



## 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 13 ATEX 0047X**

(4) Equipment or protective system: **Intrinsically safe power supply type NSB3**

(5) Manufacturer: **TEVEL, d.o.o.**

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

(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°:

**13/0047 dated 30.06.2015**

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

**EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007,  
EN 60079-11:2012, EN 60079-18:2009, 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)  
I M1**

**Ex d e ia [ia Ma] I Mb  
Ex d e ia [ia] mb I Ma**

This EC-Type Examination Certificate is valid till: **30.06.2020**

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 30.06.2015

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tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz



**Physical Technical Testing Institute  
Ostrava – Radvanice**

(13)

**Schedule**

(14) **EC-Type Examination Certificate N° FTZÚ 13 ATEX 0047X**

(15) **Description of Equipment:**

The equipment is the intrinsically safe power supply type NSB3 for installation in mining area. The equipment consists of lapped steel plate welded enclosure with three separate compartments. The first compartment is explosion protected by flameproof enclosure "d". The second and third compartment is explosion protected by increased safety "e". This empty enclosure is separately certified as Ex component by FTZÚ 14 ATEX 0039U.

For equipment category M2 – marking  $\text{Ex I M2(M1) Ex d e ia [ia Ma] I Mb}$ :

The first compartment includes the two battery back-up modules and associated intrinsically safe electronic circuits for two power outputs, two 4-20mA interfaces and two relay contacts.

The second compartment includes terminals for connection of mains power 230VAC, separately certified Ex cable glands or blanking elements and there are the switch module and the lamp module with actuating elements which are separately certified as Ex components.

The third compartment is used only as intrinsic safety "ia" connection box with cable glands.

For equipment category M1 – marking  $\text{Ex I M1 Ex d e ia [ia] mb I Ma}$ :

The equipment is not energized by mains power supply 230VAC.

The first compartment is classified as "d+e" includes the two battery back-up modules with electronic circuits which are explosion protected by encapsulation and intrinsic safety "mb [ia]" and electronic circuits which are explosion protected by intrinsic safety "ia". The power terminals and wiring are explosion protected by increased safety "e".

The second compartment is explosion protected by intrinsic safety "ia" and there are only intrinsically safe circuits.

The third compartment is used only as intrinsic safety "ia" connection box with cable glands.

Parameters:

Degree of protection: IP 54, Ambient temperature: -20 to +40°C, Power supply:  $U_n = 230\text{VAC}$ ,  $I_n = 200\text{mA}$ ;

Intrinsically safe parameters on terminals:

1(+5V) – 2 (GND):  $U_o = 5.28\text{ V}$ ,  $I_o = 2.657\text{ A}$ ,  $P_o = 8.2\text{ W}$ ,  $C_o = 550\text{ }\mu\text{F}$ ,  $L_o = 80\text{ }\mu\text{H}$ ;

3(4-20mA) – 4 (GND):  $U_o = 5.28\text{ V}$ ,  $I_o = 54.4\text{ mA}$ ,  $P_o = 72\text{ mW}$ ,  $C_o = 550\text{ }\mu\text{F}$ ,  $L_o = 80\text{ }\mu\text{H}$ ;

5-6 (Relay):  $U_i = 30\text{ V}$ ,  $I_i = 1\text{ A}$ ,  $P_i = 3\text{ W}$ ,  $C_i \approx 0$ ,  $L_i \approx 0$ ;

7(+5V) – 8 (GND):  $U_o = 5.28\text{ V}$ ,  $I_o = 2.657\text{ A}$ ,  $P_o = 8.2\text{ W}$ ,  $C_o = 550\text{ }\mu\text{F}$ ,  $L_o = 80\text{ }\mu\text{H}$ ;

9(4-20mA) – 10 (GND):  $U_o = 5.28\text{ V}$ ,  $I_o = 54.4\text{ mA}$ ,  $P_o = 72\text{ mW}$ ,  $C_o = 550\text{ }\mu\text{F}$ ,  $L_o = 80\text{ }\mu\text{H}$ ;

11-12 (Relay):  $U_i = 30\text{ V}$ ,  $I_i = 1\text{ A}$ ,  $P_i = 3\text{ W}$ ,  $C_i \approx 0$ ,  $L_i \approx 0$ ;

Responsible person:

  
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**Schedule**

(14) **EC-Type Examination Certificate N° FTZÚ 13 ATEX 0047X**

(16) Report No.: 13/0047

(17) Special conditions for safe use:

17.1 Verified values of maximum widths and minimum lengths of constructional joints of this flameproof enclosure differ from relevant minimum or maximum values given in standard. To obtain information about joint dimension the manufacturer must be contacted.

17.2 The equipment shall be protected to chemical agents.

17.3 The additional protective cover on the second compartment shall be closed and screwed during function.

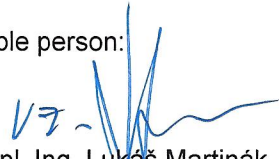
17.4 The equipment shall be used in an area with low risk of mechanical damage.

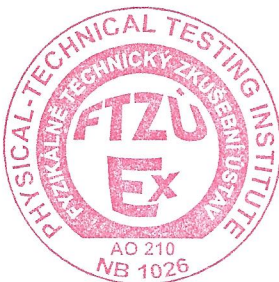
17.5 The equipment shall not be opened when a hazardous area is present.

(18) Essential Health and Safety Requirements:

Essential health and safety requirement of Directive 94/9/EC are covered by the standard mentioned in (9), according which the product was verified and in the manufacturer's instruction for use.

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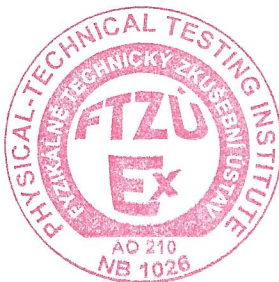
(14) **EC-Type Examination Certificate N° FTZÚ 13 ATEX 0047X**

(19) List of Documentation:

Number	Date	Number	Date
Manual 365120	30.6.2015	365028	31.1.2015
365000	31.5.2015	365029	10.1.2015
365001	31.3.2015	365030	30.3.2015
365002	11.3.2015	365035	13.3.2015
365003	28.1.2015	365036	20.8.2014
365004	26.2.2015	365038	30.3.2015
365005	2.2.2015	365039	23.2.2015
365006	16.01.2015	365040	17.5.2012
365007	26.2.2015	365041	23.2.2015
365008	26.2.2015	365042	16.2.2015
365010	20.1.2015	365043	30.1.2015
365011	11.3.2014	365044	9.3.2015
365012	15.10.2014	365046	13.3.2015
365013	28.1.2015	365048	3.3.2015
365014	11.1.2015	365049	26.3.2015
365015	3.2.2015	365050	31.3.2015
365016	28.1.2015	365051	31.3.2015
365017	30.3.2015	365101	15.10.2014
365018	28.1.2015	365102	28.1.2015
365019	26.1.2015	365103	15.10.2014
365020	12.1.2015	365104	21.12.2014
365021	12.1.2015	365105	15.10.2014
365022	30.3.2015	365106	22.12.2014
365023	30.3.2015	365107	16.3.2015
365024	30.3.2015	365108	15.1.2015
365025	5.3.2015	365109	31.1.2015
365026	30.3.2015	365110	30.3.2014
365027	30.3.2015		

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