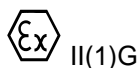


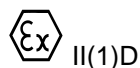
**UK Type Examination Certificate    CML 21UKEX2894X    Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment    **Transmitter Power Supply Type KCD2-STC-Ex1.20\***
- 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 60079-0:2018                      EN 60079-11:2012
- 10 The equipment shall be marked with the following:



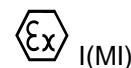
[Ex ia Ga] IIC

(-20C &lt; Ta &lt; +60C /+70C)



[Ex ia Da] IIIC

(-20C &lt; Ta &lt; +60°C /+70C)



[Ex ia Ma] I

(-20C &lt; Ta &lt; +60C /+70C)



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## 11 Description

The Transmitter Power Supply Type KCD2-STC-Ex1.2O is designed to monitoring signals from equipment in a hazardous area to unspecified apparatus located in a non-hazardous area and communication signals in both directions. The hazardous area circuit is galvanically isolated from the non-hazardous area circuit using transformers and the voltage and current appearing at the hazardous area connectors are limited to intrinsically safe levels.

The Transmitter Power Supply KCD2-STC-Ex1.2O comprises a number of electronic components including four isolating transformer, fuses, zener diodes and resistors all mounted on a single printed circuit board and housed in a plastic enclosure with plug-in terminals for hazardous and non-hazardous area connections. LED indication is provided for power on status.

The following variants are covered by this certificate:

KCD2 - STC - Ex1.2O  
KCD2 - STC - Ex1.2O.ES  
KCD2 - STC - Ex1.2O.DE  
KCD2 - STV - Ex1.2O  
KCD2 - STV - Ex1.2O.ES  
KCD2 - STC - Ex1.2O(\*\*) – Y1...n  
KCD2 - STV – Ex1.2O(\*\*) – Y1...n

### Input/ Output Parameters

#### Non – Hazardous Area Connector(s)

Power Supply: Terminals 9 & 10 and power rail 1 & 2.

$U_m = 253V$  r.m.s

#### Output Terminals 5, 6, 7 & 8

$U_m = 253V$  r.m.s

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

### Hazardous Area Connectors(s)

Input: Terminals 1 & 2

$U_o = 25.2V$

$I_o = 93mA$

$P_o = 656mW$

$C_i = 12nF$

$L_i = 0$

The output characteristic is trapezoidal,  $U_q = 28.2$  (see Annex C, EN 60079-25:2010)

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



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Group	Capacitance (μF)	Inductance (mH)	or	L/R Ratio (μH/ohm)
IIC	0.095	3.400		54.53
IIB	0.808	16.44		218.12
IIA	2.888	32.88		436.25
I	4.788	53.95		715.73

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)  $> 1\%$  of the  $L_o$  and
- The total  $C_i$  of the external circuit (excluding the cable)  $> 1\%$  of the  $C_o$ .

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.

Input: Terminals 3 & 4

$U_o = 30\text{ V}$   
 $I_o = 115\text{ mA}$   
 $P_o = 700\text{ mW}$   
 $C_i = 12\text{ nF}$   
 $L_i = 0$

Input: Terminals 3(+ve) wrt 4

$U_o = 5\text{ V}$   
 $I_o = 0\text{ mA}$   
 $P_o = 0\text{ mW}$   
 $C_i = 12\text{ nF}$   
 $L_i = 0$

Input: Terminals 4 (+ve) wrt 3

$U_o = 0.9\text{ V}$   
 $I_o = 6.8\text{ mA}$   
 $P_o = 1.6\text{ mW}$   
 $C_i = 12\text{ nF}$   
 $L_i = 0$

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

Group	Capacitance (μF)	Inductance (mH)	or	L/R Ratio (μH/ohm)
IIC	1000	768		23466
IIB	1000	3075		93866
IIA	1000	6151		187773
I	1000	10092		208000

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.



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The above parameters are reduced 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 and
- The total Ci of the external circuit (excluding the cable) > 1% of the Co.

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

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	13 Aug 2021	R14112AJ/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

The KCD2-STC-Ex1.2O must be installed in a controlled environment with suitable reduced pollution.

## Certificate Annex

**Certificate Number** CML 21UKEX2894X  
**Equipment** Transmitter Power Supply Type KCD2-STC-Ex1.20\*  
**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 Baseefa 13ATEX0077X Issue 1. In addition to the drawings listed on Baseefa 13ATEX0077X Issue, 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	13 Aug 2021	Additional Marking Requirements for UKCA