

# The **DEETER** Group®

## RPS-400-6 Self-Contained Ultrasonic Sensor



### Features

- Background Suppression
- 20 to 30 VDC Power Input
- 2 to 6 inch Sensing Range
- Adjustable Sensing Range
- Detects translucent or opaque objects independent of color.
- Compact Size
- LED Indicator
- NPN Output
- Narrow Sensing Beam
- Quick Response Time

The RPS-400-6 is a compact, high frequency sensor. It was introduced to the Migatron family of ultrasonic sensors to better meet the needs of the machine manufacturing industry. This sensor has a wide array of application solutions not found in other proximity sensor technologies. The RPS-400-6 has an adjustable two to six inch sensing range with background suppression (meaning any object within the desired range is detected, while objects out of the desired range are ignored). It cannot be affected by changes in target color or material. The RPS-400-6 is capable of detecting vibrating and/or tilting targets. A response time of no more than 2.1 ms and an operating frequency of 300kHz makes the RPS-400-6 a repeatable and accurate high-speed sensor. The RPS-400-6 is a three wire NPN transistor output device. The transistor can switch 30VDC at 50mA continuously. It has a molded VALOX case that is filled with epoxy potting material. The transducer face is made of white silicone. A six-foot cable comes standard with the RPS-400-6. Special cable lengths or connectors are also available for OEM applications. Like all Migatron ultrasonic sensors, the RPS-400-6 is ideal for detecting clear objects. Its ability to operate in dusty environments makes it ideal for rugged conveyors, PC board handling equipment, and fillers.

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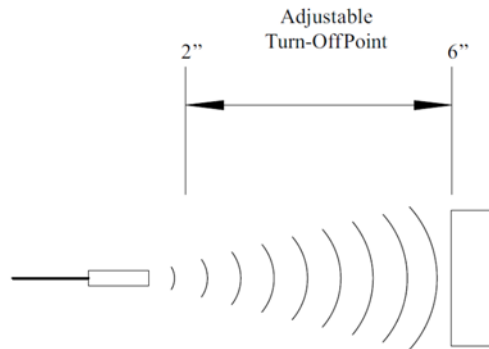
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## RPS-400-6 Self-Contained Ultrasonic Sensor

### Proximity Detection

Proximity detection is the detection of an object in a given range. The detection range of the RPS-400-6 is controlled by the "Range Control" potentiometer located on the side of the sensor. Any object within the desired range is detected, while objects out of range are ignored (background suppression). The detect point is independent of size, material, and reflectivity.

### Proximity Detection



### Specifications

Operational Range	Adjustable 2" to 6"
Power Input	20-30VDC Reverse Polarity Protected
Input Current	10mA - 15mA
Ambient Temperature	16°C to 41°C (60°F to 105°F)
Humidity	0 - 95% Non-Condensing
RPS-400-6 Housing	VALOX case filled with epoxy potting. Silicon rubber face.
Output	NPN Open collector transistor 30V max. / 50mA continuous
Transducer Frequency	300kHz
Response Time	0.2ms min. / 2.1ms max.
Weight of Controller	2 ounces

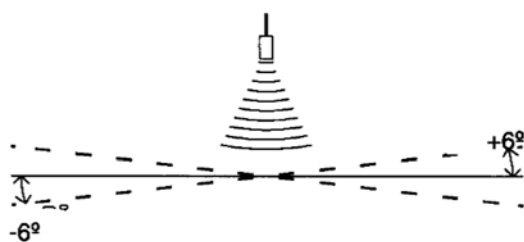


Fig. A

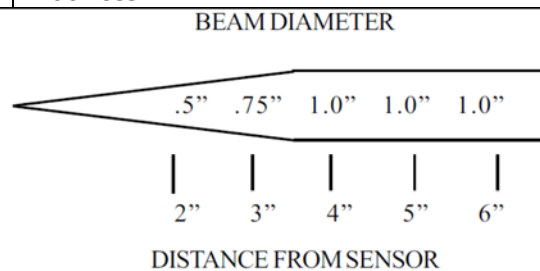


Fig. B

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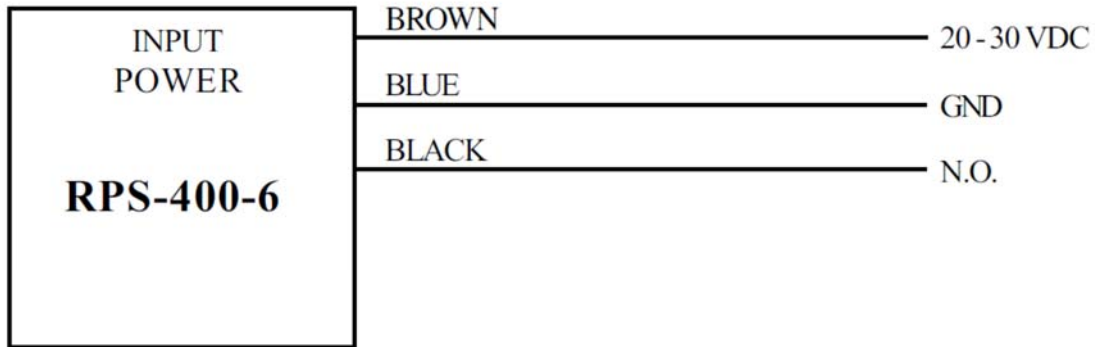


Fig. C

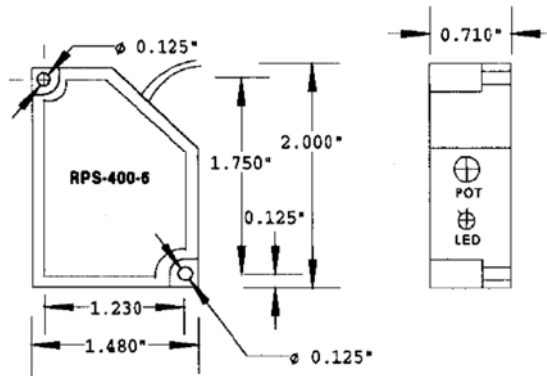


Fig. D

**Figure:**

- A- Angle of Tilt
- B- Beam Spread
- C- Wiring Diagram
- D- Mounting Dimensions

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### Ordering Code

Part Number	Range	Output
RPS-400-6	2" to 6"	NPN Open Collector Transistor (30V max. / 50mA continuous)

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

The Deeter Group follows a policy of continual development of its products and reserves the right to change specifications and/or features without notice

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