



Member of the FM Global Group

FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

HiC2025. SMART Transmitter Power Supply.

HiC2031. SMART Repeater.

HiC2871. Solenoid Driver.

AIS/I,II,III/1/ABCDEFG – 16-534FM-12; Entity

I/O/[AEx ia] IIC – 16-534FM-12; Entity

NI/I/2/ABCD/T4, Ta = 60°C

I/2/AEx nA IIC T4, Ta = 60°C

Entity Parameter	Models / Terminals		
	HiC2025 HiC2031		HiC2871
	5a, 5b	7a/1b, 5a	5a, 5b
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)	57	1437	51

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.

HiC2821. Isolated Switch Amplifier.

HiC2822. Isolated Switch Amplifier.

AIS/I,II,III/1/ABCDEFG – 16-534FM-12; Entity

I/0/[AEx ia] IIC – 16-534FM-12; Entity

NI/I/2/ABCD/T4, Ta = 60°C

I/2/AEx nC IIC T4, Ta = 60°C

Entity Parameters (Terminals 5a 5b & 1a, 1b):

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

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:

HiC2025 SMART Transmitter Power Supply, HiC2031 SMART Repeater and HiC2871 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 16-533FM-12; 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.

HiC2821 Isolated Switch Amplifier and HiC2822 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 16-533FM-12; 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



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

Class 3600	1998
Class 3610	2010
Class 3611	2004
ANSI/ISA-12.12.02	2003
Class 3810	2005

Original Project ID: 3026498

Approval Granted: October 17, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3042328	August 1, 2012		

FM Approvals LLC

J.E. Marquedant
Group Manager, Electrical

1 August 2012

Date