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 BVS 21.0064X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2021-10-01

Applicant: **UWT GmbH**
Westendstr. 5
87488 Betzigau
Germany

Equipment: **Level limit switch type Capanivo CN 71xx**

Optional accessory:

Type of Protection: **Intrinsic safety "i"; Equipment Levels of Protection**

Marking: **Ex ia IIC T* Ga**
Ex ia IIC T* Ga/Gb
Ex ia IIIC T_{200}* Da/Db

Approved for issue on behalf of the IECEx Certification Body: **Ralf Leiendecker**

Position: **Deputy 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:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

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Manufacturer: **UWT GmbH**
Westendstr. 5
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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 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2021-02 Edition:4.0	Explosive atmospheres - Part 26: Equipment with Separation Elements or combined Levels of Protection

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/BVS/ExTR21.0068/00

Quality Assessment Report:

DE/BVS/QAR11.0007/07

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Description

See Annex

Listing of all components used referring to older standards

See Annex

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The relation between ambient temperature range, process temperature range and temperature class (for gas) or maximum surface temperature (for dust) is shown in the thermal parameters table.
2. If the process temperature exceeds the permissible ambient temperature, the max. resulting temperature close to the enclosure (see dotted line in the manual) shall not exceed the related max. permissible ambient temperature, taking the worst case conditions into account. This shall be verified by measurement when installed.
3. With option FFKM O-ring seal lower ambient temperature range and lower process temperature range are limited to -20 °C.
4. For applications Ga/Gb or Da/Db: The installation of the level limit switch into the separation wall shall be in such a way that technical tightness on the process connection is ensured.The level limit switch shall only be used in process media for which chemical resistance of the materials, which are in contact with the process media, is ensured. The materials which are in contact with the process media are defined by positions 6 and 7 of the type code.
5. For gas- and dust-explosive atmospheres: The apparatus shall be installed in such a way that electrostatic charging hazards on non-metallic parts outside the process can be excluded.
6. For gas-explosive atmospheres only: The apparatus shall be installed in such a way that electrostatic charging hazards on non-metallic parts inside the process can be excluded.
7. For dust-explosive atmospheres only: The intrinsically safe circuits of the apparatus shall be regarded as grounded in the event of a fault. Appropriate measures to avoid danger from circulating fault currents acc. to IEC / EN 60079-14 shall be considered, depending on the installation (e. g. equipotential bonding along the intrinsically safe circuits).

Annex:

BVS_21_0064X_UWT_Annex.pdf

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Certificate No.: **IECEx BVS 21.0064X**
Annex

Description

The level switches series Capanivo CN 71xx... are used for capacitive level measurement in containers, tanks, vessels, silos, hoppers and pipelines.
They consist of a probe, a process connection and a connection housing Ø 65 mm or Ø 35 mm.
The types CN7120/CN7121 have an isolated switching output (transistor output).
Depending on the variant, the connection is made via terminals (for Ø 65 mm housing), plug (for Ø 35 mm housing) or pre-wired connection cable.
Depending on the variant, the probe is mounted on an extension tube or an additional extension cable.
All current limit switches have protection level "ia".
The level switches are suitable for use in areas requiring EPL Ga.
The level switches are also suitable for installation in the partition between areas with EPL Ga requirements and EPL Gb requirements, or in the partition between areas with EPL Da requirements and EPL Db requirements. The process connection is used for installation in the partition wall. The level limit switches maintain the zone separation.

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Digital Isolator U1a (Analog Devices Type ADuM1442ARQZ) [1]	IECEx SIR 16.0091U	IEC 60079-0:2011 Edition 6 IEC 60079-11:2011 Edition 6

[1] No applicable technical differences

Parameters

1. Electrical parameter

1.1 Supply input
2-wire current loop

Terminals 1-2 or connector pin 1-3

Rated voltage		DC	10.8… 30	V
Rated current		8/16 mA or 16/8 mA (max. 4…20 mA)		
Max. input voltage	U_i	DC	30	V
Max. input current	I_i		160	mA
Max. input power	P_i		0.8	W
Effective internal capacitance	C_i		7.6	nF
Effective internal inductance	L_i		0.3	mH

For variants with connection cable (types CN71xx**5 and CN 71xx**6):
400 pF/m and 2 µH/m must be taken into account, if these parameters of the used cable are unknown.

1.2 Signal output
(Transistor output)

Only for types CN7120…, CN7121… with Ø 65 mm-enclosure and terminal block (position 3 in the type code = 1 or 2)

Terminals 4-5

Transistor output

Rated voltage (switching voltage)		DC	30	V
Rated current (switching current)			82	mA
Max. input voltage	U_i	DC	30	V
Max. input current	I_i		200	mA
Max. input power	P_i		0.35	W
Effective internal capacitance	C_i		4.2	nF
Effective internal inductance	L_i		negligible	

For variants with connection cable (types CN71xx**5 and CN 71xx**6):
400 pF/m and 2 µH/m must be taken into account, if these parameters of the used cable are unknown.

2 Thermal parameters

The correlation between
permitted ambient temperature T_a
permitted process temperature T_p
and temperature class (for Group II) or surface temperature (for Group III) is shown in the table below:

For use ≤ 2000 m above sea level:

Ambient temperature T_a	Process temperature T_p	Temperature class (Group II)	Surface temperature (Group III)
-40 °C*…+50 °C	-40 C*…+50 °C	T6	T_{200}80°C
-40 °C*…+65 °C	-40 C*…+65 °C	T5	T_{200}95°C
-40 °C*…+85 °C	-40 C*…+100 °C	T4	T_{200}130°C
-40 °C*…+85 °C	-40 C*…+125 °C	T3	T_{200}155°C

For use > 2000 m ≤ 3000 m above sea level:

Ambient temperature T_a	Process temperature T_p	Temperature class (Group II)	Surface temperature (Group III)
-40 °C*…+45 °C	-40 C*…+45 °C	T6	T_{200}80°C
-40 °C*…+58 °C	-40 C*…+58 °C	T5	T_{200}95°C
-40 °C*…+76 °C	-40 C*…+90 °C	T4	T_{200}130°C
-40 °C*…+76 °C	-40 C*…+112 °C	T3	T_{200}155°C

* for variants with FFKM O-ring:
The lower limit of the temperature range (ambient temperature and process temperature) is limited to -20 °C.