

RPS-409A-IS

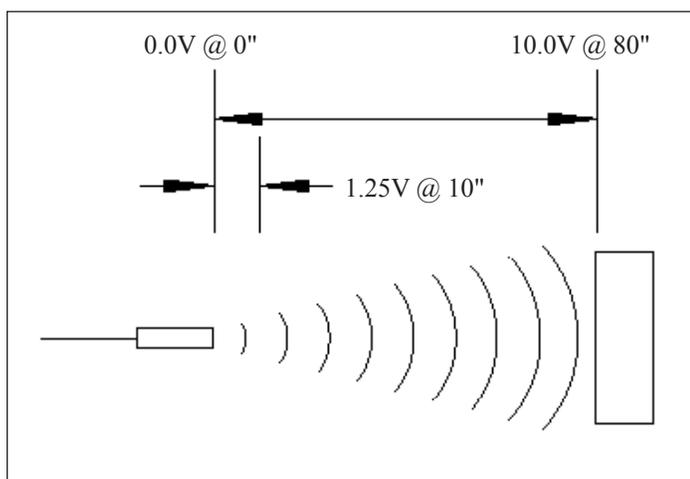
Intrinsically Safe for use in Hazardous
(Classified) Locations when used with
approved Safety Barrier(s).
UL Listed: File # E226209

Features

- Intrinsically Safe
- UL Listed
- Input Voltage 24VDC
- Reverse Polarity Protected
- Analog Voltage Output
- Short Circuit Protected
- Sync/Tx Input Line
- Various Sensing Ranges
- Wide Temperature Range
- Temperature Compensation
- LED Indicator
- Self Contained Sensor
- PVC Housing
- Quick Disconnect Connector

The RPS-409A-IS is an intrinsically safe, analog ultrasonic sensor. It is a self-contained sensor in a 30mm PVC barrel housing. It is powered by 16 - 30VDC with reverse polarity protection.

The RPS-409A-IS has a short circuit protected analog 0 - 10VDC output. The analog voltage is a fixed volts per inch based on the maximum range of the unit. For example using the RPS-409A-80-IS, the output is a linear 0.125V per inch. A target placed 10 inches from the sensor will result in an output signal of 1.25V or a target placed at 80 inches from the sensor will result in an output of 10V.



The RPS-409A-IS has built-in temperature compensation to provide accurate readings throughout the entire operating temperature range.

An LED indicator is provided. The LED is green when not detecting and changes to red when a target moves into place. The sensor is completely sealed and the connection is made by way of quick disconnect (QD) IP and NEMA rated cables.

In addition to the analog output line the sensor also has a Sync/Tx line. This can be used for connecting multiple sensors together (Sync) to prevent cross talk, or (Tx) to control when the sensor transmits.

The RPS-409A-IS is designed to take advantage of today's PLC and computer analog input cards. The numerical values that are programmed into the PLC or computer will determine the zero and span.

Specifications:

Model Number:	Sensor Range:	Transducer Frequency:	Response Time:	Volts Per Inch:
RPS-409A-40-IS	4 - 40"	175kHz	85ms	0.250
RPS-409A-80-IS	6 - 80"	135kHz	85ms	0.125
RPS-409A-144-IS	10 - 144"	70kHz	175ms	0.069
RPS-409A-216-IS	12 - 216"	70kHz	175ms	0.046

Power Input: 16 - 30VDC Reverse Polarity Protected (A minimum of 24VDC must be applied to the power barrier)

Input Current: 24mA maximum with 24VDC applied to the power barrier

Ambient Temperature: -40 - 60°C or -40 - 140°F

Humidity: 0 - 95% Non-Condensing

Housing: PVC Housing with PVC sensing face

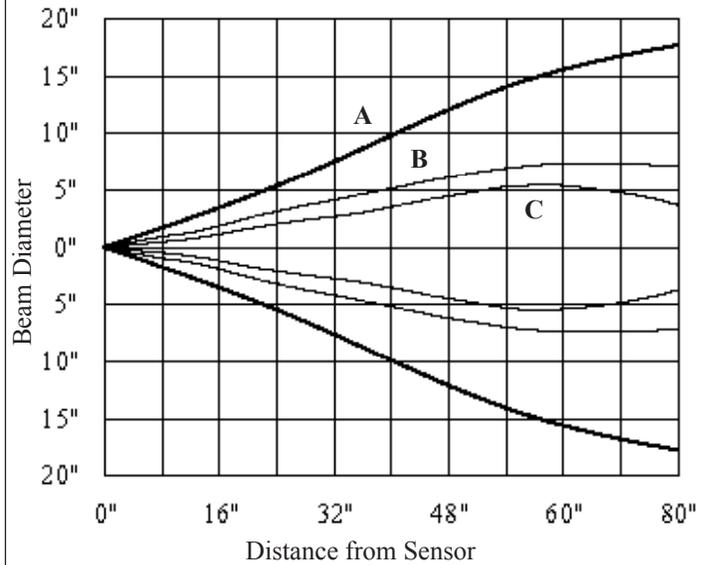
Output: Analog Voltage Output 0 - 10V (Load 100k Ohms to infinity) Short Circuit Protected

Weight: Sensor 4 ounces

Mounting Consideration:

The performance of this sensor can be influenced by direct metal contact. This zone is 12.7mm/0.50" measured from the sensor face. See Fig. D

Typical Beam Pattern for RPS-409A-40-IS and RPS-409A-80-IS

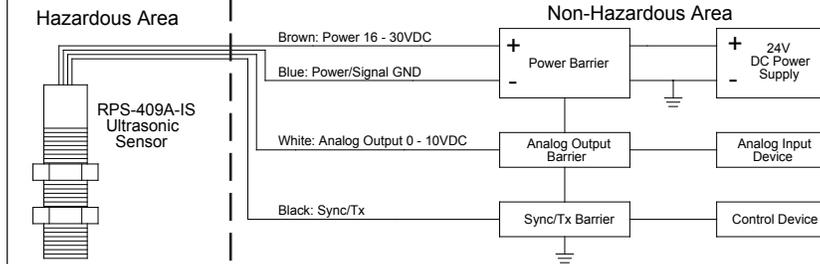


Beam Pattern Legend

- A- 4" x 4" Flat Target Perpendicular to Beam
- B- 3" Diameter Rod
- C- 0.625" Diameter Rod

Fig. A

Wiring for Intrinsically Safe Applications



UL listed Intrinsically Safe For use in Hazardous (Classified) Locations when used with approved Intrinsically Safe Barriers.

- Class I Division 1 Groups A, B, C, and D
- Class II Division 1 Groups E, F, and G
- Class III Division 1

Fig. B

Figure:

- A - Beam Spread
- B - Wiring Diag. RPS-409A-IS
- C - Connector Diagram
- D - Mounting Dimensions

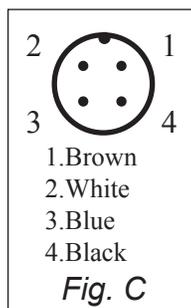


Fig. C

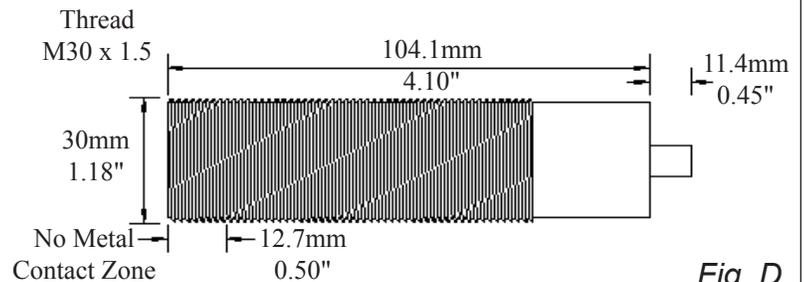


Fig. D

PART NUMBER	RANGE	OUTPUT / DESCRIPTION
RPS-409A-40-IS	4 - 40"	0 - 10VDC Analog Output
RPS-409A-80-IS	6 - 80"	0 - 10VDC Analog Output
RPS-409A-144-IS	10 - 144"	0 - 10VDC Analog Output
RPS-409A-216-IS	12 - 216"	0 - 10VDC Analog Output
F32-5496302		2 meter Cable, M12 4-Pin IP67 18 AWG - Sold Separately
F32-5496305		5 meter Cable, M12 4-Pin IP67 18 AWG - Sold Separately
F50-9240905		ZSB-409A Safety Barrier - Sold Separately
F33-5441504		DIN Rail Grounding Block - Sold Separately