

Translation

# EU-Type Examination Certificate Supplement 2

Change to Directive 2014/34/EU

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

EU-Type Examination Certificate Number: **BVS 03 ATEX E 241**

Product: **Sensor Amplifier type ExDodes**

Manufacturer: **Brosa AG**

Address: **Dr. Klein Straße 1, 88069 Tettngang, Germany**

This supplementary certificate extends EC-Type Examination Certificate No. BVS 03 ATEX E 241 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. PP 03.2199 EU.

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

**EN 60079-0:2012 + A11:2013      General requirements**  
**EN 60079-11:2012                  Intrinsic Safety "i"**

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:

 **II 2G Ex ib IIC T4 Gb**

DEKRA Testing and Certification GmbH  
Bochum, 2019-05-23

Signed: Jörg-Timm Kilisch

Managing Director

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

**BVS 03 ATEX E 241**  
**Supplement 2**

15 **Product description**

15.1 **Subject and type**

Sensor Amplifier type ExDodes

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.)

**Reason for the supplement:**

- Rights and obligations, dealing with manufacturing and putting on the market of electrical equipment, subject to EG-Type Examination Certificate BVS 03 ATEX E 241, including 1<sup>st</sup> supplement thereto, have been transferred from

Rüthi Electronic AG Büchlenastrasse 20 9464 Rüthi (Switzerland)	to	BROSA AG Dr. Klein Strasse 1 D-88069 Tettngang (Germany)
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Date of transfer: Sept. 22, 2018.

Last apparatus serial number allocated to manufacturer Rüthi Electronic AG: 1812700060  
 First apparatus serial number allocated to manufacturer BROSA AG: 100305100001

- Extension of the Sensor Amplifier with a new variant.
- Change to Directive 2014/34 EU of the Examination Certificate transferred to BROSA AG

**Description of the product**

The ExDodes is a sensor amplifier with an intrinsically safe power supply. The amplifier is used in force measuring pins and tension load cells to evaluate voltage changes in strain gauges and translate them into a 4 – 20 mA signal.

The force measuring pins and tension load cells each consist of a stainless steel housing with different mechanical modules and dimensions, depending on the specific measuring task.

The electronic components of the sensor amplifier - the strain gauge strips and electronic circuit boards of the amplifier itself – are isolated in a chamber or in an enclosure within the respective pin or load cell.

The intrinsically safe supply and signal circuit is either connected to a plug connector or led outside the enclosure by way of a fixed cable with free cable ends.

15.3 **Parameters**

15.3.1 3-wire supply and signal circuit

Voltage	$U_i$	DC	26.4	V
Current	$I_i$		51	mA
Power	$P_i$		1.2	W
Effective internal capacity	$C_i$	$\leq$	35	nF
Effective internal inductance	$L_i$	$\leq$	negligible	
Effective internal capacity	$C_i$	$\leq$	35	nF + 0,3 nF/m *)
Effective internal inductance	$L_i$	$\leq$	1	$\mu$ H/m) *)

\*) version with permanently connected cable

15.3.2 Ambient temperature range:  $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$

16 **Report Number**

BVS PP 03.2199 EU, as of 2019-05-23

17 **Special Conditions for Use**

None

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, dated 2019-05-23  
BVS-Scha/VKA A20180767




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Managing Director

## Translation

# (1) 1. Supplement to the EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6
- (3) No. of EC-Type Examination Certificate: **BVS 03 ATEX E 241**
- (4) Equipment **Measuring Amplifier type ExDodes**
- (5) Manufacturer: **Rüthi Electronic AG**
- (6) Address: **Büchlenaustrasse 20, 9464 Rüthi, Switzerland**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment report BVS PP 03.2199 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- EN 60079-0:2012 General requirements**  
**EN 60079-11:2012 Intrinsic safety 'i'**
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

 **II 2G Ex ib IIC T4 Gb**

DEKRA EXAM GmbH  
 Bochum, dated 15<sup>th</sup> February 2013

Signed: Simanski

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 Certification body

Signed: Dr. Eickhoff

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 Special services unit

- (13) Appendix to
- (14) **1. Supplement to the EC-Type Examination Certificate  
BVS 03 ATEX E 241**

(15) 15.1 Subject and type

Measuring Amplifier type ExDodes

15.2 Description

The editions of applied standards have been subjected to update from EN 50014:1997+A1-A2 and EN 50020:2002 to EN 60079-0:2012 and EN 60079-11:2012.

The construction of the measuring amplifier remains unchanged.

15.3 Parameters

No change

(16) Test and assessment report

BVS PP 03.2199 EG as of 15<sup>th</sup> February 2013

(17) Special conditions for safe use

None

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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 EXAM GmbH  
44809 Bochum, 15<sup>th</sup> February 2013  
BVS-Scha/Ma A 20121365

A handwritten signature in blue ink, appearing to be "Limb", written over a horizontal line.

Certification body

A handwritten signature in green ink, appearing to be "Rehloff", written over a horizontal line.

Special services unit



Translation

**EC-Type Examination Certificate**

(1)

(2)

**- Directive 94/9/EC -  
Equipment and protective systems intended for use  
in potentially explosive atmospheres**

(3)

**BVS 03 ATEX E 241**

(4) **Equipment:** Sensor amplifier type ExDodes

(5) **Manufacturer:** Rüthi Electronic AG

(6) **Address:** 9464 Rüthi, Switzerland

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.  
The examination and test results are recorded in the test and assessment report BVS PP 03.2199 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997 General requirements  
EN 50020:2002 Intrinsic Safety 'i'

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.  
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:

**II 2G EEx ib IIC T4**

**EXAM BBG Prüf- und Zertifizier GmbH**

Bochum, dated 16. July 2003

Signed: Dr. Jockers

Signed: Dr. Eickhoff

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Certification body

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Special services unit

(13) Appendix to

(14) **EC-Type Examination Certificate**

**BVS 03 ATEX E 241**

(15) 15.1 Subject and type  
Sensor amplifier type ExDodes

15.2 Description

The ExDodes is a sensor amplifier with an intrinsically safe power supply. The amplifier is used in force measuring pins and tension load cells to evaluate voltage changes in strain gauges and translate them into a 4-20mA signal.

The force measuring pins and tension load cells each consist of a stainless steel housing with different mechanical modules and dimensions, depending on the specific measuring task.

The electronic components of the sensor amplifier - the strain gauge strips and electronic circuit boards of the amplifier itself – are isolated in a chamber or in an enclosure within the respective pin or load cell.

The intrinsically safe supply and signal circuit is either connected to a plug connector or led outside the enclosure by way of a fixed cable with free cable ends.

15.3 Parameters

15.3.1 3-wire supply and signal circuit

Voltage	$U_i$	DC	26.4	V	
Current	$I_i$		51	mA	
Power	$P_i$		1.2	W	
Effective internal capacity	$C_i$	$\leq$	35	nF	
Effective internal inductance	$L_i$	$\leq$		negligible	
Effective internal capacity	$C_i$	$\leq$	35	nF + 0.3 nF/m	*)
Effective internal inductance	$L_i$	$\leq$	1	$\mu$ H/m)	*)

\*) version with permanently connected cable

15.3.2 Ambient temperature range:  $-40\text{ }^\circ\text{C} \leq T_a \leq +85\text{ }^\circ\text{C}$

(16) Test and assessment report  
BVS PP 03.2199 EG, as of 16.07.2003

(17) Special conditions for safe use  
Not applicable.

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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.

44809 Bochum, 12. September 2008  
BVS-Scha/Sz E-Nr. 1349/08

**DEKRA EXAM GmbH**



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Certification body



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Special services unit