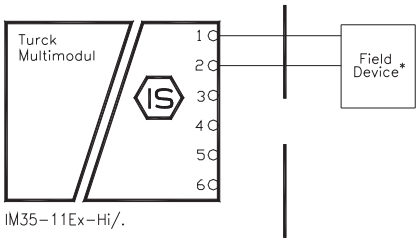
FM Approved Isolator Barriers

Analog Output Devices with Intrinsically Safe Field Circuits

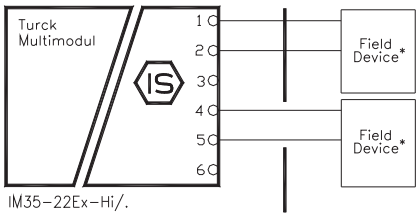
FM APPROVED

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, Zone 0, Group IIC, IIB, or IIA



IM35–11Ex–Hi/.



IM35–22Ex–Hi/.
IM35–22Ex–U/.

* The field device may be:
- Any FM approved intrinsically safe apparatus with compatible Entity Concept parameters (see Note 1), or
- Any Simple Apparatus (see Note 2).

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	R_i (Ohms)	C_a(uF) AB/CDEFG	L_a(mH) AB/CDEFG
IM35–11Ex–Hi/.	1–2	15.9	60	500	Trapezoidal	527	0.15/0.3	1/25
IM35–22Ex–Hi/.	1–2, 4–5	15.9	60	500	Trapezoidal	527	0.15/0.3	1/25
IM35–22Ex–U/.	1–2, 4–5	15.9	60	500	Trapezoidal	527	0.15/0.3	1/25

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

Model	Terminals	U_o (V)	I_o (mA)	P_o (mW)	Output Characteristic	R_i (Ohms)	C_o(uF) IIC/IIB/IIA	L_o(mH) IIC/IIB/IIA
IM35–11Ex–Hi/.	1–2	15.9	60	500	Trapezoidal	527	0.15/0.3/0.3	1/25/25
IM35–22Ex–Hi/.	1–2, 4–5	15.9	60	500	Trapezoidal	527	0.15/0.3/0.3	1/25/25
IM35–22Ex–U/.	1–2, 4–5	15.9	60	500	Trapezoidal	527	0.15/0.3/0.3	1/25/25

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.
   $V_{max} \geq V_{oc}$ or V_t $\quad I_{max} \geq I_{sc}$ or I_t $\quad U_i \geq U_o$ $\quad I_i \geq I_o$ $\quad P_i \geq P_o$
   $C_i + C_{cable} \leq C_a$ $\quad L_i + L_{cable} \leq L_a$ $\quad C_i + C_{cable} \leq C_o$ $\quad L_i + L_{cable} \leq L_o$
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 compatable with the intrinsic safety of the circuit in which it is used.
3. Wiring methods must be in accordance with the National Electrical Code, ANSI/NFPA 70, Article 504 (for Division installations) or Article 505 (for Zone applications), and ANSI/ISA RP12.06.01.
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.

Rev	Description	Drft	Date
A	Release	BVL	8/26/05

Drawing No.: IS-1.105	TURCK 3000 Campus Drive Plymouth, MN 55441 Phone: (763) 553-7300
Title: Control Drawing for IM35-..Ex-Hi and IM35-..Ex-U with I/S (Entity) Field Circuits	
Scale: NONE	Sheet 1 of 1