-35T (not a safety component).

[17] Specific Conditions of Use

With reference to EN 60079-0: 2012 clause 7.5 (accessible metal parts): The equipment has a unearthed retaining metal clip that has a higher measured capacitance than permitted in table 9. Measured capacitance is 30pF. The permitted limit is 3pF.

AB12-DPEX: The Audio Adapter with Molex jack type PMLN6047A (BVS 12 ATEX E 074 X) can be connected or changed only outside the potentially hazardous area.

[18] Essential Health and Safety Requirements

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