



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

IM31-aEx-b. Isolator Barrier.

AIS / I / 1 / ABCDEFG - IS-1.114; Entity;

[I / 0] / AEx [ia] IIC - IS-1.114; Entity;

NI / I / 2 / ABCD / T4, Ta = 70°C

Entity Parameters:

Terminals	Group	V_{oc}/U_o (V)	I_{sc}/I_o (mA)	P_o (mW)	C_a/C_o (μF)	L_a/L_o (H)
1, 2, and 3	A,B/IIC	7.2	1	0.3	13.5	1.0
1, 2, and 3	C/IIB	7.2	1	0.3	240	1.0
1, 2, and 3	D/IIA	7.2	1	0.3	240	1.0
4, 5, and 6	A,B/IIC	7.2	1	0.3	13.5	1.0
4, 5, and 6	C/IIB	7.2	1	0.3	240	1.0
4, 5, and 6	D/IIA	7.2	1	0.3	240	1.0

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

b = Output type: U or I.

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.

IM72-aEx/L. Isolator Barrier.

AIS / I / 1 / ABCDEFG — IS-1.108; Entity;

[I / 0] / AEx [ia] IIC — IS-1.108; 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_i (ohm)	P_o (mW)	C_a/C_o (μ F)	L_a/L_o (mH)
(1 and 3), (4 and 6)	A,B/IIC	27	95.3	297	674	0.03	2
(1 and 3), (4 and 6)	C/IIB	27	95.3	297	674	0.15	5
(2 and 3), (5 and 6)	A,B/IIC	17.5	95.3	297	674	0.10	1
(2 and 3), (5 and 6)	C/IIB	17.5	95.3	297	674	0.30	10

a = Number of inputs/outputs: 11 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.

IM72-aEx/L. Isolator Barrier.

AIS / I / 1 / ABCDEFG - IS-1.108; Entity;

[I / 0] / AEx [ia] IIC - IS-1.108; Entity;

NI / I / 2 / ABCD / T4 Ta = 70°C

Entity Parameters Trapezoidal Characteristic:

Terminals	Group	V_{oc}/U_o (V)	I_{sc}/I_o (mA)	R_i (ohm)	P_o (mW)	C_a/C_o (μ F)	L_a/L_o (mH)
(1 and 3), (4 and 6)	A,B/IIC	27	95.3	297	674	0.03	2
(1 and 3), (4 and 6)	C/IIB	27	95.3	297	674	0.15	5
(2 and 3), (5 and 6)	A,B/IIC	17.5	95.3	297	674	0.10	1
(2 and 3), (5 and 6)	C/IIB	17.5	95.3	297	674	0.30	10

a = Number of inputs/outputs: 11 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.

Equipment Ratings:

Associated Apparatus with Intrinsically Safe connections to a Class I, Division 1, Groups A, B, C, D, E, F, & G and connections to a Class I, Zone 0, Group IIC, IIB, IIA; indoor hazardous (classified) locations, in accordance with Control Drawings 1.114 or IS-1.108.. 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



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: 3025521

Approval Granted: July 20, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3042273	03/22/2012		

FM Approvals LLC

Timothy Adam
Technical Team Manager

Mar. 22, 2012

Date