



Translation

(1) **EC TYPE-EXAMINATION CERTIFICATE**

(2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 94/9/EC**



(3) EC-Type Examination Certificate Number

TÜV 03 ATEX 2005 X

(4) Equipment: Pressure transmitter type DX3-... with two-wire system

(5) Manufacturer: BD SENSORS s.r.o.

(6) Address: CZ-68708 Buchlovice

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report N° 03 YEX 550365.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 EN 50020:1994 EN 50284:1999 EN 50 281-1-1:1999

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:



II 1 G EEx ia IIC T4 resp. II 1 D T 85°C

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TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Hanover, 2003-02-17

Head of the
Certification Body



TÜV NORD CERT



SCHEDULE

(13)

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 03 ATEX 2005 X**

(15) Description of equipment

The pressure transmitter type DX3-... with two-wire system is used for the acquisition of static and dynamic pressure values of gaseous and fluidal media. It is possible to measure gauge pressure (negative pressure and overpressure) and absolute pressure, as well. The pressure value is transformed into a standardized electrical signal.

The sensor of the pressure transmitter must only be operated in hazardous areas that require apparatus of category 1 when atmospheric conditions are present (temperature from -20°C to +60°C, pressure from 0.8 bar to 1.1 bar).

In case that the potentially explosive atmosphere does not require apparatus of category 1 the maximum permissible ambient temperature is 70°C.

Electrical data

Supply and signal
circuit
(plug or prefabricated cable)

in type of protection "Intrinsic Safety" EEx ia IIC
only for the connection to certified intrinsically safe circuits
with the following maximum values:

$$\begin{aligned}U_i &= 28 \text{ V} \\I_i &= 93 \text{ mA} \\P_i &= 660 \text{ mW}\end{aligned}$$

The effective internal capacitance and inductance of the supply and the signal circuits are negligibly small.
Capacitance to earth $\leq 27 \text{ nF}$

(16) Test documents are listed in the test report No.: 03 YEX 550365.

(17) Special conditions for safe use

The pressure transmitter with plug connection has to be erected in such a way that a degree of protection at least IP 20 according to EN 60529 is achieved for the connector plug.

(18) Essential Health and Safety Requirements

no additional ones



Translation

1. SUPPLEMENT to

EC TYPE-EXAMINATION CERTIFICATE No. TÜV 03 ATEX 2005 X

of the company: BD SENSORS s.r.o.
Hradistska 817
CZ-68708 Buchlovice

In the future, the Pressure transmitter type DX3-... with two-wire system may also be manufactured and operated according to the test documents listed in the test report.

The amendments concern the internal design, the extension of the marking and the optional installation of a Pt100 temperature sensor.

The marking is in dependence on the type:

II 1 G resp. II 2 G EEx ia IIC T4 resp. II 1 D T 85°C

Electrical data

Supply and signal
circuit (pressure)
(plug or prefabricated cable)

in type of protection "Intrinsic Safety" EEx ia IIC
only for the connection to certified intrinsically safe circuits
with the following maximum values:

$$\begin{aligned}U_i &= 28 \text{ V} \\I_i &= 93 \text{ mA} \\P_i &= 660 \text{ mW}\end{aligned}$$

The effective internal capacitance and inductance of the
supply and the signal circuits are negligibly small.
Capacitance to earth $\leq 27 \text{ nF}$

Temperature sensor circuit
(plug or prefabricated cable)

in type of protection "Intrinsic Safety" EEx ia IIC
only for the connection to certified intrinsically safe
circuits with the following maximum values:

$$\begin{aligned}U_i &= 19 \text{ V} \\I_i &= 31 \text{ mA} \\P_i &= 145 \text{ mW}\end{aligned}$$

The effective internal capacitance and inductance of the
temperature sensor circuit are negligibly small.



1. Supplement to EC Type-Examination Certificate No. TÜV 03 ATEX 2005 X

The temperature sensor circuit is safely galvanically separated from the supply and signal circuit (pressure).

All further data and the special condition for safe use apply unchanged for this supplement.

(16) Test documents are listed in the test report N° 03 YEX 550636.

(17) Special conditions for safe use

The pressure transmitter with plug connection has to be erected in such a way that a degree of protection at least IP 20 according to EN 60529 is achieved for the connector plug.

(18) Essential Health and Safety Requirements

no additional ones

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Hannover, 2003-08-12

Head of the
Certification Body



Translation

2. SUPPLEMENT to

EC TYPE-EXAMINATION CERTIFICATE No. TÜV 03 ATEX 2005 X

of the company: BD SENSORS s.r.o.
Hradistska 817
CZ-68708 Buchlovice

In the future, the pressure transmitter type DX3-... with two-wire system may also be manufactured and operated according to the test documents listed in the test report. The amendments concern the internal and outer design as well as the special conditions for safe use.

Electrical data

Supply and signal
circuit
(plug or prefabricated cable)

in type of protection "Intrinsic Safety" EEx ia IIC
only for the connection to certified intrinsically safe circuits
with the following maximum values:

$$U_i = 28 \text{ V}$$
$$I_i = 93 \text{ mA}$$
$$P_i = 660 \text{ mW}$$

effective internal capacitance $C_i \leq 1 \text{ nF}$;
effective internal inductance $L_i \leq 10 \text{ } \mu\text{H}$;
effective internal capacitance to earth $\leq 27 \text{ nF}$

All further data apply unchanged for this supplement.

(16) Test documents are listed in the test report N° 04 YEX 551571.

(17) Special conditions for safe use

The pressure transmitter with plug connection has to be erected in such a way that a degree of protection at least IP 20 according to EN 60529 is achieved for the connector plug. At pressure transmitters with cable protection realized by a corrugated pipe, the earthing terminal at the sleeve has to be connected with the potential equalization system.

(18) Essential Health and Safety Requirements

no additional ones

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Hanover, 2004-06-24


Head of the
Certification Body

Translation

3. SUPPLEMENT to

EC-TYPE EXAMINATION CERTIFICATE No. TÜV 03 ATEX 2005 X

Equipment: Pressure transmitter type DX3-... with two-wire system
Manufacturer: BD SENSORS s.r.o.
Address: Hradistska 817
CZ-68708 Buchlovice

In the future, the pressure transmitter type DX3-... with two-wire system may also be manufactured and operated according to the documents listed in the test report.

The amendments concern the internal design.

The electrical data and all other data apply unchanged for this supplement.

The test documents are listed in the test report N° 05 YEX 552222

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Hannover, 2005-05-26



Head of the
Certification Body

Translation

4. SUPPLEMENT

to Certificate No.

TÜV 03 ATEX 2005 X

Equipment:

Pressure transmitter type DX3-... with two-wire system

Manufacturer:

BD SENSORS s.r.o.

Address:

Hradistska 817
68708 Buchlovice
Czech Republic

Order number:

8000554426

Date of issue:

2008-02-21

Amendments:

The changes apply to a variation with a new plug for the connection of the Sensor. Also the type of two resistors was changed and resultant the layout of the PCB ELV 9. Furthermore a variation with a new pressure sensor is added. In the future, the pressure transmitter type DX3-... with two-wire system may also be manufactured and operated according to the documents listed in the test report. The electrical data and all other details remain unchanged for this supplement.

The equipment incl. of this supplement meets the requirements of these standards:

EN 60079-0:2006

EN 60079-11:2007

EN 60079-26:2007

EN 61 241-0:2006

EN 61 241-1:2004

The marking of the equipment must include the following:

**Ex II 1 G Ex ia IIC T4 bzw. II 2 G Ex ia IIC T4 bzw. II 1 D Ex tD A20 IP65 T 85°C
bzw. II 2 D Ex tD A21 IP65 T 85°C**

For the variation with the changed plug the marking must include the following:

Ex II 2 G Ex ia IIB T4

(16) The test documents are listed in the test report No. 08203554426.

(17) Special conditions for safe use

No additional ones

(18) Essential Health and Safety Requirements

No additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



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Translation
5. SUPPLEMENT

to Certificate No. TÜV 03 ATEX 2005 X
Equipment: Pressure transmitter type DX3-...with two-wire system
Manufacturer: BD SENSORS s.r.o
Address: Hradistska 817
 68708 Buchlovice
 Czech Republic

Order number: 8000555581
Date of issue: 2009-10-05

Amendments:

In the future may be also installed the measuring cells in the pressure transmitter type DX3-..., which are listed in the table below.

Marking	Material	Compensation	Wiring board (s)
DSP 210 U	Stainless steel	no	PD 10_1
DSP 210 K	Stainless steel	yes/passive	PD 10_1
DSP 410 U	Stainless steel	no	PD 7_1, PD 1_2
DSP 410 K	Stainless steel	yes/passive	PD 6, PD 1_2
DSP 411 U	Stainless steel	no	PD 7_1
DSP 411 K	Stainless steel	yes/passive	PD 9
DSP 412 U	Stainless steel	no	PD 7_1
DSP 412 K	Stainless steel	yes/passive	PD 9
DSP 110 U	Stainless steel	no	PD 10_1
DSP 111 U	Stainless steel	no	PD 7_1
DSP 112 U	Stainless steel	no	PD 7_1
DSP 110 K	Stainless steel	yes/passive	PD 10_1
DSP 111 K	Stainless steel	yes/passive	PD 9
DSP 112 K	Stainless steel	yes/passive	PD 9
DSP 413 K	Stainless steel	yes/passive	PD 9

In the measuring cells may be installed in the future the pressure sensors type 3000 Series, type 5000 Series, type AP301 Series and type SM5103 Series.

The pressure transmitters for use in dust hazardous areas may be marked in the future as follows.

 II 1 D Ex tD A20 IP6X T85 °C

The electrical data and all other data apply unchanged for this supplement.

The equipment incl. of this supplement meets the requirements of these standards:

EN 60079-0:2006 **EN 60079-11:2007** **EN 60079-26:2007**
EN 61241-0:2006 **EN 61241-1:2004**

5. Supplement to Certificate No. TÜV 03 ATEX 2005 X

(16) The test documents are listed in the test report No. 09 203 555581.

(17) Special conditions for safe use

no additional ones

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body

A handwritten signature in black ink, appearing to be "i.v. Schwedt".
Schwedt

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