



Member of the FM Global Group

FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

IM33-aEx-Hi. Isolator Barrier.

AIS / I / 1 / ABCDEFG — IS-1.102; Entity;

I / 0 / AEx [ia] / IIC — IS-1.102; Entity;

NI / I / 2 / ABCD / T5 Ta = 70°C

Entity Parameters Trapezoidal Characteristic:

Terminals	Groups	V_{oc}/U_o (V)	I_{sc}/I_o (mA)	R (ohm)	P_o (W)	C_a/C_o (μF)	L_a/L_o (mH)
1, 2, and 3	A/B/IIC	20.4	81.5	385	640	0.083	0.85
1, 2, and 3	C/IIB	20.4	81.5	385	640	0.360	17.0
1, 2, and 3	D/IIA	20.4	81.5	385	640	0.410	30
4, 5, and 6	A/B/IIC	20.4	81.5	385	640	0.083	0.85
4, 5, and 6	C/IIB	20.4	81.5	385	640	0.360	17.0
4, 5, and 6	D/IIA	20.4	81.5	385	640	0.410	30

a = Number of inputs/outputs: 11, 12, or 22.

Special Condition of use

- 1) The Isolator Barrier shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

IM33-aEx-Hi/24VDC. Isolator Barrier.

AIS / I / 1 / ABCDEFG — IS-1.102; Entity;

I / 0 / AEx [ia] / IIC — IS-1.102; Entity;

NI / I / 2 / ABCD / T4 Ta = 70°C

Entity Parameters Trapezoidal Characteristic:

Terminals	Groups	V_{oc}/U_o (V)	I_{sc}/I_o (mA)	R (ohm)	P_o (W)	C_a/C_o (μ F)	L_a/L_o (mH)
1, 2, and 3	A/B/IIC	21.2	89	352.8	699	0.160	0.12
1, 2, and 3	C/IIB	21.2	89	352.8	699	0.370	13
1, 2, and 3	D/IIA	21.2	89	352.8	699	0.420	25
4, 5, and 6	A/B/IIC	21.2	89	352.8	699	0.160	0.12
4, 5, and 6	C/IIB	21.2	89	352.8	699	0.370	13
4, 5, and 6	D/IIA	21.2	89	352.8	699	0.420	25

a = Number of inputs/outputs: 11, 12, or 22.

Special Condition of use

- 1) The Isolator Barrier shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

IM34-14Ex-CDRI. Isolator Barrier.

AIS / I / 1 / ABCDEFG — IS-1.106; Entity;

I / 0 / AEx [ia] / IIC — IS-1.106; Entity;

NI / I / 2 / ABCD / T4 Ta = 70°C

Entity Parameters:

Terminals	Group	V_l (V)	I_l (mA)	P_o (mW)	C_a/C_o (μ F)	L_a/L_o (mH)
1, 2, 3, 4, 5 and 6	A/B	5.0	1.1	1.4	100	500
1, 2, 3, 4, 5 and 6	C	5.0	1.1	1.4	100	500
1, 2, 3, 4, 5 and 6	D	5.0	1.1	1.4	100	500

Special Condition of use

- 1) The Isolator Barrier shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

IM43-13Ex-b. Set-point Monitor.

NI / I / 2 / ABCD / T4 Ta = 70°C

b = Output type: R or SR.

Special Condition of use

- 1) The Isolator Barrier shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

IM43-14Ex-b. Set-point Monitor.

NI / I / 2 / ABCD / T4 Ta = 70°C

b = Output type: Ri, Sri or CSRi.

Special Condition of use

- 1) The Isolator Barrier shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

Equipment Ratings:

Associated Apparatus with Intrinsically Safe connections to a Class I, II, & III, Division 1, Groups A, B, C, D, E, F, & G indoor hazardous locations, in accordance with Control Drawings 1.102 or IS-1.106. Also as Nonincendive for use in a Class I, Division 2, Groups A, B, C, and D indoor hazardous locations. The equipment has a Temperature Class T4, $T_a = 70^{\circ}\text{C}$.

The apparatus shall be installed in a final enclosure in order to retain its safety approval.

FM Approved for:

TURCK Inc.
3000 Campus Dr.
Plymouth MN 55441

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

CSA-C22.2 No. 157	1992
CSA C22.2 No. 213	1987
CSA C22.2 No. 142	1987

Original Project ID: 3027845C

Approval Granted: *March 30, 2007*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC


Robert L. Martell, Jr.
Assistant Vice President

March 30, 2007
Date