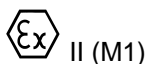


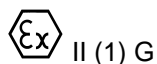
**UK Type Examination Certificate    CML 22UKEX2504    Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment    **Strain Gauge Converter Type KFD2-WAC2-Ex1\***
- 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

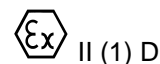
- 10 The equipment shall be marked with the following:



[Ex ia Ma] I



[Ex ia Ga] IIC



[Ex ia Da] IIIC





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## 11 Description

The Strain gauge converter type KFD2-WAC2-Ex1\* is used for the transmission of signals from the hazardous explosive area into the non-hazardous area.

### Type Code

#### **KFD2-WAC2-Ex1.\***

Housing: **KF**: K-Housing with removable terminals

Supply voltage \*\* = D2=20 ... 35 V d.c

Device type: **WAC** = Strain gauge converter  
2 (WAC of 2. Generation)

Number of channels: **Ex1.** = 1 intrinsically safe channel

Display: \* = - (without Display) or .D (with Display)

### Electrical data:

#### Supply circuit

(Terminals 23, 24 or via Power-Rail:

Terminals PR 1,2)

For connection to non-intrinsically safe circuits with the following maximum values:

$U = 20 \text{ V} \dots 35 \text{ V d.c}$   
 $U_m = 40 \text{ V}$

#### Collective error message

(Power-Rail: Terminals PR 4)

For connection to non-intrinsically safe circuits with maximum rated voltage:

$U_m = 40 \text{ V}$

#### Output circuits I and II

(Terminals 10, 11, 12 and 16, 17, 18)

For connection to non-intrinsically safe circuits with the following maximum values:

#### Alternating voltage:

$U = 253 \text{ V}$   
 $I = 2 \text{ A}$   
 $S = 500 \text{ VA}$   
 $\cos \varphi = 0.7$   
 $U_m = 253 \text{ V}$

#### Direct voltage:

$U = 40 \text{ V}$   
 $I = 2 \text{ A}$   
 $P = 80 \text{ W}$   
 $U_m = 253 \text{ V}$

#### Output circuit III

(Terminals 7, 8, 9)

For connection to non-intrinsically safe circuits with maximum rated voltage:

$U_m = 40 \text{ V}$

#### Input circuits II and III

(Terminals 13, 14, 15)

For connection to non-intrinsically safe circuits with maximum rated voltage:

$U_m = 40 \text{ V}$



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Programming socket  
(Jacket)

For connection to non-intrinsically safe circuits with maximum rated voltage:

$$U_m = 40 \text{ V}$$

RS485 interface  
(Terminals 19, 20 and 21 and via Power-Rail: Terminals PR 3,5)

For connection to non-intrinsically safe circuits with maximum rated voltage:

$$U_m = 40 \text{ V}$$

Input circuit  
(Terminals 1, 2, 3, 4, 5 and 6)

In type of protection intrinsic safety Ex ia I/II/IIB(IIIC)/IIA with the following maximum values:

$$U_o = 14 \text{ V}$$

$$I_o = 238 \text{ mA}$$

$$P_o = 833 \text{ mW}$$

Characteristic line: Linear

Effective internal capacitance  $C_i$

Negligibly small

Effective internal inductance  $L_i$

Negligibly small

The maximum permissible values for the external inductance  $L_o$  and the external capacitance  $C_o$  can be taken from the following table:

Ex ia I	Ex ia IIC	Ex ia IIB (IIIC)	Ex ia IIA
17 $\mu\text{F}$	0.73 $\mu\text{F}$	4.6 $\mu\text{F}$	17 $\mu\text{F}$
5 mH	0.62 mH	2.5 mH	5 mH

The above mentioned values of the outer reactance apply only on condition that the simultaneous appearance of the outer inductance and capacitance does not need to be considered.

In case of simultaneous appearance of capacitance and inductance in concentrated form the maximum permissible values have to be taken from the following table:

Ex ia I	Ex ia IIC	Ex ia IIB (IIIC)	Ex ia IIA
17 $\mu\text{F}$	0.05 $\mu\text{F}$	2.6 $\mu\text{F}$	17 $\mu\text{F}$
5 mH	0.03 mH	1 mH	5 mH

The input circuits are safely galvanically separated from all other circuits up to a peak value of the nominal voltage of 375 V.



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## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	12 Aug 2022	R14112CM/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 22UKEX2504  
**Equipment** Strain Gauge Converter Type KFD2-WAC2-Ex1\*  
**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 TUV 04ATEX2531. In addition to the drawings listed on TUV 04ATEX2531, 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	12 Aug 2022	Additional Marking Requirements for UKCA