

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 15 ATEX E 012 X**

Product: **Level limit switch type RFnivo RF 3100\*, RF 3200\*, RF 3300\***

Manufacturer: **UWT GmbH**

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

This supplementary certificate extends EC-Type Examination Certificate No. BVS 15 ATEX E 012 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 15.2023 EU.

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

<b>EN IEC 60079-0:2018</b>	<b>General requirements</b>
<b>EN 60079-1:2014</b>	<b>Flameproof enclosure "d"</b>
<b>EN IEC 60079-7:2015 + A1:2018</b>	<b>Increased Safety "e"</b>
<b>EN 60079-11:2012</b>	<b>Intrinsic Safety "i"</b>
<b>EN 60079-31:2014</b>	<b>Protection by Enclosure "t"</b>

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:

 see "Subject and Type"

DEKRA Testing and Certification GmbH  
Bochum, 2020-07-28

Signed: Jörg-Timm Kilisch

Managing Director

13 **Appendix**  
 14 **EU-Type Examination Certificate**

**BVS 15 ATEX E 012 X**  
**Supplement 1**

15 **Product description**

15.1 **Subject and type**

Level limit switch

	RFnivo RF 3100*)	RFnivo RF 3200*)	RFnivo RF 3300*)
Mechanical construction of Probe Extension	standard	heavy duty	ceramics
Electronics Enclosure	„t“ or „d“ or „de“		
Probe	Ex ia IIC/IIIC		

\*) this asterisk represents further type variants which are documented in drawing 004-01ATEX, IECEx (RFnivo RF3, Type Code)

**Marking**

Compact version

enclosure 2, 3 and 4

⊕ II 1/2D Ex ia/tb IIIC T\* Da/Db \*see thermal data

enclosure d

⊕ II 2G Ex db ia IIC T\* Gb or II 2G Ex db ia IIB T\* Gb  
 II 1/2D Ex ia/tb IIIC T\* Da/Db \*see thermal data

enclosure de

⊕ II 2G Ex db eb ia IIC T\* Gb or II 2G Ex db eb ia IIB T\* Gb  
 II 1/2D Ex ia/tb IIIC T\* Da/Db \*see thermal data

Remote version

enclosure 2, 3 and 4

electronics enclosure

⊕ II 2D Ex tb [ia] IIIC T\* Db \* see thermal data

junction box + probe

⊕ II 1/2D Ex ia/tb IIIC T\* Da/Db \* see thermal data

enclosure d

electronics enclosure

⊕ II 2G Ex db [ia] IIC T\* Gb or II 2G Ex db [ia IIC] IIB T\* Gb  
 II 2D Ex tb [ia] IIIC T\* Db \* see thermal data

Junction box + probe

⊕ II 2G Ex ia IIC T\* Gb  
 II 1/2D Ex ia/tb IIIC T\* Da/Db \* see thermal data

Enclosure de

Electronics enclosure

⊕ II 2G Ex db eb [ia] IIC T\* Gb or II 2G Ex db eb [ia IIC] IIB T\* Gb  
 II 2D Ex tb [ia] IIIC T\* Db \* see thermal data

Junction box + probe

⊕ II 2G Ex ia IIC T\* Gb  
 II 1/2D Ex ia/tb IIIC T\* Da/Db \* see thermal data

## 15.2 Description

With this supplement the certificate is changed to Directive 2014/34/EU.  
 (Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

The level limit switch RFnivo RF 3\*00\* is used for level monitoring in all types of containers and silos. It can be used with all powdery and granulated bulk materials, slurry and liquids.

An electric field is created between the probe and container wall to for monitoring the level. An increase of the dielectric constant due to the presence of material changes the electric field. This change is detected by the electronics and converted into an electrical output signal.

The unit consists of the probe extension (optional mounted to a pipe or extended by rod or rope), a process connection and a housing. The electronics is located inside the housing. The enclosure can be fixed directly (normal version) or by cable (max. cable length 25 m, remote version) to the process connection.

The general design of the devices can vary in:

- the type of enclosure
- the cable inlets
- the electronics
- the form of the extension
- the form of the process connection (for example different threaded bushes and flanges)
- the materials for the extension, process connection and housing
- different options

The enclosure 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 probe extension itself is always situated in zone 1 or zone 20.

Depending on the bushing the equipment is suitable for use in gas group IIB or IIC.

### Reasons for the supplement:

- Change to Directive 2014/34/EU
- Updating to the current standards
- A further enclosure variant is added (housing 2)
- Revision of list of sealing materials

## 15.3 Parameters

### 15.3.1 Electrical data

#### 15.3.1.1 Nominal voltage or

AC 21 up to 230 V +/-10%\*, 50-60 Hz, max. 1.5 VA  
 DC 21 up to 230 V +/-10%\*, max. 1.5 W  
 \* incl. +/-10% of EN 61010

Max. voltage	U <sub>m</sub>	AC	265	V
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#### 15.3.1.2 Signal output

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

Max. voltage	U <sub>m</sub>	AC	265	V
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#### 15.3.1.3 Sensor circuit (Internally, type of protection Ex ia IIC, max. cable length for remote version 25 m)

Voltage	U <sub>o</sub>	2.5	V
Current	I <sub>o</sub>	183	mA
Power	P <sub>o</sub>	129	mW

### 15.3.2 Thermal data

#### 15.3.2.1 Compact version

T <sub>amb</sub>	max. T <sub>Process</sub>	max. surface temperature T <sub>surface</sub> (EPL Db)	max. surface temperature T <sub>200</sub> (EPL Da)	Temperature-class (EPL Gb)
-20 °C...+70 °C <sup>(1)</sup>	80 °C	120 °C	120 °C	T4
-40 °C...+70 °C <sup>(2)</sup>	120 °C	120 °C	120 °C	T4
-40 °C...+60 °C <sup>(3)</sup>	250 °C	250 °C	250 °C	T2
	445 °C <sup>(4)</sup>	445 °C <sup>(4)</sup>	445 °C <sup>(3)</sup>	T1 <sup>(4)</sup>

- (1) For versions with plastic enclosure (housing 4)
- (2) For versions with metallic enclosure (housing 2 or 3)
- (3) For versions with metallic enclosure (housing d or de)
- (4) only with RFnivo RF 3300\*

The max. surface temperature at the electronics enclosure is limited to 120 °C by a thermo fuse.

#### 15.3.2.2 Remote Version

##### 15.3.2.2.1 Electronics enclosure

T <sub>amb</sub>	max. surface temperature T <sub>surface</sub> (EPL Db)	Temperature-class (EPL Gb)
-20 °C...+70 °C <sup>(1)</sup>	120 °C	T4
-40 °C...+70 °C <sup>(2)</sup>		
-40 °C...+60 °C <sup>(3)</sup>		

- (1) For versions with plastic enclosure (housing 4)
- (2) For versions with metallic enclosure (housing 2 or 3)
- (3) For versions with metallic enclosure (housing d or de)

The max. surface temperature at the electronics enclosure is limited to 120 °C by a thermo fuse.

##### 15.3.2.2.2 Junction box + probe

T <sub>amb</sub>	max. T <sub>Process</sub>	max. surface temperature T <sub>surface</sub> (EPL Db)	max. surface temperature T <sub>200</sub> (EPL Da)	Temperature-class (EPL Gb)
-20 °C...+70 °C <sup>(1)</sup>	80 °C	80 °C	80 °C	T6
-40 °C...+70 °C <sup>(2)</sup>	120 °C	120 °C	120 °C	T4
	250 °C	250 °C	250 °C	T2
	445 °C <sup>(4)</sup>	445 °C <sup>(4)</sup>	445 °C <sup>(4)</sup>	T1 <sup>(4)</sup>

- (1) For versions with plastic enclosure (junction box 4)
- (2) For versions with metallic enclosure (junction box 3)
- (4) only with RFnivo RF 3300\*

### 15.3.3 Degree of protection for the enclosure

IP64

16 **Report Number**

BVS PP 15.2023 EU, as of 2020-07-28

17 **Special Conditions for Use**

17.1 For remote version: Along the intrinsically safe circuit between electronics enclosure and probe equipotential equalization must exist.

17.2 The apparatus shall be installed in a 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.

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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, 2020-07-28  
BVS-Hk A20190501

  
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Managing Director