

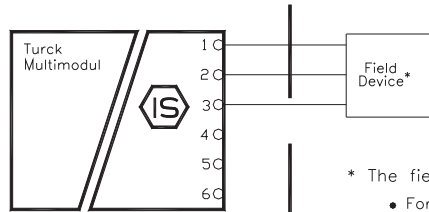
FM Approved Isolator Barriers

Analog Input Devices with Intrinsically Safe Field Circuits



NON-HAZARDOUS LOCATION, OR
Class I, Division 2, Groups A,B,C,D

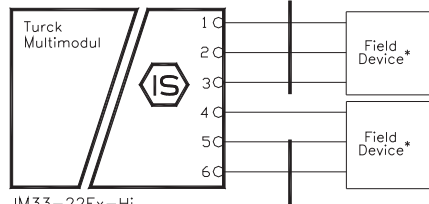
HAZARDOUS (CLASSIFIED) LOCATION
Class I, Div. 1, Groups A,B,C,D; Class II, Div. 1, Groups E,F,G; Class III, Div. 1
or
Class I, Group IIC, IIB, or IIA, Zone per Note 3



IM33-11Ex-Hi
IM33-12Ex-Hi

* The field device may be:

- For US jurisdictions - Any FM approved intrinsically safe apparatus with compatible Entity Concept parameters 1, or any simple apparatus 2.
- For Canadian jurisdictions - Any Canadian certified intrinsically safe apparatus with compatible Entity Concept parameters 1, or any simple apparatus 2.



IM33-22Ex-Hi

Entity Parameters: Class I, Division 1; Class II, Division 1; Class III, Division 1

Model	Terminals	V _{oc} (V)	I _{sc} (mA)	P _o (mW)	Output Characteristic	C _o (uF) AB/CE/DFG	L _o (mH) AB/CE/DFG
IM33-11Ex-... IM33-12Ex-...	1-2-3	21.2	89	472	Linear	0.18/01.24/4.68	4.5/17.3/35.9
IM33-22Ex-...	1-2-3, 4-5-6	21.2	89	472	Linear	0.18/01.24/4.68	4.5/17.3/35.9

Entity Parameters: Class I, Zone 0, 1, or 2

Model	Terminals	U _o (V)	I _o (mA)	P _o (mW)	Output Characteristic	C _o (uF) IIC/IIB/IIA	L _o (mH) IIC/IIB/IIA
IM33-11Ex-... IM33-12Ex-...	1-2-3	21.2	89	472	Linear	0.18/01.24/4.68	4.5/17.3/35.9
IM33-22Ex-...	1-2-3, 4-5-6	21.2	89	472	Linear	0.18/01.24/4.68	4.5/17.3/35.9

Notes:

1. The entity concept allows interconnection of intrinsically safe apparatus and associated apparatus not specifically examined in combination as a system when the conditions below are met.

$$V_{max} \geq V_{oc} \text{ or } V_t \quad I_{max} \geq I_{sc} \text{ or } I_t \quad U_i \geq U_o \quad I_i \geq I_o \quad P_i \geq P_o$$

$$C_i + C_{cable} \leq C_o \quad L_i + L_{cable} \leq L_o \quad C_i + C_{cable} \leq C_o \quad L_i + L_{cable} \leq L_o$$

2. A simple apparatus is defined as an electrical component or combination of components of simple construction with well-defined electrical parameters that does not generate more than 1.5V, 100mA, and 25mW, or a passive component that does not dissipate more than 1.3W and is compatible with the intrinsic safety of the circuit in which it is used.

3. Wiring methods must be in accordance with:

For US jurisdictions - the National Electrical Code, ANSI/NFPA 70, Article 504 (for Division 1 or 2 installations) or Article 505 (for Zone 0, 1 or 2 applications), and ANSI/ISA RP12.06.01.

For Canadian jurisdictions - the Canadian Electrical Code, CSA 22.1, for Division 1 or 2 or Zone 1 or 2 installations.

4. Associated apparatus must not be connected to any device that uses or generates in excess of 250Vrms unless it has been determined that the voltage is adequately isolated from the associated apparatus.

5. If the electrical parameters of the cable are unknown, the following default values may be used:

Capacitance - 60pF/foot
Inductance - 0.2uH/foot

6. WARNING: Substitution of components may impair intrinsic safety. AVERTISSEMENT: La substitution de composants peut compromettre la securite intrinseque.

Drawing No.: IS-1.102	TURCK 3000 Campus Drive Plymouth, MN 55441 Phone: (763) 553-7300
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Title: Control Drawing for IM33-..Ex-., with I/S (Entity) Field Circuits
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A	Release	BVL	11/22/05
Rev	Description	Drft	Date

Scale: NONE	Sheet 1 of 1
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