



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

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

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

I / 0 / AEx [ja] / 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 (μF)	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-aEx-b. Isolator Barrier.

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

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

NI / I / 2 / ABCD / T4 Ta = 70°C

Entity Parameters:

Terminals	Group	V_t (V)	I_t (mA)	P_o (mW)	C_a/C_o (μF)	L_a/L_o (mH)
1, 2, 3, 4, 5 and 6	A/B	5.0	7.6	9.5	100	500
1, 2, 3, 4, 5 and 6	C	5.0	7.6	9.5	1000	1000
1, 2, 3, 4, 5 and 6	D	5.0	7.6	9.5	1000	5000

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

b = Output type: i, Ri, Ci, or CRi.

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.

IM35-aEx-Hi/24VDC. Isolator Barrier.

AIS / I / 1 / ABCDEFG — IS-1.105; Entity;

I / 0 / AEx [ia] / IIC — IS-1.105; 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 and 2	A/B/IIC	15.6	59.6	527	0.5	0.15	1.0
1 and 2	C/IIB	15.6	59.6	527	0.5	0.30	25
4 and 5	A/B/IIC	15.6	59.6	527	0.5	0.15	1.0
4 and 5	C/IIB	15.6	59.6	527	0.5	0.30	25

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

Special Condition of use:

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, Division 1, Groups A, B, C, D, E, F, & G and connection to a Class I, Zone 0, Group IIC, IIB, IIA; indoor hazardous (classified) locations, in accordance with Control Drawing IS-1.102, IS-1.105, or IS-1.106. Also as Nonincendive for use in a Class I, Division 2, Groups A, B, C, and D indoor hazardous (classified) locations. The equipment has a Temperature Class T4, Ta = 70°C.

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

FM Approved for:

TURCK Inc.
Plymouth, Minnesota 55441, USA

Plymouth MN 55441 This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3810	2005
Class 3610	2010
Class 3611	2004
ANSI/ISA-60079-0	2009
ANSI/ISA-60079-11	2009



Original Project ID: 3019352

Approval Granted: September 19, 2005

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
070402	April 4, 2007		
3042273	March 22, 2012		

FM Approvals LLC

Timothy Adam
Technical Team Manager

Mar. 22, 2012
Date