Translation

1 EU-Type Examination Certificate Supplement 1

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 15 ATEX E 109**

4 Product: **Transmitter types**
ESW-small Ex-i 10-, ESW-small Ex-i 10-**_T,**
ESW-small Ex-i M 10-, ESW-small Ex-i M 10-**_T,**
ESW-small Ex-i SIL 10-, ESW-small Ex-i SIL 10-**_T,**
ESW-small Ex-i M-SIL 10-, ESW-small Ex-i M-SIL 10-**_T**

5 Manufacturer: **holthausen elektronik GmbH**

6 Address: **Wevelinghoven 38, 41334 Nettetal, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 15 ATEX E 109 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 15.2223 EU.

9 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"**

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 ia IIC T4 Gb

DEKRA EXAM GmbH
Bochum, 2018-07-17

Signed: Jörg Koch
Certifier

Signed: Dr Michael Wittler
Approver

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 15 ATEX E 109
Supplement 1

15 **Product description**

15.1 **Subject and type**

Transmitter types	ESW-small Ex-i 10-**,	ESW-small Ex-i 10-**_T,
	ESW-small Ex-i M 10-**,	ESW-small Ex-i M 10-**_T,
	ESW-small Ex-i SIL 10-**,	ESW-small Ex-i SIL 10-**_T,
	ESW-small Ex-i M-SIL 10-**,	ESW-small Ex-i M-SIL 10-**_T

The type characteristic "M" (for maritime) marks transmitters with sea water resistant enclosure for use on ships.
The type ending "_T" marks transmitters with extended ambient temperature range.

In the complete type designation, the asterisks are replaced by numerals indicating different variations of the transmitter which differ in measuring range, frequency range and signal evaluation.
These variants are not relevant for explosion protection.

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.)

Description of the product:
The transmitters type ESW-small Ex-i... are electronic vibration monitors. They are mounted to the monitored machine with a threaded bolt and transform the vibrations into a 4-20 mA-current signal.

The transmitters are passive intrinsically safe apparatus and are suitable for use in areas requiring EPL Gb. All circuits have level of protection IIC ia.

The transmitters have a stainless steel enclosure with removable lid.
The electronic is molded inside the enclosure. An indication-LED is protruding from the encapsulation; it is visible after unscrewing the lid of the enclosure.
The transmitters are supplied via a permanently connected cable (max. 20 m length).

Reasons for the supplement:
- Change to Directive 2014/34/EU
- For type ESW-small Ex-i M 10-**:
  Minor changes in schematics and layout
- Introduction of new types

Listing of all components used referring to older standards:
None

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15.3 **Parameters**

15.3.1 Electrical data

Supply and signal circuit
permanently connected cable, wires white (+) and brown (-)

Maximum input voltage	U_i	DC	28.8	V
Maximum input current	I_i		125	mA
Maximum input power	P_i		1	W

The effective capacitance C_i and effective inductance L_i of the apparatus are composed of the (concentrated) capacitance and inductance of the apparatus and the parameters of the connected cable:

Effective concentrated capacitance	10	nF
Effective concentrated inductance	30	µH
Cable capacitance	211	nF/km
Cable inductance	0.65	mH/km

15.3.2 Ambient temperature range T_a

for types without ending „_T“:	-40 °C...50 °C
for types with ending „_T“:	-40 °C...65 °C

16 **Report Number**

BVS PP 15.2223 EU, as of 2018-07-17

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.

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 2018-07-17
BVS-Su/Nu A20161036

Certifier

Approver

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