**Electrical properties**

* Electrical parameters**:**  JSN-SR04T
* Operating voltage**:** DC 3 ~5.5V
* Quiescent current**:** < 8mA
* Acoustic emission frequency**:** 40khz
* Farthest range: 600cm
* Recent range: 20cm
* Distance measurement accuracy: ± 1cm
* Resolution: 1mm
* Measuring angle: 75 degrees
* Input trigger signal: TTL pulse above10uS
* Serial send command: 0X55
* Output echo signal: Output pulse width level signal, or TTL
* 3-5.5V (power positive)
* Trig (RX) RX
* Echo (output) TX
* GND (power supply negative
* Product Size: L42 \* W29 \* H12 mm
* Working temperature: -20 ℃ - +70 ℃
* Product color: PCB board is blue

**Product Features**

1.Small size, easy to use

2. low power consumption

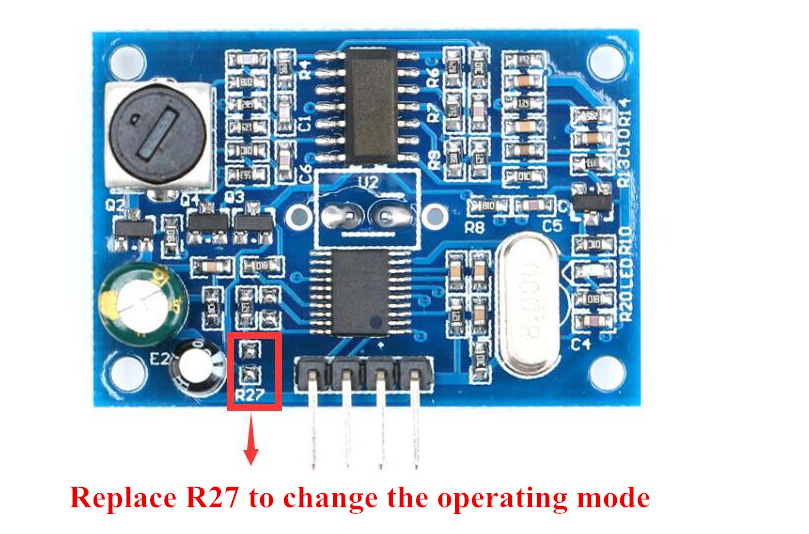
3.High accuracy

4, detection of blind spots, farther away

5, the output method of diversification, pulse width output, serial output

**Note:**

* This module should not be charged connection, to live connection, then let the module first GND connected, otherwise it will affect the normal work of the module.
* Ranging, the measured object area of not less than 0.5 square meters and the plane as required to smooth, otherwise affect the measurement results.

**The default working mode is Mode 1.**

**Mode 1: R27 = open that is not welding. The pattern is described below**

Basic working principle:

* Using IO port TRIG trigger range, to a minimum of 10us high letter.
* Module automatically send 8 40khz square wave, automatically detect whether the signal back;
* There is a signal to return, through the IO port ECHO output a high level, the high level of continuous time is the ultrasound
* From the time of launch to return. Test distance = (high time \* sound velocity (340M / s)) / 2;
* When the module is triggered, if no echo is received (the reason is more than the measured range or the probe is not positive On the measured object),
* ECHO port will automatically become low after 60MS, marking the end of the measurement, regardless Power or not.
* LED indicator, LED non-power indicator, it will receive the trigger signal after the module, this When the module is in working condition.
* Only need to provide a pulse above 10uS trigger signal, the module will be issued within 8 40kHz cycle levels and detect echo. The echo signal is output once an echo signal is detected. Reverberations
* The pulse width of the pulse is proportional to the measured distance. Thereby by transmitting a signal to the received echo signal time interval
* Can calculate the distance. Formula: uS / 58 = cm or uS / 148 = inches; or: distance = high time \*Sound speed (340M / S) / 2;
* The recommended measurement period is 60ms or more to prevent the impact of the transmitted signal on the echo signal.

**Mode 2: R27 = 47K is the welding 47K resistance. The pattern is described below**

Serial output format for the TTL level, that: 100MS module for the cycle of automatic transmission

The value of the distance, in mm. Serial baud rate: 9600, n, 8,1.

Module power recognition, directly into the work mode, the module to conduct a distance every 100ms range,

And outputs one frame from the pin TX with four 8-bit data. The frame format is: 0XFF + H\_DATA + L\_DATA + SUM

1.0XFF: for a frame to start the data, used to judge;

2.H\_DATA: the upper 8 bits of the distance data;

3.L\_DATA: the lower 8 bits of the distance data;

4.SUM: data and, for the effect of its 0XFF + H\_DATA + L\_DATA = SUM (only low 8)

Note: H\_DATA and L\_DATA synthesize 16-bit data, that is, the distance in millimeters.

Description: The module outputs the nearest distance value in the dead zone. If the module does not measure data or is out of range Measured output 0.

LED indicator, LED non-power indicator, the module connected to work after the light, then the module is in Working state.

**Mode 3: R27 = 120K is the welding 120K resistance. In the serial port mode**

Module power recognition, the module into the standby state, the serial output format for the TTL level, the serial port baud rate:

9600, n, 8, 1. When the RX port receives the 0X55 instruction, the module starts a ranging and outputs from the pin TXOut of a frame with 4 8-bit data.

The frame format is: 0XFF + H\_DATA + L\_DATA + SUM

1.0XFF: for a frame to start the data, used to judge;

2.H\_DATA: the upper 8 bits of the distance data;

3.L\_DATA: the lower 8 bits of the distance data;

4.SUM: data and, for the effect of its 0XFF + H\_DATA + L\_DATA = SUM (only low 8)

Note: H\_DATA and L\_DATA synthesize 16-bit data, that is, the distance in millimeters

Description: The module outputs the nearest distance value in the dead zone. If the module does not measure data or is out of range Measured output 0.

LED indicator, LED non-power indicator, it will receive the 0X55 trigger signal in the module, this When the module is in working condition.