

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

KCD2-STC-Ex1a SMART Transmitter Power Supply.

KCD2-SCD-Ex1a SMART Repeater.

KCD0-SD-Ex1.1245a Solenoid Driver.

AIS/I,II,III/1/ABCDEFG – 116-0419; Entity

I/0/[AEx ia] IIC – 116-0419; Entity

NI/1/2/ABCD/T4, Ta = 60°C

I/2/AEx nA II T4, Ta = 60°C

Entity Parameter	Models / Terminals		
	KCD2-STC-Ex1a KCD2-SCD-Ex1a		KCD0-SD-Ex1.1245a
	1+, 2-	3+, 4-	1, 2
Voc, Uo (V)	25.2	7.2	25.2
Isc, Io (mA)	100	100	110
Po (mW)	630	25	693
Ca, Co, Groups, A, B, IIC (uF)	0.1	13.49	0.107
La, Lo, Groups, A, B, IIC (mH)	3.5	3.5	2.94
Lo/Ro, Groups A, B, IIC (uH/Ω)	N/A	1437	51

a = Terminal Type: Blank (Screw Terminals), .SP (Spring Terminals)

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 National Electrical Code (ANSI/NFPA 70).

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). Where installed in outdoor or potentially wet locations, the enclosure shall, at a minimum, meet the requirements of IP54. Where installed in dry, clean, indoor locations, the enclosure shall, at a minimum, meet the requirements of IP4X.

3) In Class I, Zone 2 installations, the installer shall ensure protection of supply terminals against transient voltages exceeding 140% of the rated supply voltage.

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

**KCD2-SR-Ex1.LBa Isolated Switch Amplifier.
KCD2-SR-Ex2a Isolated Switch Amplifier.**

AIS/I,II,III/1/ABCDEFG – 116-0419; Entity
I/0/[AEx ia] IIC – 116-0419; Entity
NI/1/2/ABCD/T4, Ta = 60°C
I/2/AEx nC IIC T4, Ta = 60°C

Entity Parameters (Terminals 1 & 2, 3 & 4):

Voc, Uo = 10.5V
Isc, Io = 17.1 mA
Po = 45 mW
Ca, Co (Groups A, B, IIC) = 2.41 uF
La, Lo (Groups A, B, IIC) = 121.5 mH
Lo/Ro (Groups A, B, IIC) = 792 uH/Ω

a = Terminal Type: Blank (Screw Terminals), .SP (Spring Terminals)

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 National Electrical Code (ANSI/NFPA 70).*
- 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). Where installed in outdoor or potentially wet locations, the enclosure shall, at a minimum, meet the requirements of IP54. Where installed in dry, clean, indoor locations, the enclosure shall, at a minimum, meet the requirements of IP4X.*
- 3) *In Class I, Zone 2 installations, the installer shall ensure protection of supply terminals against transient voltages exceeding 140% of the rated supply voltage.*

Equipment Ratings:

KCD2-STC-Ex1a SMART Transmitter Power Supply, KCD2-SCD-Ex1a SMART Repeater and KCD0-SD-Ex1.1245a Solenoid Driver: 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, [AEx ia] IIC per control drawing 116-0419; nonincendive for Class I, Division 2, Groups A, B, C and D, T4 at Tambient = -20°C to 60°C; non-sparking, Class I, AEx nA IIC, Tambient = -20°C to +60°C, hazardous (classified) indoor locations.

KCD2-SR-Ex1.LBa Isolated Switch Amplifier and KCD2-SR-Ex2a Isolated Switch Amplifier: 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, [AEx ia] IIC per control drawing 116-0419; nonincendive for Class I, Division 2, Groups A, B, C and D, T4 at Tambient = -20°C to 60°C; sparking, Class I, AEx nC IIC, Tambient = -20°C to +60°C, hazardous (classified) indoor locations.

FM Approved for:

Pepperl+Fuchs GmbH
68307 Mannheim, Germany

To verify the availability of the Approved product, please refer to www.approvalguide.com
FM Approvals HLC 5/13 3026499

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

Class 3600	2011
Class 3610	2010
Class 3611	2004
ANSI/ISA-12.12.02	2003
Class 3810	2005

Original Project ID: 3026499

Approval Granted: October 17, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3042328	August 1, 2012		
RR202394	September 9, 2015		

FM Approvals LLC



J. E. Marquedant
Manager, Electrical Systems

9 September 2015
Date