



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 11.0039X** Page 1 of 5 [Certificate history:](#)
Issue 0 (2011-05-24)

Status: **Current** Issue No: 1

Date of Issue: 2020-06-17

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

Equipment: **Level limit switch type ROTONIVO RN 300*, RN 400*, RN 600***

Optional accessory:

Type of Protection: **Flameproof enclosures "d"; Dust ignition protection by enclosure "t"; Increased safety "e"**

Marking: ROTONIVO RN 300*, RN 400*
Ex ta/tb IIIC T*°C Da/Db
-20°C/-40°C ≤ T_{amb} ≤ +30°C up to 60°C * * see thermal data

ROTONIVO RN 600*
Ex db IIC T* Gb or II 2G Ex db eb IIC T* Gb
Ex ta/tb IIIC T*°C Da/Db
-20°C/-40°C ≤ T_{amb} ≤ +30°C up to 60°C * * see thermal data

Approved for issue on behalf of the IECEx
Certification Body:

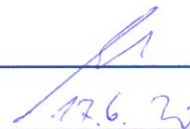
Jörg Koch

Position:

Head of Certification Body

Signature:
(for printed version)

Date:


17.6.20

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2. This certificate is not transferable and remains the property of the issuing body.
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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**
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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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/ExTR11.0059/01](#)

Quality Assessment Report:

[DE/BVS/QAR11.0007/06](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Model/type reference

Level limit switch ROTONIVO

Basic Type	Series RN 300*	Series RN 400*	Series RN 600*
Dedicated housing	Housing 3 or 4	Housing 3 or 4	Housing 1, 2, d, de
Short extension length	RN 3001	RN 4001	RN 6001
Pipe extension vertical	RN 3002	-	RN 6002
Rope extension	RN 3002-rope	-	RN 6002-rope
Angled extension	RN 3003	-	RN 6003
Pipe extension horizontal	RN 3004	-	RN 6004
Extra short version	RN 3005	-	-

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The flameproof joints are not intended to be repaired.
2. The apparatus shall be installed in way that danger caused by electrostatic charges is avoided.



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Equipment (continued):

Description

The level limit switch ROTONIVO RN 300*, RN 400* and RN 600* is a modular concept of level limit switches. It is designed for monitoring the levels in any kind of containers, bins, silos, hoppers and pipes.

The level limit switch is able to detect many kinds of bulk materials which are grained, powdery or muddy.

In the housing the synchronous geared motor rotates a shaft (part of the extension) and a paddle mounted on this shaft. In the case of covering the paddle with bulk material the paddle is obstructed. These two operating conditions (rotating and obstructed) are analysed and covered into electrical output signals.

The whole unit consists of three subassemblies: an extension including a paddle with a shaft, a process connection to connect it to the bin and a housing which includes the motor, gear and electronic.

The types can vary in:

- the type of housing
- the cable entries
- the electronics
- the form of the extension
- the form of the process connection (for example different threaded bushes and flanges)
- the form and material of the paddle
- the materials for the process connection and the extension

The housing can be in type of protection flameproof enclosure "d" or "de" (dependent on the variant) for use in zone 1- areas or protected by enclosure "t" for use in zone 21 – areas.

The sensor itself is situated in zone 1 or zone 20.

Parameters

See Annex



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Updating to the current standards
- „Housing 1“ is omitted

Annex:

[BVS_11_0039X_UWT_Annex_issue1.pdf](#)



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Parameters

1. Electrical data

1.1	Supply		AC	24 V, 48 V, 115 V or 230 V ±10 %* 50/60 Hz 4 VA
	or		DC	24 V ±15 %*, 2.5 W
	or	universal voltage	DC AC	24 V ±15 %*, 4 W or 22 ... 230V ±10 %*, 50/60 Hz, 10 VA * inclusive 10 % acc. EN 61010.

1.2 Signal and alarm output

Signal output
RN 300* and RN 400*:

max.	AC	250 V, 2 A, 500 VA (cos Phi=1)
max.	DC	300 V, 2 A, 60 W

RN 600*:

max.	AC	250 V, 5 A, non-inductive
max.	DC	30 V, 4 A, non-inductive

or
Transistor, max. 0,4 A

Alarm output
RN 300* and RN 400*:

max.	AC	250 V, 2 A, 500 VA (cos Phi=1)
max.	DC	300 V, 2 A, 60 W

RN 600*:

max.	AC	250 V, 5 A, non-inductive
max.	DC	30 V, 4 A, non-inductive

1.3 Units with extra heat resistor Supply / resistance

AC	230 V / 22 kΩ
AC	115 V / 5,6 kΩ
AC	48 V / 1 kΩ
AC	24 V / 220 Ω
DC	24 V / 220 Ω

1.4 Rotational speed of the motor

max. 6 rds/min

2 Thermal data

2.1 Housing directly mounted to the process connection

permitted ambient temperature at the electronics enclosure	-20 °C ≤ T _{amb} ≤ +30 °C up to +60 °C
plastic enclosure without / with heating	-20 °C ≤ T _{amb} ≤ +30 °C up to +60 °C
metal enclosure without heating	-20 °C ≤ T _{amb} ≤ +30 °C up to +60 °C
metal enclosure with heating	-40 °C ≤ T _{amb} ≤ +30 °C up to +60 °C

max. surface temperature and temperature class

max. T _{amb}	max. T _{process}	max. surface temperature T _{surface} (EPL Db)	max. surface temperature T ₂₀₀ (EPL Da)	Temperature-class
30 °C	50 °C	90 °C 120 °C ¹⁾	90 °C 120 °C ¹⁾	T5 T4 ¹⁾
40 °C	60 °C	100 °C 120 °C ¹⁾	100 °C 120 °C ¹⁾	T4
50 °C	70 °C	110 °C 120 °C ¹⁾	110 °C 120 °C ¹⁾	T4
60 °C	80 °C	120 °C	120 °C	T4

¹⁾ data for universal voltage version which is equipped with a thermo fuse of 117 °C



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permitted temperature at the sensor
process connection metal
plastic process connection

-40 °C up to +80 °C
-20 °C up to +80 °C

2.2 Housing mounted to the process connection with temperature adapter

permitted ambient temperature at the electronics enclosure

plastic enclosure without / with heating

-20 °C ≤ T_{amb} ≤ +60 °C

metal enclosure without heating

-20 °C ≤ T_{amb} ≤ +60 °C

metal enclosure with heating

-40 °C ≤ T_{amb} ≤ +60 °C

max. surface temperature and temperature class

max. T _{amb}	max. T _{process}	max. surface temperature T _{surface} (EPL Db)	max. surface temperature T ₂₀₀ (EPL Da)	Temperature-class
60 °C	90 °C	120 °C	120 °C	T4
60 °C	100 °C	120 °C	120 °C	T4
60 °C	110 °C	120 °C	120 °C	T4
60 °C	120 °C	120 °C	120 °C	T4
60 °C	130 °C	130 °C	130 °C	T4
60 °C	140 °C	140 °C	140 °C	T3
60 °C	150 °C	150 °C	150 °C	T3
60 °C	160 °C	160 °C	160 °C	T3
60 °C	170 °C	170 °C	170 °C	T3
60 °C	180 °C	180 °C	180 °C	T3
60 °C	190 °C	190 °C	190 °C	T3
60 °C	200 °C	200 °C	200 °C	T2
60 °C	210 °C	210 °C	210 °C	T2
60 °C	220 °C	220 °C	220 °C	T2
60 °C	230 °C	230 °C	230 °C	T2
60 °C	240 °C	240 °C	240 °C	T2
60 °C	250 °C	250 °C	250 °C	T2

permitted temperature at the sensor
process connection metal

-40 °C up to +250 °C

3 Degree of protection according to IEC 60529

enclosure

IP6x

terminal department in type of protection Increased Safety "e"

IP66