IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

EU-TYPE EXAMINATION CERTIFICATE - Translation [1]



- Equipment or protective systems [2] intended for use in potentially explosive atmospheres, Directive 2014/34/EU
- EU-type examination certificate number IBExU04ATEX1256 | Issue 1 [3]

Product: [4]

Sensor

Types: DSM 2420 / DSM 2525

[5]

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

[6] Address:

An der Hartbrücke 6 64625 Bensheim

GERMANY

- This product and any acceptable variation thereto is specified in the schedule to this certificate and the [7] documents therein referred to.
- IBEXU Institut für Sicherheitstechnik GmbH, notified body number 0637 in accordance with Article 17 [8] 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-22-3-0040/2.

- Compliance with the essential health and safety requirements has been assured by compliance with: [9] EN 60079-11:2012 EN IEC 60079-0:2018 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.
- 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:

(2) II 2G Ex ib IIB T4 Gb

-20 °C ≤ T_a ≤ +60 °C

IBExU Institut für Sicherheitstechnik GmbH Fuchsmühlenweg 7

09599 Freiberg, GERMANY

By order

Dipl.-Ing.(FH) A. Henker

n-ASeab-(notified body number 0637)

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

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

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

[13] Schedule

[14] Certificate number IBExU04ATEX1256 | Issue 1

[15] Description of product

The Sensor type DSM 2420 / DSM 2525 serves to measure filling levels and flow velocities by the ultrasonic flow measuring method. It is used mainly in sewer tunnels. The equipment consists of a compact plastic housing with mounting plate. The internal electronic components are completely potted. Power supply unit and evaluation device are connected via a firmly installed cable.

Technical data:

Ambient temperature range -20 °C up to + 60 °C

Cable length up to 500 m

Electrical data

In type of protection intrinsically safe Ex ib IIB Supply circuit (Wires: red [+US], black [GND]) Ui ≤ 16 V Maximum input voltage ≤ 350 mA li Maximum input current ≤ 1.6 W P_{i} Maximum input power negligible Ci Effective internal capacitance negligible Li Effective internal inductance In type of protection intrinsically safe Ex ib IIB Data circuit per channel (Wires: blue [H-I], white [V-I]) ≤ 16 V Ui/o Maximum in-/ output voltage li/o ≤ 66 mA Maximum in-/ output current ≤ 260 mW Pi/o Maximum in-/ output power

The supply and data circuits are equipotential bonded with each other.

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 Li of the external circuit (excluding the cable) is < 1 % of the Lo value or
- if the total Ci of the external circuit (excluding the cable) is < 1 % of the Co value.

	Ex ib IIB	
Co	2.75 µF	
Lo	25 mH	

The values of Lo and Co 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 Li of the external circuit (excluding the cable) ≥ 1 % of the Lo value and
- the total Ci of the external circuit (excluding the cable) ≥ 1 % of the Co value.

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

Co	Ex ib IIB		
	2.5 µF	1.6 µF	
Lo	500 µH	5 mH	

Page 2/3 IBExU04ATEX1256 | 1

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

Variations compared to issue 0 of this certificate and her additions:

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.

[16] Test report

The test results are recorded in the confidential test report IB-22-3-0040/2 of 2022-04-27.

The test documents are part of the test report and they are listed there.

Summary of the test results

The sensor still fulfils the requirements of the type of protection intrinsic safety on an explosion-protected electrical apparatus 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