

## RPS-401, RPS-426 Self-Contained Ultrasonic Sensor

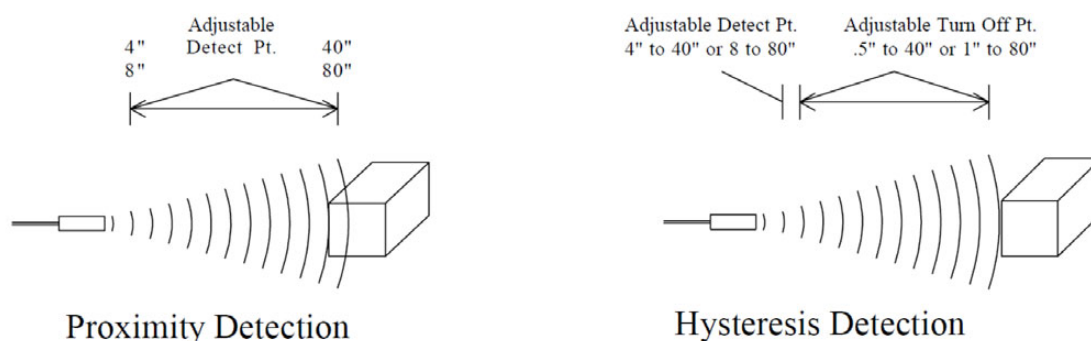


### Features

- Self Contained
- Sensing Range 4-40", 8-80"
- Narrow Sensing Beam
- High Frequency
- Range & Hysteresis Controls
- Reverse Polarity Protected
- Short Circuit Protected
- Operates in Hostile Environments
- Operating Voltage 20-30VDC
- Isolated N.O. N.C. Solid State Relays
- RPS-401 in Plastic Housing
- RPS-426 in Stainless Steel Housing

The RPS-401 and 426 are stud-mounted, completely self-contained, 20-30VDC powered ultrasonic sensors. A sealed transducer provides protection in hostile environments. The sensor can be operated in two modes a proximity and a hysteresis mode, described below. The frequency of operation for the RPS-401 is 212kHz for the 4" to 40" and 150kHz for the 8" to 80". The RPS-426 has a 8" to 80" range and operates at a frequency of 150kHz. These sensors also have built-in short circuit protection for the outputs as well as reverse polarity protection on the input. The construction of the RPS-401 sensor is Plastic Valox and the RPS-426 is Stainless Steel. A barrel housing is used 30mm in diameter by 100mm in length. For set up purposes an LED indicator is provided. When not detecting the LED will illuminate green and when detecting the LED will illuminate red. The outputs consist of two solid state relays N.O. N.C. which can switch 2-130VAC or VDC up to 100mA DC or 50mA AC continuous. The relay outputs are short circuit protected and isolated up to 1500 volts rms. A standard 6' cable is provided. An optional quick disconnect plug is available.

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### Proximity Detection

Proximity detection is the detection of an object at a given distance. The detection range of the RPS-401,426 is controlled by the "Range Control" potentiometer. Any object within the desired range is detected, while objects out of range are ignored. The range of the RPS-401 is either 4" to 40" or 8" to 80". The range of the RPS-426 is 8" to 80" only. This means that in the proximity mode the object will be detected from whatever detect point is set to the minimum sensing range of the sensor either 4" or 8". The hysteresis control needs to be off by turning the potentiometer fully counterclockwise.

### Hysteresis Detection

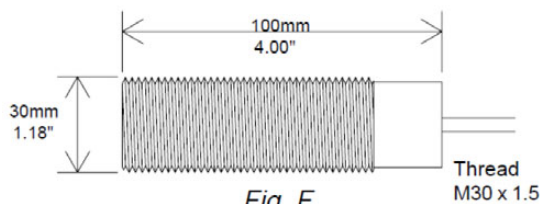
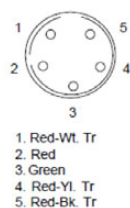
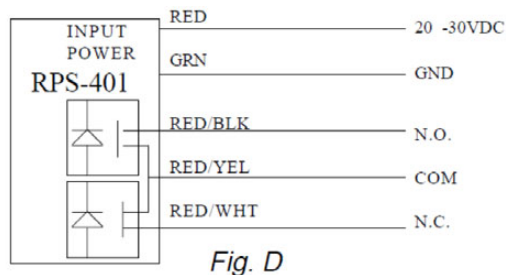
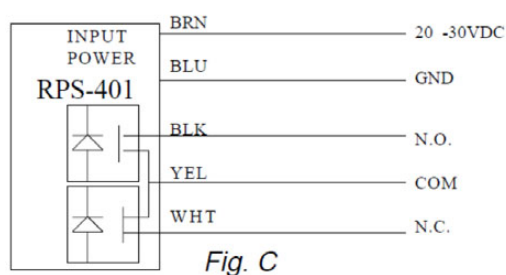
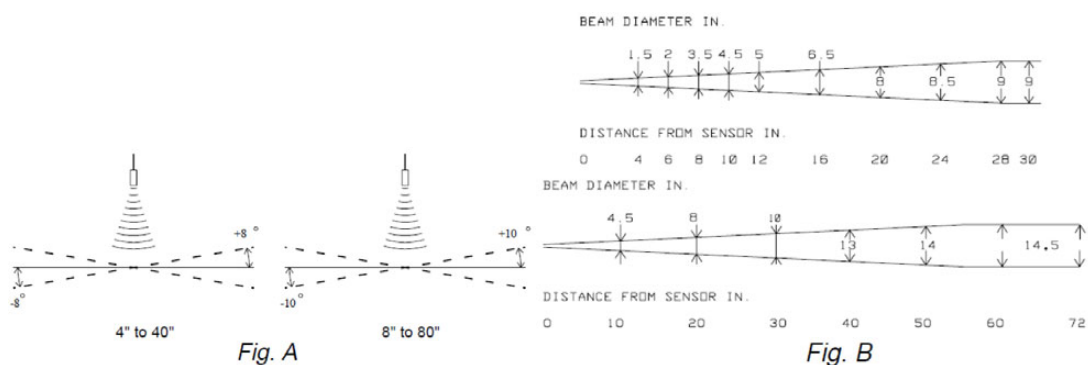
The RPS-401,426 is furnished with Hysteresis Control by means of a second potentiometer. This control allows you to adjust the turn-off point while the range control adjusts the turn on point. (Example: Range pot set for 10", Hysteresis pot set for 20". With these settings the sensor will detect when the target reaches 10" and stays on as the target moves away to 20".) This Hysteresis can be adjusted from .5" to 40" from the detect point with the 40" sensor and 1" to 80" with the 80" sensor.

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### Specifications:

Operational Range RPS-401	Adjustable 4" to 40"
RPS-426	Adjustable 8" to 80" Adjustable 8" to 80"
Power Input	20 - 30VDC Reverse Polarity Protected
Input Current	50 Milliamps
Ambient Temperature	0°C to 60°C or 32°F to 140°F
Humidity	0 - 95% Non-Condensing
RPS-401 Housing	420D valox plastic with a silicon rubber sensing face.
RPS-426 Housing	303 Grade Stainless Steel with a 316 Grade Stainless Steel sensing face.
Output	2 Solid State Relays N.O. N.C. Isolated 1500 Vrms 2 - 130VAC or VDC 100mA DC or 50mA AC Continuous Short Circuit Protected
Transducer Frequency	4" to 40"                      8" to 80" RPS-401: 212kHz              RPS-401: 150kHz RPS-426: 150kHz
Response Time	4" to 40"                      8" to 80" 30mS                          50mS
Weight	11 ounces

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## Figure:

- A - Angle of Tilt
- B - Beam Spread
- C - Wiring Diag. with Potted in Cable
- D - Wiring Diag. with Quick Disconnect
- E - "QD" Connector Option (Male View)
- F - Mounting Dimensions

NOTE: For Optional ON / OFF Delays Consult Factory. "QD" cables are sold separately.

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### Ordering Code

Part Number	Range	Output
RPS-401-40	4" to 40"	2 Solid State Relays N.O. N.C.
RPS-401-80	8" to 80"	2 Solid State Relays N.O. N.C.
RPS-401-40QD	4" to 40"	2 Solid State Relays N.O. N.C. - Quick Disconnect
RPS-401-80QD	8" to 80"	2 Solid State Relays N.O. N.C. - Quick Disconnect
RPS-426-80	8" to 80"	2 Solid State Relays N.O. N.C.
RPS-426-80QD	8" to 80"	2 Solid State Relays N.O. N.C. - Quick Disconnect
5000116-2		6' Cable for "QD" Option
5000116-4		20' Cable for "QD" Option

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

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