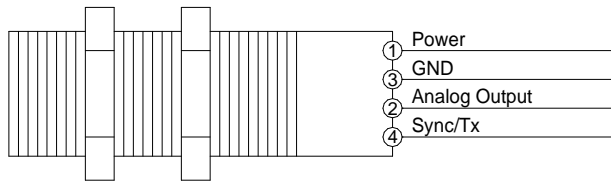


Hazardous Location

UL/cUL: Class I, Groups A, B, C, and D;
 Class II, Groups E, F, and G; Class III
 ATEX/IECEX: Zones 0, 1, and 2, Groups I, IIA, IIB, and IIC;
 Zones 20, 21, and 22, Groups IIIA, IIIB, and IIIC

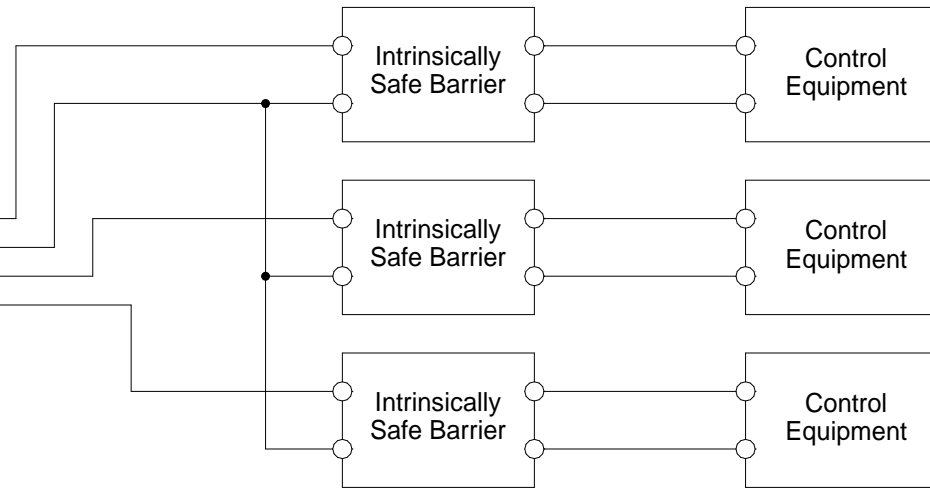


RPS-409A-IS2

Exia

INTRINSICALLY SAFE/SÉCURITÉ INTRINSÈQUE
 Ultrasonic Sensor

Non-Hazardous Location



Notes

NOTE 1: RPS-409A-IS2 Exia INTRINSICALLY SAFE/SÉCURITÉ INTRINSÈQUE
 Apparatus Entity Parameters

RPS-409A-IS2 Entity Parameters					
Terminal Numbers	V _{max} or U _i	I _{max} or I _i	P _{max} or P _i	C _i	L _i
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-IS2-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.

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	08-09-2012	Initial Release	F. Wroga	08-09-2012		JVV / 02-08-2012			Title: RPS-409A-IS2 Control Drawing
2	10-25-2012	Revise Table 1, Notes 2, & Note 6. Add two notes on page 2. Renumber notes on page 2. Typo corrections.	W. Wroga	11-12-2012	11-12-2012		Size: A	Drawing No.: Ex05021114	Rev.: 2
							Scale: 1:1	Date: October 25, 2012	Page 1 of 2

Notes (continued from previous page)

NOTE 7: The RPS-409A-IS2 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-IS2 User Manual, drawing number Ex01231214, 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 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/equipment must be less than or equal to the P_{max} or P_i of the intrinsically safe apparatus, as shown in Table 2. If P_o of the associated apparatus/equipment is not known, it may be calculated using the formula $P_o = [(V_{oc})(I_{sc})]/4 = [(U_o)(I_o)]/4$.

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, C_{cable} , plus intrinsically safe apparatus capacitance, C_i , must be less than the marked capacitance, C_a (or C_o), shown on any associated apparatus/equipment 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: $C_{cable} = 60 \text{ pF/ft.}$, $L_{cable} = 0.2 \text{ } \mu\text{H/ft.}$

I.S. Apparatus	Associated Apparatus
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

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: Dielectric Strength of enclosure is not sufficient to insulate the RPS-409A-abc-IS2-defg from other equipment. The RPS-409A-abc-IS2-defg may be mounted onto a metal part if the metal part is earth grounded in accordance with the National Electrical Code or other local codes, as applicable, or it may be mounted on an insulated part. In either case, the enclosure must be segregated or insulated from live parts.

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								Rev.: 2
								Page 2 of 2