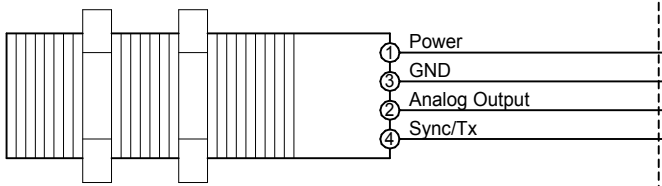
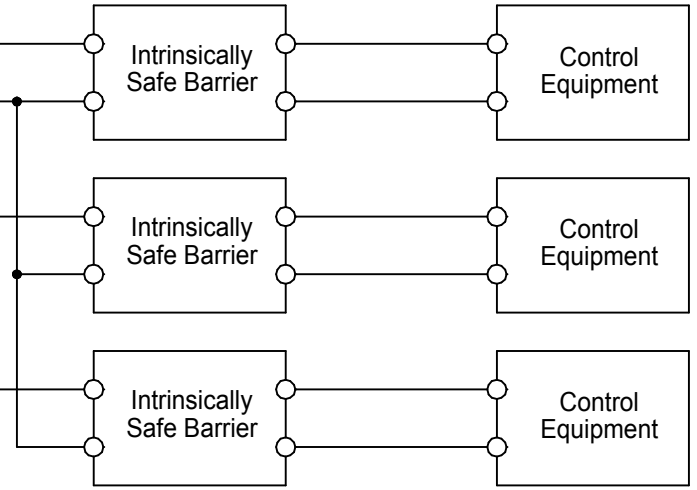
Hazardous Location

Class I, Groups A, B, C, and D;
Class II, Groups E, F, and G;
Class III



RPS-409A-IS3
Exia
INTRINSICALLY SAFE/SÉCURITÉ INTRINSÈQUE
Ultrasonic Sensor

Non-Hazardous Location



Notes

NOTE 1: RPS-409A-IS3 Exia INTRINSICALLY SAFE/SÉCURITÉ INTRINSÈQUE Apparatus Entity Parameters

RPS-409A-IS3 Entity Parameters					
Terminal Numbers	Vmax or Ui	Imax or Ii	Pmax or Pi	Ci	Li
1 & 3 (Power)	30 V	100 mA	0.750 W	*	*
2 & 3 (Analog Output)	16 V	16 mA	0.064 W	*	*
4 & 3 (Sync/Tx)	16 V	16 mA	0.064 W	*	*
* = Negligible					

Table 1

NOTE 2: RPS-409A-abc-IS3-defg Model Number Information
abc = maximum range of the ultrasonic sensor in inches
defg = may include additional character(s) for non-safety related options

NOTE 3: WARNING: TO PREVENT IGNITION OF EXPLOSIVE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING.
AVERTISSEMENT: POUR ÉVITER L'INFLAMMATION D'ATMOSPHÈRES EXPLOSIVES, COUPER LE COURANT AVANT L'ENTRETIEN.

NOTE 4: WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSÈQUE.

NOTE 5: The Sync/Tx line is not required for operation of the sensor. If not used the Sync/Tx line may be left open, or tied to ground.

NOTE 6: To maintain the IP67 rating of the sensor, the cable assembly used to connect to the sensor must have an IP rating of IP67 or greater. Also the coupling nut on the cable assembly must be secured to the sensor with a minimum engagement of three threads.

Rev	Drawing Date	Description	Approved By	Approval Date	Effective Date	Drawn By/Date	Migatron Corporation 935 Dieckman Street Woodstock, IL 60098 USA	
1	02-24-2015	Initial Release	F. Wroga	03-02-2015	03-02-2015	JVV / 12-26-2014		
							Title: RPS-409A-IS3 Control Drawing	
						Size: A	Drawing No.: 14122606	Rev.: 1
						Scale: 1:1	Date: February 24, 2015	Page 1 of 2

Notes (continued from previous page)

NOTE 7: The RPS-409A-IS3 must be installed in accordance with this Control Drawing, Article 504 of the National Electrical Code (ANSI/NFPA 70) for installation in the United States, Section 18 of the Canadian Electrical Code for installations in Canada, or other local codes, as applicable. Also refer to the RPS-409A-IS3 User Manual for additional instructions.

NOTE 8: Intrinsically safe circuits must be wired and separated in accordance with Article 504.20 of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.

NOTE 9: Associated apparatus/equipment output current must be limited by a resistor such that the output voltage-current plot is a straight line drawn between open-circuit voltage and short-circuit current.

NOTE 10: Associated apparatus/equipment may be in a Division 2 or Zone 2 location if so approved.

NOTE 11: Selected associated apparatus/equipment 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/equipment must be less than or equal to the Pmax or Pi of the intrinsically safe apparatus, as shown in Table 2. If Po of the associated apparatus/equipment is not known, it may be calculated using the formula Po = [(Voc)(Isc)]/4 = [(Uo)(Io)]/4.

NOTE 12 : Capacitance and inductance of the field wiring from the intrinsically safe apparatus to the associated apparatus/equipment shall be calculated and must be included in the system calculations as shown in Table 2. Cable capacitance, Ccable, plus intrinsically safe apparatus capacitance, Ci, must be less than the marked capacitance, Ca (or Co), shown on any associated apparatus/ equipment 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.

I.S. Apparatus		Associated Apparatus
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

Table 2

NOTE 13: Associated apparatus/equipment must be installed in accordance with its manufacturer's Control Drawing and Article 504 of the National Electrical Code (ANSI/NFPA 70) for installation in the United States, Section 18 of the Canadian Electrical Code for installations in Canada, or other local codes, as applicable.

NOTE 14: When required by the manufacturer's Control Drawing, the associated apparatus/equipment 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.

NOTE 15: Associated apparatus/equipment must not be used in combination unless permitted by the associated apparatus/equipment certification.

NOTE 16: Control equipment must not use or generate more than 250 V rms or dc with respect to earth.

NOTE 17: WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD, WIPE WITH A DAMP CLOTH.
AVERTISSEMENT: RISQUE DE CHARGE ÉLECTROSTATIQUE POTENTIEL, ESSUYEZ AVEC UN CHIFFON HUMIDE.

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1	02-24-2015	Initial Release	F. Wroga	03-02-2015	03-02-2015	JVV / 12-26-2014		
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