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URM12 Ultrasonic Sensor(1500cm & RS485)

SKU:SEN0310

Brand:DFRobot

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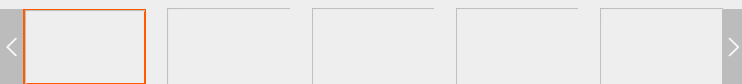
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INTRODUCTION

This URM12 from DFRobot is the latest ultrasonic distance sensor designed for distance ranging or obstacle avoidance applications. The sensor offers up to 1500cm detection distance, 3Hz measuring frequency and 15° detection angle. It adopts RS485 communication interface and supports standard Modbus-RTU communication protocol, which is suitable for level measurement, robot obstacle avoidance and so on.

DFRobot Ultrasonic Sensor Selection Guide

Product Name	URM37 Ultrasonic Sensor	URM06-RS485 Ultrasonic Sensor	URM06-UART Ultrasonic Sensor	URM06-PULSE Ultrasonic Sensor	URM06-ANALOG Ultrasonic Sensor
SKU	SEN0001	SEN0149	SEN0150	SEN0151	SEN0152
Image					
Structure	Open Divided Send and Receive	Open United Send and Receive	Open United Send and Receive	Open United Send and Receive	Open United Send and Receive
IP Grade	NO	NO	NO	NO	NO
Working Temperature	-10℃~+70℃	-10℃~+70℃	-10℃~+70℃	-10℃~+70℃	-10℃~+70℃
Operating Voltage	DC 3.3~5.5V	DC 6~12V	DC 6~12V	DC 6~12V	DC 6~12V
Acoustics Degree	60°	15°	15°	15°	15°
	40KHZ	50KHZ	50KHZ	50KHZ	50KHZ

URM12 Ultrasonic Sensor(1500cm & RS485)

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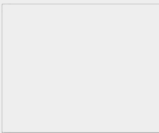
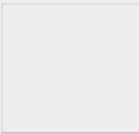
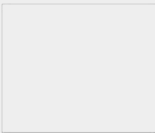
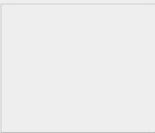
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Range	2cm~800cm	20cm~1000cm	20cm~1000cm	20cm~1000cm	20cm~1000cm
Resolution	1cm	1cm	1cm	1cm	1cm
Deviation	1%	1%	1%	1%	1%
Sensitivity Level	5	5	5	5	5
Communication Interface	RS232/UART/ANALOG	RS485	UART	PULSE	ANALOG
Features	Multi-interface integration; Automatic gain adjustment; Automatic control of ranging;	Corrosion-resistant PVC housing; Screw-free wiring port; Narrow beam class linear directional detection;			
Applications	Education robot omnidirectional obstacle ranging; Underground parking space monitoring;	High-voltage line-to-ground barrier avoidance; Narrow space obstacle detection			

Product Name	URM07-UART Ultrasonic Sensor	URM08-RS485 Ultrasonic Sensor	URM09-I2C Ultrasonic Sensor	URM09-ANALOG Ultrasonic Sensor	URM12 Ultrasonic Sensor
SKU	SEN0153	SEN0246	SEN0304	SEN0307	SEN0310
Image					
Structure	Open United Send and Receive	Closed United Send and Receive	Open Divided Send and Receive	Open Divided Send and Receive	Closed United Send and Receive
IP Grade	NO	IP65	NO	NO	IP65
Working Temperature	-10℃~+70℃	-10℃~+70℃	-10℃~+70℃	-10℃~+70℃	-10℃~+70℃
Operating Voltage	DC 3.3~5.5V	DC 6~12V	DC 3.3~5.5V	DC 3.3~5.5V	DC 9~24V
Acoustics Degree	60°	60°	60°	60°	15°
Acoustics Frequency	40KHZ	40KHZ	40KHZ	40KHZ	40KHZ
Range	20cm~750cm	35cm~550cm	2cm~500cm	2cm~500cm	70cm~1500cm
Resolution	1cm	1cm	1cm	1cm	1cm
Deviation	1%	1%	1%	1%	1%
Sensitivity Level	3	6	4	4	6
Communication Interface	UART	RS485	I2C	ANALOG	RS485
Features	Ultra-low power consumption; Small, streamlined design;	High sensitivity large area detection; Full structure shielding; Real-time calibration over the operating temperature range;	Efficient I2C communication mode; Configurable detection range;	Analog voltage output; No need to control, plug and play; Automatic measurement, real-time output;	Large reliable detection range; All-round protection design; Corrosion-resistant and anti-pollution ABS materials; Narrow beam linear directional detection;
Applications	Aircraft height; Indoor IoT Devices; Line product counting;	Collision prevention of industrial transport facilities; Unattended guards; Anti-theft alert;	Robotics education; Indoor robot assisted barrier avoidance;	Robotics education; Indoor robot assisted barrier avoidance;	River water level detection; Chemical tank level detection;

SPECIFICATION

- Power Supply: 9-24VDC
- Rated Power: 4.8W
- Operating Temperature Range: -10°C~ +70°C
- Effective Detection Range: 70cm~1500cm
- Resolution: 1cm
- Accuracy: 1%
- IP Grade: IP65
- Direction Angle: 15°±2°(-6dB)
- Measuring Frequency: 3Hz Max
- Communication Interface: RS485
- Communication Protocol: Modbus-RTU

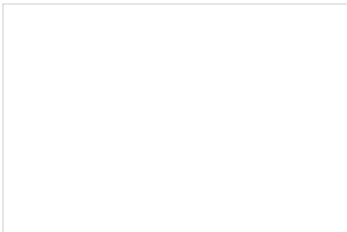
DOCUMENTS

- [Product wiki](#)

SHIPPING LIST

- URM12 Ultrasonic Sensor (1500cm & RS485) x1

TUTORIAL



DFRobot Ultrasonic Sensor Selecti...
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REVIEW

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4 Comments

DFRobot

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Carlos Tobon

4 months ago

I just bought this sensor with its shield, what changes do I need to make in the software to make it work on an arduino mega?

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Hel Kumar

Carlos Tobon • 2 months ago

As of wiki, the Rx, Tx, and GND wiring of shield with respective pin of mega should work...

↑

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Carlos Tobon

6 months ago

Hi there, I have several questions about this sensor:
The 1500cm if they are real, or theoretical?
Have you tried or implemented them in any real project?
I'm concerned that they are not real 1500cm.
Regards.

↑

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Hel Kumar → Carlos Tobon • 2 months ago

Hi Carlos,

Did you test it? did they give any answer about it?

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