



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 02 ATEX 1799

(4) Equipment: Display and switching device type AX1-....

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

(6) Address: CZ-68708 Buchlovice, Hradistska 817

(7) This equipment or protective system and any acceptable variation thereto is 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° 02 YEX 155888.

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

EN 50 014: 1997

EN 50 020: 1994

(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) 2 G EEx ia IIC T4

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Head of the
Certification Body



TÜV NORD CERT

Hanover, 2002-04-22



SCHEDULE

(13)

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 02 ATEX 1799**

(15) Description of equipment

The display and switching device type AX1-.... will be switched into 4 to 20 mA loops and it is intended for the display of measured values inside of hazardous explosive areas that require equipment of category 2 resp. 3.

The 4 to 20 mA loop may also be led to transmitters that are certified as category 1 equipment.

The maximum permissible ambient temperature is 70°C.

Electrical data

Signal- and supply circuit
(plug, cable or single wire)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for the connection to certified intrinsically safe circuits
maximum values see below
The effective internal capacitance and inductance are negligibly small.

Switching outputs (optional)
(plug, cable or single wire)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for the connection to certified intrinsically safe circuits
Maximum values:
 $U_o = U_i$
 $I_o = \Sigma I_i$
 $P_o = \Sigma P_i$
max. permissible outer sum capacitance 80 nF
max. permissible outer sum inductance 4,7 mH

The maximum values of the signal- and supply circuit and the optional switching circuits are:

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

(16) Test documents are listed in the test report No.: 02 YEX 155888.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones



Translation

1. SUPPLEMENT to

EC TYPE-EXAMINATION CERTIFICATE No. TÜV 02 ATEX 1799

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

In the future, when assembled with a transmitter, the display and switching device type AX1-... may also be manufactured and operated according to the test documents listed in the test report.

The amendments concern the internal design.

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

- (16) Test documents are listed in the test report N° 04 YEX 551572-1.
- (17) Special conditions for safe use
none
- (18) Essential Health and Safety Requirements
no additional ones

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Hanover, 2004-06-24

Head of the
Certification Body

Translation

2. SUPPLEMENT

to Certificate No.

Equipment:
Manufacturer:
Address:

TÜV 02 ATEX 1799

Display and switching device type AX1-...
BD SENSORS s.r.o.
Hradistka 817
CZ-68708 Buchlovice

Order number:
Date of issue:

8000553828
2007-06-21

Amendments:

The display and switching device type AX1-... will be enhanced by the type AX1-DM2XX and the type AX1-DS2XX. The internal design had been changed. In the future the display and switching device type AX1-... may also be manufactured and operated according to the test documents listed in the test report.

This supplement meets the requirements of the following standards:

EN 60079-0:2004

EN 50020:2002

The marking of the equipment must include the following:

 **II (1) 2 G Ex ia IIC T4**

Electrical data:

Signal- and supply circuit
(plug, cable or single wire)

In type of protection „Intrinsic Safety“ Ex ia IIC
only for the connection to certified intrinsically safe circuits.
Maximum values see below.
The effective internal capacitance and inductance are
negligibly small.

Switching outputs (optional)
(plug, cable or single wire)

In type of protection „Intrinsic Safety“ Ex ia IIC
only for the connection to certified intrinsically safe circuits.

Maximum values:

$U_o = 28 \text{ V}$
 $I_o = 93 \text{ mA}$
 $P_o = 660 \text{ mW}$

max. permissible outer sum capacitance: 80 nF
max. permissible outer sum inductance: 4.7 mH

The maximum values of the signal- and supply circuit and the optional switching circuits are:

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

2. Supplement to Certificate No. TÜV 02 ATEX 1799

(16) The test documents are listed in the test report No. 07203553828.

(17) Special conditions for safe use

None

(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 read "iv glwll".

Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

Translation
3. SUPPLEMENT

to Certificate No. TÜV 02 ATEX 1799
Equipment: Display and switching device type AX1-....
Manufacturer: BD SENSORS s.r.o
Address: Hradistska 817
68708 Buchlovice
Czech Republic

Order number: 8000555580
Date of issue: 2009-10-05

Amendments:

In the future may be also installed the measuring cells in the display and switching device type AX1-...., 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 also installed in the future the pressure sensors type 3000 Series, type 5000 Series, type AP301 Series and type SM5103 Series.

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

This supplement meets the requirements of these standards:

EN 60079-0:2006

EN 60079-11:2007

(16) The test documents are listed in the test report No. 09 203 555580.

3. Supplement to Certificate No. TÜV 02 ATEX 1799

(17) Special conditions for safe use

none

(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

i.v. [Signature]
Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590