

NON-HAZARDOUS LOCATION

NOTES:

1. Associated apparatus output current must be limited by a resistor such that the output voltage plot is a straight line drawn between open-circuit voltage and short-circuit voltage.

2. The intrinsically safe device does not provide 500V isolation with respect to earth. Associated apparatus used must be galvanically isolated or dual channel shunt zener diode barriers with linear outputs used channel to channel.

3. Associated apparatus may be in a Division 2 or Zone 2 location if so approved.

4. Selected associated apparatus must be third party listed as providing intrinsically safe circuits for the application, and have V_{oc} or V_t not exceeding V_{max} (or U_o not exceeding U_i), I_{sc} or I_t not exceeding I_{max} (or I_o not exceeding I_i) and the P_o of the associated apparatus must be less than or equal to the P_{max} or P_i of the intrinsically safe equipment, as shown in Table 1.

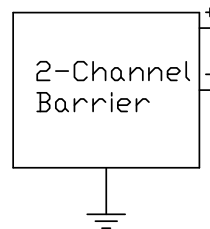
5. Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in Table 1. Cable capacitance, C_{cable} , plus intrinsically safe equipment capacitance, C_i , must be less than the marked capacitance, C_a (or C_o), shown on any associated apparatus used. The same applies for inductance (L_{cable} , L_i and L_a or L_o , respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: $C_{cable} = 60$ pF/ft., $L_{cable} = 0.2$ μ H/ft.

TABLE 1:

IS Equipment		Assoc Equipment
V_{max} (or U_i)	$\geq$	V_{oc} or V_t (or U_o)
I_{max} (or I_i)	$\geq$	I_{sc} or I_t (or I_o)
P_{max} (or P_i)	$\geq$	P_o
$C_i + C_{cable}$	$\leq$	C_a (or C_o)
$L_i + L_{cable}$	$\leq$	L_a (or L_o)

If P_o of the associated apparatus is not known, it may be calculated using the formula: $P_o = (V_{oc} * I_{sc}) / 4 = (U_o * I_o) / 4$

6. Associated apparatus must be installed in accordance with its manufacturer's control drawing and Article 504 of the NEC (ANSI/NFPA 70) for installation in the United States, or Section 18 of the Canadian Electrical Code for installations in Canada.

**GENERAL NOTES:**

1. Substitution of components may disqualify intrinsic safety.

7. When required by the manufacturer's control drawing, the associated apparatus must be connected to a suitable ground electrode per the National Electrical Code (ANSI/NFPA 70), the Canadian Electrical Code, or other local installation codes, as applicable. The resistance of the ground path must be less than 1 ohm.

8. Associated apparatus must not be used in combination unless permitted by the associated apparatus certification.

9. Control equipment must not use or generate more than 250 V rms or dc with respect to earth.

10. Suitability for installation in particular applications is at the discretion of the Authority Having Jurisdiction (AHJ).

REV.	ECN NO.	ZONE	REVISION	APPROVED/DATE
A			AS ISSUED	TWP 11-13-2008
B	1042	B1	28.5 VDC WAS 12.6 VDC, 115 mA WAS 24 mA 0.0726 μ F WAS 11 μ F, 819.4 mW WAS 76 mW	JME 1-5-2010

HAZARDOUS LOCATION

Class I, Div 1, Groups A, B, C, and D
Class II, Div 1, Groups E, F, and G
and Class III Hazardous Locations

4 TO 20 mA
Position Transmitter

Model: HX-P420
800" range and less
EX:
HX-P420-200-NJC-L7M

V_{max} (or U_i) = 28.5 VDC
 I_{max} (or I_i) = 115 mA
 C_i = 0.0726 μ F
 L_i = 0 μ H
 P_{max} (or P_i) = 819.4 mW

CABLE NOTES:

The HX-P420's N6 and SS versions are provided with a connected cable. Other versions may or may not include electrical cable. Even when supplied, this cable may or may not be used.

The supplied cable has the following characteristics:

Type	= 3 twisted pairs, foil shield, drain wire
Rated Voltage	= 290 V
Max Rated Temp	= 105°C
Conductor Size	= 22 gauge, tinned copper wire
Conductor Insulation	= PVC, 0.010" thick
Shielding	= Alum foil with 22 gauge, 7/30 drain wire
Jacket	= Black polyurethane, 0.032" thick (0.29" overall OD)
Cable	= 39 pF/ft
Lcable	= 0.9 μ H/ft

UNLESS OTHERWISE SPECIFIED: 1) ALL DIMENSIONS ARE IN INCHES. 2) TOLERANCES ARE AS FOLLOWS:		N/A	
DO NOT SCALE THIS DRAWING	. XXX	± 0.05	
	. XX	± 0.02	
	. X	± 1	
	ANGLES	$\pm 0^{\circ}30'$	
	SURFACE FINISH	125	
DRAWN	JME	DATE	11-13-08
ENGINEER	JASON ENRIGHT	DATE	11-13-08
REL. TO PROD.		DATE	
FILE NAME & DOCUMENT NO.		400254B1.DWG	SCALE: 1:1
PART, ASM or FAMILY DWG NO.		400254	SHEET 1 OF 2

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