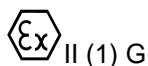


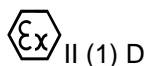
**UK Type Examination Certificate CML 21UKEX2709X Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Transformer Isolated Loop Powered Current Separator Type KFD0-CS-Ex\*.5\***
- 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:



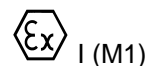
[Ex ia Ga] IIC

Ta = -20°C to +60°C/+70°C



[Ex ia Da] IIIC

Ta = -20°C to +60°C/+70°C



[Ex ia Ma] I

Ta = -20°C to +60°C/+70°C



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## 11 Description

The Transformer Isolated Loop Powered Current Separator Type KFD0-CS-Ex\* .5\* is designed to provide galvanic isolation between intrinsically safe circuits in a hazardous area and unspecified associated equipment in a non-hazardous area and limit the voltage and current into the hazardous area to intrinsically safe levels.

The safety device comprises a number of electrical components, including transformers, fuses, resistors and zener diodes, all mounted on a single printed circuit board and housed within a plastic enclosure fitted with terminals for external connections.

The ordering code options are:

KFD0-CS-Ex\*.5\*\*P

\* = No of channels

\*\* = Operational characteristics (0 or 1)

The following variants are covered by this certificate (in both Construction 1 & Construction 2 forms):

KFD0-CS-Ex1.50P

KFD0-CS-Ex1.51P

KFD0-CS-Ex2.50P

KFD0-CS-Ex2.51P

The safety device is designed to operate from a de supply of up to 40V on terminals 9 & 10/8 and 11 & 12. The segregation of the hazardous area circuits meets the requirements for 375V peak.

### Input/ Output Parameters

#### Output Terminals 8, 9, 10, 11 & 12

$U_m = 250V$  dc or r.m.s

The equipment is designed to operate from a de supply of up to 40V.

#### Terminals 1 w.r.t. 2 and 4 w.r.t. 5

$U_o = 25.2 V$

$I_o = 93 mA$

$P_o = 585 mW$

$C_i = 0$

$L_i = 0$



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

Group	Capacitance (µF)	Inductance (mH)	or	L/R Ratio (µH/ohm)
IIC	0.107	4.3		60
IIB	0.820	18		243
IIA	2.900	33		486
I	4.800	51		797

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

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

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 / IIC and 600nF for Group IIC.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	13 Aug 2021	R14112AD/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 safety device must be installed in a controlled environment with a pollution level limited to pollution degree 2 ( or better) or be installed within an enclosure providing a degree of protection of at least IP54 according to EN 60529 & EN 60079-0; provision shall be made to ensure that the non-hazardous area connections is limited to overvoltage category I / II as defined in IEC 60664-1.

## Certificate Annex

**Certificate Number** CML 21UKEX2709X  
**Equipment** Transformer Isolated Loop Powered Current Separator  
Type KFD0-CS-Ex\*.5  
**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 BAS 98ATEX7343X, Issue 8. In addition to the drawings listed on BAS 98ATEX7343X, Issue 8. 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