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 uF WAS 1.1 uF, 819.4 mW WAS 76 mW	JME 1-5-2010

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 Voc or Vt not exceeding Vmax (or Uo not exceeding Ui), Isc or It not exceeding Imax (or Io not exceeding Ii) and the Po of the associated apparatus must be less than or equal to the Pmax or Pi 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, Ccable, plus intrinsically safe equipment capacitance, Ci, must be less than the marked capacitance, Ca (or Co), shown on any associated apparatus used. The same applies for Inductance (Lcable, Li and La or Lo, respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 µH/ft.

TABLE 1:

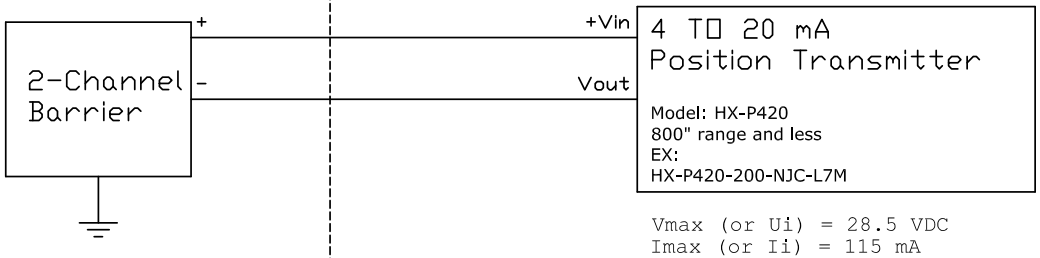
IS Equipment		Assc Equipment
Vmax (or Ui)	>=	Voc or Vt (or Uo)
Imax (or Ii)	>=	Isc or It (or Io)
Pmax (or Pi)	>=	Po
Ci + Ccable	<=	Ca (or Co)
Li + Lcable	<=	La (or Lo)

If Po of the associated apparatus is not known, it may be calculated using the formula: Po = (Voc * Isc) / 4 = (Uo * Io) / 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.

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



Vmax (or Ui) = 28.5 VDC
Imax (or Ii) = 115 mA
Ci = 0.0726 uF
Li = 0 uH
Pmax (or Pi) = 819.4 mW

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).

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)
Ccable	= 39 pF/ft
Lcable	= 0.9 µH/ft

UNLESS OTHERWISE SPECIFIED:
1) ALL DIMENSIONS ARE IN INCHES.
2) TOLERANCES ARE AS FOLLOWS:

DO NOT SCALE THIS DRAWING

.XXX	±.005
.XX	±.02
.X	±.1
ANGLES	±0°30'
SURFACE FINISH	125

DRAWN JME	DATE 11-13-08	MATERIAL N/A	
ENGINEER JASON ENRIGHT	DATE 11-13-08	UniMeasure	
REL. TO PROD.	DATE	TITLE HX-P420 CONTROL DWG	
		B	PART, ASM or FAMILY DWG NO. 400254
		FILE NAME & DOCUMENT NO. 400254B1.DWG	SCALE: 1:1 / SHEET 1 OF 2

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