

RPS-100 Ultrasonic Sensor Controller With Remote Sensing Head



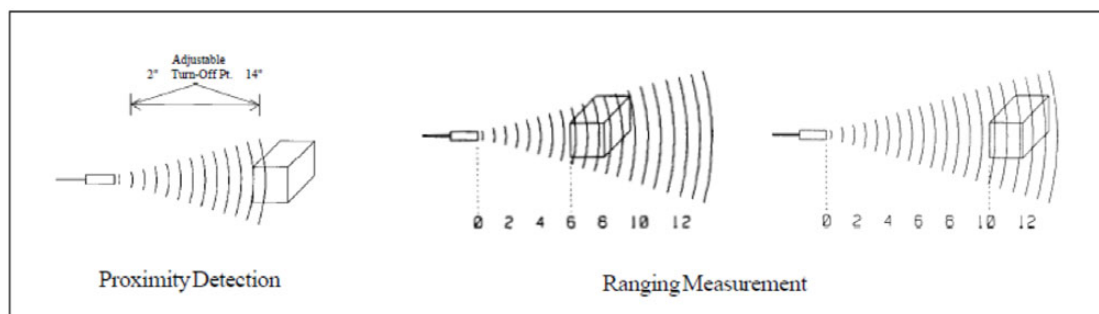
Features

- Various Sensing Ranges
- Broad Sensing Beam
- Low Frequency - 38.5kHz
- LED Indicator
- Small Transducer Head
- Remote Transducer
- RPS-500 Compatible
- 3-Way Power Operation
- Isolated Form C Relay Output
- Small Electronic Controller

The RPS-100 is the first of the RPS series and has a proven track record of reliability. Since its introduction in 1979, the RPS-100 has proven itself in versatility and ease of operation. The remote transducer allows for mounting of the sensor head in cramped spaces while the controller is out of the way.

The ranging and proximity modes provide the versatility of simple detection, or actual distance measuring. The isolated form C relay furnishes N.O. and N.C. outputs, and with the addition of the RPS-500 card various analog outputs are supplied. The RPS-100 sensor, which operates at a frequency of 38.5kHz, has a broad sensing beam which allows for detection of an object at greater angles of tilt. Sensing ranges available for the RPS-100 include 2" to 14", 5" to 72", and 10" to 240". Mounting flanges, LED indicator, ranging potentiometer, and 6-ft. transducer cable are included. Optional cable lengths are available.

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Proximity Detection

Proximity detection is the detection of an object in a given range. The detection range of the RPS-100 is controlled by the "Range Control" potentiometer located on the front cover of the controller. Any object within the desired range is detected, while objects out of range are ignored. The detect point is independent of size, material, and reflectivity.

Ranging Measurement

With the addition of the RPS-500 card, Analog outputs of 0-10 VDC and 4-20 mA are provided. Precise distances of an object moving to and from the transducer are measured via time intervals between transmitted and reflected bursts of ultrasonic sound. The example shows a target detected at 6 inches from the transducer and moving to 10 inches. The distance change is continuously calculated and outputted. Ranging Option is indicated by following the part number with (-500). (Example: RPS-100-14-500)

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Specifications

Operational Range:	Adjustable 2" to 14" Adjustable 5" to 72" Adjustable 10" to 240"
Power Input: * Only 120VAC or 24VDC with 500 Analog card.	120VAC 15 - 24VDC 12VDC Regulated 12 - 17VAC
Input Current:	30 Milliamps
Input Current with 500 card:	50 Milliamps
Ambient Temperature:	0°C to 60°C or 32°F to 140°F
Controller:	Metal Enclosed
Transducer:	Aluminum
Transducer Housing:	Plastic
Output: N.O., N.C.	Isolated Form C Relay .5 Amp Maximum at 120VAC 12VDC Logic Signal
Output with 500 card:	Zero, Span, Sample, and Hold controls.
Transducer Frequency:	38.5kHz
Response Time:	<div>2" to 14" 5" to 72" 10" to 240"</div> <div>30mS - On 100mS - On 250mS - On</div> <div>30mS - Off 100mS - Off 250mS - Off</div>
Weight of Controller:	34.2 ounces
Weight of Transducer:	2.2 ounces

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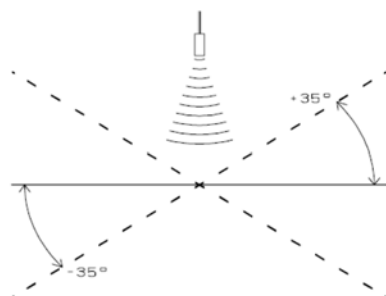


Fig. A

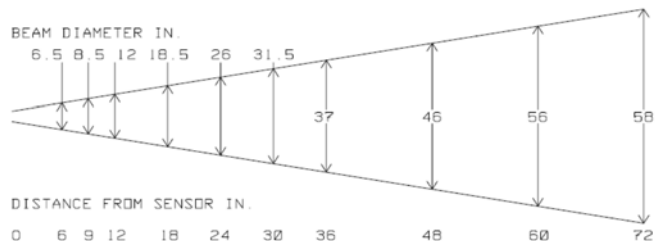


Fig. B

Fig. C

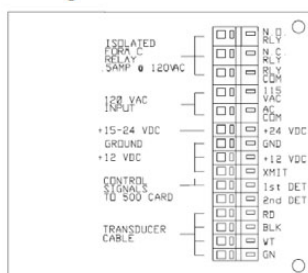


Fig. D

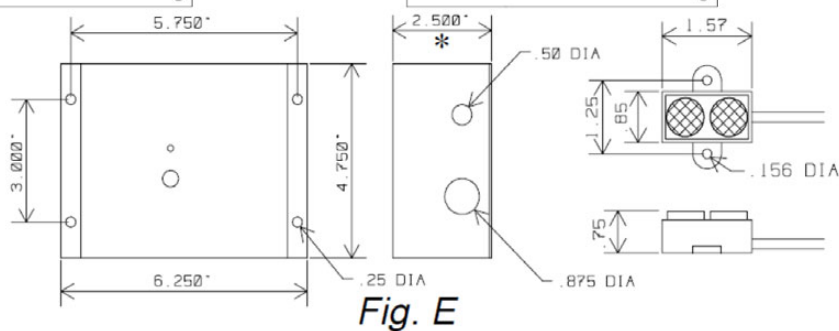
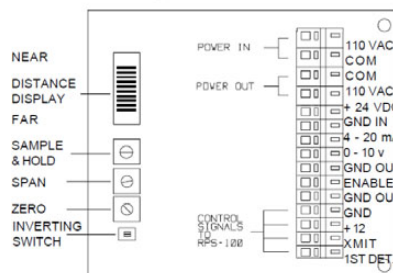


Fig. E

Figure:

A - Angle of Tilt

B - Beam Spread

C - Wiring Diag.- For RPS-100

D - Wiring Diag.- For RPS-500

E - Mounting Dimensions * Dimension changes from 2.5" to 3.75" when ordered with the RPS-500 Analog Ranging card.

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Ordering Codes

Part Number	Range	Output
RPS-100-14	2" - 14"	Isolated form C Relay
RPS-100-72	5" - 72"	Isolated form C Relay
RPS-100-240	10" - 240"	Isolated form C Relay
RPS-100-14-500	2" - 14"	0 - 10VDC and 4 - 20mA Analog
RPS-100-72-500	5" - 72"	0 - 10VDC and 4 - 20mA Analog
RPS-100-240-500	10" - 240"	0 - 10VDC and 4 - 20mA Analog

All electrical equipment should be installed by a qualified/certified electrician.

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