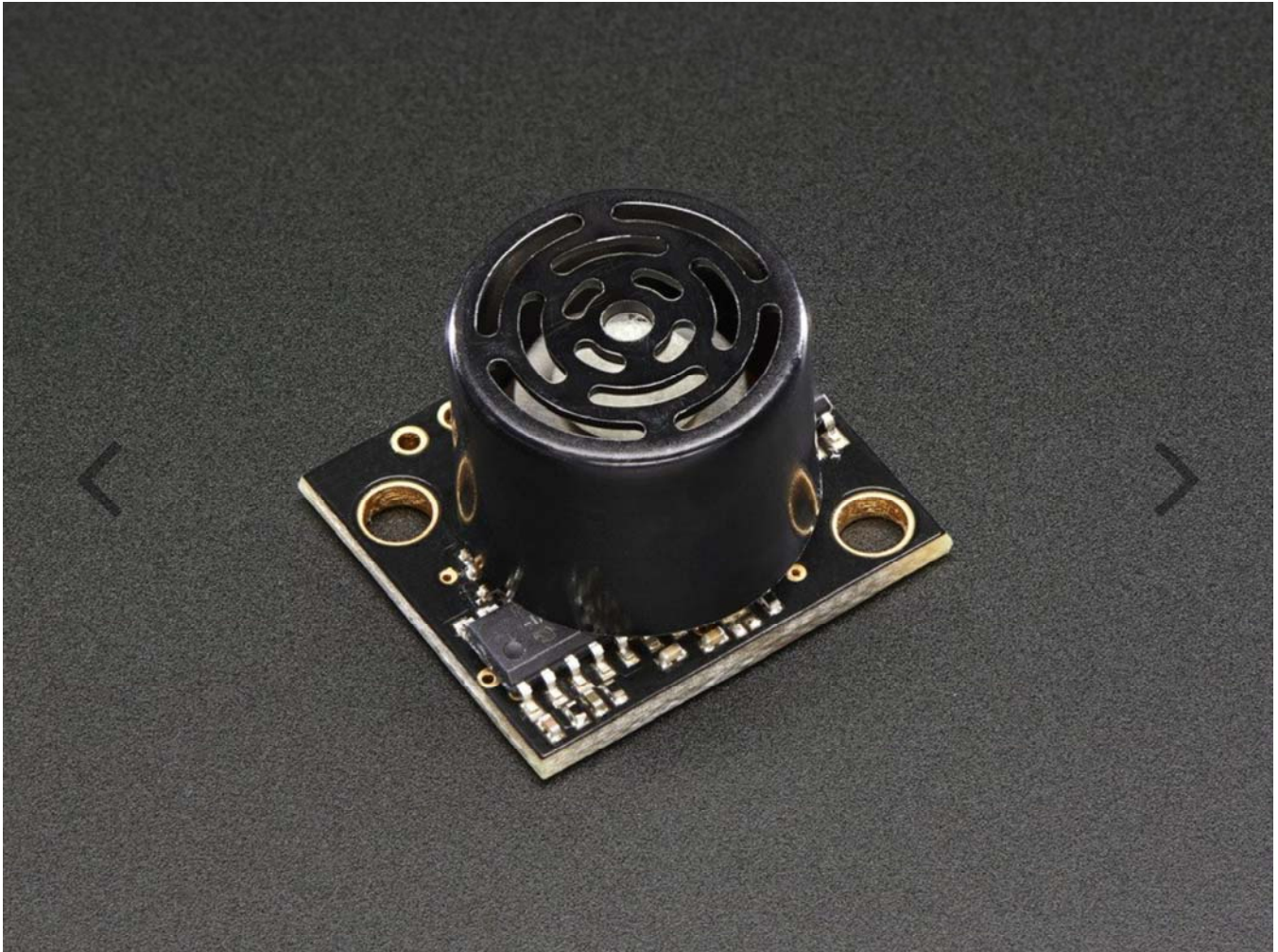


SENSORS / PROXIMITY

Maxbotix Ultrasonic Rangefinder – HRLV-EZ1 – HRLV-EZ1

PRODUCT ID: 984



DESCRIPTION

The HRLV–MaxSonar–EZ sensor line is the most cost–effective solution for applications where precision range–finding, low–voltage operation, space saving, and low–cost are needed.

The HRLV–MaxSonar–EZ sensor line provides high accuracy and high resolution ultrasonic proximity detection and ranging in air, in a package less than one cubic inch. This sensor line features 1mm resolution, target–size and operating–voltage compensation for improved accuracy, superior rejection of outside noise sources, internal speed–of–sound temperature compensation and optional external speed–of–sound temperature compensation. This ultrasonic sensor detects objects from 1mm to 5meters, senses range to objects from 30cm to 5meters, with large objects closer than 30cm typically reported as 30cm. The interface output formats are pulse width, analog voltage, and serial digital in either RS232 or TTL. Factory calibration is standard.

A good sensor for when a Sharp IR distance sensor won't cut it. For example of using this with an Arduino, see the Halloween Pumpkin project.

HRLV–EZ1 Data Sheet / Product Information Guide is available [here](#).

MB1013

HRLV-MaxSonar®-EZ1™ Beam Pattern

Sample results for measured beam pattern are shown on a 30-cm grid. The detection pattern is shown for dowels of varying diameters that are placed in front of the sensor.

A 6.1-mm (0.25-inch) diameter dowel

B 2.54-cm (1-inch) diameter dowel

C 8.89-cm (3.5-inch) diameter dowel

D 11-inch wide board moved left to right with the board parallel to the front sensor face. This shows the sensor's range capability.

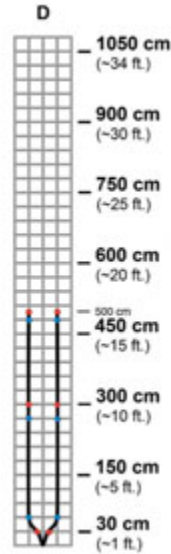
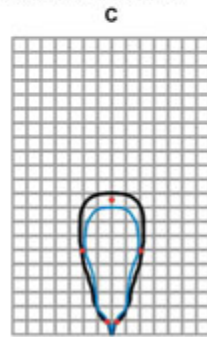
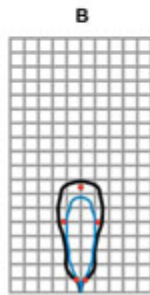
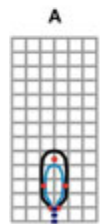
Note: For people detection the pattern typically falls between charts A and B.

■ Partial Detection

— 5.0 V

● 3.3 V

— 2.7 V



Beam Characteristics are Approximate

The different HRLV models have different beam width patterns, check this image for a comparison of all the HRLV model beam patterns. If you don't need high sensitivity, or want a longer range, check out the LV models – They are meant for up to 6.5 meter distances