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UNITED KINGDOM CONFORMITY ASSESSMENT
UK-TYPE EXAMINATION CERTIFICATE

[2]

**Product or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1**

[3] UK-Type Examination Certificate No.: **UL22UKEX2481X Rev. 0**

[4] Product: **Vibration Control HE100.01, HE100.02, HE101.01, HE102.01 and HE103.01.**

[5] Manufacturer: **HAUBER-Elektronik GmbH**

[6] Address: **Fabrikstraße 6, 72622 Nürtingen, Germany**

[7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8] UL International (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), 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 Schedule 1 of the Regulations.
The examination and test results are recorded in the confidential report **R80084484A**.

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

EN IEC 60079-0:2018/AC:2020-02 EN 60079-1:2014 EN 60079-11:2012 EN 60079-31:2014

Except in respect of those requirements listed at section 19 of the schedule to this certificate.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the Schedule to this certificate.

[11] This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations 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 2 G Ex db IIC T4 Gb (HE100.01, HE101.01, HE102.01, HE103.01)**

 **II 2 D Ex tb IIIC T120°C Db (HE100.01, HE101.01, HE102.01, HE103.01)**

 **II 2 G Ex ib IIC T4 Gb (HE100.02)**

 **II 2 D Ex ib IIIC T125°C Db (HE100.02)**

Certification Officer
Andrew Moffat

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the UKEx Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Regulations. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2022-10-31

Approved Body UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK
Phone : +44 (0)1256 312100



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Schedule

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[15] Description of Product
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.

Temperature range

The ambient temperature range is -40 °C to +60 °C.

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	600 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

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Routine tests

None

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Test Report No. (associated with this certificate issue)

The test report no. is provided under item no. [8] on page 1 of this UK-Type Examination Certificate.

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Specific conditions of use:

- The vibration monitoring HE100.02 may only be operated in a certified intrinsically safe circuit according to Ex ib IIC / Ex ib IIIC.
- Integration into the potential equalization is carried out via the installation.
- The operating instructions must be observed.

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Conditions of certification:

Where ATEX certified Ex Components or Ex Equipment are used, it is the responsibility of the manufacturer to ensure that only Ex Components or Ex Equipment having equivalent UKEx certification are used after the permission to accept such ATEX certified Ex Component or Ex Equipment is withdrawn.

[19]

Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information

The manufacturer shall inform the approved body concerning all modifications to the technical documentation as described in Annex III to UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.

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[20] Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Operating instructions - Vibration Monitoring Unit - Type HE100 series	M001-HE100	-	2022-09-28
Operating instructions - Vibration Monitoring Unit - Type HE101 series	M001-HE101	-	2022-09-28
Operating instructions - Vibration Monitoring Unit - Type HE102 series	M001-HE102	-	2022-09-28
Operating instructions - Vibration Monitoring Unit - Type HE103 series	M001-HE103	-	2022-09-28
Marking Drawing HE 100, HE 101, HE 102, HE 103	Marking_HE10x	7	2022-06-07
Gehäuseboden	01.113.001	2.0	16/07/2021
Gehäusesteg	01.113.002	2.0	16/07/2021
Gehäusehaube für Stecker M12	01.113.003	4.0	16/07/2021
Zierring	01.113.004	3.0	16/07/2021
Gehäusehaube für Kabelverschraubung	01.113.005	4.0	16/07/2021
01.113.006_Gummischutztülle_NzA_Stand16102015	01.113.006	0.0	2015-08-27
Schwingungssensor Typ HE100 mit Steckverbinder	02.113.007	1.0	16/07/2021
Schwingungssensor Typ HE100 mit Kabel	02.113.008	1.0	16/07/2021
Gehäusehaube P+F für Stecke M12	01.113.036	0.0	16/07/2021
Gehäusehaube P+F für Kabelverbindung	01.113.037	0.0	16/07/2021
Safety Description - Sicherheitsbetrachtung Hauber Exi Redesign	-	-	2018-04-05
Safety Description - IECEX_Sicherheits technische_Beschreibung_HE100_HE101_HE102_HE103_05.07.2018	-	-	2018-07-05
Changing Description - Änderungsbeschreibung Redesign_20170912	-	-	2017-09-13
Risk Analysis - Zündgefahrenanalyse_HE100_HE1001_HAUBERElektronik	-	-	2016-09-27
Part list - 40498 010 Rev. 002	40498 010	002	2018-05-22
Part list - 40498 011 Rev. 002	40498 011	002	2018-05-22
Part list - 40498 009 Rev. 002	40498 009	002	2018-05-22
Part list - 40498 012 Rev. 001	40498 012	001	2018-05-22
Part list HE102 - 40498 004 Rev. 002	40498 004	002	-
Part list HE103 - 40498 005 Rev. 002	40498 005	002	-
Circuit Diagram - Ersatzschaltbild Eingangskondensatoren Fehlerfall	48kk nn vv-1	-	2018-03-29
Circuit Diagram - Ersatzschaltbild Eingangskondensatoren	48kk nn vv-1	-	2018-03-29
Circuit Diagram - SCM_1 952 1524_48498 010 02-1	48498 010 02-1	-	2018-05-17
Circuit Diagram - SCM_1 951 1550_48498 011 02-1	48498 011 02-1	-	2018-05-17
Circuit Diagram - SCM_1 951 1523_48498 009 02-1	48498 009 02-1	-	2018-05-17
Circuit Diagram - SCM_1 951 1548_48498 012 01-1	48498 012 01-1	-	2018-05-17
Layout - PCB_1 952 1524_48498 010 02-2	48498 010 02-2	-	2018-05-17
Layout - PCB_1 951 1550_48498 011 02-2	48498 011 02-2	-	2018-05-17
Layout - PCB_1 951 1523_48498 009 02-2	48498 009 02-2	-	2018-05-17
Layout - PCB_1 951 1548_48498 012 01-2	48498 012 01-2	-	2018-05-17
Circuit diagram and Layout HE102 - Schaltplan_HE102	-	-	2018-07-04
Circuit diagram and Layout HE103 - Schaltplan_HE103	-	-	2018-07-04
Montageansicht mit M12-Stecker	-	0.0	2015-08-17
Drawing enclosure bottom version - 02.113.032_Schwingungssensor_Hauber_HE100_Maßblatt	02.113.032	0.0	2017-07-03

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Title:	Drawing No.:	Rev. Level:	Date:
Drawing enclosure bottom version - 02.113.034_Schwingungssensor_Hauber_HE100_Maßblatt	02.113.034	0.0	2017-07-03
Erni connector - 284783K - info	284783K	-	2016-02-22
Erni connector - Erni-284784-Zeichnung	284783	-	2015-07-16
Erni connector material - VECTRAE130i	-	-	2014-07-30
Erni connector material description - arcus_O-Ring_Beschreibung_EPDM	-	-	2014-09-25
Erni connector material - arcus_O-Ring_Werkstoff_EPDM	-	-	-