



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.fmglobal.com

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:

Terminals	Group	V _{oc} /U _o (V)	I _{sc} /I _o (mA)	P _o (mW)	C _a /C _o (μF)	L _a /L _o (mH)
1, 2, and 3	A/B	21.2	89	472	0.18	4.5
1, 2, and 3	C	21.2	89	472	1.24	17.3
1, 2, and 3	D	21.2	89	472	4.68	35.9
4, 5, and 6	A/B	21.2	89	472	0.18	4.5
4, 5, and 6	C	21.2	89	472	1.24	17.3
4, 5, and 6	D	21.2	89	472	4.68	35.9

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 [ia] / 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:

Terminal s	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

- 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 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, $T_a = 70^{\circ}\text{C}$.

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

Approved for:

TURCK Inc.
3000 Campus Dr.
Plymouth MN 55441

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

Class 3600	1998
Class 3810	1989
Class 3611	2004
Class 3610	1999

Original Project ID: 3019352

FM Approval Granted: 9/19/05

Subsequent Revision Reports / Date FM Approval Amended

Report Number	Date	Report Number	Date
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FM Global Technologies LLC



George A. Smith
Assistant Vice President
FM Approvals

19 Sept 2005
Date