Translation

1 EU-Type Examination Certificate Supplement 2

Change to Directive 2014/34/EU

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

3 EU-Type Examination Certificate Number: **BVS 05 ATEX E 167 X**

4 Product: **Angle sensor type 0813**

5 Manufacturer: **Brosa AG**

6 Address: **Dr. Klein Straße 1, 88069 Tettnang, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 05 ATEX E 167 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.

8 DEKRA EXAM 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 05.2137 EU.

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

EN 60079-0:2012 + A11:2013	**General requirements**
EN 60079-1:2014	**Flameproof enclosure "d"**

10 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.

11 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.

12 The marking of the product shall include the following:

II 2G Ex db IIB T4 Gb	Variant with separately certified cable gland with sealing ring.
II 2G Ex db IIC T4 Gb	Variant with separately certified cable gland with setting compound or separately certified plug / socket system.

DEKRA EXAM GmbH
Bochum, 2018-06-13

Signed: Jörg Koch
Certifier

Signed: Dr Michael Wittler
Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 05 ATEX E 167 X
Supplement 2

15 **Product description**

15.1 **Subject and type**

Angle sensor type 0813

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.)

Reasons for the supplement:

- Change to Directive 2014/34/EU
- Upgrading to new standards
- Constructive enclosure modification
- Change of the type designation from type 0803 to type 0813

Description of Product:

The angle sensor is designed in type of protection Flameproof Enclosure "d" for use in potentially explosive gas atmospheres.

The type 0813 consists of three enclosure parts. A baseplate for mounting it on the machine, a cylindrical housing for the measuring equipment and a screwed on lid.

The enclosure could be made of an aluminium alloy, steel or stainless steel.

The variant of the angle sensor type 0813 used with a separately certified cable gland which has got a sealing ring is suitable for use in areas with Gas Group IIB. The variant of the angle sensor type 0813 used with a separately certified cable gland with potting compound or with a separately certified plug / socket system is suitable for use in areas with Gas Group IIC.

15.3 **Parameters**

Electrical parameters

Input voltage U_{in}	DC	9 up to 36	V
Input current I_{in}		5 up to 100	mA
Output voltage U_{out}	DC	0 up to 10	V
Output current I_{out}		0 up to 25	mA

Thermal parameters

Ambient temperature range	$-40\ °C \leq T_{amb} \leq +80\ °C$
Temperature class	T4

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

16 **Report Number**

BVS PP 05.2137 EU, as of 2018-06-13

17 **Special Conditions for Use**

17.1 The free ending of the supply lead must be connected outside from explosive hazardous areas or within a suitable and separately certified terminal box.

17.2 Fasteners with a screw quality of 8.8 minimum have to be used for the closing of the flameproof enclosure. A related note is part of the manual.

17.3 The lengths of the flameproof joints are in parts longer and the gaps of the flameproof joints are in parts smaller than the values of table 2 and 3 of EN 60079-1:2014. For information of the dimensions of the flameproof joints contact the manufacturer.

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 EXAM GmbH
Bochum, dated 2018-06-13
BVS-Wlo/Mu A 20150123

Certifier

Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

Translation

(1) # EC-Type Examination Certificate

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

(3) ## BVS 05 ATEX E 167 X

(4) **Equipment:** **Angle transmitter type 0803**

(5) **Manufacturer:** **EBM-Brosa Messgeräte GmbH & Co. KG**

(6) **Address:** **88069 Tettnang, Germany**

(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 05.2137 EG.

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

EN 50014:1997 + A1 – A2 General requirements
EN 50018:2000 +A1 Flameproof enclosure 'd'

(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 d IIC T4

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 15. November 2005

Signed: Dr. Jockers
Certification body

Signed: Dr. Wittler
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 05 ATEX E 167 X

(15) 15.1 Subject and type

Angle transmitter type 0803

15.2 Description

The angle transmitter consists of a socket-shaped base; a lid that can be screwed onto the base; a cable entry separately certified, and a lead. Base and lid are made of an aluminium alloy.
The angle transmitter is a measuring device that is used in industry to measure the angle positions of components with rotary bearings.

15.3 Parameters

Input voltage	U_E	DC	9 – 36	V
Input current	I_E		20 – 87	mA
Output voltage		DC	0 – 10	V
or				
Output current			4 – 20	mA
Ambient temperature range			- 40 °C ≤ Ta ≤ +80 °C	

(16) Test and assessment report

BVS PP 05.2137 EG as of 15.11.2005

(17) Special conditions for safe use

The loose end of the lead has to be accommodated in a suitable enclosure within any Ex-area or fixed outside the Ex-area.

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, 16.02.2009
BVS-Kem/Ar E 0175/09

DEKRA EXAM GmbH

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com