



[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 **IBExU12ATEX1108 X** | Issue 2

[4] Product: **Precision digital manometer**  
Type: AX16-DM01, AX16-DM01-500, AX16-DM01-500 HD, AX16-DL01 and AX16-DL102 with AX16-DCL552 M

[5] Manufacturer: BD SENSORS GmbH

[6] Address: BD-Sensors-Str. 1  
95199 Thierstein  
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-18-3-0093.

[9] Compliance with the essential health and safety requirements has been assured by compliance with: EN 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 must include the following, depending on the type:

Type AX16-DM01, AX16-DM01-500, AX16-DM01-500 HD and AX16-DL01

Variant with conductive front foil: **Ex II 1G Ex ia IIC T4 Ga**

Standard variant: **Ex II 2G Ex ia IIB T4 Gb**

AX16-DL102 with AX16-DCL552 M: **Ex II 2G Ex ia IIB T4 Gb**

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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, 2018-10-01

**[13] Schedule****[14] Certificate number IBExU12ATEX1108 X | Issue 2****[15] Description of product**

The precision digital manometers type AX16-DM01, AX16-DM01-500, AX16-DM01-500 HD, AX16-DL01 and AX16-DL102 with AX16-DCL552 M are used to display and record pressures. The power supply comes from three primary cells connected in series. The pressure sensor can be separated in some variants from the display or evaluation device.

The equipment series is intended for use in potentially hazardous areas, where category 1G or 2G devices are required. It provides internal intrinsically safe "ia" circuits and is operated without external connections. The interface is covered in a safe area and is used for configuration and data transfer.

**Variants**

AX16-DM01	stainless steel housing, exchangeable sensor
AX16-DM01-500	stainless steel housing, integrated sensor
AX16-DM01-500 HD (high pressure)	stainless steel housing, exchangeable sensor (optional), up to 2200 bar
AX16-DL01	stainless steel housing, exchangeable sensor, for leakage test
AX16-DL102 with AX16-DCL552 M	aluminium housing, with deposited stainless steel immersion probe

**Technical data**

Ambient temperature range:

Display module

-10 °C to +55 °C

Transmitter (deposited)

-20 °C to +70 °C (at 1G to +60 °C)

**Electrical data****Supply circuit**

Internal parameters (no external connections)

Battery voltage

3 x 1.5 V

Open circuit voltage according to EN 60079-0:

4.95 V

Power consumption:

max. 20 mA

*Variations compared to the basic certificate:*

- *The devices were modified, without influence on the explosion protection.*
- *The devices comply with the requirements of the current standards.*

**[16] Test report**

The test results are recorded in the confidential test report IB-18-3-0093 of 2018-10-01.

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

**Summary of the test results**

The precision digital manometers type AX16-DM01, AX16-DM01-500, AX16-DM01-500 HD, AX16-DL01 and AX16-DL102 with AX16-DCL552 M fulfil the requirements of type of protection Intrinsic safety 'ia' for explosion-proof equipment for group II, category 1G or 2G, explosion group IIC or IIB and temperature class T4.

**[17] Specific conditions of use**

- The ambient temperature range for the display module is fixed from -10 °C to +55 °C. The range -20 °C to +70 °C (at 1G to +60 °C) applies for the transmitter.
- The precision digital manometer type AX16-DM01 and AX16-DL01 may be operated only in combination with the related pressure transmitters with the type examination certificate IBExU10ATEX1026 U.

- Opening the battery compartment cover and the removal of the protective cover of the interface connector must not be done in a hazardous atmosphere.
- The operation of the communication interface in explosive areas is not permitted.
- Only use the batteries specified: 3x 1.5 V / AA Duracell Power Plus.
- For applications in explosion group IIC, the metal case is to ground safely.

**[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, 2018-10-01