

Translation

EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 11 ATEX E 055 X**

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

Manufacturer: **UWT GmbH**

Address: **Westendstraße 5, 87488 Betzigau, Germany**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 11 ATEX E 055 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential Report No. BVS PP 11.2092 EU.

The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018	General requirements
EN 60079-1:2014	Flameproof enclosure "d"
EN IEC 60079-7:2015 + A1:2018	Increased Safety "e"
EN 60079-31:2014	Protection by Enclosure "t"

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

RN 300*, RN 400*
 II 1/2D Ex ta/tb IIIC T*°C Da/Db * see thermal data

RN 600*
 II 2G Ex db IIC T* Gb or II 2G Ex db eb IIC T* Gb
II 1/2D Ex ta/tb IIIC T*°C Da/Db * see thermal data

DEKRA Testing and Certification GmbH
Bochum, 2020-06-02

Signed: Jörg-Timm Kilisch

Managing Director

13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 11 ATEX E 055 X
Supplement 1**

15 **Product description**

15.1 **Subject and type**

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 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	-	-

15.2 **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.

Reasons for the supplement:

- Change to Directive 2014/34/EU
- Updating to the current standards
- „Housing 1“ is omitted

15.3 Parameters

15.3.1 Electrical data

15.3.1.1 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	24 V ±15 %*, 4 W or
	AC	22 ... 230V ±10 %*, 50/60 Hz, 10 VA * inclusive 10 % acc. EN 61010

15.3.1.2 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

15.3.1.3 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

15.3.1.4 Rotational speed of the motor max. 6 rds/min

15.3.2 Thermal data

15.3.2.1 Housing directly mounted to the process connection	
permitted ambient temperature at the electronics enclosure	
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

permitted temperature at the sensor
process connection metal
plastic process connection

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

- 15.3.2.2 Housing mounted to the process connection with temperature adapter
 permitted ambient temperature at the electronics enclosure
 plastic enclosure without / with heating $-20\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$
 metal enclosure without heating $-20\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$
 metal enclosure with heating $-40\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$

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 $+250\text{ °C}$

- 15.3.3 Degree of protection according to IEC 60529
 enclosure IP6x
 terminal department in type of protection Increased Safety "e" IP66

16 **Report Number**

BVS PP 11.2092 EU, as of 2020-06-02

17 **Special Conditions for Use**

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

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
 In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
 Bochum, 2020-06-02
 BVS-Hk A20190503



Managing Director

