

# CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM18US0116X
3. **Equipment:** Transformer-Isolated Loop-Powered Current Separator  
**(Type Reference and Name)** (KFD0-CS-Ex\*.5\*P)
4. **Name of Listing Company:** Pepperl+Fuchs GmbH
5. **Address of Listing Company:** Lilienthalstrasse 200  
D-68307, Mannheim  
Germany
6. The examination and test results are recorded in confidential report number:  
  
3003045 dated 8<sup>th</sup> August 2000
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
FM Class 3600:2018, FM Class 3610:2018, FM Class 3611 2018, FM Class 3810:2018
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. **Equipment Ratings:**  
  
Intrinsically safe (entity) connections for for Class I, II, III, Division 1, applicable Groups A through G; nonincendive for Class I, Division 2, Groups A through D, T4, Ta = -20°C to 70°C, hazardous (classified) locations
11. The marking of the equipment shall include:

**Certificate issued by:**



J.E. Marquedant  
Manager, Electrical Systems

29 May 2018

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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# SCHEDULE



US Certificate Of Conformity No: FM18US0116X

Intrinsically Safe “Entity” Connections for Cl. I, II, III, Div. 1, Appl. Groups and Nonincendive for use in Cl. I, Div. 2, Groups A, B, C, D; T4 when installed per P+F Control Drawing 116-0437.  $-20^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}^*$

\* An upper ambient temperature within the range  $+40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$  may be printed

## 12. Description of Equipment:

The Transformer-Isolated Loop-Powered Current Separators are one or two-channel associated apparatus which restrict the transfer of energy and provide galvanic isolation between unspecified non-hazardous location apparatus and circuits in a hazardous (classified) location.

The modules are housed within polymeric enclosures and are configured for DIN rail mounting.

The modules operate from a loop voltage of 5 to 35 V dc and a maximum loop current of 20 or 40 mA, depending upon model type.

Rated operating ambient temperature range is  $-20^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

Applicable model coding is as follows:

KFD0-CS-Exa.5bP, where:

a = No of channels: 1 or 2

b = Nonhazardous area circuit options: 0 or 1

Entity parameters are as follows:

	V <sub>oc</sub> (V)	I <sub>sc</sub> (mA)	P <sub>o</sub> (mW)	C <sub>a</sub> (μF)			L <sub>a</sub> (mH)		
				Group A, B	Group C, E, F, G	Group D	Group A, B	Group C, E, F, G	Group D
KFD0-CS-Ex1.50P Terminals 1-2	25.2	93	585	0.107	0.82	2.90	4.3	18	33
KFD0-CS-Ex1.51P Terminals 1-2	25.2	93	585	0.107	0.82	2.90	4.3	18	33
KFD0-CS-Ex2.50P Terminals 1-2, 4-5	25.2	93	585	0.107	0.82	2.90	4.3	18	33
KFD0-CS-Ex2.51P Terminals 1-2, 4-5	25.2	93	585	0.107	0.82	2.90	4.3	18	33

## 13. Specific Conditions of Use:

- 1) The associated apparatus shall be installed and operated only in an environment that ensures a pollution degree 2, or better, according to IEC/EN 60664-1.
- 2) When installed within a Class I, Division 2 location, the associated apparatus shall be mounted within a final enclosure which is able to accept Class I, Division 2 wiring methods in accordance with the National Electrical Code (ANSI/NFPA 70).

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14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
8 <sup>th</sup> August 2000	Original Issue.
10 <sup>th</sup> June 2015	Supplement 1: Report Reference: 3049781 dated 10 <sup>th</sup> June 2015 Description of Change: Re-examination to FM Class 3610, 2010 edition
29 <sup>th</sup> May 2018	Supplement 2: Report Reference: 3063710 dated 29 <sup>th</sup> May 2018 Description of Change: Changes to components and printed circuit board/assembly. Change upper ambient temperature limit to 70°C. Update Approval to latest editions of all standards. Removal of obsolete models and options.

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