

CS Tech Findings

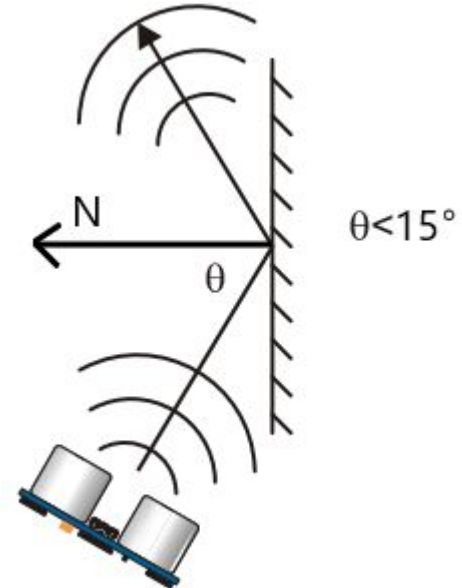
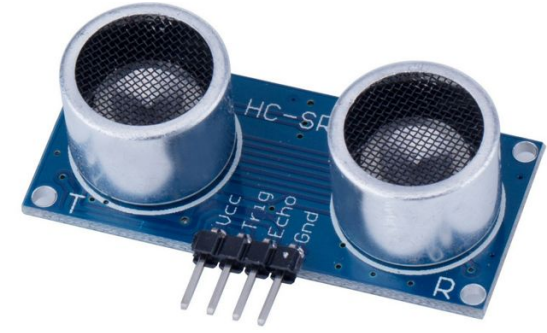
HC-SR04

Range	2 - 400 cm
Power	5V DC
Conical FOV	30 deg
Mass	9 g
Dimensions	20 mm x 45 mm x 15 mm
Cost	< 2.00 USD (Amazon)

Notes

- Only 15 deg effectual angle
- Not sensitive to soft objects
- Not sensitive to tiny objects
- 1 cm resolution

<https://eecs.oregonstate.edu/education/hardware/hcsr04/>



V-MaxSonar-EZ0 (MB1000)

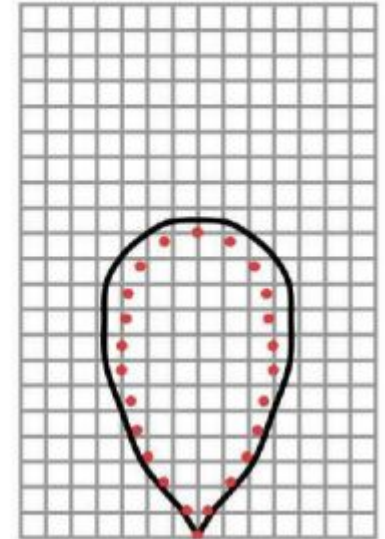
Range	15 cm - 645 cm
Power	2.5 - 5.5 VDC
Conical FOV	Varies - Dovel Diam
Mass	4.3 g
Dimensions	20 mm x 22 mm x 16 mm
Cost	26.95 USD

Notes

- Excellent with soft object detection
- Collision avoidance
- Wide beam
- 2.54 cm resolution

<https://www.adafruit.com/product/979>

https://www.maxbotix.com/documents/LV-MaxSonar-EZ_Datasheet.pdf



V-MaxSonar-EZ4 (MB1040)

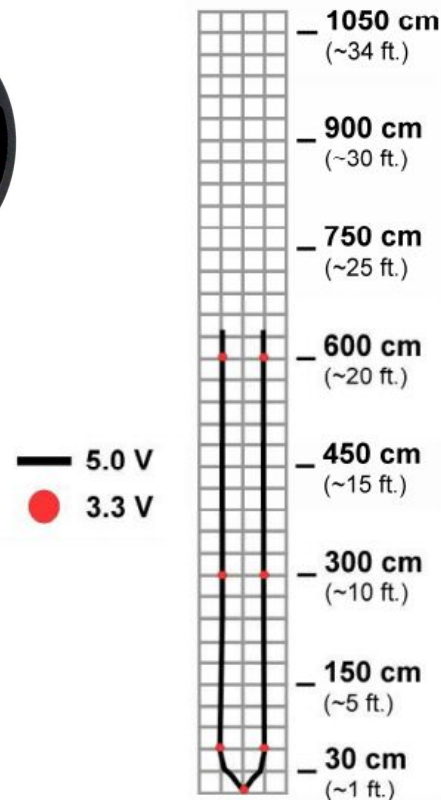
Range	15 cm - 645 cm
Power	2.5 - 5.5 VDC
Conical FOV	Varies - Dovel Diam
Mass	4.3 g
Dimensions	20 mm x 22 mm x 16 mm
Cost	24.95 USD

Notes

- Excellent with side object rejection
- Landing flying objects
- Narrow beam
- 2.54 cm resolution

<https://www.adafruit.com/product/982>

https://www.maxbotix.com/documents/LV-MaxSonar-EZ_Datasheet.pdf



Sonar Utilization

Direction	Sensor Type	Quantity	Cost / Item (USD)	Mass / Item (g)
Front	V-MaxSonar-EZ0	1	26.95	4.3
Down (Height Detection)	V-MaxSonar-EZ4	1	24.95	4.3
Left and Right Sides	HC-SR04	4	1.50	9.0
Rear	NA	NA	NA	NA

Total Mass	44.6 g
Total Cost	57.9 UDS + SHIPPING