



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 19.0006X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2019-08-27

Applicant: **UWT GmbH**
Westendstraße 5
87488 Betzigau
Germany

Equipment: **Microwave sensors type series**

Optional accessory: NIVOGUIDE 8100; NIVOGUIDE 3100; NIVOGUIDE 8200

Type of Protection: **Intrinsic safety 'i'**

Marking: **Ex ia IIC T6...T1 Ga**
Ex ia IIC T6...T1 Ga/Gb
Ex ia IIC T6...T1 Gb

Approved for issue on behalf of the IECEx
Certification Body:

Christian Roder

Position:

Head of the IECEx Certification Body

Signature:
(for printed version)

Date:

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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Manufacturer: **UWT GmbH**
Westendstraße 5
87488 Betzigau
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

IEC 60079-26:2014-10 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

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/ExTR19.0008/00](#)

Quality Assessment Report:

[DE/BVS/QAR11.0007/05](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description of product

The level measuring instrument type series NIVOGUIDE as microwave sensors are used for evaluation of the distance between a product surface and the sensor via high-frequency microwave pulses. The microwave sensors emit high-frequency microwave pulses, which are carried along a measuring rod resp. a measuring cable. The electronics evaluate the delay time of the signals reflected by the product surface to calculate the distance to this surface

Type code

NIVOGUIDE 8100: NG8100AB/D*A/B**1*** *****A/D/N

NIVOGUIDE 3100: NG3100AB*A/B**1*** *****A/D/N

NIVOGUIDE 8200: NG8200BB/D*A/B**1**0 *****A/D/N

Electrical and thermal data

See attachment to IECEx TUN 19.0006X issue 00

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. At the plastic parts of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 und NIVOGUIDE 8200 there is a danger of ignition by electrostatic discharge.
Observe manual of the manufacturer and warning label.
2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 made of light metal there is a danger of ignition by impact or friction.
Observe manual of the manufacturer.
3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 have to be secured effectively against these dangers.
Observe manual of the manufacturer.
4. For EPL Ga/Gb applications the medium tangent materials of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 have to be resistant to the media.
Observe manual of the manufacturer
5. The ambient temperature range depending on temperature class is to be taken from the operating instructions.

Annex:

[Attachment to IECEx TUN 19.0006X issue No. 0.pdf](#)

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Attachment to IECEx TUN 19.0006 X issue No.: 0

Product:

Subject and Type:

Microwave sensors type series NIVOGUIDE 8100: NG8100AB/D*A/B**1*** ****A/D/N,
NIVOGUIDE 3100: NG3100AB*A/B**1*** ****A/D/N and NIVOGUIDE 8200: NG8200BB/D*A/B**1**0
****A/D/N

Description:

The level measuring instrument type series NIVOGUIDE as microwave sensors are used for evaluation of the distance between a product surface and the sensor via high-frequency microwave pulses. The microwave sensors emit high-frequency microwave pulses, which are carried along a measuring rod resp. a measuring cable. The electronics evaluate the delay time of the signals reflected by the product surface to calculate the distance to this surface.

Electrical data:

NIVOGUIDE 8100, NIVOGUIDE 3100, NIVOGUIDE 8200, single chamber housing, Ex i electronics and connection compartment

Supply and signal circuit
(Terminals 1[+], 2[-])

in type of protection „Intrinsic Safety“ Ex ia IIC
Only for connection to a certified intrinsically safe circuit
Maximum values:
 $U_i = 30 \text{ V}$
 $I_i = 131 \text{ mA}$
 $P_i = 983 \text{ mW}$
The effective internal capacitance is negligibly small.
Effective internal inductance: $5 \mu\text{H}$

NIVOGUIDE 8100, NIVOGUIDE 3100, NIVOGUIDE 8200, double chamber housing, Ex i connection compartment

Supply and signal circuit
(Terminals 1[+], 2[-])

in type of protection „Intrinsic Safety“ Ex ia IIC
Only for connection to a certified intrinsically safe circuit
Maximum values:
 $U_i = 30 \text{ V}$
 $I_i = 131 \text{ mA}$
 $P_i = 983 \text{ mW}$
The effective internal capacitance is negligibly small.
Effective internal inductance: $10 \mu\text{H}$

NIVOGUIDE 8100, NIVOGUIDE 3100, NIVOGUIDE 8200, single and double chamber housing, Ex i electronics and connection compartment

Display and adjustment module resp. the interface adapter
(Spring contacts)

in type of protection „Intrinsic Safety“ Ex ia IIC
Only for connection to the NivoGuide display and adjustment module.

The intrinsically circuits are safe galvanically separated from the parts which can be earthed.

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Thermal data:

If the microwave sensors are used in explosion hazardous areas for EPL Ga; EPL Ga/Gb and EPL Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (Elektronics/housing)	Medium temperature range at measuring sensor
T6	-40 °C ... +46 °C	-40°C ... +80 °C
T5	-40 °C ... +61 °C	-40°C ... +95 °C
T4	-40 °C ... +70 °C	-40°C ... +130 °C
T3	-40 °C ... +70 °C	-40°C ... +195 °C
T2	-40 °C ... +70 °C	-40°C ... +290 °C
T1	-40 °C ... +70 °C	-40°C ... +440 °C

Low-temperature execution down to -196 °C

If the microwave sensors are used in explosion hazardous areas for EPL Gb applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics)	Medium temperature range (measuring sensor)
T6	-40 °C ... +46 °C	-196°C ... +80 °C
T5	-40 °C ... +61 °C	-196°C ... +95 °C
T4	-40 °C ... +70 °C	-196°C ... +130 °C
T3	-40 °C ... +70 °C	-196°C ... +195 °C
T2	-40 °C ... +70 °C	-196°C ... +290 °C
T1	-40 °C ... +70 °C	-196°C ... +440 °C

The measuring sensors are allowed to be operated only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).

If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the measuring sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by hot surfaces is excluded.

The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

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Special Conditions for Safe Use / Notes for Erection:

1. At the plastic parts of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 there is a danger of ignition by electrostatic discharge.
Observe manual of the manufacturer and warning label.
2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 made of light metal there is a danger of ignition by impact or friction.
Observe manual of the manufacturer.
3. For EPL Ga resp. EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 have to be secured effectively against these dangers.
Observe manual of the manufacturer.
4. For EPL Ga/Gb applications the medium tangent materials of the microwave sensors type series NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 have to be resistant to the media.
Observe manual of the manufacturer
5. The ambient temperature range depending on temperature class is to be taken from the operating instructions.