

**EU – TYPE EXAMINATION CERTIFICATE**

[1]

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres  
Directive 2014/34/EU

[3] EU-Type Examination Certificate Number: **EXA 14 ATEX 0003**

Issue: 2

[4] Product: **Power supply and signal transmission module**

Type: **SSU-24ExEi**  
**SSU-24ExEi-ZS**

[5] Manufacturer: **MAJUR d.o.o.**

[6] Address: **Fallerovo šetalište 20, 10000 Zagreb, Croatia**

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

[8] Ex-Agencija, Notified Body number 2465 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 of the Directive.

The examination and test results are recorded in confidential Report No.: **EXA 18CR037**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 60079-0:2012/A11:2013** **EN 60079-11:2012**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the design, examination and test of the specified product in accordance with Annex III. Further requirements of the Directive apply to the manufacturing process and supply of this products. These are not covered by this certificate.

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



**II (2)G [Ex ib Gb] IIC**  
**II (2)D [Ex ib Db] IIIC**

Date: 28.06.2018.

PB.18.TC.769/RS

**Ex-Agencija**

Department of equipment certification  
Approved by:

Stipo Đerek, dipl.ing.el.







The values of  $L_0$  and  $C_0$  listed above shall be reduced to 50% when both of the following conditions are met:

- the total  $L_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $L_0$  value and
- the total  $C_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $C_0$  value.

Note: The reduced capacitance of the external circuit (including cable) shall not be greater than  $1 \mu\text{F}$  for groups IIB/IIIC and  $600 \text{ nF}$  for IIC.

Connecting both channels in parallel is **forbidden**.

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

[16] Confidential Report No. EXA 18CR037

[16.1] Routine testing

The manufacturer shall carry out the following routine test:

- dielectric strength test between input and output windings of transformer with voltage  $1500 \text{ V}$  for period of  $60 \text{ s}$ .

[17] Specific Conditions of Use

None

[18] Essential Health and Safety Requirements

Covered by the standards listed at item 9.

[19] Drawings and Documents

Title:	Drawing No.:	Rev.level:	Date:
Description SSU-24ExEi and SSU-24ExEi-ZS	T-0700/3	01/00	01.06.2018.
Sketch drawing SSU-24ExEi and SSU-24ExEi-ZS	T 0702/3-SU	03	01.04.2013 01.06.2018
Mechanical parts specification	T 0703/3-S	03	01.04.2013 ✓
Schematics	T 0704/3-ES	03	01.04.2013 ✓
Electrical components specification	T 0705/3-SE	03	01.04.2013
Layout, assembly layout	T 0706/3-TP	03	01.04.2013
Instructions for fire alarm system 800Exi	T-0709/2 -UK	00/0002	26.06.2018 01.04.2013???
OZKA KE UREDAR	T0707/3-02		01.06.2018.



[13]

## SCHEDULE

[14] EU - TYPE EXAMINATION CERTIFICATE No.: EXA 14 ATEX 0003

[15] Description of product

The unit **SSU-24ExEi / SSU-24ExEi-ZS** is a two channel associated apparatus, with two identical intrinsically safe circuits which supply two channels of fire alarm system. The channel consists of separately certified, intrinsically safe fire detectors connected in parallel, made by the same manufacturer. The unit **SSU-24ExEi** powers detector types: **ODD-801Exi, TD-81.Exi, TMD-81.Exi, TMD-812/75Exi, TMD-812/95Exi, RD-8.Exi, RT-8.Exi, PK-4Exi**. The unit **SSU-24ExEi-ZS** powers detector types: **ZS-80Exi and LB-80Exi**. The galvanic isolation between intrinsically safe circuits and non intrinsically safe circuits is done by optical isolators (DEKRA 11ATEX0086U) and single transformer which is common for both channels.

Unit **SSU-24ExEi**:**Non intrinsically safe circuit:**

POWER SUPPLY, leads (+24V), (-24V):.....	Nominal input voltage	$U_n = 20-28,8 \text{ VDC}$
	Maximum input voltage	$U_m = 253 \text{ V}$
CENTRAL UNIT CIRCUITS, leads (C1+),(C1-),(C2+),(C2-):		
	Maximum input voltage	$U_m = 253 \text{ V}$

**Intrinsically safe circuits:**

## FIRE DETECTOR CIRCUITS,

Channel 1, leads (L1+),(L1-); Channel 2, leads (L2+),(L2-):

Maximum output voltage	$U_o = 25,2 \text{ V}$
Maximum output current	$I_o = 38,1 \text{ mA}$
Maximum output power	$P_o = 240 \text{ mW}$
Maximum internal capacitance	$C_i$ negligible
Maximum internal inductance	$L_i$ negligible

Linear U-I characteristics	$R_i = 661,36 \Omega$	
Maximum external capacitance	$C_o = 107 \text{ nF (IIC)}$	/ 820 nF (IIIC)
Maximum external inductance	$L_o = 24 \text{ mH (IIC)}$	/ 97 mH (IIIC)
L/R ratio	$L_o/R_o = 148 \mu\text{H}/\Omega \text{ (IIC)}$	/ 592 $\mu\text{H}/\Omega \text{ (IIIC)}$

Unit **SSU-24ExEi-ZS**:**Non intrinsically safe circuit:**

POWER SUPPLY, leads (+24V), (-24V):.....	Nominal input voltage	$U_n = 20-28,8 \text{ VDC}$
	Maximum input voltage	$U_m = 253 \text{ V}$
CENTRAL UNIT CIRCUITS, leads (C1+),(C1-),(C2+),(C2-):		
	Maximum input voltage	$U_m = 253 \text{ V}$

**Intrinsically safe circuits:**

## FIRE DETECTOR CIRCUITS,

Channel 1, leads (L1+),(L1-); Channel 2, leads (L2+),(L2-):

Maximum output voltage	$U_o = 16,8 \text{ V}$
Maximum output current	$I_o = 100 \text{ mA}$
Maximum output power	$P_o = 630 \text{ mW}$
Maximum internal capacitance	$C_i$ negligible
Maximum internal inductance	$L_i$ negligible

Linear U-I characteristics	$R_i = 255,34 \Omega$	
Maximum external capacitance	$C_o = 390 \text{ nF (IIC)}$	/ 2,29 $\mu\text{F}$ (IIIC)
Maximum external inductance	$L_o = 3,6 \text{ mH (IIC)}$	/ 14 mH (IIIC)
L/R ratio	$L_o/R_o = 57 \mu\text{H}/\Omega \text{ (IIC)}$	/ 228 $\mu\text{H}/\Omega \text{ (IIIC)}$

The values of  $L_o$  and  $C_o$  listed above are allowed if one of the following conditions is met:

- the total  $L_i$  of the external circuit (excluding the cable) is  $< 1\%$  of the  $L_o$  value or
- the total  $C_i$  of the external circuit (excluding the cable) is  $< 1\%$  of the  $C_o$  value.