



SPL (HONG KONG) LIMITED

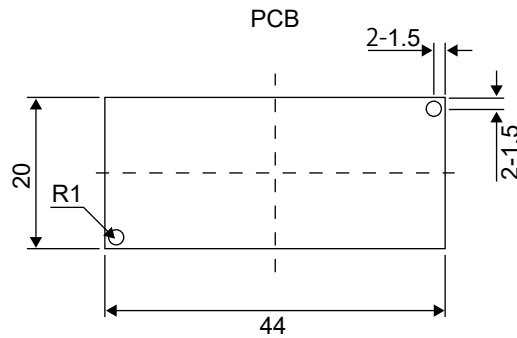
香港九龍觀塘鴻圖道57號南洋廣場17樓1703B室
 Room 1703B, 17/F., Nanyang Plaza, No.57 Hung To Road, Kwun Tong, Kowloon, HK.
 Tel: 852-2342 6857 / 2342 6867 Fax: 852-2342 6847 Email: sales@spl-hk.com.hk
 Website: www.buzzer.com.hk

Ultrasonic Sensor Module

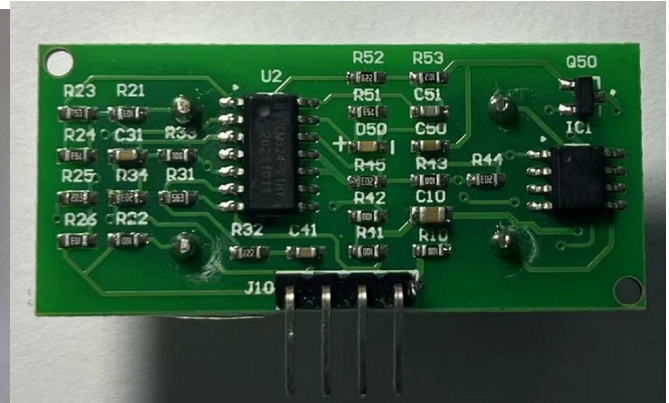
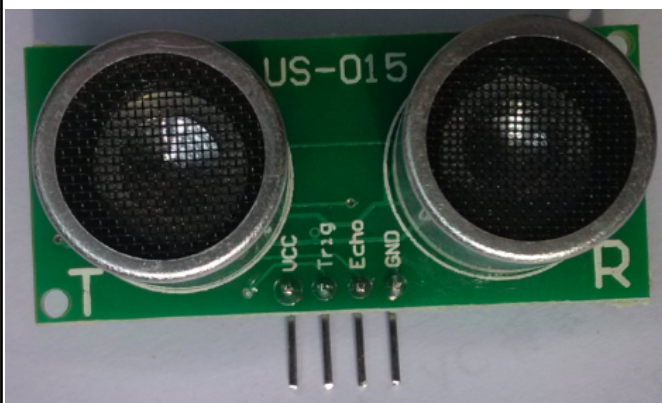
US series

DIMENSIONS

Date : 28 Dec.,2023



All dimensions are in mm
 Unspecified Tolerance are +/-0.50mm



Ref No. : PBCL1501B



ELECTRICAL SPECIFICATIONS

Model No.		US-015
Operating Voltage	[Dc]	5
Operating Current	[mA]	2
Output Mode		GPIO
Detectable range	[cm]	2 ~ 400
Detection Accuracy	[cm]	0.1 + 1%
Directivity	[Deg]	15 Max.
Operating Temperature	[°C]	0 ~ +70
Resolution	[mm]	0.5 ~ 1



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Instructions for use



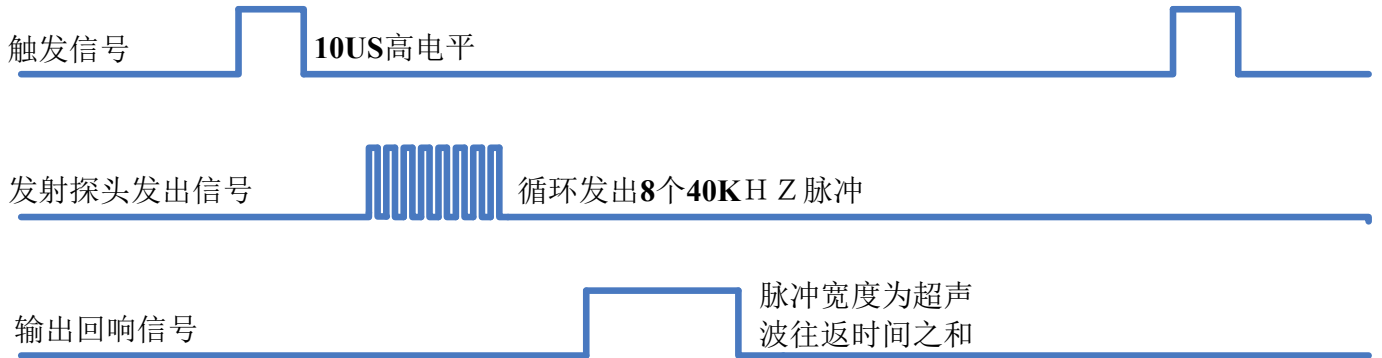
Pin1	+VCC(DC5V)
Pin1	Connect the Trig terminal of external circuit, input a high level above 10uS to this pin
Pin1	Connected to the Echo terminal of the external circuit, when the ranging is finished, this pin will output a high level, the level width is the sum of the ultrasonic round trip time.
Pin1	+GND



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The principle of distance measurement



Connect the Trig terminal of external circuit, input a high level above 10uS to this pin, 8*40 KHz ultrasonic pulses will be sent out and then detect the echo signal.

This distance value can be calculated based on the duration of the Echo pin output High level. $(\text{high level time} * 340\text{m/s}) / 2$

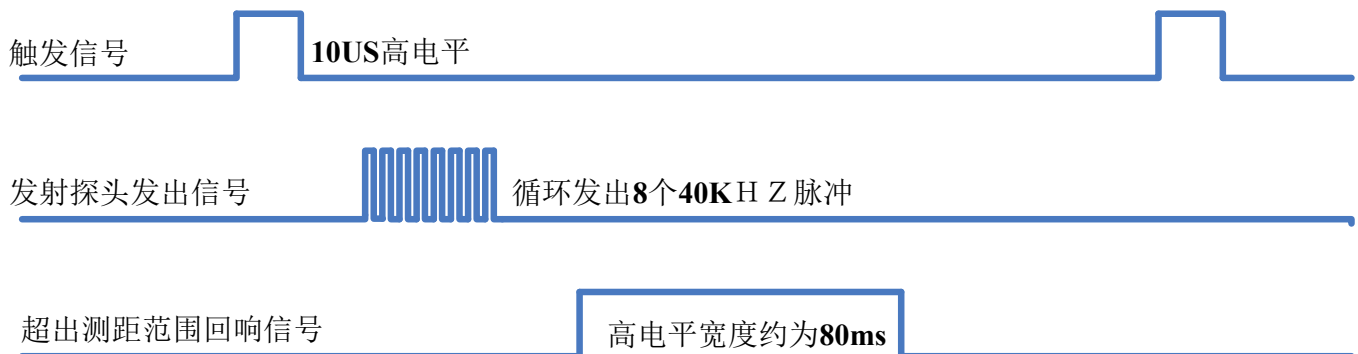


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Note:

When the measurement distance exceeds the US-015 measurement range, the US-015 will still output a high-level signal through the Echo pin, the high-level width of about 80ms



When a high-level pulse from US-015 is received through the Echo pin, the next measurement can be started, so the measurement period depends on the measurement distance, when US-015 is very close to the object being measured, the Echo returns with a shorter pulse width and a shorter measurement period, and the Echo returns with a longer pulse width and a longer measurement period when the US-015 is far away from the object being measured.

In the worst case, the measured object is out of the range of US-015, at this time the return pulse width is the longest, about 80ms, so in the worst case the measurement period is slightly larger than 80ms (85ms is Enough)