



Member of the FM Global Group

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

D5011S, D5011D. Repeater Power Supply

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
AIS / I,II,III / 1 / ABCDEFG - ISM0158
I / 2 / AEx nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0158; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Table with 3 columns: Output Entity Parameters, Co (Ca), and Lo (La). Rows include Class I, Zone 0, Group IIC; Class I, Division 1, Groups A & B; Class I, Zone 0, Group IIB; Class I & II, Division 1, Groups C & E; Class I, Zone 0, Group IIA; Class I, II, III Division 1, Groups D, F, & G.

Special Conditions of Use:

- 1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5014S, D5014D. Repeater Power Supply

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
AIS / I,II,III / 1 / ABCDEFG - ISM0159
I / 2 / AEx nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0159; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Table with 3 columns: Output Entity Parameters, Co (Ca), and Lo (La). Rows include Class I, Zone 0, Group IIC; Class I, Division 1, Groups A & B; Class I, Zone 0, Group IIB; Class I & II, Division 1, Groups C & E; Class I, Zone 0, Group IIA; Class I, II, III Division 1, Groups D, F, & G.

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

Input Entity Parameters: Ch1 8 - 11, Ch2 10 - 12

Ui (Vmax) = 30 V, Ii (Imax) = 128 mA, Ci = 0, Li = 0

Output Entity Parameters: Ch1 8 - 11, Ch2 10 - 12

Uo (Voc) = 1.1 V, Io (Isc) = 56 mA, Po = 16 mW

Class I, Zone 0, Group IIC	Co (Ca) = 100 μ F	Lo (La) = 11.5 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 1000 μ F	Lo (La) = 46.0 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 μ F	Lo (La) = 92.1 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5020S, D5020D. Powered Isolating Driver

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20

AIS / I,II,III / 1 / ABCDEFG - ISM0160

I / 2 / AEx nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0160; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 25.9 V, Io (Isc) = 93 mA, Po = 595 mW

Class I, Zone 0, Group IIC	Co (Ca) = 100 nF	Lo (La) = 4.1 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 770 nF	Lo (La) = 16.7 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 2.63 μ F	Lo (La) = 33.5 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5030S, D5030D, D5032S, D5032D. Switch/Proximity Detector Repeater

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20

AIS / I,II,III / 1 / ABCDEFG - ISM0161

I / 2 / AEx nA nC [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0161; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 10.5 V, Io (Isc) = 22 mA, Po = 56 mW

Class I, Zone 0, Group IIC	Co (Ca) = 2.41 μ F	Lo (La) = 78.3 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 16.8 μ F	Lo (La) = 313.4 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 75.0 μ F	Lo (La) = 626.9 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

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D5031S, D5031D. Switch/Proximity Detector Repeater

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0161
 I / 2 / AEx nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0161; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 10.5 V, Io (Isc) = 22 mA, Po = 56 mW

Class I, Zone 0, Group IIC	Co (Ca) = 2.41 μF	Lo (La) = 78.3 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 16.8 μF	Lo (La) = 313.4 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 75.0 μF	Lo (La) = 626.9 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5034S, D5034D. Switch/Proximity Interface

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0162
 I / 2 / AEx nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0162; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 10.5 V, Io (Isc) = 15 mA, Po = 39 mW

Class I, Zone 0, Group IIC	Co (Ca) = 2.41 μF	Lo (La) = 163.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 16.8 μF	Lo (La) = 652.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 75.0 μF	Lo (La) = 1305.6 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5048S, D5049S. Digital Output Driver

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0163
 I / 2 / AEx nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0163; IP20

Output Entity Parameters: Terminals 7 - 10

Uo (Voc) = 24.8 V, Io (Isc) = 147 mA, Po = 907 mW

Class I, Zone 0, Group IIC	Co (Ca) = 113 nF	Lo (La) = 1.65 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 860 nF	Lo (La) = 6.63 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 3.05 μF	Lo (La) = 13.27 mH
Class I, II, III Division 1, Groups D, F, & G		

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

Output Entity Parameters: Terminals 8 - 10

Uo (Voc) = 24.8 V, Io (Isc) = 108 mA, Po = 667 mW

Class I, Zone 0, Group IIC	Co (Ca) = 113 nF	Lo (La) = 3.07 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 860 nF	Lo (La) = 12.30 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 3.05 μF	Lo (La) = 24.60 mH
Class I, II, III Division 1, Groups D, F, & G		

Output Entity Parameters: Terminals 9 - 10

Uo (Voc) = 24.8 V, Io (Isc) = 93 mA, Po = 571 mW

Class I, Zone 0, Group IIC	Co (Ca) = 113 nF	Lo (La) = 4.19 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 860 nF	Lo (La) = 16.79 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 3.05 μF	Lo (La) = 33.58 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5072S, D5072D. Temperature Converter

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20

AIS / I,II,III / 1 / ABCDEFG - ISM0166

I / 2 / AEx nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0166; IP20

D5072S and D5072D Input Entity Parameters:

Ui (Vmax) = 12.8 V, Ii (Imax) = 28.7 mA, Ci = 0, Li = 0

D5072S Output Entity Parameters: Terminals 7 - 8 - 9 - 10

Uo (Voc) = 7.2 V, Io (Isc) = 23 mA, Po = 40 mW

Class I, Zone 0, Group IIC	Co (Ca) = 13.5 μF	Lo (La) = 67.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 240 μF	Lo (La) = 268.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 μF	Lo (La) = 537.7 mH
Class I, II, III Division 1, Groups D, F, & G		

D5072D Output Entity Parameters: Terminals Ch1 7 - 8 - 9, Ch2 10 - 11 - 12

Uo (Voc) = 7.2 V, Io (Isc) = 16 mA, Po = 27 mW

Class I, Zone 0, Group IIC	Co (Ca) = 13.5 μF	Lo (La) = 138 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 240 μF	Lo (La) = 555 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 μF	Lo (La) = 1111 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

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D5273S. Temperature Converter Trip amplifiers

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0169
 I / 2 / AEx nA nC [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0169; IP20

Input Entity Parameters:

Ui (Vmax) = 12.8 V, Ii (Imax) = 28.7 mA, Ci = 0, Li = 0

Output Entity Parameters: Terminals 13 - 14 - 15 - 16

Uo (Voc) = 7.2 V, Io (Isc) = 23 mA, Po = 40 mW

Class I, Zone 0, Group IIC	Co (Ca) = 13.5 µF	Lo (La) = 67.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 240 µF	Lo (La) = 268.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 µF	Lo (La) = 537.7 mH
Class I, II, III Division 1, Groups D, F, & G		

D5090S, D5091S. Relay Output

NI / I / 2 / ABCD / T4 - ISM0164 Ta = -40 °C to 70 °C; IP20
 I / 2 / AEx nA nC / IIC / T4 - ISM0164; Ta = -40 °C to 70 °C; IP20

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5290S, D5290S-078, D5291S. Relay Output

NI / I / 2 / ABCD / T4 - ISM0164 Ta = -40 °C to 60 °C; IP20
 I / 2 / AEx nA nC / IIC / T4 - ISM0164; Ta = -40 °C to 60 °C; IP20

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5293S, D5294S. Relay Output with Diagnostic

NI / I / 2 / ABCD / T4 - ISM0165 Ta = -40 °C to 60 °C; IP20
 I / 2 / AEx nA nC / IIC / T4 - ISM0165; Ta = -40 °C to 60 °C; IP20

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5231E. Switch/Proximity Repeater O.C. Out

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0167
 I / 2 / AEx nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0167; IP20

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

Output Entity Parameters: Terminals 21-13, 21-14, 22-15, 22-16, 23-17, 23-18, 24-19, 24-20

Uo (Voc) = 11.2 V, Io (Isc) = 12 mA, Po = 34 mW

Class I, Zone 0, Group IIC

Co (Ca) = 1.84 μ F

Lo (La) = 246 mH

Class I, Division 1, Groups A & B

Class I, Zone 0, Group IIB

Co (Ca) = 12.6 μ F

Lo (La) = 987 mH

Class I & II, Division 1, Groups C & E

Class I, Zone 0, Group IIA

Co (Ca) = 54 μ F

Lo (La) = 1975 mH

Class I, II, III Division 1, Groups D, F, & G

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

Equipment Ratings:

Nonincendive for use in Class I, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC hazardous (classified) locations many with Intrinsically Safe outputs for Class I, II, III Division 1, Groups A, B, C, D, E, F, and G and Class I, Zone 0, Group IIC hazardous (classified) locations

FM Approved for:

G.M. International SRL
20852 Villasanta Monza e Brianza, Italy

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



Member of the FM Global Group

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

FM Class 3600	2011
FM Class 3610	2010
FM Class 3810	2005
FM Class 3611	2004
ANSI/ISA-60079-11 (12.02.01)	2011
ANSI/ISA-60079-15 (12.12.02)	2009
ANSI/ISA-60079-0 (12.00.01)	2009

Original Project ID: 0003046304

Approval Granted: April 9, 2013

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
0003046304-R1	November 6, 2013		

FM Approvals LLC

J. E. Marquedant
Group Manager, Electrical

6 November 2013

Date

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CERTIFICATE OF COMPLIANCE

HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

D5011S, D5011D. Repeater Power Supply

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
AIS / I,II,III / 1 / ABCDEFG - ISM0158
I / 2 / Ex nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0158; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 25.9 V, Io (Isc) = 92 mA, Po = 594 mW

Class I, Zone 0, Group IIC	Co (Ca) = 100 nF	Lo (La) = 4.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 770 nF	Lo (La) = 16.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 2.63 µF	Lo (La) = 33.7 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

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NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
AIS / I,II,III / 1 / ABCDEFG - ISM0159
I / 2 / Ex nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0159; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 25.9 V, Io (Isc) = 92 mA, Po = 594 mW

Class I, Zone 0, Group IIC	Co (Ca) = 100 nF	Lo (La) = 4.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 770 nF	Lo (La) = 16.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 2.63 µF	Lo (La) = 33.7 mH
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Input Entity Parameters: Ch1 8 - 11, Ch2 10 - 12

U_i (V_{max}) = 30 V, I_i (I_{max}) = 128 mA, C_i = 0, L_i = 0

Output Entity Parameters: Ch1 8 - 11, Ch2 10 - 12

U_o (V_{oc}) = 1.1 V, I_o (I_{sc}) = 56 mA, P_o = 16 mW

Class I, Zone 0, Group IIC	Co (Ca) = 100 μF	Lo (La) = 11.5 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 1000 μF	Lo (La) = 46.0 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 μF	Lo (La) = 92.1 mH
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D5020S, D5020D. Powered Isolating Driver

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AIS / I,II,III / 1 / ABCDEFG - ISM0160

I / 2 / Ex nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0160; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

U_o (V_{oc}) = 25.9 V, I_o (I_{sc}) = 93 mA, P_o = 595 mW

Class I, Zone 0, Group IIC	Co (Ca) = 100 nF	Lo (La) = 4.1 mH
Class I, Division 1, Groups A & B		
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AIS / I,II,III / 1 / ABCDEFG - ISM0161

I / 2 / Ex nA nC [ja] / IIC /T4 Ta = -40 °C to 70 °C - ISM0161; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

U_o (V_{oc}) = 10.5 V, I_o (I_{sc}) = 22 mA, P_o = 56 mW

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Class I, Division 1, Groups A & B		
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Class I & II, Division 1, Groups C & E		
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Class I, II, III Division 1, Groups D, F, & G		

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 AIS / I,II,III / 1 / ABCDEFG - ISM0161
 I / 2 / Ex nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0161; IP20

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Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 16.8 µF	Lo (La) = 313.4 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 75.0 µF	Lo (La) = 626.9 mH
Class I, II, III Division 1, Groups D, F, & G		

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D5034S, D5034D. Switch/Proximity Interface

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0162
 I / 2 / Ex nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0162; IP20

Output Entity Parameters: Ch1 7 – 8, Ch2 9 - 10

Uo (Voc) = 10.5 V, Io (Isc) = 15 mA, Po = 39 mW

Class I, Zone 0, Group IIC	Co (Ca) = 2.41 µF	Lo (La) = 163.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 16.8 µF	Lo (La) = 652.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 75.0 µF	Lo (La) = 1305.6 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5048S, D5049S. Digital Output Driver

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0163
 I / 2 / Ex nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0163; IP20

Output Entity Parameters: Terminals 7 - 10

Uo (Voc) = 24.8 V, Io (Isc) = 147 mA, Po = 907 mW

Class I, Zone 0, Group IIC	Co (Ca) = 113 nF	Lo (La) = 1.65 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 860 nF	Lo (La) = 6.63 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 3.05 µF	Lo (La) = 13.27 mH
Class I, II, III Division 1, Groups D, F, & G		

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

Output Entity Parameters: Terminals 8 - 10

Uo (Voc) = 24.8 V, Io (Isc) = 108 mA, Po = 667 mW

Class I, Zone 0, Group IIC	Co (Ca) = 113 nF	Lo (La) = 3.07 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 860 nF	Lo (La) = 12.30 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 3.05 μ F	Lo (La) = 24.60 mH
Class I, II, III Division 1, Groups D, F, & G		

Output Entity Parameters: Terminals 9 - 10

Uo (Voc) = 24.8 V, Io (Isc) = 93 mA, Po = 571 mW

Class I, Zone 0, Group IIC	Co (Ca) = 113 nF	Lo (La) = 4.19 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 860 nF	Lo (La) = 16.79 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 3.05 μ F	Lo (La) = 33.58 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5072S, D5072D. Temperature Converter

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20

AIS / I,II,III / 1 / ABCDEFG - ISM0166

I / 2 / Ex nA [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0166; IP20

D5072S and D5072D Input Entity Parameters:

Ui (Vmax) = 12.8 V, Ii (Imax) = 28.7 mA, Ci = 0, Li = 0

D5072S Output Entity Parameters: Terminals 7 - 8 - 9 - 10

Uo (Voc) = 7.2 V, Io (Isc) = 23 mA, Po = 40 mW

Class I, Zone 0, Group IIC	Co (Ca) = 13.5 μ F	Lo (La) = 67.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 240 μ F	Lo (La) = 268.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 μ F	Lo (La) = 537.7 mH
Class I, II, III Division 1, Groups D, F, & G		

D5072D Output Entity Parameters: Terminals Ch1 7 - 8 - 9, Ch2 10 - 11 - 12

Uo (Voc) = 7.2 V, Io (Isc) = 16 mA, Po = 27 mW

Class I, Zone 0, Group IIC	Co (Ca) = 13.5 μ F	Lo (La) = 138 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 240 μ F	Lo (La) = 555 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 μ F	Lo (La) = 1111 mH
Class I, II, III Division 1, Groups D, F, & G		

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

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

D5273S. Temperature Converter Trip amplifiers

NI-AIS / I / 2 / ABCD / T4 Ta = -40 °C to 70 °C; IP20
 AIS / I,II,III / 1 / ABCDEFG - ISM0169
 I / 2 / Ex nA nC [ia] / IIC / T4 Ta = -40 °C to 70 °C - ISM0169; IP20

Input Entity Parameters:

Ui (Vmax) = 12.8 V, Ii (Imax) = 28.7 mA, Ci = 0, Li = 0

Output Entity Parameters: Terminals 13 - 14 - 15 - 16

Uo (Voc) = 7.2 V, Io (Isc) = 23 mA, Po = 40 mW

Class I, Zone 0, Group IIC	Co (Ca) = 13.5 µF	Lo (La) = 67.2 mH
Class I, Division 1, Groups A & B		
Class I, Zone 0, Group IIB	Co (Ca) = 240 µF	Lo (La) = 268.8 mH
Class I & II, Division 1, Groups C & E		
Class I, Zone 0, Group IIA	Co (Ca) = 1000 µF	Lo (La) = 537.7 mH
Class I, II, III Division 1, Groups D, F, & G		

D5090S, D5091S. Relay Output

NI / I / 2 / ABCD / T4 - ISM0164 Ta = -40 °C to 70 °C; IP20
 I / 2 / Ex nA nC / IIC / T4 - ISM0164; Ta = -40 °C to 70 °C; IP20

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5290S, D5290S-078, D5291S. Relay Output

NI / I / 2 / ABCD / T4 - ISM0164 Ta = -40 °C to 60 °C; IP20
 I / 2 / Ex nA nC / IIC / T4 - ISM0164; Ta = -40 °C to 60 °C; IP20

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

D5293S, D5294S. Relay Output with Diagnostic

NI / I / 2 / ABCD / T4 - ISM0165 Ta = -40 °C to 60 °C; IP20
 I / 2 / Ex nA nC / IIC / T4 - ISM0165; Ta = -40 °C to 60 °C; IP20

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

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

D5231E. Switch/Proximity Repeater O.C. Out

NI-AIS / I / 2 / ABCD /T4 Ta = -40 °C to 70 °C; IP20

AIS / I,II,III / 1 / ABCDEFG - ISM0167

I / 2 / Ex nA [ia] / IIC /T4 Ta = -40 °C to 70 °C - ISM0167; IP20

Output Entity Parameters: Terminals 21-13, 21-14, 22-15, 22-16, 23-17, 23-18, 24-19, 24-20

Uo (Voc) = 11.2 V, Io (Isc) = 12 mA, Po = 34 mW

Class I, Zone 0, Group IIC

Co (Ca) = 1.84 µF

Lo (La) = 246 mH

Class I, Division 1, Groups A & B

Class I, Zone 0, Group IIB

Co (Ca) = 12.6 µF

Lo (La) = 987 mH

Class I & II, Division 1, Groups C & E

Class I, Zone 0, Group IIA

Co (Ca) = 54 µF

Lo (La) = 1975 mH

Class I, II, III Division 1, Groups D, F, & G

Special Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. When installed in Division 2 Hazardous (classified) locations, a warning label must be prominently affixed near the unit(s) which warns that the cables must not be removed or inserted unless the area is known to be non-hazardous

Equipment Ratings:

Nonincendive for use in Class I, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC hazardous (classified) locations many with Intrinsically Safe outputs for Class I, II, III Division 1, Groups A, B, C, D, E, F, and G and Class I, Zone 0, Group IIC hazardous (classified) locations

FM Approved for:

G.M. International SRL
20852 Villasanta Monza e Brianza, Italy



Member of the FM Global Group

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

C22.2 No. 142-M1987	2009
C22.2 No. 157-92	2012
C22.2 No. 213-M1987	2008
C22.2 No. 60079-0 (Ed. 5.0)	2011
C22.2 No. 60079-11 (Ed. 5.0)	2011
C22.2 No. 60079-15 (Ed. 3.0)	2012

Original Project ID: 0003046304

Approval Granted: April 9, 2013

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
0003046304-R1	November 6, 2013		

FM Approvals LLC

J.E. Marquedant
Group Manager, Electrical

6 November 2013

Date

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