



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **PTZ 16ATEX0029X** Issue: **4**

4 Equipment: **Vibration Control HE100.01, HE100.02, HE101.01, HE102.01 and HE103.01.**

5 Applicant: **HAUBER-Elektronik GmbH**

6 Address: **Fabrikstraße 6
72622 Nürtingen
Germany**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018/AC:2020-02 EN 60079-1:2014 IEC 60079-11:2023 Ed 7
EN 60079-31:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

HE100.01, HE101.01, HE102.01, HE103.01



II 2GD
Ex db IIC T4 Gb
Ex tb IIIC T120°C Db
Ta = -40°C to +60°C

HE100.02



II 2GD
Ex ib IIC T4 Gb
Ex ib IIIC T125°C Db
Ta = -40°C to +60°C



Signed: Michelle Halliwell

Title: Director of Operations

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

Series HE100:

The vibration control is used for measurement and monitoring the absolute bearing vibration at machines according to the standard DIN ISO 10816.

The model H100.01 is equipped with an integrated cable and is as Ex d / Ex tb-Version variable. The Model HE100.02 is the Ex ib Version of the series HE100 and is equipped with an M12 plug connection. Only Pin 1 and 3 is used the plug connection.

The model HE100.02 is the Ex ib Version of the Series HE100 and is equipped as Standard with an M12 Plug connection and alternatively with an integrated cable, the same design as by the Model HE100.01.

Series HE101.01:

The vibration control is used for measurement and monitoring the absolute bearing vibration at machines according to the standard DIN ISO 10816. Furthermore this vibration control is equipped with a temperature sensor for measuring the surface temperature of the machine. The Model HE101.01 is only as Ex d / Ex tb-Version available.

Series HE102.01:

The vibration monitoring type HE102.01 is used for measuring and monitoring of Vibrations used on machines.

It has the following features:

- Operating principle: the two-wire system.
- Measured variable: The effective value (rms) of the vibration acceleration in g.
- Analog current output: Interference-proof direct current signal of 4 ... 20 mA, proportional to the measuring range of the monitoring.
- Cable break on the monitoring cable can be detected by a following signal conditioning instrument: Value of the DC signal <3.5 mA.

Series HE103.01:

The vibration monitoring type HE103.01 is used to measure and monitor the absolute Bearing vibration on machines used in accordance with the standard DIN ISO 10816.

It has the following features:

- Operating principle: the two-wire system.
- Measured variable: The effective value (rms) of the vibration velocity in mm / s.
- The RMS averaging time is 60 s.
- Analog current output: Interference-proof direct current signal of 4 ... 20 mA, proportional to the measuring range of the monitoring.
- Cable break on the monitoring cable can be detected by a following signal conditioning instrument: Value of the DC signal <3.5 mA.



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Electrical Data:

HE100.01		
Max. input voltage vibration control:	Un	10 V to 30 V
Max. input current vibration control:	In	4 mA to 25 mA
HE100.02		
Power supply and signal circuit At the ignition protection level intrinsic safety Ex ib IIC or IIIC only for connection with a certified intrinsic safe circuit.		
Maximum values:		
Max. input voltage vibration control:	Ui	30 V DC
Max. input current vibration control:	Ii	100 mA DC
Max. input power vibration control:	Pi	800 mW
Input capacitance vibration control:	Ci	44 nF
Input inductance vibration control:	Li	0 µH
HE101.01		
Max. input voltage vibration control:	Un	10 V to 30 V
Max. input current vibration control:	In	8 mA to 50 mA
HE102.01		
Max. input voltage vibration control:	Un	10 V to 30 V
Max. input current vibration control:	In	4 mA to 25 mA
HE103.01		
Max. input voltage vibration control:	Un	10 V to 30 V
Max. input current vibration control:	In	4 mA to 25 mA

CSAE Variation 3 - This variation introduced the following changes:

- i. Introduction of a bigger distance ring between bottom and top enclosure.
- ii. The recognition of minor drawing modifications. These amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
- iii. Administrative changes to the product naming convention. Models HE102 and HE103 are updated to HE102.01 and HE103.01 respectively.
- iv. Addition of similar enclosure with new branding.
- v. Following appropriate assessment to demonstrate compliance with the latest standards, EN 60079-0:2012 + A11:2013, was replaced by EN IEC 60079-0:2018/AC:2020-02.

CSAE Variation 4 - This variation introduced the following changes:

- i. Update of entity parameters (Pi) parameters for the intrinsically safe variant (HE100.02)
- ii. Update of instruction manuals
- iii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge EN 60079-11:2012 was replaced by IEC 60079-11 Ed.7 (2023).

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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	13 February 2017	ZELM Ex14615241079	The release of the prime certificate.
1	24 May 2018	16PP267-01_1	The introduction of PTZ Variation 1.
2	25 July 2018	16PP267-01_2	The introduction of PTZ Variation 2.
3	19 August 2021	R80084484A	The introduction of CSAE Variation 3.
4	15 May 2024	R80198685A	The introduction of CSAE Variation 4.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 The ambient temperature range is between -40°C and +60°C.
- 15.2 The vibration monitoring HE100.02 may only be operated in a certified intrinsically safe circuit according to Ex ib IIC / Ex ib IIIC.
- 15.3 Integration into the potential equalization is carried out via the installation.
- 15.4 The operating instructions must be observed.
- 15.5 The electronic data can be found in the EU-type examination certificate.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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Certificate Annexe



Certificate Number: PTZ 16ATEX0029X
Equipment: Vibration Control HE100.01, HE100.02,
HE101.01, HE102.01 and HE103.01.
Applicant: HAUBER-Elektronik GmbH

Issues 1 to 3: Refer to the reports stated in section 14.2

Issue 3

Drawing	Sheets	Rev.	Date (Stamped)	Title
01.113.001	1 of 1	2.0	16 Jul 21	Gehäuseboden
01.113.002	1 of 1	2.0	16 Jul 21	Gehäusesteg
01.113.003	1 of 1	4.0	16 Jul 21	Gehäusehaube für Stecker M12
01.113.004	1 of 1	3.0	16 Jul 21	Zierring
01.113.005	1 of 1	4.0	16 Jul 21	Gehäusehaube für Kabelverschraubung
02.113.007	1 of 1	1.0	16 Jul 21	Schwingungssensor Typ HE100 mit Steckverbinder
02.113.008	1 of 1	1.0	16 Jul 21	Schwingungssensor Typ HE100 mit Kabel
01.113.036	1 of 1	0.0	16 Jul 21	Gehäusehaube P+F für Stecke M12
01.113.037	1 of 1	0.0	16 Jul 21	Gehäusehaube P+F für Kabelverbindung

Issue 4. No new drawings were introduced, only the Instructions were updated.

Drawing	Sheets	Rev.	Title
M002-HE100	1 to 18	2024-02-23	Vibration monitoring unit - HE100- Quick start guide
M002-HE101	1 to 13	2024-02-23	Vibration monitoring unit - HE101- Quick start guide
M002-HE102	1 to 13	2024-02-23	Vibration monitoring unit - HE102- Quick start guide
M002-HE103	1 to 13	2024-02-23	Vibration monitoring unit - HE103- Quick start guide
M001-HE100	1 to 24	2024-02-23	Operating instructions- Vibration Monitoring Unit Type HE100
M001-HE101	1 to 22	2024-02-23	Operating instructions -Vibration Monitoring Unit Type HE101
M001-HE102	1 to 22	2024-02-23	Operating instructions -Vibration Monitoring Unit Type HE102
M001-HE103	1 to 22	2024-02-23	Operating instructions -Vibration Monitoring Unit Type HE103

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