

UK Type Examination Certificate CML 21UKEX21099X Issue 0**United Kingdom Conformity Assessment**

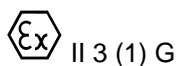
- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Isolated Switch Amplifier KFD2-SR3-Ex2.2S***
- 3 Manufacturer **Pepperl+Fuchs SE**
- 4 Address **Lilienthalstrasse 200
68307 Mannheim
Germany**

- 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.

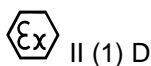
The examination and test results are recorded in the confidential reports listed in Section 12.

- 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 EN 60079-15:2010

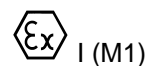
- 10 The equipment shall be marked with the following:



Ex nA nC [ia Ga] IIC T4 Gc



[Ex ia Da] IIIC



[Ex ia Ma] I



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11 Description

The isolated switch amplifier KFD2-SR3-Ex2.2S* is an associated apparatus which is also suitable for installation in areas requiring category 3G equipment.

It transfers digital signals from the hazardous area to the safe area. Via switches the mode of operation can be reversed and the line fault detection can be switched off.

The switch amplifier is suitable for mounting on 35mm DIN mounting rail. Power supply is provided via power rail or using removable terminals on the narrow side of the barrier. The area of application for the amplifier is limited to closed (locked) electrical locations.

Asterisk * is additional marking, that is not relevant for explosion protection.

Non-intrinsically safe circuits:

Maximum Voltage U_m : 250V AC

Power supply (terminals 14+, 15- or PR1 [+], PR2[-]):

Rated Voltage U_n : 19...30V DC

Fault Signal (fault bus) (PR4):

Rated Voltage U_n : 30V DC

Relay Outputs (terminals 7, 8, 9 and 10,11,12)

Contact loading: 48 V AC resp. 40V DC, $I \leq 1A$

Intrinsically safe circuits (terminals 1+, 2+, 3- and 4+, 5+, 6-):

$U_o = 10.5V$

$I_o = 17.1 mA$

$P_o = 45mW$ (linear characteristic)

$C_i =$ negligible

$L_i =$ negligible

The capacitance and either the inductance of the load connected to the intrinsically safe input terminals must not exceed the following values:

Group	IIC	IIB	IIA	I
Capacitance (Co)	2.41 μF	16.8 μF	75 μF	95 μF
Inductance (Lo) Or Lo/Ro	121.5mH 0.79 mH/ Ω	486.3 mH 3.16 mH/ Ω	972.7 mH 6.33 mH/ Ω	1000 mH 10.39 mH/ Ω



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The above parameters for capacitance and inductance apply when one of the two conditions below is met:

- 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 for capacitance and inductance are reduced to 50% when both of the two conditions below are met:

- 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.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1µF for I, IIA, 118 and 600nF for IIC.

Rated data: Tamb = -20°C to +60°C

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	25 Aug 2021	R14112BI/00	Prime Certificate issued.

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

13 Conditions of Manufacture

The manufacturer shall carry out the following Condition of manufacture:

- Routine test for infallible transformer: Dielectric strength test between input and output windings of transformers T1 and T2 with a voltage of 2>1500 VAC for 60 s or 2 1800 VAC for at least 1 s.

14 Specific Conditions of Use

The equipment may be installed and operated outside hazardous area or in areas requiring category 3G equipment. When installed in areas requiring category 3G equipment, the equipment shall comply the following:

- The equipment shall only be used in an area of not more than pollution degree 2, as defined in EN 60664-1.
- The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-15 and EN 60079-0

Certificate Annex

Certificate Number CML 21UKEX21099X
Equipment Isolated Switch Amplifier KFD2-SR3-Ex2.2S*
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 EXA 16ATEX0001X Issue 1. In addition to the drawings listed on EXA 16ATEX0001X Issue 1, 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	21 Aug 2021	Additional Marking Requirements for UKCA