



# **NEW** RPS-409A-IS

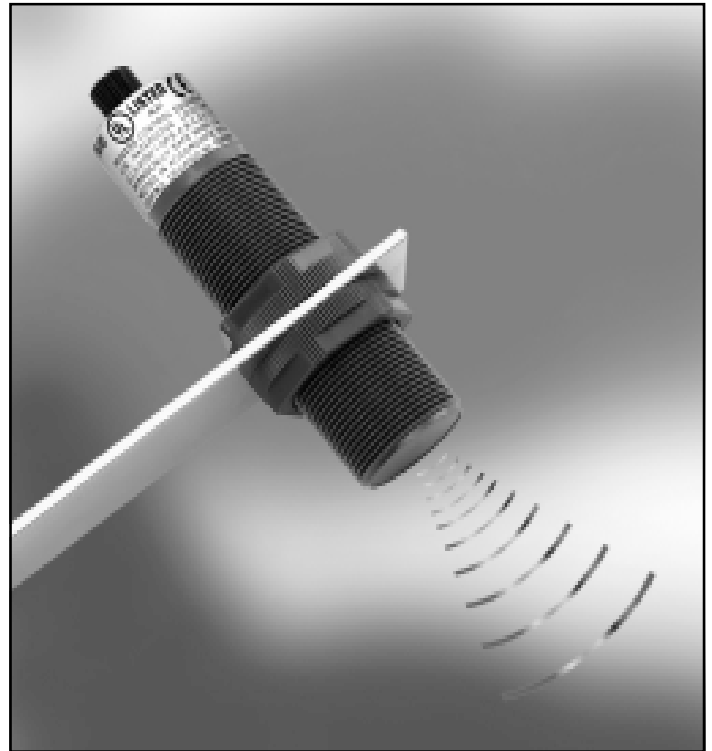
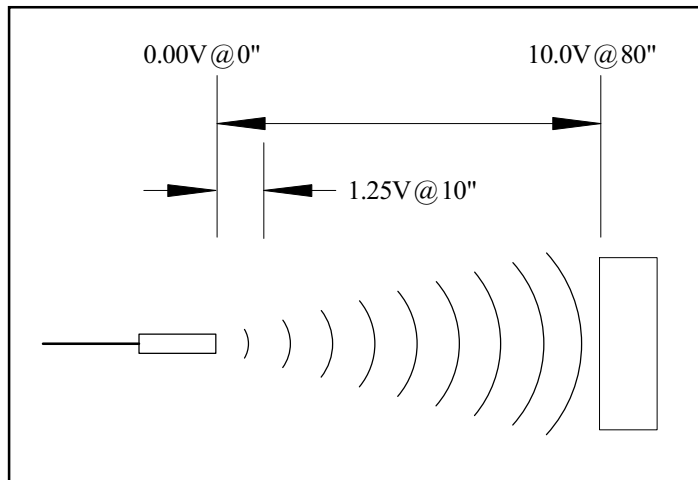
Intrinsically Safe for use in Hazardous (Classified) Locations when used with approved Safety Barriers. UL Listed: File # E226209

## Features

- Intrinsically Safe
- UL Listed
- Input Voltage 16-30 VDC
- Reverse Polarity Protected
- Analog Voltage Output
- Short Circuit Protected
- Sync/Enable 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 0.125 volts per inch. A target placed 10 inches from the sensor will result in an output signal of 1.25 volts or a target placed at 80 inches from the sensor will result in an output of 10 volts.



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 IP and NEMA rated cables.

Besides the input and output lines there is a sync/enable line provided. This can be used for connecting multiple sensors together to prevent cross talk, or to fire the sensor at a particular time.

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.

If a set point or set points are required in the application, please refer to the Migatron SPC-701, SPC-704, or M-1000 control products. Both the SPC-704 and M-1000 can also provide excitation power to drive the sensor.



## Specifications:

Model Number:	Sensor Range:	Transducer Frequency:	Response Time:	Volts Per Inch:
RPS-409A-40-IS	4" to 40"	160kHz	85ms	.250
RPS-409A-80-IS	6" to 80"	135kHz	85ms	.125

RPS-409A-144-IS*	12" to 144"	70kHz	85ms	.069
RPS-409A-216-IS*	12" to 216"	70kHz	120ms	.046

\* Preliminary - Consult factory for availability.

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

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

**Ambient Temperature:** -40° to 60°C (-40° to 140°F)

**Humidity:** 0% - 95% Non-Condensing

**Housing:** PVC Housing with a PVC sensing face

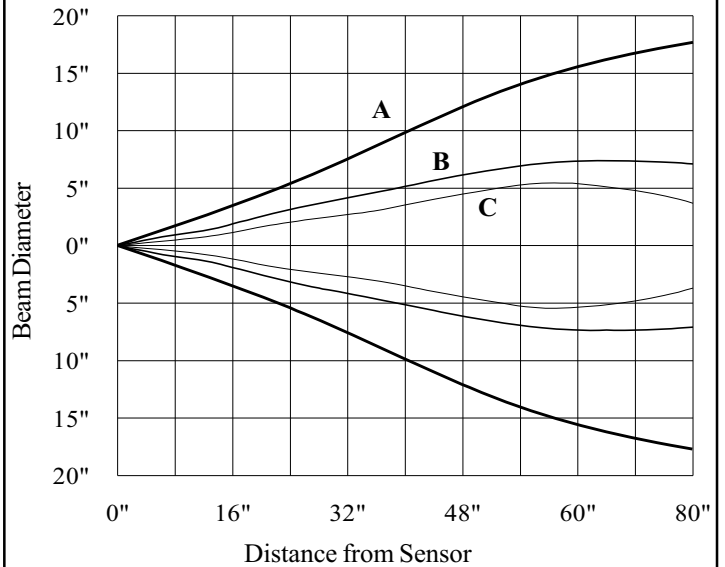
**Output:** Analog Voltage Output 0-10V  
(Load 100k Ohms to infinity)  
Short Circuit Protected

**Weight:** Sensor 4 ounces

### Mounting Consideration:

The performance of this sensor can be influenced by direct metal contact. This zone is 12mm/.50" measured from the sensor face. See Fig. D

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

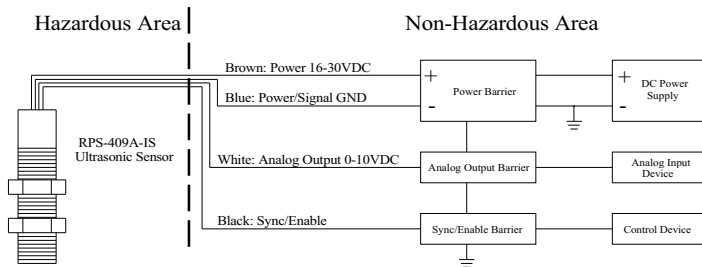


### Beam Pattern Legend

- 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

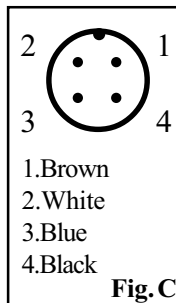


Fig. C

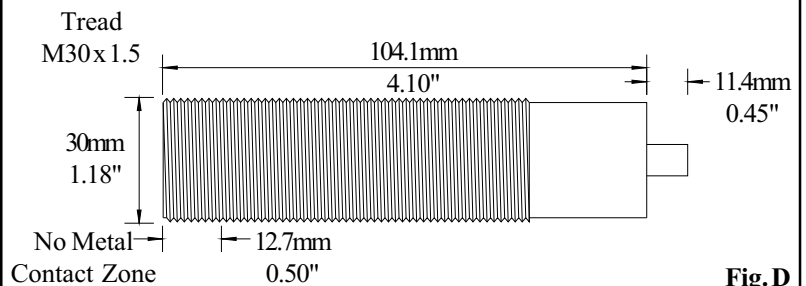


Fig. D

PART NUMBER	RANGE	OUTPUT / DESCRIPTION
RPS-409A-40-IS	4" to 40"	0 - 10VDC Analog Output
RPS-409A-80-IS	6" to 80"	0 - 10VDC Analog Output
RPS-409A-144-IS*	12" to 144"	0 - 10VDC Analog Output
RPS-409A-216-IS*	12" to 216"	0 - 10VDC Analog Output
F32-5496302 F32-5496305 F33-5007728 F33-5007764		6' Cable, 4-PIN, IP68 / NEMA-6P, 18 AWG (sold separately) 16' Cable, 4-PIN, IP68 / NEMA-6P, 18 AWG (sold separately) Power Safety Barrier (sold separately) Analog Output & Sync / Enable Safety Barrier (sold separately)



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