(1) # 2. 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 08 ATEX E 088 X**

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

(5) Manufacturer: **holthausen elektronik GmbH**

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

(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 08.2118 EG.

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

EN 60079-0:2009 General requirements
EN 60079-1:2007 Flameproof enclosure „d“
EN 60079-31:2009 Protection by enclosures „t“

(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 d IIC T4 up to T6 Gb **

II 2D Ex tb IIIC T80°C up to T115°C Db **

**) – see parameters

DEKRA EXAM GmbH
Bochum, dated 15.07.2013

signed H.-Ch. Simanski
Certification body

signed Ralf Leiendecker
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(13) Appendix to

(14) **2. Supplement to the EC-Type Examination Certificate**
BVS 08 ATEX E 088 X

(15) 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'. It is intended to protect machines against non-permissible vibration and for the use in atmospheres where combustible gases or dusts are present.
The reason for the supplement is that the permitted lower ambient temperature has changed from -40 °C to -60 °C.

15.3 Parameters

15.3.1 Electrical parameters

Rated voltage	DC	24	V
Maximum voltage	DC	30	V
Rated power		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 -20 °C up to -60 °C

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

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
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

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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

(16) Test and Assessment Report

BVS PP 08.2118 EG as of 15.07.2013

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(17) Special conditions for safe use

17.1 The dimensions of the flameproof joints are in parts other than the relevant minimum or maximum values of EN 60079-1:2007. For information on the dimensions of the flameproof joints contact the manufacturer.

17.2 The enclosure has to be integrated into the potential equalisation 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 sec. 1 of EN 60079-0:2009 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.

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, 15.07.2013
BVS-Ld/Sch A 20121375

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +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 08 ATEX E 088 X

(4) **Equipment:** **Vibration monitor type ESW-small-Ex....**

(5) **Manufacturer:** **holthausen elektronik GmbH**

(6) **Address:** **41334 Nettetal, 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 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 08.2118 EG.

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

EN 60079-0:2006	General requirements
EN 60079-1:2007	Flameproof enclosure
EN 61241-0:2006	General requirements
EN61241-1:2004	Protection by enclosures

(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 Ex d IIC T4 up to T6
II 2D Ex tD A21 IP68 T115°C up to T80°C

DEKRA EXAM GmbH
Bochum, dated 05. August 2008

Signed: Dr. Jockers
Certification body

Signed: Dr. Eickhoff
Special services unit

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(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 08 ATEX E 088 X

(15) 15.1 Subject and type

Vibration monitor type ESW-small-Ex....

15.2 Description

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

15.3 Parameters

15.3.1 Electrical parameters

Rated voltage	DC	24	V
Maximum voltage	DC	30	V
Rated power		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 allocated

The temperature classes and the ambient temperatures are allocated by the size of the enclosure and the power loss and further determined in the instruction manual.

(16) Test and assessment report
BVS PP 08.2118 EG as of 05.08.2008

(17) Special conditions for safe use
The enclosure has to be integrated into the potential equalisation of the machine to be monitored; this can be done either via the fastenings or via the connecting terminal.

The free cable end of the vibration monitor has to be connected either in an enclosure in one the types of protection stated in sec. 1 of EN60079-0:2006 or outside the explosive atmosphere.

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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, 12.08.2008
BVS-Kr/Ar E 1210/08

DEKRA EXAM GmbH

Certification body

Special services unit

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