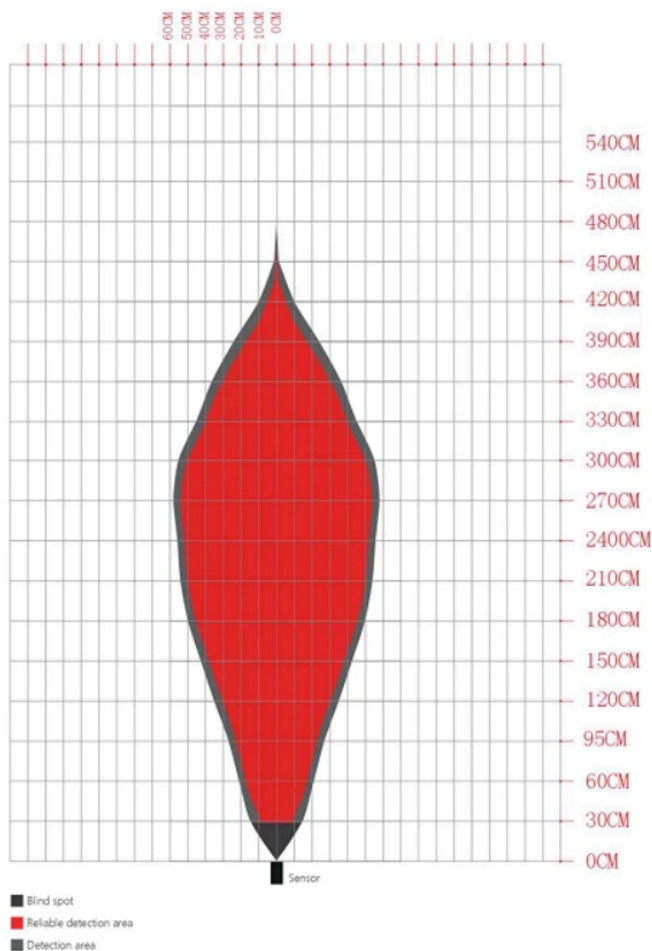


Introduction

DFRobot URM15 is an ultrasonic ranging sensor **with an IP65 waterproof probe that offers an effective measuring range of 30cm-500cm** (test on flat wall). It uses the RS485 interface that follows the standard Modbus-RTU protocol for reliable data communication. The sensor supports revisable slave addresses and serial parameters, which can be conveniently used with all kinds of industrial controlling machines.

In addition, the URM15 comes with a temperature compensation function. Users can select external or onboard temperature compensation to reduce the impact of ambient temperature on the measurement. The sensor adopts 75KHz ultrasonic transducer with diameter of 40mm, so it features a relatively small measuring angle and high sensitivity.

Beam pattern
Diameter 7.5CM_PVC



Waveform chart
43×43CM flat baffle

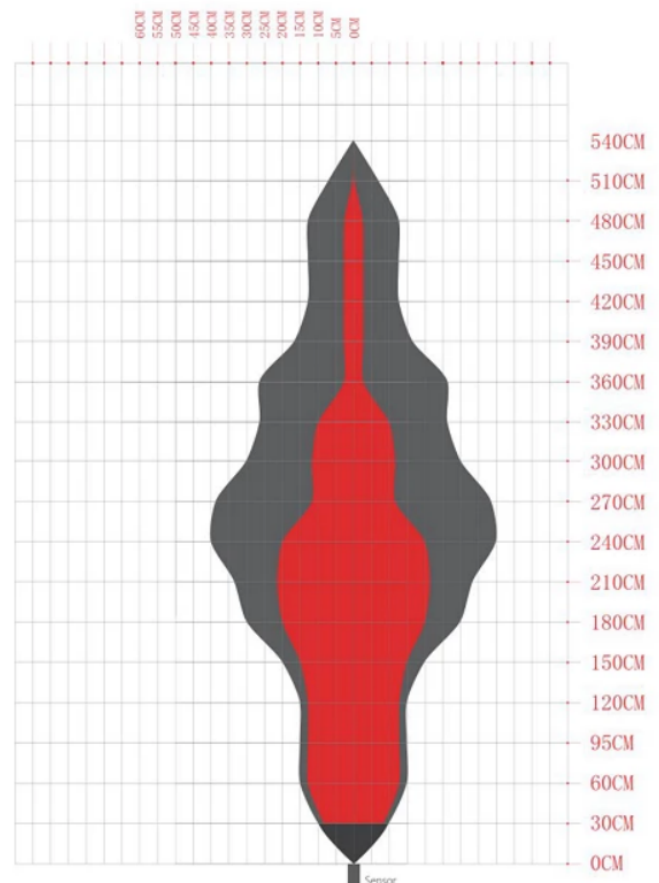


Figure: URM15 Beam Angle



Overview

Features

- IP65 grade protection
- RS485 communication interface based on standard Modbus RTU protocol
- High sensitivity & small measuring angle

Applications

- Industrial controlling machines

Specification

- Operating Voltage: 5-12V DC
- Max Instantaneous Current: 350mA
- Effective Measuring Range: 30cm - 500cm
- Distance Resolution: 10mm
- Distance Error: $\pm 1\%$
- Temperature Resolution: 0.1°C
- Temperature Error: $\pm 1^{\circ}\text{C}$
- Measuring Frequency: 10 Hz
- Operating Temperature: -10°C to $+70^{\circ}\text{C}$
- Operating Humidity Range: $\text{RH} < 75\%$
- Sensor Acoustic Frequency: $75\text{KHz} \pm 2\%$
- Directional Angle: $20 \pm 2^{\circ} (-6\text{dB})$
- Communication: RS485(Modbus-RTU)

Shipping List

- URM15 75KHZ Ultrasonic Sensor x1

Documents

- [Product Wiki](#)