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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

**KFD0-SD2-Ex1.1045. Solenoid Driver.**  
**KFD0-SD2-Ex2.1045. Solenoid Driver.**  
**KFD0-SD2-Ex1.1245. Solenoid Driver.**  
**KFD0-SD2-Ex2.1245. Solenoid Driver.**  
**KFD0-SD2-Ex1.1065. Solenoid Driver.**  
**KFD0-SD2-Ex2.1065. Solenoid Driver.**  
**KFD0-SD2-Ex1.10100. Solenoid Driver.**  
 AIS/I,II,III/1/ABCDEFG –266-031FM-12; Entity  
 I/0/[AEx ia] IIC – 266-031FM-12; Entity  
 S/II/2/ABCD/T4, Ta = 60°C  
 I/2/AEx nA II T4, Ta = 60°C

Entity Parameters:

Voc, Uo (V)	Isc, Io (mA)	Po (mW)	Group	Ca,Co (µF)	La, Lo (mH)	Lo/Ro (µH/Ω)
Type KFD0-SD2-Ex*.1045 – Terminals: Channel 1: 1,2,3 Channel 2: 4,5,6						
25.2	93	586	A, B, IIC	0.107	4.11	60
			C, E, F, G, IIB	0.82	16.44	242
			D, IIA	2.90	32.88	485
Type KFD0-SD2-Ex*.1245 – Terminals: Channel 1: 1,2,3 Channel 2: 4,5,6						
25.2	110	693	A, B, IIC	0.107	2.93	51
			C, E, F, G, IIB	0.82	11.75	205
			D, IIA	2.90	23.50	410
Type KFD0-SD2-Ex*.1065 – Terminals: Channel 1: 1,2,3 Channel 2: 4,5,6						
17.22	220	947	A, B, IIC	0.353	0.73	37
			C, E, F, G, IIB	2.06	2.93	150
			D, IIA	8.50	5.87	300
Type KFD0-SD2-Ex1.10100 – Terminals: 1,2,3						
17	271	1152	A, B, IIC	0.375	0.48	30
			C, E, F, G, IIB	2.20	1.93	123

Voc, Uo (V)	Isc, Io (mA)	Po (mW)	Group	Ca,Co (µF)	La, Lo (mH)	Lo/Ro (µH/Ω)
			D, IIA	9.00	3.87	246

**Special 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 Canadian Electrical Code (C22.1).
- 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 Canadian Electrical Code (C22.1). 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%.
- 4) It is the responsibility of the manufacturer to provide warning markings in French where required by local jurisdictions.

**KFD0-SD2-Ex1.1180. Solenoid Driver.**

AIS/I,II,III/1/CDEFG –266-031FM-12; Entity

I/O/[AEx ia] IIB –266-031FM-12; Entity

S/I/2/ABCD/T4, Ta = 60°C

I/2/AEx nA II T4, Ta = 60°C

Entity Parameters:

Voc, Uo (V)	Isc, Io (mA)	Po (mW)	Group	Ca,Co (µF)	La, Lo (mH)	Lo/Ro (µH/Ω)
Type KFD0-SD2-Ex1.1180 – Terminals: 1,2,3						
25.2	184	1159	A, B, IIC	NA	NA	NA
			C, E, F, G, IIB	0.82	4.20	122
			D, IIA	2.90	8.40	245

**Special 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 Canadian Electrical Code (C22.1).
- 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 Canadian Electrical Code (C22.1). 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%.
- 4) It is the responsibility of the manufacturer to provide warning markings in French where required by local jurisdictions.

**Equipment Ratings:**

Model KFD0-SD2-Ex\*.1045, KFD0-SD2-Ex\*.1245, KFD0-SD2-Ex\*.1065 and KFD0-SD2-Ex1.10100 Solenoid Drivers: Intrinsically safe (entity) connections to Class I, II and III, Division 1, applicable Groups A, B, C, D, E, F and G; intrinsically safe (entity) connections to Class I, [Ex ia]

IIC per control drawing 266-031FM-12; suitable for Class I, Division 2, Groups A, B, C and D, T4 at Tambient = -20°C to 60°C; non-sparking, Ex nA for Class I, Zone 2, T4 at Tambient = -20°C to +60°C, hazardous (classified) indoor locations.

Model KFD0-SD2-Ex1.1180 Solenoid Driver: Intrinsically safe (entity) connections to Class I, II and III, Division 1, applicable Groups C, D, E, F and G; intrinsically safe (entity) connections to Class I, [Ex ia] IIB per control drawing 266-031FM-12; suitable for Class I, Division 2, Groups A, B, C and D, T4 at Tambient = -20°C to 60°C; non-sparking, Ex nA for Class I, Zone 2, T4 at Tambient = -20°C to +60°C, hazardous (classified) indoor locations.

**FM Approved for:**

Pepperl+Fuchs GmbH  
Mannheim, Germany



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This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

CSA C22.2 No. 1010.1	2004
C22.2 No. 213-M1987	2004
CSA-C22.2 No. 157	2006
CSA-E60079-0	2007
CSA-E60079-11	2006
CSA-E60079-15	2006

Original Project ID: 3028278C

Approval Granted: *FEB 6, 2008*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC

  
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 Robert L. Martell, Jr.  
 Assistant Vice President

*FEB 6, 2008*  
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 Date