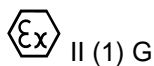


**UK Type Examination Certificate    CML 21UKEX2940    Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment    **Galvanically Isolated Barrier Series KCD2-STC-Ex1(.SP)-\*\* and KCD2-SCD-Ex1(.SP)-\*\***
- 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 SMART Transmitter Power Supply KCD2-STC-Ex1-\*\*, KCD2-STC-Ex1.SP-\*\* and SMART Current Driver KCD2-SCD-Ex1-\*\*, KCD2-SCD-Ex1.SP-\*\* are galvanically isolated barriers.

The KCD2-STC... devices are suitable for supply/interface signal transmitter placed in hazardous area and transfer the analog signal to a safe area. The hazardous area connections (Input circuit) are for "Sink Input" (2-wire transmitters) or 4-wire transmitters.

The KCD2-STC... devices are suitable to repeat a current signal coming from a safe area to drive smart I/P converter, valve actuator and displays placed in hazardous area.

A digital SMART communication may be superimposed on the transmitter measure signal as input or output and may be transferred in both directions.

The equipment are mounted inside a plastic housing and are fitted with terminal blocks. The products share the same circuit, components and electronic board; they differ as follows:

- modules KCD2-STC-Ex1- and KCD2-SCD-Ex1-\*\* have screw terminal blocks;
- modules KCD2-STC-Ex1.SP-\*\* and KCD2-SCD-Ex1.SP-\*\* have spring terminal blocks.

For particular variants, the equipment's name can be extended with additional characters at the end of the name (e.g. KCD2-STC-Ex1-Y1 or KCD2-SCD-Ex1.SP-Y3). These variants do not change the function or the type of protection of the products in any way.

### Electrical characteristic- type of protection: [Ex ia]

#### Non-intrinsically safe circuits

Power supply - Terminals: 9(+); 10(-) and/or PowerRail (PR1; PR2)

Um: 250 Vac                      Rated voltage Un: 24 Vdc (19 ÷ 30 Vdc)

Analog Input/Output - Terminals: 6(+); 5(-) and 8(+); 7(-)

Um: 250 Vac                      Rated voltage Un: up to 30 Vdc

Tamb.:                              -40°C up to +70 °C

#### Intrinsically safe circuits – equipment KCD2-STC-Ex 1 ... and KCD2-SCD-Ex 1 ...

Terminals	Uo	Io	Po	Gas Group	Co (µF)	Lo (mH)	Lo/Ro (µH/Ω)
1(+); 2(-)	25.2V	100 mA	630 mW	IIC	0.100	3.5	55
				IIB	0.81	14	222
				IIA	2.8	28	444
				I	4.14	46	743

Ci = 5.7nF;

Li = negligible;

Output characteristic: linear.



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Intrinsically safe circuits – equipment KCD2-STC-Ex 1 ... only

Terminals	Uo	Io	Po	Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
	Ui	Ii					
3(+); 4(-)	7.2V	100 mA	25 mW	IIC	13.49	3.5	27
				IIB	239	14	108
	30 V	128 mA		IIA	1000	28	216
				I	1000	46	356

Ci = 5.7nF;      Li = negligible;      Output characteristic: diodes blocking barrier.

Note - External circuits with both inductance and capacitance

The above maximum Lo and Co parameters apply where:

- the total Ci of the external circuit (excluding the cable) is < 1% of the Co value    or
- the total Li of the external circuit (excluding the cable) is < 1% of the Lo value.

The above Lo and Co parameters shall reduce to 50% when both of the two conditions below are given:

- the total Li of the external circuit (excluding the cable) > 1% of the Lo value    and
- the total Ci of the external circuit (excluding the cable) > 1% of the Co value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	19 Nov 2021	R14112AY/00	Prime Certificate issued.

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

## 13 Conditions of Manufacture

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

- i. The Manufacturer shall carry out the routine tests provided to clause 27 on the of EN 60079-0 standard and furthermore, the tests prescribed in clause 11.2 of the EN 60079-11 standard.

## 14 Specific Conditions of Use

None

## Certificate Annex

**Certificate Number** CML 21UKEX2940  
**Equipment** Galvanically Isolated Barrier Series KCD2-STC-Ex1(.SP)-  
.\*\* and KCD2-SCD-Ex1(.SP)-\*\*  
**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 CESI 06ATEX021. In addition to the drawings listed on CESI 06ATEX021, 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	19 Nov 2021	Additional Marking Requirements for UKCA