

[1] **EC-TYPE EXAMINATION CERTIFICATE**
according to Directive 94/9/EC, Annex III
(Translation)



[2] Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **IBExU10ATEX1185 X**

[4] Equipment: **Pressure measuring device**
type DX5A LMK_NNN

[5] Manufacturer: **BD SENSORS s.r.o.**

[6] Address: **Hradistska 817**
687 08 Buchlovice
CZECH REPUBLIC

[7] This equipment mentioned under [4] and any acceptable variation thereto are specified in the schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that the under [4] mentioned equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential test report IB-10-3-151 of 21 December 2010.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2009, EN 60079-11:2007, EN 60079-26:2007 and EN 61241:2006.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified under [17] in the schedule to this EC-Type Examination Certificate.

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this directive apply to the manufacture and supply of this equipment.

[12] The marking of the equipment mentioned in [4] must include one of the following details:

II 1G Ex ia IIB T4
 II 1D Ex iaD 20 T85 °C

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Authorised for certifications Explosion protection

By order

(Dr. Wagner)

Schedule



Freiberg, 21 December 2010

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.

[13] **Schedule**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU10ATEX1185 X**

[15] **Description of equipment**

The pressure measuring device DX5A LMK_NNN is a pressure transmitter in the high-grade steel enclosure or from CuNi10Fe1Mn. The equipment is intended for use in potentially hazardous areas, where category 1G or 1D devices are required. They are supplied by an intrinsically safe power supply of the Category „ia“.

Category 1 equipment

The sensor of the pressure measuring device may be operated in explosive atmospheres which requires equipment of category 1 only if there are atmospheric conditions (temperature from -20 °C to +60 °C, pressure from 0.8 bar to 1.1 bar).

Ambient temperature range: from -25 °C to +70 °C
Degree of protection of the enclosure: ≥ IP 67

Supply and signal electric circuit in type of protection Intrinsic Safety Ex ia IIB
(supply + and -)

	U_i	28 V
	I_i	93 mA
	P_i	660 mW
effective inner capacity	C_i	105 nF
effective inner inductivity	L_i	5 μH

plus line inductivities 1 μH/m and line capacities 160 pF/m

The supply connections have an inner capacity of max. 140 nF opposite the enclosure.

[16] **Test report**

The test results are recorded in detail in the test report IB-10-3-151. The test documents are part of the test report and listed there.

Summary of the Test Result:

The pressure measuring device DX5A LMK_NNN fulfills the requirements of type of protection Intrinsic safety ‚ia‘ for an electrical component for equipment group II category 1G, explosion group IIB and temperature class T4 and category 1D with a maximum surface temperature of 85 °C.

[17] **Special conditions**

- The ambient temperature range is fixed from -25 °C to +70 °C.
- The safety and assembly notes contained in the operating instructions have to be observed.

[18] **Essential Health and Safety Requirements**

Confirmed by compliance with standards (see [9]).

By order

Freiberg, 21 December 2010



(Dr. Wagner)



- [1] **1st Addition to EC-TYPE EXAMINATION CERTIFICATE IBExU10ATEX1185 X**
according to Directive 94/9/EC, Annex III
- Translation -

[2] Equipment: **Pressure measuring device**

a) Name corresponding to IBExU10ATEX1185 X:
DX5A LMK_NNN

b) New name and supplementary type:
DX5A LMK_NNN H and DX5A LMP_NNN H

[3] Manufacturer: **BD SENSORS s.r.o.**

[4] Address: **Hradistska 817
687 08 Buchlovice
Czech Republic**

[5] **Addition / Alteration**

The additions / alterations of the equipment mentioned in [2] compared with the equipment already certified concern in detail:

- a) Extension for a new type with another constructive design.
- b) The pressure measuring devices are equipped alternatively with new electronic modules. As a result the intrinsically safe values change as follows:
effective inner capacity $C_i = 0 \text{ nF}$
effective inner inductivity $L_i = 0 \text{ } \mu\text{H}$
plus line inductivities $1 \text{ } \mu\text{H/m}$ and line capacities 160 pF/m (cable supplied by the manufacturer)
The supply connections have an inner capacity of max. 27 nF to the housing.
- c) A large H in the model designation stands for the possibility of Hart communication.

All other parameters remain unchanged.

[6] **Test Report**



The proof of the explosion protection of the equipment mentioned in [2] is documented in the Test Report IB-11-3-278 of 3 May 2012. The test documents are part of the Test Report.

[7] **Test result**

IBExU certifies that the equipment mentioned in [2] fulfils the Essential Health and Safety Requirements fixed in Annex II of the Directive 94/9/EC by compliance with EN 60079-0:2009, EN 60079-11:2007, EN 60079-26:2007 and EN 61241-11:2006.

The equipment stated under [2] fulfils the requirements of type of protection intrinsic safety 'ia' on an electrical component of equipment group II category 1G, explosion group IIB and temperature class T4 and category 1D with a maximum surface temperature of $85 \text{ }^\circ\text{C}$.

The marking of the equipment mentioned in [2] must include one of the following details:

 II 1G Ex ia IIB T4
 II 1D Ex iaD 20 T85 °C

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

**This addition is only valid in combination with the EC-Type Examination Certificate
IBExU10ATEX1185 X of 21 December 2010.**

The safety instructions are unchanged and have to be taken into account furthermore.

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Authorized for certifications
- Explosion protection -

By order



(Dr. Wagner)



- Seal -
(Identification No. 0637)

Freiberg, 3 May 2012

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