Translation

1 # EU-Type Examination Certificate

2 **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

3 EU-Type Examination Certificate Number: **BVS 08 ATEX E 088 X** Issue: **01**

4 Equipment: **Vibration monitor type ESW®-small-Ex….**

5 Manufacturer: **holthausen elektronik GmbH**

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

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 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 08.2118 EU.
This issue of the EU-Type Examination Certificate replaces the previous issue of the EC-Type Examination Certificate BVS 08 ATEX E 088 X including supplements 1 to 3.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018	**General requirements**
EN 60079-1:2014	**Flameproof enclosure “d”**
EN 60079-31:2014	**Protection by Enclosure “t”**

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the “Specific Conditions of Use” listed under item 17 of this certificate.

11 This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. 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 2D Ex db IIC T4 up to T6 Gb **
II 2D Ex tb IIIC T80°C up to T115°C Db **
**) see parameters

DEKRA Testing and Certification GmbH
Bochum, 2023-08-15

Signed: Oliver Brumm

Managing Director

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 08 ATEX E 088 X issue 01

15 **Product description**

15.1 **Subject and type**

Vibration monitor type ESW®-small-Ex….

The dots in the type reference will be replaced by numbers representing the material, the enclosure size and the position of the cable entry.

15.2 **Description**

The vibration monitor type ESW®-small-Ex… is manufactured to meet the requirements of the type of protection Flameproof Enclosure “d” and Protection by Enclosure “t”. It is intended to protect machines against non-permissible vibration and for the use in atmospheres where combustible gases or dusts are present.

Reason for this issue

- Change to Directive 2014/34/EU
- Update of the used revision of the standards
- Change of the permitted minimum ambient temperature from -20 °C to -60 °C

15.3 **Parameters**

15.3.1 Electrical parameters

Rated voltage	DC	24	V
Maximum voltage	DC	30	V
Rated power	up to	2.5	W
Current of analogue output	up to	20	mA
Voltage of potential-free switch contact	up to	30	V
Current of potential-free switch contact	up to	1	A

15.3.2 Temperature class allocation

Lower ambient temperature -60 °C up to -20 °C
The used lower ambient temperature will be included in the marking of the equipment and is related with a choice of an applicable cable entry and cable.

Upper ambient temperature See table 15.3.3 “Upper ambient temperature“

15.3.3 Table “Upper ambient temperature“

Enclosure size type	Maximum Power in W	Upper ambient temperature	Temperature-class for category 2G	Temperature-marking for category 2D	Necessary temperature for the cable	Necessary temperature for the cable entry
1	0.5 W	+70 °C	T6	T 80 °C	80 °C	80 °C
1	0.5 W	+80 °C	T5	T 90 °C	90 °C	90 °C
1	1.0 W	+65 °C	T6	T 80 °C	85 °C	85 °C
1	1.0 W	+70 °C	T5	T 85 °C	90 °C	90 °C
1	1.0 W	+85 °C	T4	T 100 °C	105 °C	100 °C
1	1.5 W	+60 °C	T6	T 80 °C	85 °C	85 °C
1	1.5 W	+65 °C	T5	T 85 °C	90 °C	90 °C
1	1.5 W	+85 °C	T4	T 105 °C	110 °C	105 °C
1	2.0 W	+55 °C	T6	T 80 °C	90 °C	90 °C
1	2.0 W	+70 °C	T5	T 95 °C	105 °C	95 °C

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1	2.0 W	+85 °C	T4	T 110 °C	120 °C	110 °C
1	2.5 W	+50 °C	T6	T 80 °C	90 °C	90 °C
1	2.5 W	+65 °C	T5	T 95 °C	105 °C	95 °C
1	2.5 W	+85 °C	T4	T 115 °C	125 °C	115 °C
2	0.5 W	+70 °C	T6	T 80 °C	80 °C	80 °C
2	0.5 W	+80 °C	T5	T 90 °C	90 °C	90 °C
2	1.0 W	+65 °C	T6	T 80 °C	80 °C	80 °C
2	1.0 W	+75 °C	T5	T 90 °C	90 °C	90 °C
2	1.0 W	+85 °C	T4	T 100 °C	100 °C	100 °C
2	1.5 W	+60 °C	T6	T 80 °C	80 °C	80 °C
2	1.5 W	+70 °C	T5	T 90 °C	90 °C	90 °C
2	1.5 W	+85 °C	T4	T 105 °C	105 °C	105 °C
2	2.0 W	+55 °C	T6	T 80 °C	80 °C	80 °C
2	2.0 W	+65 °C	T5	T 90 °C	90 °C	90 °C
2	2.0 W	+85 °C	T4	T 110 °C	110 °C	105 °C
2	2.5 W	+55 °C	T6	T 80 °C	85 °C	85 °C
2	2.5 W	+60 °C	T5	T 85 °C	90 °C	105 °C
2	2.5 W	+85 °C	T4	T 110 °C	115 °C	110 °C
3	0.5 W	+70 °C	T6	T 80 °C	80 °C	80 °C
3	0.5 W	+80 °C	T5	T 90 °C	90 °C	90 °C
3	1.0 W	+65 °C	T6	T 80 °C	80 °C	80 °C
3	1.0 W	+75 °C	T5	T 90 °C	90 °C	90 °C
3	1.0 W	+85 °C	T4	T 100 °C	100 °C	100 °C
3	1.5 W	+60 °C	T6	T 80 °C	80 °C	80 °C
3	1.5 W	+70 °C	T5	T 90 °C	90 °C	90 °C
3	1.5 W	+85 °C	T4	T 105 °C	105 °C	105 °C
3	2.0 W	+55 °C	T6	T 80 °C	80 °C	80 °C
3	2.0 W	+65 °C	T5	T 90 °C	90 °C	90 °C
3	2.0 W	+85 °C	T4	T 110 °C	110 °C	105 °C
3	2.5 W	+55 °C	T6	T 80 °C	85 °C	85 °C
3	2.5 W	+60 °C	T5	T 85 °C	90 °C	105 °C
3	2.5 W	+85 °C	T4	T 110 °C	115 °C	110 °C
4	0.5 W	+70 °C	T6	T 80 °C	80 °C	80 °C
4	0.5 W	+80 °C	T5	T 90 °C	90 °C	90 °C
4	1.0 W	+65 °C	T6	T 80 °C	80 °C	80 °C
4	1.0 W	+75 °C	T5	T 90 °C	90 °C	90 °C
4	1.0 W	+85 °C	T4	T 100 °C	100 °C	100 °C
4	1.5 W	+60 °C	T6	T 80 °C	85 °C	85 °C
4	1.5 W	+70 °C	T5	T 90 °C	90 °C	90 °C
4	1.5 W	+85 °C	T4	T 105 °C	105 °C	100 °C
4	2.0 W	+60 °C	T6	T 80 °C	85 °C	85 °C
4	2.0 W	+65 °C	T5	T 90 °C	90 °C	90 °C
4	2.0 W	+85 °C	T4	T 105 °C	110 °C	105 °C
4	2.5 W	+55 °C	T6	T 80 °C	85 °C	85 °C
4	2.5 W	+60 °C	T5	T 85 °C	90 °C	90 °C
4	2.5 W	+85 °C	T4	T 110 °C	115 °C	110 °C

The used lower ambient temperature will be included in the marking of the equipment and is related with a choice of an applicable cable entry and cable.

16 Report Number

BVS PP 08.2118 EU, as of 2023-08-15

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17 Specific Conditions of Use

17.1 The dimensions of the flameproof joints are in parts other than the relevant minimum or maximum values of EN 60079-1:2014. For information on the dimensions of the flameproof joints contact the manufacturer.

17.2 The enclosure has to be integrated into the potential equalization of the machine to be monitored; this can be done either via the fastenings or via the connecting terminal.

17.3 The free cable end of the vibration monitor has to be connected either in an enclosure in one the types of protection stated in section 1 of EN IEC 60079-0:2018 or outside the explosive atmosphere.

17.4 In applications in Zone 21 it must be ensured when installing the connection cable that electrostatic charging cannot lead to ignitable discharges.

17.5 In applications in Zone 21: The vibration monitor must be used only in areas where strong or repeated charging processes are not expected to occur.

18 Essential Health and Safety Requirements

Met by compliance with the requirements mentioned in item 9.

19 Remarks and additional information

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, 2023-08-15
BVS-KSc/Kir/Mu A 20230327 / 343066200

Managing Director

DAkkS Deutsche Akkreditierungsstelle D-ZE-17438-02-00

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