Ultrasonic level sensors

Waste-Bin Overflow Ultrasonic Sensor, Small Angle

Model A13-V1.0

Ultrasonic module for waste-bin level monitoring with a ≈20° reference angle, 25-200 cm range and ± (1 cm + 0.3% of distance) accuracy, powered from 3.3–24 V.



Range	Accuracy
25–200 cm	±(1cm+S*0.3%)
Output	**Blind zone**
UART output line	0–25 cm

Features

- Reflective structure
- Detects low-reflectivity or small targets
- Blind zone 0–25 cm
- Average operating current ≤8 mA
- Temperature compensated

Applications

Station and mall waste bins, Plaza and street litter bins, Community sorted-waste bins

Specifications

All columns	
Input voltage	3.3–24 V

UART auto	
Average operating current	≤8 mA
Blind zone	0–25 cm
Planar object measuring range	25–200 cm
Working cycle	500 ms
Response time	0.5–2.5 s
Reference angle	≈20 °
Planar measurement accuracy	±(1cm+S*0.3%)
Temperature compensation	Compensated

UART controlled	
Standby (static) current	<10 uA
Working cycle	Controlled
Response time	≈0.38 s
Switch output	
Response time	1.5–12.5 s
RS485	
Standby (static) current	>10000 uA
Average operating current	≤15 mA
Response time	≈0.1 s
Dimensions	
Housing outer diameter (flange)	Φ39.5±0.2 mm
Thread outer diameter	Φ29±0.2 mm
Nut outer diameter (circumscribed)	Φ34±0.2 mm
Length dimension	11.5±0.2 mm
Pitch (PH)	1.2 mm
Nut across flats	34±0.2 mm
Nut inner diameter	Φ28±0.2 mm
Nut thickness	7 mm
Length dimension	23.5±0.2 mm
Total length (body)	35±0.2 mm
Cable length	300±20 mm
Pin definition	
Pin 1 (red)	VCC - positive power input
Pin 2 (black)	GND - power ground
Pin 3 (yellow)	RX - output function line
Pin 4 (white)	TX - output function line
Pin function by output	
RX, UART auto output	Real-time or processed value output selection line
TX, UART auto output	UART output line
RX, UART controlled output	Trigger input line
TX, UART controlled output	UART output line
RX, PWM controlled output	Trigger input line

TX, PWM controlled output	PWM output line
RX, switch output	Real-time or processed value output selection line
TX, switch output	Switch positive output line
Operating voltage	3.3-24 V
Output	UART serial / RS485 / PWM / switch output
Measuring range	25-200 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.