



[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 **IBExU05ATEX1070 X** | Issue 1

Product: **Pressure transmitter**
Type: DX14-XXX_NNN

[4] Manufacturer: BD SENSORS GmbH

[5] Address: BD-Sensors-Str. 1
95199 Thierstein
GERMANY

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

[7] 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-21-3-0092.

[8] 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.

[9] 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.

[10] 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.

[11] The marking of the product shall include the one of the following depending on the used components:

Metallic enclosure II 1G Ex ia IIC or IIB T6 or T4 Ga
 II 1D Ex ia IIIC T110°C Da

Non-metallic enclosure II 1/2G Ex ia IIC T4 Ga/Gb
 II 1/2D Ex ia IIIC T110°C Da/Db

The assignment is made according to the table of the type range in the schedule.

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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, 2021-09-21

[12]

Schedule

[13]

Certificate number IBExU05ATEX1070 X | Issue 1

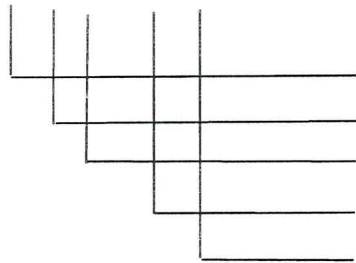
[14]

Description of product

The equipment series type DX14-XXX_NNN pressure transmitter, screwed probes and immersion probes represent more variously system-unit cover variants the piece. It serves in intrinsic safety electrical plants for the transformation of a pressure signal in a proportional electrical signal.

Type code:

DX14- X M K nnn I



D - pressure measurement devices; L – level sonde

M - transmitter

K - ceramic cell

nnn - design

I - precision; P - process pressure port

Type extent:

Device	Connection	Type	Marking Gas EX	Marking Dust EX	Enclosure
LMK 351 (i)	Plug	ES	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK 351 (i)	Cable	ES	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK 351 (i)	Plug	ES	II 1/2G Ex ia IIC T4 Ga/Gb	II 1/2D Ex ia IIIC T110°C Da/Db	PVC
LMK 351 (i)	Cable	ES	II 1/2G Ex ia IIC T4 Ga/Gb	II 1/2D Ex ia IIIC T110°C Da/Db	PVC
LMK 351 (i)	Plug	ES	II 1/2G Ex ia IIC T4 Ga/Gb	II 1/2D Ex ia IIIC T110°C Da/Db	PVDF
LMK 351 (i)	Cable	ES	II 1/2G Ex ia IIC T4 Ga/Gb	II 1/2D Ex ia IIIC T110°C Da/Db	PVDF
LMK 351 (i)	Plug	ES	II 1G Ex ia IIC T6 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK 351 (i)	Cable	ES	II 1G Ex ia IIC T6 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
DMK 351 (i)	Plug	DMU	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
DMK 351 (i)	Cable	DMU	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
DMK 351 (i)	Plug	DMU	II 1G Ex ia IIC T6 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
DMK 351 (i)	Cable	DMU	II 1G Ex ia IIC T6 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
DMK 351P (i)	Plug	DMU	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
DMK 351P (i)	Cable	DMU	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK358 (i) trennb.	Cable	TS	II 1G Ex ia IIB T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK 358 (i)	KR, KW	TS	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel CuNiFe
LMK 381 (i)	Cable	TS	II 1G Ex ia IIB T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK 381 (i)	KR, KW	TS	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel CuNiFe
LMK 382 (i)	Cable	TS	II 1G Ex ia IIB T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel

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Device	Connection	Type	Marking Gas EX	Marking Dust EX	Enclosure
LMK 382 (i)	KR, KW	TS	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel CuNiFe
LMK457 (i) trennb.	Cable	TS	II 1G Ex ia IIB T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel
LMK 457 (i)	Cable	TS	II 1G Ex ia IIB T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel CuNiFe
LMK 457 (i)	KR, KW	TS	II 1G Ex ia IIC T4 Ga	II 1D Ex ia IIIC T110°C Da	Stainless steel CuNiFe

Notes

The column "Connection":

KR Cable + pipe extension, KW Cable + corrugated pipe

The column "Type":

DMU ... pressure transmitter, ES Screw-in probe, TS Immersion probe

Technical Data

Ambient temperature range:

Standard version:

from -25 ° C to +70 ° C

from -25 ° C to +60 ° C (T6 for LMK 351 and DMK 351)

Electrical Data

Supply electric circuit in type of protection Intrinsic Safety Ex ia IIC

(+ 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

plus line inductivities 1.5 µH/m and line capacities 220 pF/m (cable supplied by the manufacturer)

For all types except *457*, the supply connections have an internal capacity of max. 27 nF to the housing.

The effective internal capacitance is increased to type *457* with cable output $C_i = 74.8$ nF and with ISO 4400 $C_i = 53$ nF. The supply connections of these devices have an internal capacity of max. 90 nF to the housing.

Pt100 circuit in type of protection intrinsic safety Ex ia IIC

U_i 30 V DC

I_i 54 mA

P_i 405 mW

Effective internal capacitance

C_i negligible

Effective internal inductance

L_i negligible

plus line inductances 1.5 µH/m and line capacitances 220 pF/m (cable supplied by the manufacturer)

Variations compared to the previous editions of this certificate:

Variation 1

Extension of the approval to include variants with Pt100 temperature sensor

Variation 2

Adaptation to the current standards and corresponding modification of the marking

Variation 3

Use of other EMC boards

[15] Test report

The test results are recorded in the confidential test report IB-21-3-0092 of 2021-09-13.
The test documents are part of the test report and they are listed there.

Summary of the test results

The highest-pressure transmitters DX14-XXX_NNN fulfil the requirements of type of protection Intrinsic safety 'ia' on an electrical device for Equipment Group II, depending on version Explosion Group IIC or IIB and Category 1G, 1/2G or, 1D or 2D.

[16] Specific conditions of use

- The equipment designed with connector has 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 $-25\text{ °C} \leq T_a \leq +70\text{ °C}$ or at the types LMK 351 and DMK 351 $-25\text{ °C} \leq T_a \leq +60\text{ °C}$ for T6 marking have to be taken into account.
- The device may be operated in explosive atmospheres which require equipment of Category 1 only when there are atmospheric conditions (temperature of -20 °C to $+60\text{ °C}$, pressure of 0.8 bar to 1.1 bar).

[17] 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

[18] Drawings and Documents

The documents are listed in the test report.

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