

# US-020 Ultrasonic Ranging Sensor



The US-020 ultrasonic sensor uses sonar to determine distance to an object like bats or dolphins do. It offers excellent range accuracy and stable readings in an easy-to-use package. Its operation is not affected by sunlight or black material like infrared rangefinders are (although acoustically soft materials like cloth can be difficult to detect). Ultrasonic Ranging Module US-020 provides 2cm-700cm non-contact distance sensing capabilities. Ranging accuracy up to 3mm; module comprises an ultrasonic transmitter, a receiver and a control circuit.

Basic operating principle:

1. IO port TRIG trigger ranging to at least 10us high level signal;
2. the module automatically sends eight 40khz square wave, automatically detects whether a signal return;
3. a signal to return to a high output through the IO port ECHO high duration of ultrasound wave from the transmitter to the time of the return. Test distance = (high level time \* sound velocity (340M / S)) / 2;

Reliable , high performance , high accuracy , blind area within 3cm.

## Specification:

- US-020 ultrasonic module distance measuring sensor
- Working voltage: DC 5 V
- Static current: 3 mA
- Working temperature: 0°~ + 70°
- Output way: GPIO
- Induction Angle: Less than 15°
- Detection range: 2 cm to 700 cm
- Detecting precision: 0.3 cm + 1%

- UART mode serial configuration: Baud rate starting 9600, eight bit parity checking, no flow control.
- Sensor size: Approx. 45 x 20 x 1.6mm
- Hole diameter: Approx. 1mm
- Output Signal: Electric frequency signal, high level 5V, low level 0V
- High precision: Up to 3cm
- Mode of connection: VCC / trig(T) / echo(R) / GND

US-020 Ultrasonic ranging module is capable of the 2cm ~ 7m non-contact distance measuring function, contrast to the HC-SR04 Ultrasonic Ranging Sensor , this module has a larger measure range. the supply voltage is 5V, The static power consumption is less than 3mA. This module supports the GPIO Communication mode, which is stable and reliable with the watchdog.

