Ultrasonic distance sensors

Small Blind-Zone Waterproof Ultrasonic Sensor, Multi-Output

Model A21-V1.0

Waterproof ultrasonic sensor with a 3 cm blind zone and 3-500 cm range, five range levels, same-frequency interference filtering, IP67 and UART, PWM, RS485, IIC or switch output.



Range	Accuracy
3–500 cm	1+(S*0.3%) cm
Output	**Blind zone**
UART, PWM, RS485, IIC, switch	3 cm

Features

- 3.3–24 V supply
- Single- or dual-angle versions
- Data output as fast as 13 ms
- Five-level noise reduction for battery, USB and switching supplies
- Operating temperature -25 to +65 °C

Applications

Robot automatic control, Robot obstacle avoidance

Specifications

IP rating	IP67
Operating temperature	-25 to +65 °C
Default baud rate	115200 bps
Fastest data output time	13 ms
Sleep power consumption	<=5 uA
Single-angle settings	40 / 45 / 55 / 65°
Dual-angle horizontal settings	45 / 50 / 55 / 65°
Dual-angle vertical settings	60 / 65 / 70 / 80°
Operating voltage	3.3–24 V
Standby current (UART controlled)	≤10 uA
Standby current (PWM)	≤10 uA

Average operating current (UART auto)	≤6 mA
Average operating current (UART controlled)	≤6 mA
Average operating current (PWM)	≤6 mA
Average operating current (switch)	≤6 mA
Average operating current (RS485)	≤10 mA
Average operating current (IIC)	≤10 mA
Blind zone	3 cm
Flat-object measuring range	3–500 cm
Output response time (UART auto)	<140 ms
Output response time (UART controlled)	13–140 ms
Output response time (PWM)	<15 ms
Output response time (switch)	300–1500 ms
Output response time (RS485)	15–750 ms
Output response time (IIC)	100–140 ms
Power-on working time (UART auto)	≤1000 ms
Power-on working time (UART controlled)	≤1000 ms
Power-on working time (PWM)	≤1000 ms
Power-on working time (switch)	≤1000 ms
Power-on working time (RS485)	≤1000 ms
Power-on working time (IIC)	≤1000 ms
Working cycle (UART auto)	140 ms
Working cycle (UART controlled)	Controlled ms
Working cycle (PWM)	Controlled ms
Working cycle (switch)	100 ms
Working cycle (RS485)	Controlled ms
Working cycle (IIC)	Controlled ms

Auto	
Output mode	UART auto
Output mode (UART controlled)	Controlled
Output mode (PWM)	Controlled

Auto	
Output mode	Switch
Output mode (RS485)	Controlled
Output mode (IIC)	Controlled

Accuracy at room temperature	1+(S*0.3%) cm
Temperature compensation	Compensated
Single angle	40–65 °
Dual angle, horizontal	40–65 °
Dual angle, vertical	60–80 °

Wiring

Cable specification	2464 4C*24AWG, black PVC outer sheath, cores red/black/yellow/white, OD 4.0

Dimensions

Cable length (sensor to M11-4P waterproof male connector, as drawn)	120±10 mm
Extension cable length (to M11-4P waterproof female / terminal, as drawn)	150±10 mm
M11-4P connector length	33 mm
Operating voltage	3.3-24 V
Output	UART / PWM / RS485 / IIC / switch output
Measuring range	3-500 cm

Ordering and support

Pricing, samples, lead time and custom versions: dwinsales@163.com, +86 181 0280 8901.

Guangzhou Dwin Technology Co., Ltd., 4th Floor, Building 2, No. 4 Xingye Road, Xiaowu Second Industrial Zone, Dongyong Town, Nansha District, Guangzhou, China. Specifications are typical values and may change without notice; confirm critical values with DWIN before design-in. Revision 2026-11.