

CERTIFICATE OF CONFORMITY



- 1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
- 2. **Certificate No:** FM22CA0016X
- 3. **Equipment:** Type KF*-UF*-Ex* Logic Controller
(Type Reference and Name) Type KF*-DU-Ex* Logic Controller
Type KF*-DWB-Ex* Logic Controller
- 4. **Name of Listing Company:** Pepperl+Fuchs SE
- 5. **Address of Listing Company:** Lilienthalstrasse 200
Mannheim D-68307
Germany
- 6. The examination and test results are recorded in confidential report number:
3009603 dated 19th January 2001
- 7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

CSA-C22.2 No. 142:2004, CSA-C22.2 No. 213:2004, CAN/CSA-C22.2 No. 60079-0:2006,
CAN/CSA-C22.2 No. 60079-11:2011, CAN/CSA C22.2 No. 60079-15:2006

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

24 March 2022

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

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCHEDULE



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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:

KFa-DWB-Ex1.b.c Rotation Speed Limit Alarm
KFD2-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)
KFD2-UFT-Ex2.b.c Universal Logic Controls
KFa-DU-Ex1.b.c Timer

Associated Intrinsically Safe apparatus for connection to Class I, II and III, Division 1, Groups ABCDEFG
Intrinsically safe connections to Class I, Zone 0, [Ex ia] IIC
Non sparking and Protected sparking, Class I, Zone 2, Ex nA nC, Group IIC T4
Nonincendive for Class I, Division 2, Groups A, B, C and D; T4
Ta = -20°C to +60°C

KFU8-DWB-Ex1.b.c Rotation Speed Limit Alarm
KFU8-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)
KFU8-UFT-Ex2.b.c Universal Logic Controls
KFU8-DU-Ex1.b.c Timer

Associated Intrinsically Safe apparatus for connection to Class I, II and III, Division 1, Groups ABCDEFG
Intrinsically safe connections to Class I, Zone 0, [Ex ia] IIC
Ta = -20°C to +60°C

11. The marking of the equipment shall include:

KFa-DWB-Ex1.b.c Rotation Speed Limit Alarm
KFD2-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)
KFD2-UFT-Ex2.b.c Universal Logic Controls
KFa-DU-Ex1.b.c Timer

Class I, Division 2, Groups ABCD T4
Class I, Zone 2 Ex nA nC IIC T4
Intrinsically Safe connections to Class I, II, III, Division 1 Groups ABCDEFG- 16-538FM-12; Entity
Intrinsically Safe connections to Class I, Zone 0, [Ex ia] IIC - 16-538FM-12; Entity
Ta= -20°C to 60°C

KFU8-DWB-Ex1.b.c Rotation Speed Limit Alarm
KFU8-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)
KFU8-UFT-Ex2.b.c Universal Logic Controls
KFU8-DU-Ex1.b.c Timer

Intrinsically Safe connections to Class I, II, III, Division 1 Groups ABCDEFG - 16-538FM-12; Entity
Intrinsically Safe connections to Class I, Zone 0, [Ex ia] IIC - 16-538FM-12; Entity

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12. Description of Equipment:

General - The Logic Control modules convert analog voltage or current inputs to signals that monitor for speed, duration, frequency or time. The Logic Controllers have relay outputs that can be used to select minimum and maximum values or transistor switched outputs. These modules can be used for level control, for driving I/P converters or other general purpose and Intrinsically Safe applications. The Logic modules are available with three different voltages: 24Vdc, 120Vac or 240Vac.

Ratings – See below for each model:

KFa-DWB-Ex1.b.c Rotation Speed Limit Alarm

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

a = Input Voltage D2, A5, A6.
 b = Display Option D or blank.
 c = 485 (with RS485) or blank.

KFU8-DWB-Ex1.b.c Rotation Speed Limit Alarm

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.
 c = 485 (with RS485) or blank.

KFD2-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.
 c = 485 (with RS485) or blank.

KFU8-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.
 c = 485 (with RS485) or blank.

KFD2-UFT-Ex2.b.c Universal Logic Controls

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3, 4 & 6	10.1	13.5	-	-	34	2.87	195
Terminals 1 & 4, 3 & 6	-	-	10.1	27.0	68	2.87	46

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b = Display Option D or blank.
c = 485 (with RS485) or blank.

KFU8-UFT-Ex2.b.c Universal Logic Controls

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3, 4 & 6	10.1	13.5	-	-	34	2.87	195
Terminals 1 & 4, 3 & 6	-	-	10.1	27.0	68	2.87	46

b = Display Option D or blank.
c = 485 (with RS485) or blank.

KFa-DU-Ex1.b.c Timer

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

a = Input Voltage D2, A5, A6.
b = Display Option D or blank.
c = 485 (with RS485) or blank.

KFU8-DU-Ex1.b.c Timer

Entity Parameters	Vo (V)	Io (mA)	Vt (V)	It (mA)	Po (mW)	Ca (uF)	La (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.
c = 485 (with RS485) or blank.

13. **Specific Conditions of Use:**

1. The apparatus shall be installed within an enclosure meeting the requirements of Class I, Division 2/Zone 2 wiring methods as specified in the Canadian electrical code, Part 1.
2. It is the responsibility of the manufacturer to provide warning markings in French where required by local jurisdictions.

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

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. **Schedule Drawings**

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

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16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
19 th January 2001	Original Issue.
24 th March 2022	<u>Supplement 5:</u> Report Reference: RR231738 dated 24 th March 2022. Description of the Change: <ol style="list-style-type: none">1) CAN/CSA C22.2 No. 157:2002 removed from standards list2) CAN/CSA C22.2 No. 60079-0:2006 added to standards list3) CAN/CSA C22.2 No. 60079-11:2011 added to standards list

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