

UK Type Examination Certificate CML 21UKEX2935 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 **Solenoid driver module type KFD2-SL2-Ex* and type KFD2-SL2-EX*.B**
- 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.

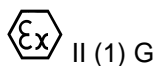
9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2018

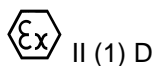
EN 60079-11:2012

EN:50303:2000

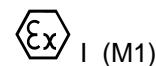
10 The equipment shall be marked with the following:



[Ex ia Ga] IIC



[Ex ia Da] IIIC



[Ex ia Ma] I



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11 Description

The solenoid driver module type KFD2-SL2-Ex and type KFD2-SL2-EX.B is used as associated apparatus for the driving of attached valves. The solenoid driver module is built as 1-channel or 2-channel type. Errors just as open-circuiting or short-line fault are transformed to the power rail and do not exist at the version KFD2-SL2-Ex*.B.

The maximum permissible ambient temperature is 50 °C.

Supply circuit (terminals 14 and 15 resp. PR1 and PR2)	Direct voltage 20 V- 30 V Maximum voltage $U_m=40V$	
Signal circuit error-output (PR4 and PR2)	For connection to a signal circuit only Maximum voltage $U_m= 40 V$	
Input circuits (terminals 7 and 8 and/or 9 and 8)	Direct voltage 16V-30V Maximum voltage $U_m=60 V$	
Output circuits (terminals 1 and 2, 3 and/or terminals 4 and 5, 6)	in type of protection Intrinsic Safety resp. resp. resp. Maximum values per circuit: $U, = 28 V$ $I = 110 mA$ $P, = 770 mW$ (linear characteristic) $R, = 255 \Omega$ The effective internal capacitance and inductance are negligibly small. The maximum permissible values for the external capacitance and inductance are shown in the following table.	Ex ia IIC/IIB/IIA Ex ib IIC/IIB/IIA Ex ia IIIC Ex ia I

Ex	ia/ib IIC	ia/ib IIB rep. IIIC	ia/ib IIA	ia I
Co	83 nF	650 nF	2150 nF	3760 nF
Lo	3 mH	12 mH	23 mH	38.57 mH



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The above table apply for:

distributed inductance and capacitance e. g. as in a cable

or

an external circuit containing no combined lumped inductance and capacitance greater than 1% of the above values

or

an external circuit containing either only lumped inductance or lumped capacitance in combination with a cable.

In all other situations e.g. the external circuit contains combined lumped inductance and capacitance, up to 50% of each of the L and C values is allowed. The reduced capacitance of the external circuit (including cable) shall not be greater than 1 F for Groups I and IIA.

The intrinsically safe output circuits are safely electrically isolated from the supply circuit, signal circuit and the input circuits up to a peak value of the nominal voltage of 375V.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	13 Aug 2021	R14112AT/00	Prime Certificate issued.

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

13 Conditions of Manufacture

- i. Routine test for transformers according to EN 60079-11:2012 clause 11.2

14 Specific Conditions of Use

None

Certificate Annex

Certificate Number CML 21UKEX2894X
Equipment Solenoid driver module type KFD2-SL2-Ex* and type KFD2-SL2-EX*.B
Manufacturer Pepperl+Fuchs SE



The following documents describe the equipment defined in this certificate:

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For drawings describing the equipment, refer to attached certificate ELM 00ATEX0024Issue 3. In addition to the drawings listed on ELM 00ATEX0024Issue 3, 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