



# RPS-150A

## Features

- Adjustable Zero & Span
- Analog Current & Voltage Output
- Broad Sensing Beam
- Selectable Inverted & Non-Inverted Outputs
- Range 2 - 40", or 5 - 80"
- Short Circuit & Reverse Polarity Protected
- LED Strength Indicator
- Limit Switch Style Housing

The RPS-150A analog ultrasonic sensor is mounted in a limit switch housing and is completely self contained. It is powered by 20 - 30VDC and is reverse polarity protected. It also has a wide beam angle which enables it to detect a target that is not at right angles. A flat target can tilt up to 35 degrees and still be detected. The RPS-150A has two short circuit protected analog outputs, 4 - 20mA and 0 - 10VDC. These outputs can easily be inverted and can be scaled over almost any range by means of adjusting the zero & span controls. For setup purposes a LED strength indicator is provided. This LED is green when not detecting and fades to Red as a target moves into place, depending on how strong the reflected signal is from the target.

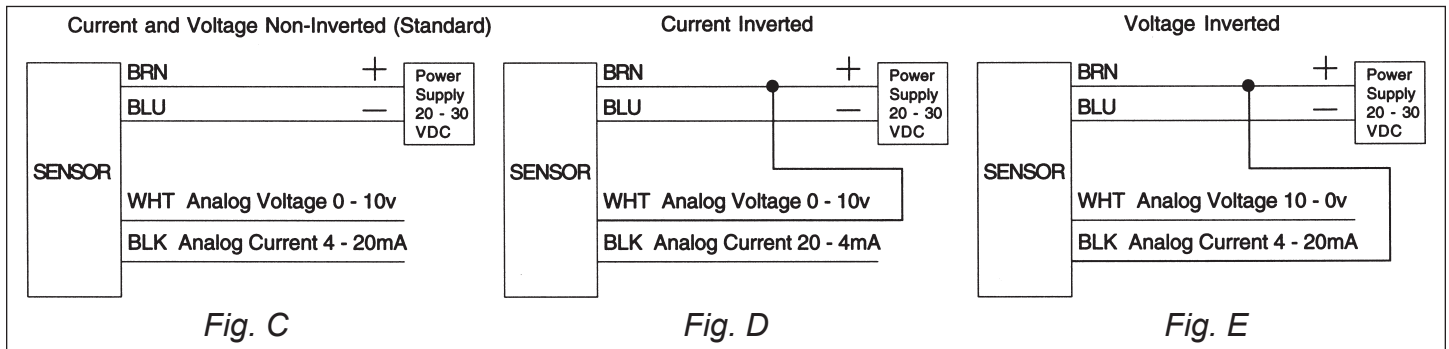
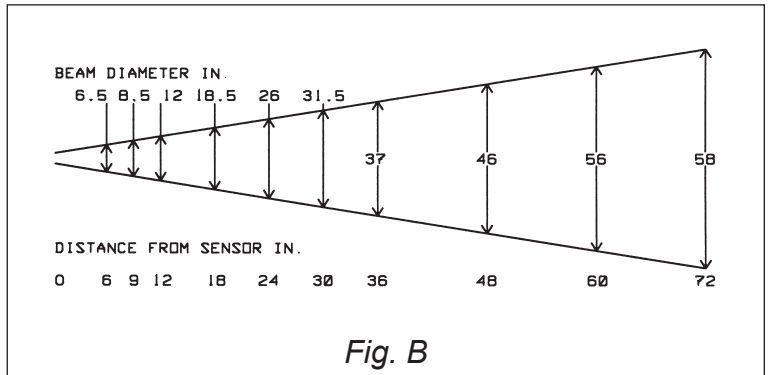
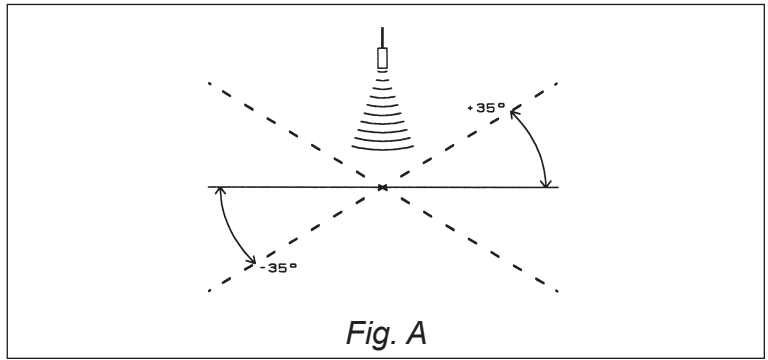


Yellow indicates a weak signal and bright red indicates a strong signal. The frequency of operation is 38.5kHz. There are two ranges available in this model 2 - 40" or 5 - 80". It also features a quick disconnect (QD) receptacle. The housing is constructed of PBT plastic and has standard 30mm x 60mm limit switch mounting dimensions as well as side holes for mounting the sensor on its side.

<p>40" Range 10" Adjustable 15" 80" Range 12" Adjustable 24"</p> <p><b>Minimum Analog Ranging</b></p> <p>Minimum Analog Ranging is adjusting the span of the sensor to minimum. 5" for sensors with a 40" range and 12" for sensors with an 80" range. The minimum span can be adjusted to occur over any part of the sensors range. For example the minimum span on an RPS-150A-40 could be adjusted to occur from 10 - 15" or 25 - 30". This is done by adjusting the two potentiometers on the sensor. P1 adjusts the near point and P2 adjusts the far point. Repeat the adjustment of P1 and P2 at least once to achieve the desired span. The analog output can be adjusted anywhere between the minimum and maximum span by adjusting P1 and P2.</p>	<p>40" Range 2" Adjustable 40" 80" Range 5" Adjustable 80"</p> <p><b>Maximum Analog Ranging</b></p> <p>Maximum Analog Ranging is adjusting the span of the sensor to maximum. 38" for sensors with a 40" range and 75" for sensors with an 80" range. The maximum span will go from the sensors minimum sensing distance 2" to 40" for sensors with a 40" range and 5" to 80" for sensors with an 80" range. This is done by adjusting the two potentiometers on the sensor. P1 adjusts the near point and P2 adjusts the far point. Repeat the adjustment of P1 and P2 at least once to achieve the desired span. The analog output can be adjusted anywhere between the minimum and maximum span by adjusting P1 and P2.</p>	<p>40" Range 2" Adjustable 40" 80" Range 5" Adjustable 80"</p> <p><b>Inverted Analog Outputs</b></p> <p>The RPS-150A has the ability to invert the analog output, meaning that the current or voltage will decrease with distance. For the current output to be inverted the voltage output wire needs to be tied to the positive supply voltage wire for the sensor. This will invert the current output to 20mA - 4mA. For the voltage output to be inverted the current output wire needs to be tied to the positive supply voltage wire for the sensor. This will invert the voltage output to 10V - 0V. In the non-inverted configuration P1 adjusts the near point 4mA or 0V and P2 adjusts the far point 20mA or 10V. In the inverted configuration P1 adjusts the near point 20mA or 10V and P2 adjusts the far point 4mA or 0V.</p>
---	--	--

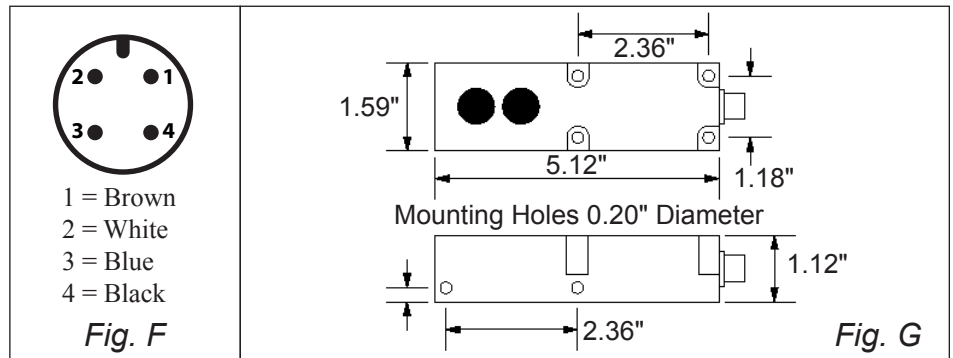
# Specifications:

Operational Range:	Adjustable 2 - 40"	Adjustable 5 - 80"
Power Input:	20 - 30VDC Reverse Polarity Protected	
Input Current:	50mADC	
Ambient Temperature:	0 - 60°C or 32 - 140°F	
Humidity:	0 - 95% Non-Condensing	
Housing:	PBT Plastic, Limit Switch Style	
Outputs:	Current Sourcing Analog Output 4 - 20mA Inverted & Non-Inverted Load 0 Ohms to 500 Ohms Analog Voltage Output 0 - 10V Inverted & Non-Inverted Load 500 Ohms to infinity Short Circuit Protected	
Transducer Frequency:	38.5kHz	
Response Time:	2 - 40" 22ms	5" - 80" 52ms
Weight:	9.5 ounces	



## Figure:

- A - Angle of Tilt
- B - Beam Spread
- C - Wiring Diag. Standard
- D - Wiring Diag. Current Inverted
- E - Wiring Diag. Voltage Inverted
- F - Receptacle Diagram
- G - Mounting Dimensions



PART NUMBER	RANGE	OUTPUT / DESCRIPTION
RPS-150A-40	2 - 40"	0 - 10VDC and 4 - 20mA Analog - Cable Sold Separately
RPS-150A-80	5 - 80"	0 - 10VDC and 4 - 20mA Analog - Cable Sold Separately
F32-5001183		2 meter QD Cable, M12 4-Pin 22AWG
F32-5001186		5 meter QD Cable, M12 4-Pin 22AWG

