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 19.0007X**	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:	**Flameproof enclosures "d"**		
Marking:	Ex db IIC T6…T1 Ga/Gb Ex db IIC T6…T1 Gb		

Approved for issue on behalf of the IECEx Certification Body: **Christian Roder**

Position: **Head of 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

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 19.0007X**

Date of issue: 2019-08-27

Issue No: 0

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-26:2014-10 Edition:3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

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/ExTR19.0009/00

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: NG8100AC*A/B**1*** *****A/D

NIVOGUIDE 3100: NG3100AC/D*A/B**1*** *****A/D

NIVOGUIDE 8200: NG8200BC*A/B**1**0 *****A/D

Electrical and thermal data:

See attachment to IECEx TUN 19.0007X 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 and NIVOGUIDE 8200 there is a danger of ignition by electrostatic discharge.

Observe manual of the manufacturer and warning label.

2. For 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/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 und 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.

6. The flameproof housing of these devices must be provided with cable entries and filler plugs resp. conduits which are certified according to IEC 60079-0 and IEC 60079-1. The connection cable, the cable entries and filler plugs resp. the conduits have to be suitable for the lowest ambient temperature.

Annex:

Attachment to IECEx TUN 19.0007X _ 0.pdf

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Product:

Subject and Type:

Microwave sensors type series NIVOGUIDE 8100: NG8100A**C***A/B**1*** *****A/D,
NIVOGUIDE 3100: NG3100A**C/D***A/B**1*** *****A/D and NIVOGUIDE 8200: NG8200B**C***A/B**1**0
*****A/D

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, electronics and connection compartment

Supply and signal circuit (Terminal 1[+], 2[-])	U= 9.6 … 35 V d.c U_m = 253 V a.c/d.c I ≤ 3.5 … 22.5 mA (with superimposed HART signal)

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

Supply and signal circuit (Terminal 1[+], 2[-])	U = 9.6 … 35 V d.c U_m = 253 V a.c/d.c I ≤ 3.5 … 22,5 mA (with superimposed HART signal)

Display and adjustment circuit

(Spring contacts in the connection compartment)	Only for connection to the NivoGuide display and adjustment module.

The circuits of NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 are galvanically separated from ground.

The circuits of NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 are galvanically connected to ground potential vial the earth terminals.

The metallic parts of NIVOGUIDE 8100, NIVOGUIDE 3100 and NIVOGUIDE 8200 are electrically connected with the earth terminals.

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Thermal data:
If the microwave sensors are operated in hazardous areas for EPL Ga/Gb and EPL Gb applications, the permissible temperature range on the electronics / housing as well as on the sensor (measuring part, rod) depending on the temperature class can be found in the following table:

Temperature class	Temperature on the sensor (measuring cable, rod)	Ambient temperature on the electronics	
		Housing lid without inspection window	Housing lid with inspection window
T6	-40°C … +80 °C	-40°C … +60 °C	-40 °C … +60 °C
T5	-40°C … +95 °C	-40°C … +61 °C	-40 °C … +61 °C
T4	-40°C … +130 °C	-40°C … +70 °C	-40 °C … +70 °C
T3	-40°C … +195 °C	-40°C … +70 °C	-40 °C … +70 °C
T2	-40°C … +290 °C	-40°C … +70 °C	-40 °C … +70 °C
T1	-40°C … +440 °C	-40°C … +70 °C	-40 °C … +70 °C

Low-temperature execution down to -196 °C

Temperature class	Temperature on the sensor (measuring cable, rod)	Ambient temperature on the electronics	
		Housing lid without inspection window	Housing lid with inspection window
T6	-196°C … +80 °C	-40°C … +60 °C	-40 °C … +60 °C
T5	-196°C … +95 °C	-40°C … +61 °C	-40 °C … +61 °C
T4	-196°C … +130 °C	-40°C … +70 °C	-40 °C … +70 °C
T3	-196°C … +195 °C	-40°C … +70 °C	-40 °C … +70 °C
T2	-196°C … +290 °C	-40°C … +70 °C	-40 °C … +70 °C
T1	-196°C … +440 °C	-40°C … +70 °C	-40 °C … +70 °C

The measuring sensors are allowed to be operated in areas for EPL Ga/Gb and EPL Gb applications only if atmospheric conditions exist (Temperatures: see tables above and 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/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/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.

6. The flameproof housing of these devices must be provided with cable entries and filler plugs resp. conduits which are certified according to IEC 60079-0 and IEC 60079-1. The connection cable, the cable entries and filler plugs resp. the conduits have to be suitable for the lowest ambient temperature.