



RPS-401

Features

- Self Contained
- Sensing Range 4-40" or 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 ultrasonic proximity sensors are enclosed in a barrel housing and are completely self-contained. They are powered by 20-30VDC and have reverse polarity protection. A sealed transducer provides protection in hostile environments. The sensor can be operated in two modes, proximity mode or hysteresis mode, as described below. The transducer frequency is 175kHz for the 4 to 40" range and 150kHz for the 8 to 80" range. The outputs consist of two solid state relays configured as N.O. and N.C. which can switch 2-130VAC or VDC up to 50mAAC or 100mADC continuous. The relay outputs are short circuit protected and isolated up to 1500 Volts RMS. The RPS-401 housing is constructed



of PVC plastic. See the RPS-426 data sheet for the Stainless Steel version. The housing measures 30 mm in diameter by 104 mm in length. For set up purposes an LED indicator is provided. The LED will illuminate green when nothing is detected and will illuminate red when a target is detected. A standard 6' cable is provided or a quick disconnect (QD) version is also available.

40" Range	4"	Adjustable	40"
80" Range	8"	Detect Point	80"

Proximity Detection

Proximity detection is the detection of an object at a given distance. The detection range of the RPS-401 sensors is controlled by the Range Control potentiometer P1. Any object within the desired range is detected, while objects outside the desired range are ignored. Sensors with a 40" range have an adjustable range of 4 - 40" and sensors with an 80" range have an adjustable range of 8 - 80". 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 potentiometer P2 fully counterclockwise.

	Adjustable	Adjustable
	Turn On Point	Turn Off Point
40" Range	4 - 40"	0.5 - 40"
80" Range	8 - 80"	1 - 80"

Hysteresis Detection

The RPS-401 comes with a Hysteresis Control potentiometer P2. This control allows the user 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".) The Hysteresis can be adjusted from 0.5 - 40" from the turn on point for sensors with a 40" range and 1 - 80" for sensors with an 80" range.

Specifications:

Operational Range: Adjustable 4 - 40" or 8 - 80"

Power Input: 20 - 30VDC Reverse Polarity Protected

Input Current: 50mA

Ambient Temperature: 0 - 60°C or 32 - 140°F

Humidity: 0 - 95% Non-Condensing

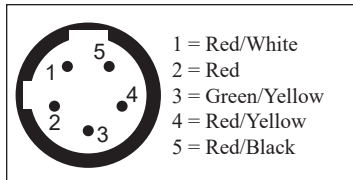
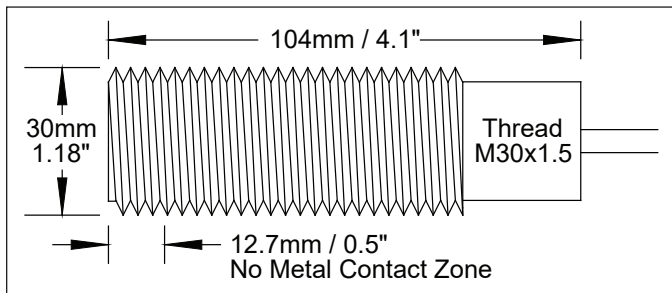
Housing: PVC with PVC sensing face

Output: 2 Solid State Relays N.O. & N.C.
Isolation 1500VRMS
2 - 130VAC or VDC
50mAAC or 100mADC Continuous
Short Circuit Protected

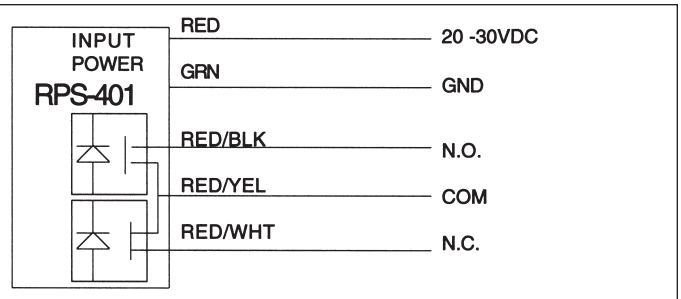
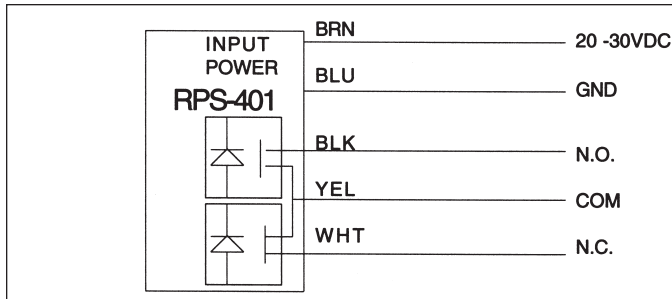
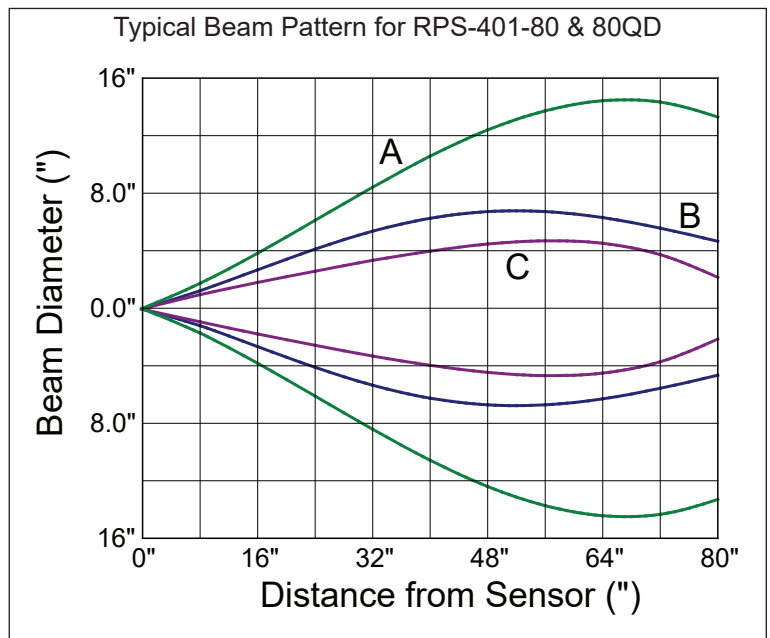
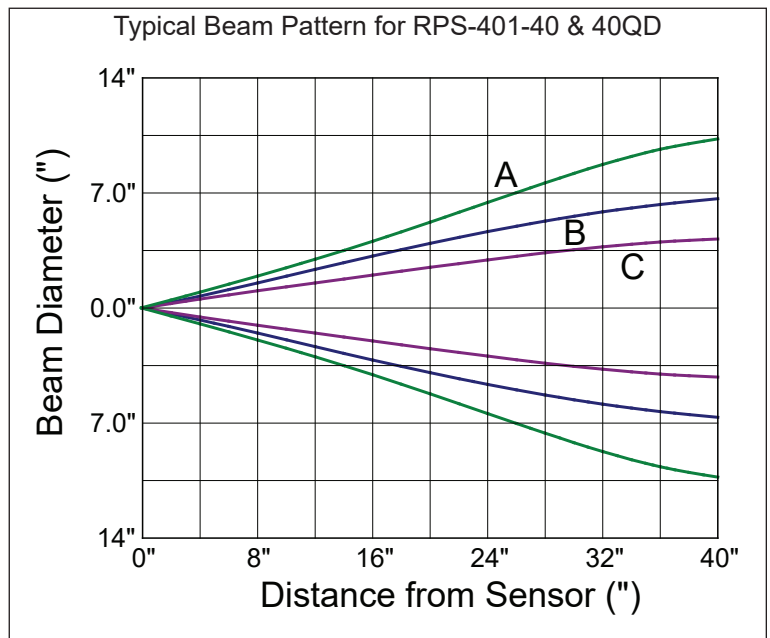
Transducer Frequency: 4 - 40" 8 - 80"
175kHz 150kHz

Response Time: 4 - 40" 8 - 80"
30ms 50ms

Weight:
RPS-401 9 ounces
RPS-401-QD 5.5 ounces



Beam Pattern Legend
A = 4" x 4" Flat Target,
Perpendicular to Beam
B = 3" Diameter Rod
C = 0.625" Diameter Rod



PART NUMBER	RANGE	OUTPUT / DESCRIPTION
RPS-401-40	4 - 40"	2 Solid State Relays N.O. & N.C.
RPS-401-80	8 - 80"	2 Solid State Relays N.O. & N.C.
RPS-401-40QD	4 - 40"	2 Solid State Relays N.O. & N.C. - Cable Sold Separately
RPS-401-80QD	8 - 80"	2 Solid State Relays N.O. & N.C. - Cable Sold Separately
F32-5001162		2 meter Cable for QD version, 1/2"-20 5-Pin 22 AWG
F32-5001164		6 meter Cable for QD version, 1/2"-20 5-Pin 22 AWG

