

UK Type Examination Certificate CML 21UKEX2282X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1
- 2 Equipment **HBS5600 Universal Temperature Transmitter/Indicator**
- 3 Manufacturer **H&B Sensors Ltd**
- 4 Address Odyssey House,
Durban Road,
Bognor Regis, West Sussex,
PO22 9RH, UK

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 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 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 Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

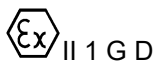
8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-11:2012

10 The equipment shall be marked with the following:



Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

Ta= -40°C to +85°C



CML 21UKEX2282X
Issue 0

11 Description

The HBS5600 Universal Temperature Transmitter/Indicator is a HART 5 upwards (generic device) compatible universal temperature transmitter with display. It accepts RTD, Thermocouple, Potentiometer or millivolt input signals and converts them to the industry standard (4 to 20) mA transmission signal.

The HBS5600 Universal Temperature Transmitter/Indicator consists of polyurethane based potted main and display PCBs, housed in a polycarbonate and ABS sub-assembly. The sub-assembly will be fitted inside a separately certified aluminium or stainless-steel enclosure with or without a silicone RTV cemented glass windowed lid and nitrile O-rings.

When operating in the field, the equipment is to be powered only by an intrinsically safe supply. The equipment has the following parameters:

$$U_i = 30 \text{ Vdc}$$

$$I_i = 100 \text{ mA}$$

$$P_i = 750 \text{ mW}$$

$$C_i = 0$$

$$L_i = 0$$

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	15/03/2021	R14017A/00	Issue of prime certificate

Note: Drawings that describe the equipment are listed in the Annex of CML 20ATEX2111X.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. Any previously certified parts incorporated in or used with the equipment shall be UKCA compliant by the 1st January 2022.
- iii. The HBS5600 Temperature Transmitter shall be provided with a separately certified enclosure. The enclosure may be approved for any Zone provided it meets the following requirements, and a copy of the installation documents for the separately certified enclosure shall be provided with the equipment.
 - Suitable for an ambient temperature range of at least -40°C to $+85^{\circ}\text{C}$, and if applicable, a service temperature of $+100^{\circ}\text{C}$.
 - Has a ingress protection rating of at least IP54.
 - Does not have any electrostatic hazard warnings.



**CML 21UKEX2282X
Issue 0**

- iv. Where the separately certified enclosure provided with the equipment contains, by mass, more than 10% in total of aluminium, magnesium, titanium and zirconium, the installer/user shall be made aware of this and instructions shall detail the specific conditions of use with regard to protecting the enclosure from impact and friction.

14 Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

- i. The HBS5600 Temperature Transmitter is only suitable for connection to Thermocouple(s), RTD temperature sensor(s) or slide wire resistance devices or other simple apparatus. They shall conform to the requirements for simple apparatus as defined in EN 60079-11 clause 5.7 and shall meet the dielectric withstanding requirements of EN 60079-11 clause 6.3.13. The insulation must be capable of withstanding an r.m.s a.c. test voltage of $2U + 1000V$, a minimum of 1500V r.m.s, where U is the sum of the voltages of the intrinsically safe and the non-intrinsically safe circuit.
- ii. Connections to the separately certified enclosure shall be suitable for the protection concepts of the enclosure and maintain the minimum ingress protection rating of IP54.
- iii. When connected to sensors measuring temperatures within a process or location, the installer shall ensure the temperature transmitter module is not exposed to temperatures outside the ambient temperature range of $-40^{\circ}C$ to $+85^{\circ}C$.
- iv. The HBS5600 Temperature Transmitter may be fitted inside an enclosure having a material composition containing by mass more than 10% in total of aluminium, magnesium, titanium and zirconium. Where this is the case, the installation shall protect the enclosure from impacts and friction.
- v. The equipment shall only be configured by means of the HBSUSB9 configurator; connection shall be in the safe area only. Additionally, the HBS5600 Temperature Transmitter may be configured in hazardous area via HART communication.
- vi. A copy of the instructions can be downloaded at www.hbsensors.com.

Certificate Annex

Certificate Number CML 21UKEX2282X
Equipment HBS5600 Universal Temperature Transmitter/Display
Manufacturer H&B Sensors Ltd



The following documents describe the equipment defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
HBS-00-01549	1 of 1	A	15 Mar 2021	HBS5600 Label