



Physical Technical Testing Institute  
Ostrava-Radvanice



## EC-Type Examination Certificate

(1)

(2)

Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC

(3) EC-Type Examination Certificate Number:

**FTZÚ 09 ATEX 0136X**

(4) Equipment or protective system: **Intrinsically Safe Power Supply type NSB-xxx-ia**

(5) Manufacturer: **TEVEL TEVE VARNOST Elektronika, d.o.o.**

(6) Address: **Borovniko naselje 7, 1412 Kisovec, Slovenija**

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

(8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to 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 confidential Report N°

**09/0136 dated 13.01.2010**

(9) Compliance with Essential Health and safety requirements has been assured by compliance with:

**EN 60079-0: 2006; EN 60079-1:2007; EN 60079-7:2007; EN 60079-11:2007;**

**EN 60079-18:2004; EN 50303:2000**

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

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



**I M2 (M1) Ex d e ia mb [ia] I**



**I M1 Ex d / Ex e mb [ia] I**

This EC-Type Examination Certificate is valid till: **13. 01. 2015**

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 13.01.2010

Number of pages: 3  
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Physical Technical Testing Institute  
Ostrava-Radvanice

(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 09 ATEX 0136X**

(15) Description of Equipment or Protective System:

The power supply type NSB-xxx-xx is intended for use in mining applications. It convert an AC supply voltage into a stabilized and regulated intrinsically safe source for supplying power to approved sensors and electronics control devices. In case of power supply failure, automatic battery backup is provided.

The unit consist of three enclosures which are interconnected by two wire bushing.

The first enclosure is designed as increase safety and serves for main power connection. It is equipped with the main switch and signaling lamp for voltage indication.

The second enclosure is designed as flameproof protected and it is equipped with electronic circuit boards, transformers and battery pack.

The third enclosure is designed for intrinsically safe connections.

The complete unit is designed as the steel weldment. The covers are fixed by hexagonal screw sets. The input and outputs of the cables are made through explosion proof cable glands.

**Technical parameters:**

NSB-23x-ia: 230 VAC

Output current capability: 400 mA

Max. output parameters:  $U_o = 13,65 \text{ V}$ ;  $I_o = 2,1 \text{ A}$ ;  $P_o = 7,1 \text{ W}$ ;  $C_o = 26 \mu\text{F}$ ;  $L_o = 200 \mu\text{H}$

(16) Report No.: 09/0136 (54 pages)

(17) Special conditions for safe use:

17.1  $T_{\text{amb}}$ :  $-20^\circ\text{C}$  to  $+55^\circ\text{C}$

17.2 Maximum design gaps of flameproof joints are smaller than maximum permitted gaps according to standard. Verified values of design gaps are mentioned in documentation, list of which is given in clause (19) of this certificate.

17.3 If power voltage is switch on the power supply is classified as a category M2 and its output circuits are classified as "ia"

17.4 If power voltage is switch off the power supply is classified as a category M1.

(18) Essential Health and Safety Requirements:

Covered by standards mentioned in (9) of this document

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



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(13)

Schedule

(14)

EC-Type Examination Certificate N° FTZÚ 09 ATEX 0136

(19)

LIST OF DOCUMENTATION

*Documentation:*

- Technical documentation LN-xxx-ia/2

*Assembly Lists and Drawings:*

- Assembling NSB-xxx-ia
- Assembly of NSB-xxx-ia
- Enclosure Tip D-1
- Enclosure Tip D-1 Main Cover
- Enclosure Tip D-1 ia Cover
- Enclosure Tip D-1 e Cover
- Junction box NSB-xxx-ia
- Botom part I, II
- Cover I
- Assembly Plate NSB-xxx-ia
- Assembling Module NSB-xxx-ia
- Module NSB-xxx-ia
- Assembling Platina NSB-xxx-ia
- Platina NSB-xxx-ia
- PCB NSB-xxx-ia
- Platina Enclosure NSB-xxx-ia
- Platina Schematics
- Assembling Battery Pack NSB-xxx-ia
- Battery Pack NSB-xxx-ia
- Battery Enclosure NSB-xxx-ia
- Transformers for NSB-xxx-ia
- Assembling Zener Block F15
- Zener Block F15
- Heat sink F15
- Rubber Seal S1
- Rubber Seal S2
- Assembling Terminal Block ia
- Terminal Block ia
- DIN Rail NSB-xxx-ia
- Warning Sticker for NSB-xxx-ia
- Marking Label for NSB-xxx-ia
- Connection
- Markings for NSB-xxx-ia
- Connection Diagram NSB-xxx-ia

*Number of doc.:*

ID. doc.: 339000

*Dated:*

ID. doc.: 339002	06.2009 (3 pages)
ID. doc.: 339013	06.2009
ID. doc.: 339040	02.2009
ID. doc.: 339041	02.2009
ID. doc.: 339042	02.2009
ID. doc.: 339043	14.7.2009
ID. doc.: 339050	12.2009
ID. doc.: 339051	12.2009 (2 pages)
ID. doc.: 339053	12.2009
ID. doc.: 339014	02.2009
ID. doc.: 339006	08.2009
ID. doc.: 339030	08.2009
ID. doc.: 339001	04.2009
ID. doc.: 339010	04.2009
ID. doc.: 339011	04.2009 (2 pages)
ID. doc.: 339031	08.2009
ID. doc.: 339015	04.2009
ID. doc.: 339003	08.2009
ID. doc.: 339016	08.2009
ID. doc.: 339033	09.2009
ID. doc.: 339017	09.2009
ID. doc.: 339004	01.2009
ID. doc.: 339018	01.2009
ID. doc.: 339019	01.2009
ID. doc.: 339020	08.2009
ID. doc.: 339021	08.2009
ID. doc.: 339005	06.2009
ID. doc.: 339023	06.2009
ID. doc.: 339032	08.2009
ID. doc.: 339024	10.2008
ID. doc.: 339025	11.2008 (2 pages)
ID. doc.: 339007	08.2009
ID. doc.: 339027	10.2008
ID. doc.: 339026	08.2009

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