

Translation

(1) **EU-Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**



(3) **Certificate Number** TÜV 20 ATEX 278994 **issue:** 00

(4) for the product: Ex-Separation Barrier type PXT0-xxx

(5) of the manufacturer: **NIVUS GmbH**

(6) Address: Im Täle 2
75031 Eppingen
Germany

Order number: 8003023605

Date of issue: 2021-01-05

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 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 ATEX Assessment Report No. 20 203 278994.

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

EN IEC 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 for 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 equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

 **II (2) G [Ex ib Gb] IIB**

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified 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 deputy of the head of the notified body



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(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 20 ATEX 278994 issue 00**

(15) **Description of product:**

The Ex-Separation Barrier type PXT0-xxx is an associated apparatus for the use outside the hazardous area and serves to decouple intrinsically safe circuits from non-intrinsically safe circuits.

Type code:

PXT0- x xx

Not ex-relevant

- 6: Cut-off for the connection of 2 runtime sensor pairs and 2 Clamp-On sensor pairs
- 7: Cut-off for connection of sensors type CSM, CSP, DSM and OCL-LM

Electrical data:

Ex-Separation Barrier type PXT0-6xx

Piezo 1 Connection to DSP card
(Terminals X1.1; X1.2; X1.3)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 2 Connection to DSP card
(Terminals X1.4; X1.5; X1.6)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 3 Connection to DSP card
(Terminals X1.12; X1.13; X1.14)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 4 Connection to DSP card
(Terminals X1.15; X1.16; X1.17)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 1 Ex-Sensor
(Terminals X2.1; X2.2; X2.3)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

Piezo 2 Ex-Sensor
(Terminals X2.4; X2.5; X2.6)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

Piezo 3 Ex-Sensor
(Terminals X2.12; X2.13; X2.14)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

Piezo 4 Ex-Sensor
(Terminals X2.15; X2.16; X2.17)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

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Ex-Separation Barrier type PXT0-7xx

Piezo 1 Connection to DSP card
(Terminals X1.1; X1.2; X1.3)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 2 Connection to DSP card
(Terminals X1.4; X1.5; X1.6)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 3 Connection to DSP card
(Terminals X1.12; X1.13; X1.14)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 4 Connection to DSP card
(Terminals X1.15; X1.16; X1.17)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

CSM Connection to DSP card
(+5V; RS485; 1-Wire)
(Terminals X1.7; X1.8; X1.9; X1.10;
X1.11)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

DSM Connection to DSP card
(+5V; 1-Wire)
(Terminals X1.18; X1.19; X1.20)

For connection to a non-intrinsically safe circuit with a safety maximum voltage:

$$U_m = 253 \text{ V a.c}$$

Piezo 1 Ex-Sensor
(Terminals X2.1; X2.2; X2.3)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

Piezo 2 Ex-Sensor
(Terminals X2.4; X2.5; X2.6)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

Piezo 3 Ex-Sensor
(Terminals X2.12; X2.13; X2.14)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

Piezo 4 Ex-Sensor
(Terminals X2.15; X2.16; X2.17)

In type of Protection Intrinsic Safety Ex ib IIB
Only for connection to the associated sensors from the Mini sensor family (TÜV 12 ATEX 087812).
Maximum excitation energy: $E_o = 137.4 \mu\text{J}$

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+3V7 CSM
(Terminals X2.7; X2.11)

In type of Protection Intrinsic Safety Ex ib IIB
with following maximum values:

$U_o = 5 \text{ V}$
 $I_o = 112 \text{ mA}$
 $P_o = 140 \text{ mW}$
 Characteristic line: linear
 Negligibly small
 Negligibly small

Effective internal capacitance C_i
 Effective internal inductance L_i

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIB	L_o [mH]	20	1	0.5	0.2	0.002
	C_o [μ F]	11	27	33	43	1000

RS485A and RS485B CSM
(Terminals X2.8; X2.11 and X2.9; X2.11)

In type of Protection Intrinsic Safety Ex ib IIB
With following maximum values je circuit:

$U_o = 5 \text{ V}$
 $I_o = 128.4 \text{ mA}$
 $P_o = 160.5 \text{ mW}$
 Characteristic line: linear
 Negligibly small
 Negligibly small

Effective internal capacitance C_i
 Effective internal inductance L_i

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIB	L_o [mH]	10	5	0.5	0.2	0.002
	C_o [μ F]	14	17	32	43	1000

1-Wire Ex CSM
(Terminals X2.10; X2.11)

In type of Protection Intrinsic Safety Ex ib IIB
with following maximum values:

$U_o = 5 \text{ V}$
 $I_o = 64.2 \text{ mA}$
 $P_o = 80.3 \text{ mW}$
 Characteristic line: linear
 Negligibly small
 Negligibly small

Effective internal capacitance C_i
 Effective internal inductance L_i

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIB	L_o [mH]	20	10	2	0.2	0.002
	C_o [μ F]	14	17	24	44	1000

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+3V7 DSM
(Terminals X2.18; X2.20)

In type of Protection Intrinsic Safety Ex ib IIB
with following maximum values:

$U_o = 5 \text{ V}$
 $I_o = 176.2 \text{ mA}$
 $P_o = 220.25 \text{ mW}$
 Characteristic line: linear
 Negligibly small
 Negligibly small

Effective internal capacitance C_i
 Effective internal inductance L_i

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIB	L_o [mH]	10	5	2	0.2	0.002
	C_o [μ F]	11	15	21	43	1000

1-Wire Ex DSM
(Terminals X2.19; X2.20)

In type of Protection Intrinsic Safety Ex ib IIB
with following maximum values:

$U_o = 5 \text{ V}$
 $I_o = 176.2 \text{ mA}$
 $P_o = 220.25 \text{ mW}$
 Characteristic line: linear
 Negligibly small
 Negligibly small

Effective internal capacitance C_i
 Effective internal inductance L_i

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIB	L_o [mH]	10	5	2	0.2	0.002
	C_o [μ F]	11	15	21	43	1000

Thermal data:

Permissible ambient temperature range $-20 \text{ }^\circ\text{C} \leq T_a \leq +50 \text{ }^\circ\text{C}$

(16) Drawings and documents are listed in the ATEX Assessment Report No. 20 203 278994

(17) **Specific Conditions for Use**
None

(18) **Essential Health and Safety Requirements**
No additional ones

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- End of Certificate -