



# RPS-409A-2P

## Features

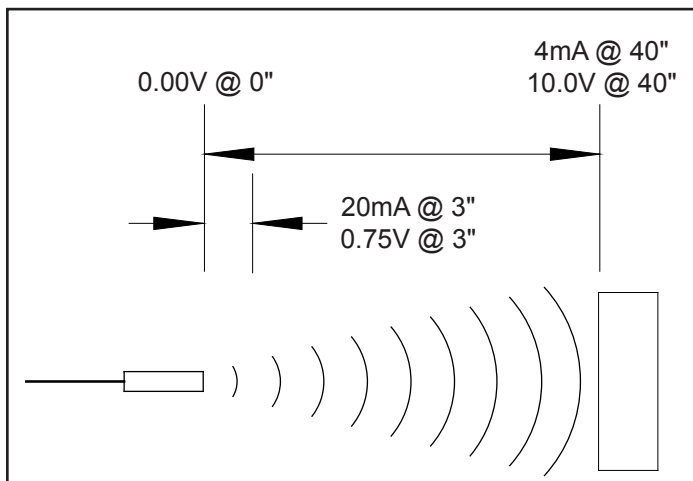
- Input Voltage 20 - 30VDC
- Reverse Polarity Protected
- Analog Voltage Output
- Analog Current Output
- Short Circuit Protected
- Wide Temperature Range
- Temperature Compensation
- Various Sensing Ranges
- Self Contained Sensor
- Quick Disconnect Connector
- PVC Housing
- Sync/Tx Input Line

The RPS-409A-2P analog ultrasonic sensor is a self contained sensor in a PVC housing with 2" NPT mounting threads. It is powered by 20 - 30VDC with reverse polarity protection.

The RPS-409A-2P has a short circuit protected analog current sourcing 20 - 4mA output or an analog voltage 0 - 10VDC output. The analog current/voltage is a fixed mA/volts per inch based on the maximum range of the sensor.

Example 1: Using the RPS-409A-40-2PA the output is a linear 0.432mA per inch. A target placed 3 inches from the sensor will result in an output signal of 20mA and a target placed 40 inches from the sensor will result in an output signal of 4mA.

Example 2: Using the RPS-409A-40-2PV, the output is a linear 0.250V per inch. A target placed 3 inches from the sensor will result in an output signal of 0.750V and a target placed 40 inches from the sensor will result in an output signal of 10.0V.



inches from the sensor will result in an output of 10V.

The RPS-409A-2P has temperature compensation built in to provide accurate readings throughout the entire operating temperature range.

The sensor is completely sealed and the connection is made by way of IP and NEMA rated cables.

In addition to the power and analog output lines there is also a Sync/Tx line. This can be used for connecting multiple sensors together to prevent cross talk (Sync), or to force the sensor to transmit at a particular time/interval (Tx).

The RPS-409A-2P is designed to take advantage of today's PLC and computer analog input cards. The analog card chosen will determine the resolution of the system. 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 Migatron's 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:

<u>Model</u>	<u>Range</u>	<u>Input Current</u>
RPS-409A-40-2P	3 - 40"	35mA Typical
RPS-409A-80-2P	6 - 80"	35mA Typical
RPS-409A-144-2P	10 - 144"	45mA Typical
Power Input:	20 - 30VDC Reverse Polarity Protected	
Ambient Temperature:	-40 - 60°C / -40 - 140°F	
Humidity:	0 - 95% Non-Condensing	
Housing Material:	PVC with PVC Sensing Face	
Housing Rating:	IP67	
Output:	Current Sourcing Analog Output 20 - 4mA (Load 0 - 500 Ohms Maximum)	
	Analog Voltage Output 0 - 10V (Load 500 Ohms to Infinity) Short Circuit Protected	

<u>Model</u>	<u>Frequency</u>	<u>Response Time</u>
RPS-409A-40-2P	175kHz	25ms Typical
RPS-409A-80-2P	135kHz	25ms Typical
RPS-409A-144-2P	70kHz	75ms Typical
Weight:	280g / 10 ounces, without Cable	

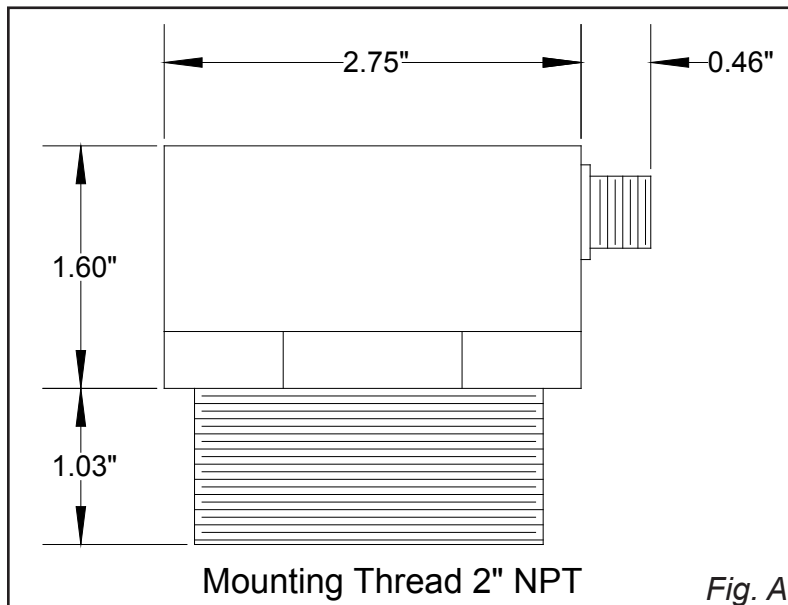
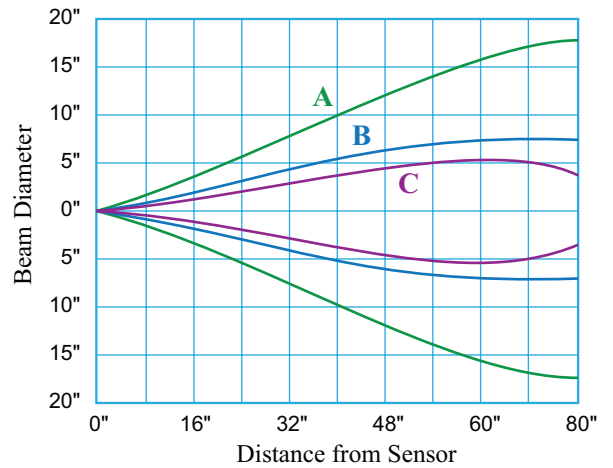


Fig. A

## RPS-409A-40 & 80-2P Typical Beam Pattern



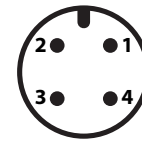
### Beam Pattern Legend

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

Fig. B

### M12 Receptacle

**Pin Out**  
(shown with European Color Code)



- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black

Fig. C

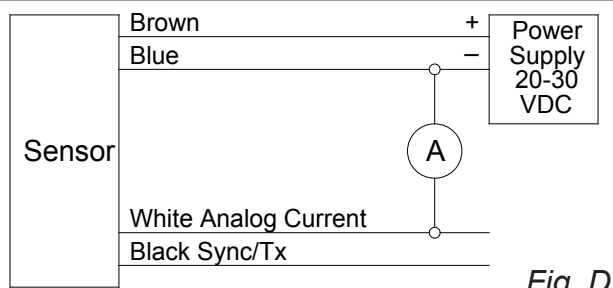


Fig. D

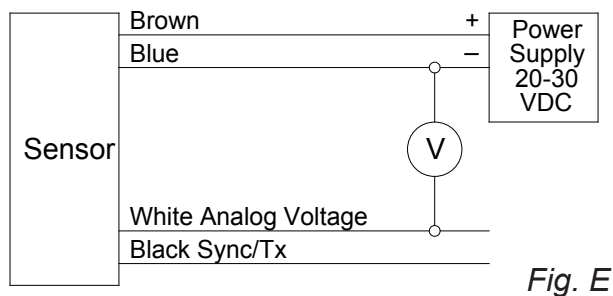


Fig. E

MODEL/PART NUMBER	RANGE	OUTPUT / DESCRIPTION
RPS-409A-40-2PA	3 - 40"	Analog Current 20 - 4mA
RPS-409A-40-2PV	3 - 40"	Analog Voltage 0 - 10VDC
RPS-409A-80-2PA	6 - 80"	Analog Current 20 - 4mA
RPS-409A-80-2PV	6 - 80"	Analog Voltage 0 - 10VDC
RPS-409A-144-2PA	10 - 144"	Analog Current 20 - 4mA
RPS-409A-144-2PV	10 - 144"	Analog Voltage 0 - 10VDC
F32-5001183		QD CABLE M12 4-P 6' 22 AWG - Sold Separately
F32-5001186		QD CABLE M12 4-P 16' 22 AWG - Sold Separately

