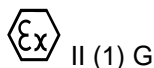


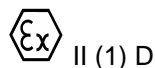
**UK Type Examination Certificate    CML 21UKEX2942    Issue 0****United Kingdom Conformity Assessment**

- 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 Repeater / Power Supply Type KFD2- VR4-Ex1.26**
- 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

(-20°C ≤ Ta ≤ +60°C)



[Ex ia Da] IIIC

(-20°C ≤ Ta ≤ +60°C)



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## 11 Description

The Transformer Isolated Repeater / Power Supply Type KFD2-VR4-Ex1.26 is designed to restrict the transfer of energy from unspecified non-hazardous area apparatus to intrinsically safe vibration sensors located in the hazardous area, and provide galvanic isolation between the hazardous and non-hazardous area circuits.

The Transformer Isolated Repeater / Power Supply Type KFD2-VR4-Ex1.26 comprises a number of electronic components, including isolating transformers, fuses, resistors and zener diodes all mounted on a single printed circuit board (PCB) and housed within a plastic enclosure with plug-in terminals.

The apparatus provides a floating output to power a vibration sensor or an accelerometer in a hazardous area, and transfers the signal from the sensor to the non-hazardous area.

The screw terminals and the plugs and sockets are numbered and colour coded to make incorrect connections improbable.

### Input / Output Parameters

Terminals 7, 8, 11 & 12 and Power Rail

$$U_m = 253V$$

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

#### All hazardous area terminals 1 to 6

$$\begin{array}{ll} U_o = -26.4V & C_i = 0 \\ I_o = 90mA & L_i = 0 \\ P_o = 0.57W & \end{array}$$

#### Hazardous Area Terminals 1, 3, 5 wrt 4

$$\begin{array}{ll} U_o = -25.2V & C_i = 0 \\ I_o = 90mA & L_i = 0 \\ P_o = 0.57W & \end{array}$$

#### Hazardous Area Terminals 2, 6 wrt 4

$$\begin{array}{ll} U_o = 1.2V & C_i = 0 \\ I_o = 0.12mA & L_i = 0 \\ P_o = 0.036mW & \end{array}$$

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:

#### Hazardous Area Terminals 1, 3, 5 wrt 4

(Alternatively, all hazardous area terminals combined)

GROUP	CAPACITANCE ( $\mu$ F)	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu$ H/ohm)
IIC	0.096	4.59		59
IIB / IIIC	0.74	18.82		239
IIA	2.48	38.36		478



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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 / IIIC and  $600\text{nF}$  for Group IIC.

Hazardous Area Terminals 2, 6 wrt 4

GROUP	CAPACITANCE ( $\mu\text{F}$ )	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu\text{H}/\text{ohm}$ )
IIC	100	1000		1000
IIB / IIIC	1000	1000		1000
IIA	1000	1000		1000

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 / IIIC and  $600\text{nF}$  for Group IIC.

**12 Certificate history and evaluation reports**

Issue	Date	Associated report	Notes
0	18 Oct 2021	R14112BA/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 21UKEX2942  
**Equipment** Transformer Isolated Repeater / Power Supply Type  
KFD2-VR4-Ex1.26  
**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 02ATEX7206. In addition to the drawings listed on BAS 02ATEX7206, 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	18 Oct 2021	Additional Marking Requirements for UKCA