



# RPS-409A-2P

## Features

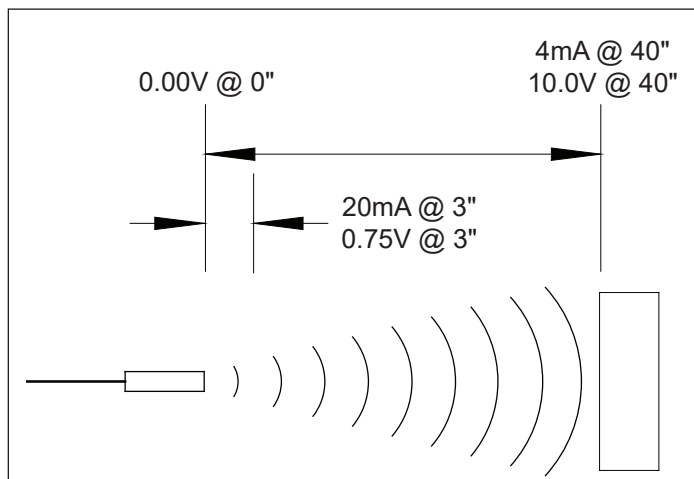
- Input Voltage 20 - 30VDC
- Reverse Polarity Protected
- Analog Voltage Output
- Analog Current Output
- Short Circuit Protected
- Wide Temperature Range
- Temperature Compensation
- Various Sensing Ranges
- Self Contained Sensor
- Quick Disconnect Connector
- PVC Housing
- Sync/Tx Input Line

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 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 quick disconnect (QD) 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 PD6000 control products. Both the SPC-704 and PD6000 can also provide excitation power to drive the sensor.

# Specifications:

Model	Range	Input Current
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: Analog Current Output 20 - 4mA (sourcing)  
(Load 0 - 500 Ohms Maximum)  
Analog Voltage Output 0 - 10V  
(Load 500 Ohms to Infinity)  
Short Circuit Protected

Echo Loss: Analog Current 3.0 - 3.5mA  
Analog Voltage 10.5 - 11.5V

Model	Transducer Frequency	Response Time
RPS-409A-40-2P	175kHz	25ms Typical
RPS-409A-80-2P	135kHz	25ms Typical
RPS-409A-144-2P	70kHz	150ms Typical

Weight: 280g / 10 ounces, without Cable

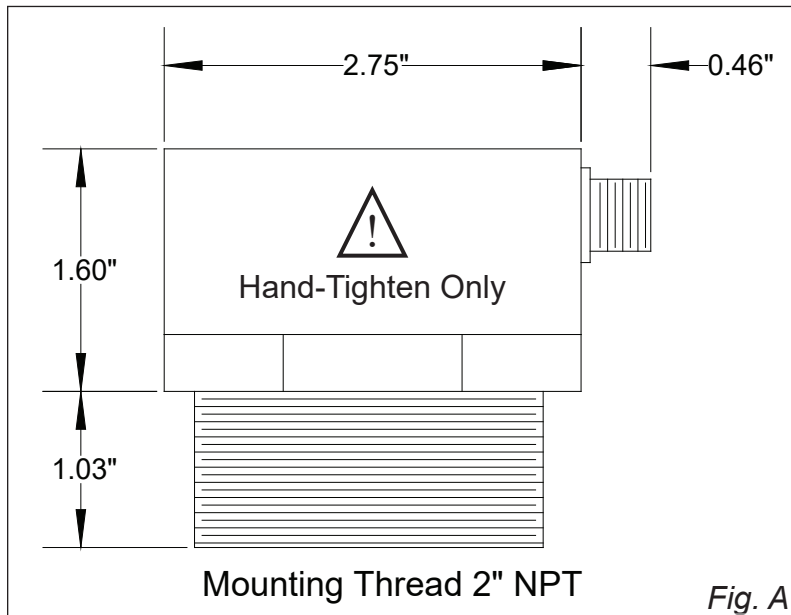
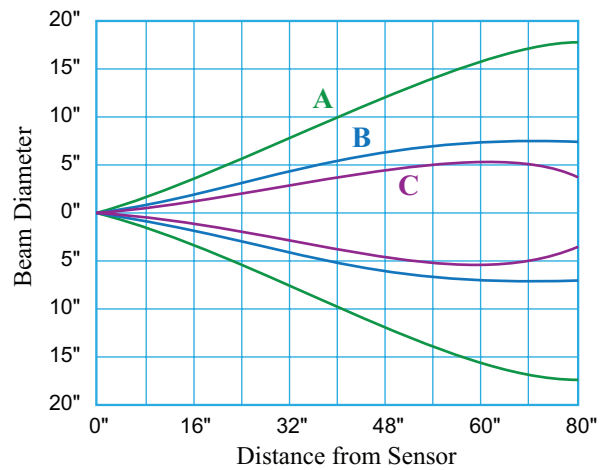


Fig. A

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



### Beam Pattern Legend

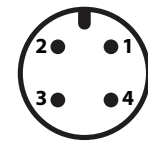
- A - 4" x 4" Flat Target Perpendicular to Beam
- B - 3" Diameter Rod
- C - 0.625" Diameter Rod

Fig. B

## M12 Receptacle

### Pin Out

(shown with European Color Code)



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

Fig. C

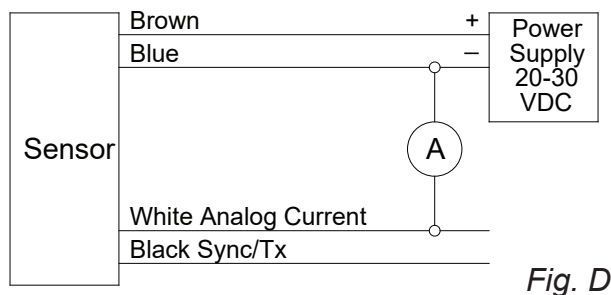


Fig. D

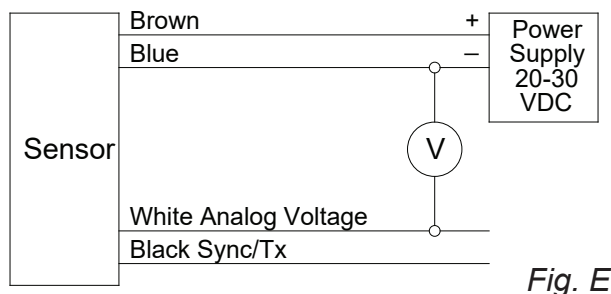


Fig. E

PART NUMBER	RANGE	OUTPUT / DESCRIPTION
RPS-409A-40-2PA	3 - 40"	Analog Current 20 - 4mA - Cable Sold Separately
RPS-409A-40-2PV	3 - 40"	Analog Voltage 0 - 10VDC - Cable Sold Separately
RPS-409A-80-2PA	6 - 80"	Analog Current 20 - 4mA - Cable Sold Separately
RPS-409A-80-2PV	6 - 80"	Analog Voltage 0 - 10VDC - Cable Sold Separately
RPS-409A-144-2PA	10 - 144"	Analog Current 20 - 4mA - Cable Sold Separately
RPS-409A-144-2PV	10 - 144"	Analog Voltage 0 - 10VDC - Cable Sold Separately
F32-5001183		2 meter QD CABLE, M12 4-Pin 22 AWG
F32-5001186		5 meter QD CABLE, M12 4-Pin 22 AWG
F50-9211600, PD6000-6R4		1/8 DIN Digital Panel Meter with 4 Relays



RPS-409A-2P Rev. 5

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