

**IBExU Institut für Sicherheitstechnik GmbH**  
An-Institut der TU Bergakademie Freiberg



[1] **EU-TYPE EXAMINATION CERTIFICATE - Translation**

[2] Equipment or protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU04ATEX1252** | Issue 1

[4] Product: **Power supply unit**  
Type: SG2420

[5] Manufacturer: E.L.B. Füllstandsgeräte Bundschuh GmbH & Co. KG

[6] Address: An der Hartbrücke 6  
64625 Bensheim  
GERMANY

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

[8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 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 the confidential test report IB-22-3-0040/1.

[9] Compliance with the essential health and safety requirements has been assured by compliance with: EN IEC 60079-0:2018 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 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:

**Ex II (2)G [Ex ib Gb] IIB**

IBExU Institut für Sicherheitstechnik GmbH  
Fuchsmühlenweg 7  
09599 Freiberg, GERMANY

By order

Dipl.-Ing.(FH) A. Henker



(notified body number 0637)

Tel: + 49 (0) 37 31 / 38 05 0  
Fax: + 49 (0) 37 31 / 38 05 10

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2022-05-11

[13] **Schedule**

[14] **Certificate number IBExU04ATEX1252 | Issue 1**

[15] **Description of product**

The power supply unit type SG2420 is an associated equipment for connection of intrinsically safe circuits in hazardous areas requiring category 2G equipment. It is installed outside of the hazardous area.

The device consists of a printed circuit board with connection terminals in a plastic housing.

**Technical data:**

**Environmental conditions**

Permitted ambient temperature range -20 °C up to + 60 °C

**Electrical data**

**Power supply circuit  
(Terminal X1: +24V, GND)**

Rated voltage range	$U_N$	24 V DC $\pm$ 20 %
Maximum direct voltage	$U_m$	375 V DC
Maximum effective value of alternating voltage	$U_m$	265 V AC

**Supply circuit  
(Terminal X2: +US, GND)**

Maximum output voltage	$U_o$	12.7 V
Maximum output current	$I_o$	169 mA
Maximum output power	$P_o$	1 W
Trapezoidal characteristic:	$R_i$	142.5 $\Omega$

In type of protection intrinsically safe Ex ib IIB; potentially connected with power supply circuit

**Signal current circuit  
(Terminal X2: V-I, H-I)**

Maximum output voltage	$U_o$	15.6 V
Maximum output current	$I_o$	66 mA
Maximum output power	$P_o$	260 mW
Linear characteristic		

In type of protection intrinsically safe Ex ib IIB; potentially connected with power supply circuit

**Safety instructions**

For circuits including inductances and capacitances the following has to be observed:  
The values for  $L_o$  and  $C_o$ , mentioned in the EU-Type Examination Certificate are allowed for:

- distributed inductance and capacitance e.g. as in a cable or
- if the total  $L_i$  of the external circuit (excluding the cable) is  $< 1 \%$  of the  $L_o$  value or
- if the total  $C_i$  of the external circuit (excluding the cable) is  $< 1 \%$  of the  $C_o$  value.

	supply circuit	signal circuit
	Ex ib IIB	Ex ib IIB
$C_o$	7.1 $\mu$ F	3.0 $\mu$ F
$L_o$	4.5 mH	30 mH

The values of  $L_o$  and  $C_o$  determined in the EU-Type Examination Certificate shall be reduced to 50 % or taken from the following table if both of the following conditions are met:

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

The reduced capacitance of the external circuit (including cable) shall not be greater than 1  $\mu$ F for Groups I, IIA, and IIB and 600 nF for Group IIC.

	supply circuit		signal circuit	
	Ex ib IIB		Ex ib IIB	
Co	4 $\mu$ F	5.6 $\mu$ F	1.0 $\mu$ F	2.9 $\mu$ F
Lo	500 $\mu$ H	200 $\mu$ H	10 mH	500 $\mu$ H

*Variations compared to issue 0 of this certificate and her addition:*

*Variation 1*

The EU Type Examination Certificate is transferred to a new manufacturer.

*Variation 2*

The device meet the requirements of the current standard EN IEC 60079-0:2018 and EN 60079-11:2012.

[16] **Test report**

The test results are recorded in the confidential test report IB-22-3-0040/1 of 2022-04-27.  
The test documents are part of the test report and they are listed there.

*Summary of the test results*

The power supply unit still fulfils the requirements of the type of protection intrinsic safety for an associated equipment for group II and category 2G.

[17] **Specific conditions of use**

None

[18] **Essential health and safety requirements**

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

None

[19] **Drawings and Documents**

The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH  
Fuchsmühlenweg 7  
09599 Freiberg, GERMANY

By order



Dipl.-Ing.(FH) A. Henker

Freiberg, 2022-05-11