



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX TUN 20.0018** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-01-05
Applicant: **NIVUS GmbH**
Im Täle 2
75031 Eppingen
Germany
Equipment: **Ex-Separation Barrier type PXT0-xxx**
Optional accessory:
Type of Protection: **Intrinsic Safety "ib"**
Marking: **[Ex ib Gb] IIB**

Approved for issue on behalf of the IECEx
Certification Body:

Thomas Heinen

Position:

Deputy Head of IECEx Certification Body

Signature:
(for printed version)

Date:

2021-01-05

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany





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Date of issue: 2021-01-05

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Manufacturer: **NIVUS GmbH**
Im Täle 2
75031 Eppingen
Germany

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/TUN/ExTR20.0022/00](#)

Quality Assessment Report:

[DE/TUN/QAR13.0011/06](#)



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Date of issue: 2021-01-05

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description:

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, electrical and thermal data:

Refers to the attachment to IECEx TUN 20.0018

SPECIFIC CONDITIONS OF USE: NO

Annex:

[Attachment to IECEx TUN 20.0018 issue 0.pdf](#)

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Product:

Description:

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 (IECEX TUN 18.0023). 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 (IECEX TUN 18.0023). 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 (IECEX TUN 18.0023). 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 (IECEX TUN 18.0023). 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 (IECEX TUN 18.0023).
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 (IECEX TUN 18.0023).
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 (IECEX TUN 18.0023).
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 (IECEX TUN 18.0023).
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 [µF]	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	1	0.5	0.2	0.002
	C_o [µF]	14	27	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	1	0.2	0.002
	C_o [µF]	14	17	28	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
Effective internal capacitance C_i : Negligibly small
Effective internal inductance L_i : 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	1	0.2	0.002
	C_o [μ F]	11	15	26	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
Effective internal capacitance C_i : Negligibly small
Effective internal inductance L_i : 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	1	0.2	0.002
	C_o [μ F]	11	15	26	43	1000

Thermal data:

Permissible ambient temperature range:

$$-20 \text{ }^\circ\text{C} \leq T_a \leq +50 \text{ }^\circ\text{C}$$

Specific Conditions of Use:

None