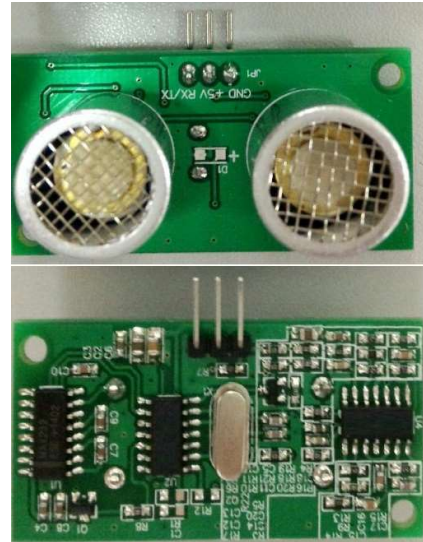


UP0043-000 Ultrasonic Sensor Module

Description

The UP0043-000 is an open-faced ultrasonic sensor module used for distance sensing (4.2m)



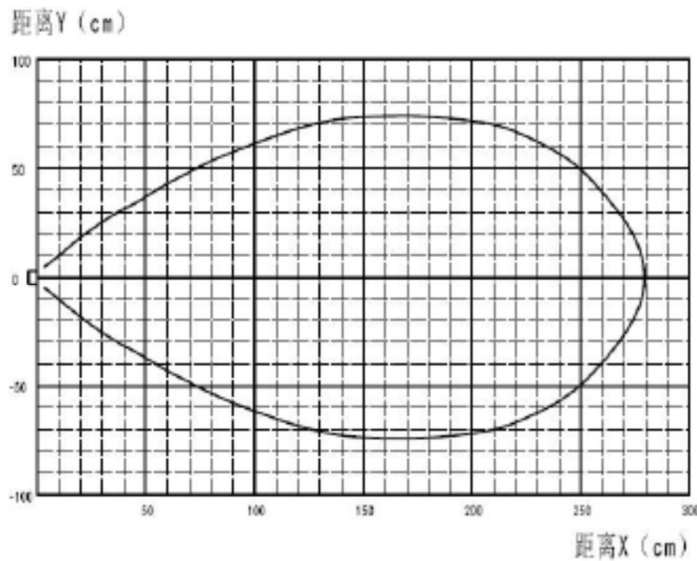
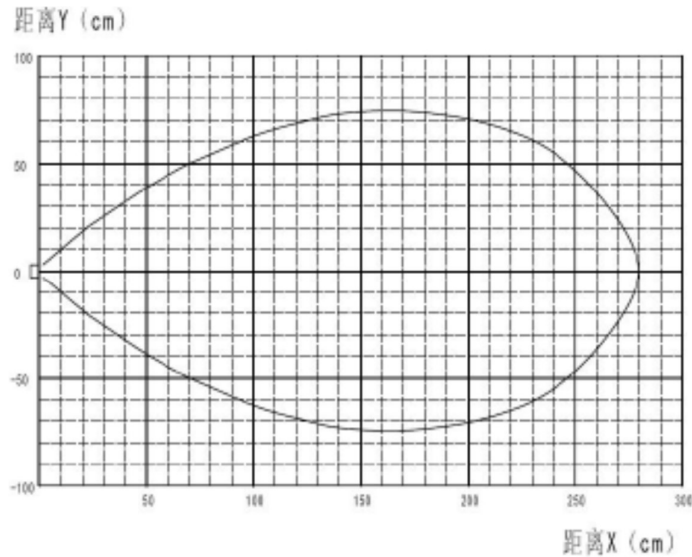
Technical Data

1. Technical Index

| No. | Parameter | Index | Units |
|-----|---------------------------|--|-------|
| 1 | Principles | Detecting objects and measuring distance | |
| 2 | Effective Measuring Range | 0 ~ 3.8 | m |
| 3 | Maximum Measuring Range | 0 ~ 4.2 | m |
| 4 | Accuracy | (0.50 + 5%) | cm |
| 5 | Blind Zone | 3.0 | cm |
| 6 | Signal Response Time | <=1 | ms |
| 8 | Operating Temperature | -20 to +70 | °C |
| 9 | Operating Humidity | 0 –85% | RH |
| 10 | Working Voltage | (DC) +5.0 | V |
| 11 | Operating Current | ≤15 | mA |
| 12 | Atmospheric Pressure | 86-106 | KPa |

2. Response Curve

Horizontal direction (2 sensors are in horizontal direction) and vertical direction (2 sensors are in the vertical direction) sensing curves are below:

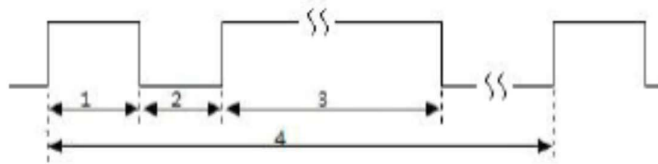


NOTE: Inside the arc is the sensing area that the sensors can detect the pole of Φ 75mm.

3. Output Method

| Pin Number | Pin Function | Notes |
|------------|--------------|--------------------|
| 1 | GND | Ground |
| 2 | VCC | DC 5V |
| 3 | Input/Output | Level input-output |

In low level conditions, when INPUT/OUTPUT port inputs 100us or higher-level pulse width, INPUT/OUTPUT ports will output high level in around 250us. The high-level pulse width range is measured distance signal. The signal time times ultrasound transmission velocity (170m/s) is stretch between sensor and the measuring object. Shown in picture below:



| Symbol | Performance | Min. | Typical Value | Max | Unit |
|--------|-----------------------------------|------|---------------|------|---------------|
| 1 | Trigger pulse signal width (high) | 50 | 100 | 1 | μs |
| 2 | Response Time | - | 256 | - | μs |
| 3 | Signal Pulse Width (high) | 0.06 | - | 24.6 | ms |
| 4 | Mearing Cycle | 50 | 100 | - | ms |

Note: Conditions should be VDD=5V, -20°C + 70°C

Revision History

| Revision Number | Revision Date | Description | Pages Changed |
|-----------------|---------------|-----------------------|---------------|
| A1.0 | 2020-06-04 | First Release Version | |

Contacts

For pricing, delivery, and detailed ordering information please contact:

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Tentative Release

This specification is based on design objectives and is strictly Preliminary and subject to change. Test data may exist, but this specification is subject to change based on the results of additional testing and evaluation. Application specific specifications will be produced for approval prior to production product being released.

 **WARNING**

This product can expose you to chemicals including Lead, Chromium (hexavalent compounds) and Phthalates (DEHP) which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov