



[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 **IBExU18ATEX1143 X** | Issue 0

[4] Product: **Pressure transmitter**  
Type: OPTIBAR LC 1010 C

[5] Manufacturer: Krohne Pressure Solutions GmbH

[6] Address: Gewerbepark Meißen 14  
32423 Minden  
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-16-3-0016.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:  
EN IEC 60079-0:2018 and 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 identification of the product must include the following, depending on the type and housing:

II 1G Ex ia IIB T4 Ga

II 1D Ex ia IIIC T135 °C Da

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By order

Dipl.-Ing. Willamowski



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, 2019-03-28



[13] **Schedule**

[14] **Certificate number IBExU18ATEX1143 X | Issue 0**

[15] **Description of product**

The pressure transmitter OPTIBAR LC 1010 C represents a submersible probe in stainless steel or titanium enclosure. The submersible probes can be equipped with an optional 3L temperature sensor. The devices are intended for use in potentially hazardous areas, where Category 1G or 1D device required. They are supplied by an intrinsically safe power supply of the protection level „ia“.

Variants with ATEX approval are identified by an "A" in the "Approvals" characteristic of the order code. The following permitted variants are defined by the characteristic "Output" in the order code.

Variants of the OPTIBAR LC 1010 C differentiated by characteristic "Output"

"Output A" - immersion probe with 4 ... 20mA 2L signal without option

"Output B" - immersion probe with 4 ... 20mA 2L signal with option Pt100 3L

"Output H" - immersion probe with 4 ... 20mA 2L signal with option HART

"Output K" - immersion probe with 4 ... 20mA 2L signal with option PT100 3L and option HART

**Technical data**

Ambient temperature range: -25 °C to +65 °C

**Electrical data**

supply electric circuit in type of protection intrinsic safety Ex ia valid for output characteristic A and B (supply + and -)

$U_i$  28 V DC

$I_i$  93 mA

$P_i$  660 mW

effective inner capacity

$C_i$  49.2 nF

effective inner inductivity

$L_i$  negligible

supply electric circuit in type of protection intrinsic safety Ex ia valid for output characteristic H and K (supply + and -)

$U_i$  28 V DC

$I_i$  93 mA

$P_i$  660 mW

effective inner capacity

$C_i$  14 nF

effective inner inductivity

$L_i$  negligible

Pt100-circuit in type of protection intrinsic safety Ex ia additionally valid for output B and K (3-wire circuit)

$U_i$  30 V DC

$I_i$  54 mA

$P_i$  405 mW

effective inner capacity

$C_i$  negligible

effective inner inductivity

$L_i$  negligible

plus line inductivities 1  $\mu$ H/m and line capacities 160 pF/m (cable supplied by the manufacturer)

The supply connections have an inner capacity of max. 100 nF for output "A" and "B" and max. 27 nF for output "H" and "K".

[16] **Test report**

The test results are recorded in the confidential test report IB-16-3-0016 of 2019-03-27.

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

*Summary of the test results*

The pressure transmitter OPTIBAR LC 1010 C fulfills the requirements of type of protection intrinsic safety „ia“ for an electrical equipment of the Equipment Group II, Category 1G and 1D, explosion Group IIB or IIIC and temperature Class T4 or max. surface temperature 135 °C.

**[17] Specific conditions of use**

- For hydrostatic probes made of titanium impact and friction sparks are to be avoided by contact with other bodies and objects.
- The equipment designed with connector have to be installed in such a way that the degree of protection IP20 is always kept.
- The safety and assembly instructions contained in the operating instruction and the ambient temperature range  $-25\text{ °C} \leq T_a \leq +65\text{ °C}$  have to be taken into account.
- The device may be operated in explosive atmospheres which requires equipment of Category 1 only when there are atmospheric conditions (temperature of  $-20\text{ °C}$  to  $+60\text{ °C}$ , pressure of 0.8 bar to 1.1 bar).

**[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.

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Freiberg, 2019-03-28