

CERTIFICATE OF CONFORMITY

- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM18US0207X
- Equipment:** KFD0-CS-Ex*.52 Series
(Type Reference and Name) Loop-Powered Current Repeaters
- Name of Listing Company:** Pepperl+Fuchs GmbH
- Address of Listing Company:** Lilienthalstrasse 200
D-68307 Mannheim
Germany
- The examination and test results are recorded in confidential report number:

3033276 dated 4th June 2009
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:1998, FM Class 3610:2007, FM Class 3611:2004, FM Class 3810:2005,
ANSI/ISA 12.12.02:2003, ANSI/ISA 60079-0:2009, ANSI/ISA 60079-11:2014
- 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.
- 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.

Certificate issued by:



J.E. Marquedant
Manager Electrical Svstems

24 August 2018

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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

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SCHEDULE



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10. Equipment Ratings:

Associated intrinsically safe (entity) equipment with connections for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Associated intrinsically safe (entity) equipment with [AEx ia] connections for Class I, Zone 0, Group IIC per control drawing 116-0129; Class I, Division 2, Groups A, B, C, D, temperature class T4, AEx nA for Class I, Zone 2, temperature class T4 hazardous (classified) locations. The equipment is Approved for use over an ambient temperature range of -20°C to 60°C.

11. The marking of the equipment shall include:

CL I, DIV 2, GP A-D, IS circuits for CL I, II, III, DIV 1, GP A-G; CL I, ZN 2 AEx nA II, IS circuits for CL 1, ZN 0 [AEx ia] IIC, install per 116-0129. Temperature Class T4, Tamb = -20°C to +60°C

12. Description of Equipment:

General – The single or dual-channel galvanically-isolated current repeaters are used for intrinsic safety applications. They are loop-powered and repeat a 4 – 20 mA signal from a current source inside a hazardous location the non-hazardous location. The isolators do not provide power to transmitters within a hazardous location.

Construction - The repeaters utilize a plastic enclosure which is configured for mounting to a 35 mm DIN rail. Connection to field wiring is by way of externally-mounted screw terminals.

Ratings - The repeaters operate from a 4 to 24 V DC source (loop powered) over an input current range of 4 – 20 mA. They are rated for use over an ambient temperature range of -20°C to +60°C.

Model numbers and entity parameters are as follows:

KFD0-CS-Ex1.52 Current Repeater
KFD0-CS-Ex2.52 Current Repeater

Type KFD0-CS-Ex1.52 – Terminals: 1,2 Type KFD0-CS-Ex2.52 – Terminals: 1,2;4,5						
V_{oc}, U_o (V)	I_{sc}, I_o (mA)	P_o (mW)	Group	C_a, C_o (μ F)	L_a, L_o (mH)	L_o / R_o (μ H/ Ω)
25.2	0	0	A, B, IIC	0.107	1000	947
			C, E, F, G, IIB	0.82	1000	947
			D, IIA	2.90	1000	947

13. Specific Conditions of Use:

- 1) In Class I, Division 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Division 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70).

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- 2) In Class I, Zone 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Zone 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70). The equipment shall be installed in an enclosure with a minimum ingress protection rating of IP54 unless the apparatus is intended to be afforded an equivalent degree of protection by location.
- 3) In Class I, Zone 2 installations, the installer shall ensure protection of supply terminals against transient voltages exceeding the rated supply voltage by greater than 40%.

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
4 th June 2009	Original issue as certificate 3033276
24 th August 2018	<u>Supplement: 1</u> Report reference: RR214565 dated 24 th August 2018 Description of Change: Minor changes to construction and documentation. Adopt new format certificate. Update to 2009 edition of ANSI/ISA 60079-0 and 2014 edition of ANSI/ISA 60079-11. Relocate critical documentation from file 1B4A7.AX to file 3033276.

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