

**UK Type Examination Certificate CML 21UKEX21110X Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Universal Temperature Converter Type HiC2081**
- 3 Manufacturer **Pepperl+Fuchs SE**
- 4 Address **Lilienthalstrasse 200  
68307 Mannheim  
Germany**

- 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), 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:

	II (1) G	[Ex ia Ga] IIC	(-20°C ≤ Ta ≤ +60°C / +70°C)
	II (1) D	[Ex ia Da] IIIC	(-20°C ≤ Ta ≤ +60°C / +70°C)
	I (M1)	[Ex ia Ma] I	(-20°C ≤ Ta ≤ +60°C / +70°C)





CML 21UKEX21110X  
Issue 0

## 11 Description

The Universal Temperature Converter Type HiC2081 is designed to transfer a signal from TC/mV, RTD (2, 3 or 4-wire) or Potentiometer in a hazardous area to unspecified apparatus located in a non-hazardous area. The hazardous area circuit is galvanically isolated from the non-hazardous area circuit using a transformer and opto-couplers and the voltage and current appearing at the hazardous area connectors are limited to intrinsically safe levels.

The Universal Temperature Converter Type HiC208 I comprises a number of electronic components including an isolating transformer, two opto-isolators, fuses, zener diodes and resistors all mounted on a single printed circuit board and housed in a plastic enclosure with two polarised sockets in the base of the enclosure for hazardous and non-hazardous area connections via a terminal backplane. LEDs provide status indication.

### Non-Hazardous Area Connector(s)

Power Supply: SL1:Pins 1a[-]/1b[-] w.r.t 2a[+]/2b[+]

Um= 253Vr.m.s.

The circuit connected to the power supply pins is designed to operate from a d.c. supply voltage of up to 30V.

Outputs: SL1:Pin 8a[+] w.r.t 7a[-]

Um = 253 V r.m.s.

The circuit connected to the output is designed to operate from a d.c. supply of up to 30V.

Module Identification Pins: SL1 :Pin 5a w.r.t 5b

Um = 253V r.m.s.

The circuit connected to the output is designed to operate from a d.c. supply of up to 30V.

### Programming jack

Um= 253V r.m.s.

The circuit connected to the output is designed to operate from a d.c. supply of up to 30V.

Fault Signal: SL1 :Pin 6b wrt 1b

Um= 253V r.m.s.

The circuit connected to the output is designed to operate from a d.c. supply of up to 30V.



CML 21UKEX21110X  
Issue 0

### Hazardous Area Connector(s)

Input: SL2:Pins 1a(+), 5a(+), 1b(-), 5b(-) (any combination)

$$U_o = 9 \text{ V} \quad C_i = 0$$

$$I_o = 13.1 \text{ mA} \quad L_i = 0$$

$$P_o = 30 \text{ mW}$$

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to hazardous area terminals of the apparatus must not exceed the following values:

GROUP	CAPACITANCE ( $\mu\text{F}$ )	Inductance (mH)	OR L/R RATIO ( $\mu\text{H}/\text{ohm}$ )
IIC	4.9	207	1158
IIB	40	828	4635
IIA	500	1657	9270
I	1000	2719	15209

The above parameters apply when one of the two conditions below is given:

- the total  $L_i$  of the external circuit (excluding the cable) is  $< 1\%$  of the  $L_o$  value or
- the total  $C_i$  of the external circuit (excluding the cable) is  $< 1\%$  of the  $C_o$  value.

The above parameters are reduced to 50% when both of the two conditions below are given:

- the total  $L_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $L_o$  value and
- the total  $C_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $C_o$ , value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than  $1\mu\text{F}$  for Groups I, IIA & IIB and  $600\text{nF}$  for Group IIC.



CML 21UKEX21110X  
Issue 0

Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	28 Sept 2021	R14112BO/00	Prime Certificate issued.

Note: Drawings that describe the equipment are listed or referred to in the Annex.

## 12 Conditions of Manufacture

None.

## 13 Specific Conditions of Use

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

1. The HiC2081 must be installed in a controlled environment with suitably reduced pollution.
2. The socket connections at the base of the enclosure must be afforded a degree of protection of at least IP20 when installed.

## Certificate Annex

**Certificate Number** CML 21UKEX21110X  
**Equipment** Universal Temperature Converter Type HiC2081  
**Manufacturer** Pepperl+Fuchs SE



The following documents describe the equipment defined in this certificate:

### Issue 0

For drawings describing the equipment, refer to attached certificate Baseefa14ATEX0129X. In addition to the drawings listed on Baseefa14ATEX0129X, the following drawings include the additional marking required for this UK Type Examination certification:

<b>Drawing No</b>	<b>Sheets</b>	<b>Rev</b>	<b>Approved date</b>	<b>Title</b>
16-1555CM-10	1 to 2	0	28 Sept 2021	Additional Marking Requirements for UKCA