

**UK Type Examination Certificate    CML 21UKEX21403    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    **Isolated Switch Amplifier Type HiC2831\* and type HiC2832\***
- 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

 II (1) D  
[Ex ia Da] IIIC

 I (M1)  
[Ex ia Ma] I



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## 11 Description

The Isolated Switch Amplifier type HiC2831\* and type HiC2832\* is an associated apparatus and transfers digital signals from the hazardous area to the safe area. The galvanic separation between the intrinsically safe circuits and the non-intrinsically safe circuits is done by transformers.

The Isolated Switch Amplifier has to be installed either outside hazardous areas or in a suitable enclosure; this assembly must be separately tested and certified.

### 1. Non-intrinsically safe circuits:

#### Power Supply

Connector SL1: Pins 2a, 2b(+) - 1a, 1b (-)

Nominal input voltage	$U_n$	DC	19...30	V
Maximum input voltage	$U_m$	AC	253	V

#### Fault Signal (fault bus)

Connector SL1: Pins 6b – 1a, 1b

Maximum input voltage	$U_m$	AC	253	V
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#### Galvanic isolated output 1

Connector SL1: Pins 7a - 8a

Maximum voltage	$U_m$	AC	253	V
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#### Galvanic isolated output 2

Connector SL1: Pins 9a - 10a

Maximum voltage	$U_m$	AC	253	V
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### Intrinsically safe circuits:

Both intrinsically safe circuits are galvanically isolated from each other.

#### Channel 1

Connector SL2: Pins 5a (+), 5b (-)

Maximum output voltage	$U_o$	10.5	V
Maximum output current	$I_o$	17.1	mA
Maximum output power (linear characteristic)	$P_o$	45	mW
Maximum internal capacity	$C_i$	negligible	
Maximum internal inductivity	$L_i$	negligible	

#### Channel 2

Connector SL2: Pins 1a (+), 1b (-)

Maximum output voltage	$U_o$	10.5	V
Maximum output current	$I_o$	17.1	mA
Maximum output power (linear characteristic)	$P_o$	45	mW
Maximum internal capacity	$C_i$	negligible	
Maximum internal inductivity	$L_i$	negligible	



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Nor the capacitance nor the inductance of the load connected to the output terminals must exceed the following values:

Group	IIC	IIB	IIA	I
Capacitance	2.41 $\mu$ F	16.8 $\mu$ F	75 $\mu$ F	66 $\mu$ F
Inductance	121.5 mH	486.3 mH	972.7 mH	1000 mH

The table is only applicable when the internal inductance  $L_i$  or the internal capacitance  $C_i$  of the connected equipment is  $\leq 1\%$  of the above specified tabular values.

If  $L_i$  as well as  $C_i$  of the connected equipment are  $> 1\%$  of the tabular values, all values specified in the table shall be reduced to 50%.

At this, the capacitance of the external circuit (capacitance of the cable + internal capacitance  $C_i$  of the connected equipment) shall not exceed 1 $\mu$ F for I, IIA, IIB and 600nF for IIC

Ambient temperature range  $T_a$  -40°C to +70°C.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	17 Feb 2022	R14112CE/00	Prime Certificate issued.

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

## 13 Conditions of Manufacture

None.

## 14 Specific Conditions of Use

None.

## Certificate Annex

**Certificate Number** CML 21UKEX21403  
**Equipment** Isolated Switch Amplifier Type HiC2831\* and type HiC2832\*  
**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 BVS 11 ATEX E 026 Issue 1. In addition to the drawings listed on BVS 11 ATEX E 026 Issue 1, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
16-1555CM-10	1 to 2	0	17 Feb 2022	Additional Marking Requirements for UKCA