Ping Sonar Altimeter and Echosounder

$279.00

The Ping sonar is a single-beam echosounder that measures distances up to 30 meters (100 feet) underwater. A 30 degree beam width, 300 meter (984 foot) depth rating, and an open-source software interface make it a powerful tool for marine robotics. We recommend connecting with the BLUART USB to Serial and RS485 Adapter!

Download *Ping-Viewer*

New Ping orders have an approximate lead time of 2-3 weeks.

In stock

1 Add to Cart

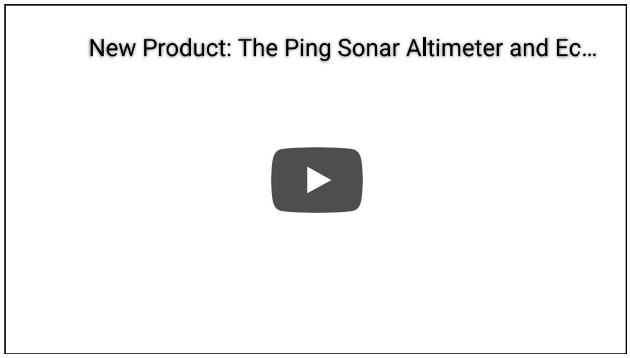
SKU: PING-SONAR-R2-RP
HS Code: 9015.80.8080

Product Description

The Ping sonar is a multipurpose single-beam echosounder. It can be used as an altimeter for ROVs and AUVs, for bathymetry work aboard a USV, as an obstacle avoidance sonar, and other underwater distance measurement applications. Ping combines a compact form factor and 300 meter depth rating with an open source user interface and Arduino, C++, and Python development libraries to create a powerful new tool for marine robotics!

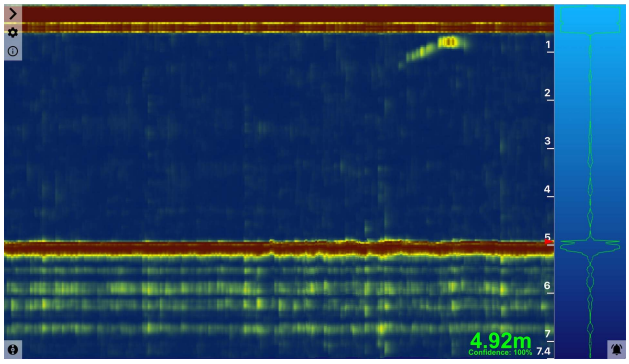
An echosounder, like the Ping, is one of the simplest forms of underwater sonar. It operates by using a piezoelectric transducer to send an ultrasonic acoustic pulse into the water and then listens back for echoes to return. With that information it's able to determine the distance to the strongest echo, which is usually the ocean floor or a large object. It can also provide the full echo response (echo strength versus time) which can be plotted like the display of a fishfinder sonar.

The Ping uses a 115 kHz transducer frequency, away from those used on most boat echosounders to avoid interference. It has a measurement range of 30 meters (100 feet) and a measurement beamwidth of 30 degrees, perfect for applications on a rocking boat or for obstacle avoidance. An advanced bottom-tracking algorithm runs on the device to determine the distance to the seafloor, even in complicated situations with multiple echoes.



The Ping is housed in a rugged hard-anodized aluminum enclosure with an encapsulated transducer and a 1 meter (3.3 feet) cable with a pre-installed cable penetrator. It has four threaded mounting holes on the back and comes with a mounting bracket and hardware to make it easy to mount on the *BlueROV2*. The included header pin to JST-GH adapter makes it easy to plug into the USB to Serial and RS485 Adapter.

The Ping can be connected to a microcontroller device, such as an Arduino, or to a computer through a *BLUART* USB to Serial adapter.



Use the Ping-Viewer interface to view and record Ping data.

Once connected, we recommend getting started with Ping-Viewer, an open-source application developed specifically for Ping. Ping-Viewer runs on Windows, Mac, and Linux and makes it easy to view the output, record data, and change settings on the *Ping*. The *Ping* sonar can be connected to Ping-Viewer directly or over a network connection routed through the *BlueROV2's* Companion web interface, so that you can use the Ping on the ROV without using any additional wires in the tether.

For those who wish to integrate the Ping into other systems, it communicates with a binary message format called the Ping-Protocol. We've made Arduino and Python libraries for the Ping-Protocol to get you up and running almost immediately.

Check out the *Technical Details* and *Learn* tabs above for more information!

Contents

Contents

- 1 x Ping sonar with pre-installed cable and 10 mm penetrator
- 1 x Ping mounting bracket
- 1 x Header pin to JST-GH cable adapter
- 4 x M3x5 button head cap screws
- 2 x M5x16 button head cap screws

Technical Details

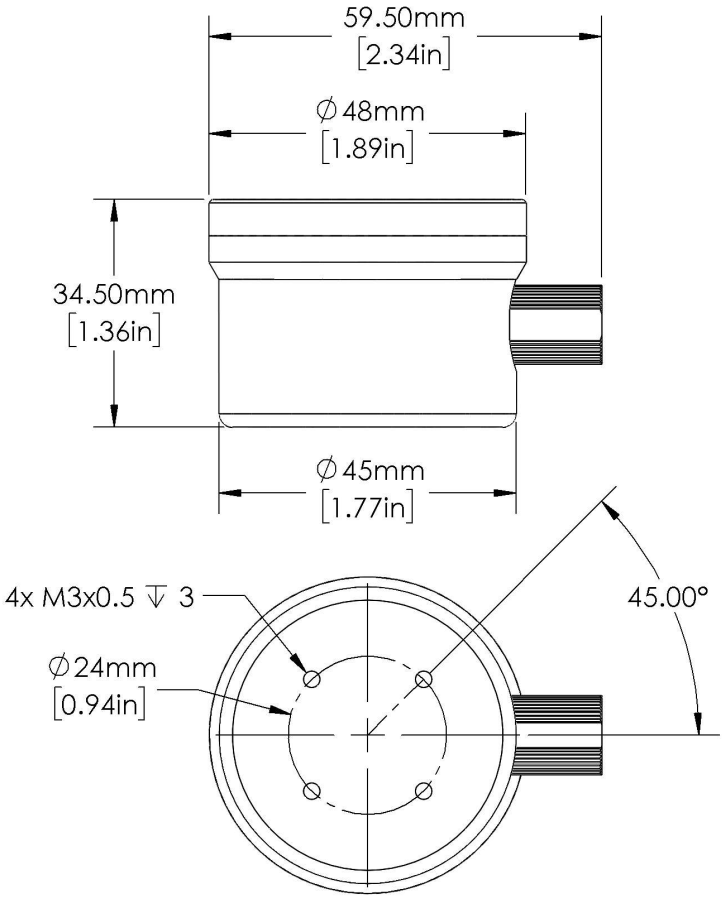
Specifications

Parameter	Value
Electrical	
Maximum Supply Voltage	5.5 volts
Communication Protocol	Serial UART
TTL Logic Voltage	3.3 - 5 volts
Typical Current Draw	100 milliamps
Cable	

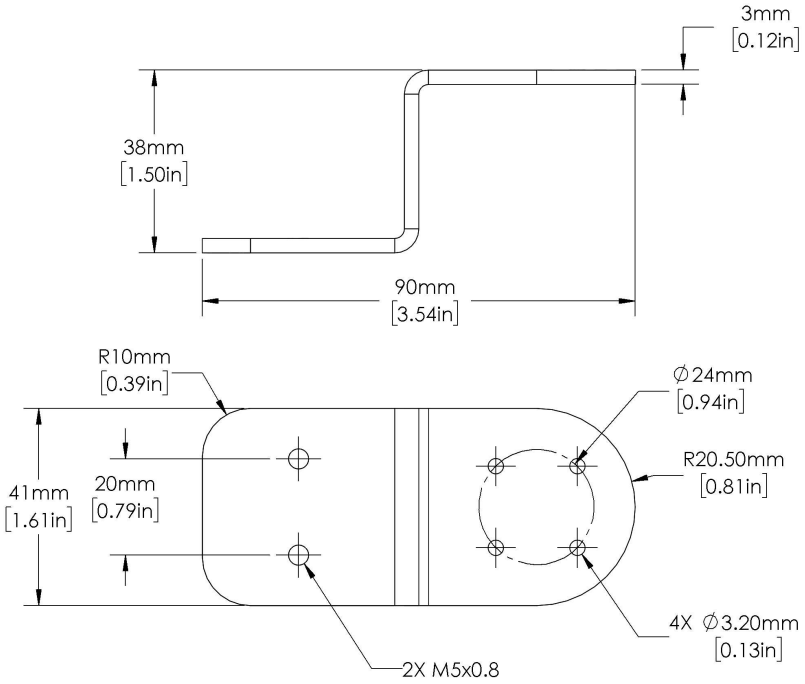
Parameter	Value	
Cable Diameter	4.5 mm	0.18 in
Maximum Cable Length	TBD	TBD
Cable Length	830 mm	32.5 in
Cable Jacket	Black Polyurethane	
Conductor Insulation	Polypropylene	
Conductor Gauge	24 AWG	
Wires	Black - Ground	
	Red - Vin	
	White - Device Tx	
	Green - Device Rx	
Acoustics		
Frequency	115 kHz	
Beamwidth	30 degrees	
Minimum Range	0.5 m	1.6 ft
Maximum Range	30 m	100 ft
Range Resolution	0.5% of range	
Range Resolution at 30m	15 cm	6 in
Range Resolution at 2m	1 cm	0.25 in
Physical		
Pressure Rating	300 m	984 ft
Temperature Range	0-30°C	32-86°F
Weight in Air (w/ cable)	135 g	4.76 oz
Weight in Air (w/o cable)	100 g	3.53 oz
Weight in Water (w/o cable)	48 g	1.69 oz
Mounting Bracket Screw Size	M5x0.4 mm	

2D Drawings

Ping Sonar



Ping Mount



3D Models

PING-SONAR-R2-PUBLIC (.zip)

PING-M-MOUNT-R2-PUBLIC (.zip)

Revision History

29 January 2019

- R2 – Initial Release

Learn

Quick Start

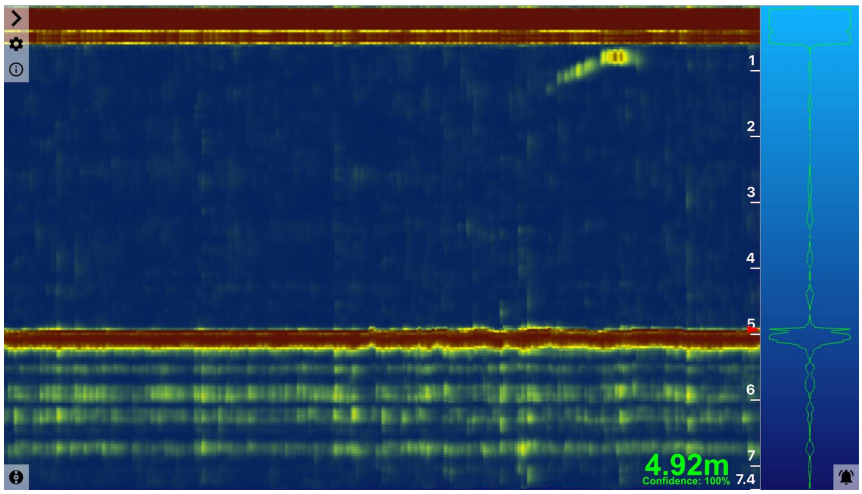
1. Download *Ping-Viewer* for your operating system.

2. Plug the Header Pin to JST-GH Cable Adapter into the male header pins coming from the *Ping* so that the same color wires match up when plugged in (red-red, black-black, white-white, green-green).

3. Plug the 6-position JST-GH plug into the serial JST-GH receptacle on the *BLUART* serial adapter.

4. Plug the *BLUART* into the computer using a Micro-USB to USB-A Cable.

5. Start *Ping-Viewer* and the waterfall display should automatically start.



Important Notes

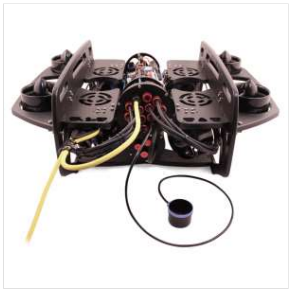
If used on a manned vessel, the *Ping* should not be used as the primary means of preventing grounding or collision. Supplement depth data readings with information from applicable paper charts and visual indicators. Always operate the vessel at safe speeds if you suspect shallow water or submerged objects.

Guides

Ping-Viewer Wiki/Guide

Ping Echosounder Sonar User Manual

Learn about the advanced functionality of the Ping Sonar!



Ping Installation Guide for the *BlueROV2*

This guide will show you how to install a Ping sonar on your BlueROV2 to view your altitude above the seafloor!

Using the Ping Sonar with an Arduino

Learn how to connect a Ping to an Arduino and get distance readings in the Serial Monitor.

Example Code

Arduino

Python

Community

Blue Robotics Forum – Sensors

You May Also Need

BLUART USB to TTL Serial and RS485 Adapter

With 0.1" headers and JST-GH connectors

$31.00

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6" Straight Micro-USB to USB-A Cable

For installation in compact spaces and enclosures

$8.00

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Related Products

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