Parallax PING))) Ultrasonic Sensor #28015

Pololu item #: 1605		**216** in stock
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1	29.99	
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This easy-to-use distance sensor from Parallax employs sonar to detect objects from approximately 0.75 – 120 inches (2 cm – 3 meters). The Ping distance sensor has status LEDs and requires only one I/O pin. The on-board three-pin header makes the PING))) compatible with a **solderless breadboard**.

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Description	**Specs (1)**	Pictures (0)	**Resources (7)**	FAQs (0)	On the blog (0)

Parallax's PING))) Ultrasonic Sensor provides a very low-cost and easy method of distance measurement. This sensor is perfect for any number of applications that require you to perform measurements between moving or stationary objects. This ultrasonic distance sensor is widely used in robotics applications and is also useful in security systems or as an infrared replacement.

The PING))) sensor measures distance using sonar; an ultrasonic (well above human hearing) pulse is transmitted from the unit and distance-to-target is determined by measuring the time required for the echo return. Output from the PING))) sensor is a variable-width pulse that corresponds to the distance to the target.

Interfacing to the **BASIC Stamp** microcontroller or other **programmable controller** is a snap: a single (shared) I/O pin is used to trigger the Ping sensor and "listen" for the echo return pulse. An on-board three-pin header allows the PING))) to be plugged into a **solderless breadboard** (on a **Boe-Bot**, for example), and to be connected to its host through a standard **three-pin servo extension cable**.

> **Note:** For close-up measurements, the Ping))) sensor only needs to be roughly 8 to 10 cm above your working surface. However, if you are measuring objects that are more than a half a meter away, make sure to keep your Ping))) sensor at least half a meter above the floor. Please read the **Ping))) documentation** (398k pdf) for more practical considerations.

PING))) Sensor Features

- The PING))) has only has three connections: Vdd, Vss, and one I/O pin.
- The 3-pin header makes it easy to connect using a standard **servo extension cable**, no soldering required.
- **Sample code** (8k zip) for using the Ping))) sensor with the **BASIC Stamp** is available.

Key Specifications

- Range: 2 cm to 3 meters (~.75" to 10')

- Supply Voltage: 5V +/-10% (Absolute: Minimum 4.5V, Maximum 6V)

- Supply Current: 30 mA typical, 35 mA maximum

- 3-pin interface (power, ground, signal)

- 20 mA power consumption

- Narrow acceptance angle

- Simple pulse in / pulse out communication

- Indicator LED shows measurement in progress

- Input Trigger: positive TTL pulse, 2 µs minimum, 5 µs typical

- Echo Pulse: positive TTL pulse, 115 µs to 18.5 ms

- Echo Hold-off: 750 µs from fall of trigger pulse

- Burst Frequency: 40 kHz for 200 µs

- Size: 22 mm H x 46 mm W x 16 mm D (0.85 in x 1.8 in x 0.6 in)

People often buy this product together with:

Sharp GP2Y0A21YK0F Analog Distance Sensor 10-80cm

Sharp GP2Y0A02YK0F Analog Distance Sensor 20-150cm

Pololu Carrier with Sharp GP2Y0D810Z0F Digital Distance Sensor 10cm

Related products

Parallax Boe-Bot Robot Kit - Serial (with USB adapter and cable) #28132

Parallax BASIC Stamp Discovery Kit - USB #27807

Parallax BASIC Stamp 2 Module #BS2-IC

Servo Extension Cable 12" Female - Female

Maxbotix LV-MaxSonar-EZ0 Sonar Range Finder MB1000

Maxbotix XL-MaxSonar-EZ0 Sonar Range Finder MB1200

Maxbotix XL-MaxSonar-AE0 Sonar Range Finder MB1300

Pololu Carrier with Sharp GP2Y0A60SZLF Analog Distance Sensor 10-150cm, 3V