POLYCARBON TIPPING BUCKET RAIN GAUGE

- Multiple Output Methods
- Strong Anti-interference
- Precise Measurement

RS485/0-2V/0-5V/0-10V/4-20mA

Characteristic

- The resolution can be selected from 0.1 mm/0.2 mm/0.5 mm.
- High precision and good stability.
- The tipper parts are well-made and have small friction moment,so the parts are sensitive to overturn, stable in performance and reliable in operation.
- The instrument shell is made of 304 stainless steel, which has strong rust-proof ability and good appearance quality.
- The rain socket is made of ABS engineering plastic / polycarbonate by injection molding, with high finish and small error caused by stagnant water.
- A protective screen is built into the rain outlet to prevent defoliation mosquitoes from blocking the rain outlet.
- The chassis is internally provided with horizontal adjustment

bubbles, which can assist the bottom angle to adjust the levelness of the equipment.

With a clock circuit, the contents of up to 10 registers can be queried.

Product Parameters

Rain bearing diameter	φ 200mm	Acute angle of cutting edge	40°~45°
Range	0 ~ 100mm/day by default (it can be modified to any range within 6553.5mm/ day).		
Resolution	0.1 mm/0.2 mm/0.5 mm.		
Rainfall intensity range	0.01 mm ~ 4 mm/min (the maximum allowable rainfall intensity is 8mm/min).		
Accuracy	≤ ±3%		
Output signal	A:voltage signal (0 ~ 2v, 0 ~ 5v, 0 ~ 10v choose one of three).		
	B: 4 ~ 20mA (current loop)		
	C: RS485 (standard Modbus-RTU protocol, default address of equipment: 01)		
	D: pulse signal (one pulse represents 0.1mm/0.2mm/0.5mm rainfall)		
Power supply voltage	5 ~ 24VDC (when the output signal is 0 ~ 2V, RS485)		
	12 ~ 24v DC (when the output signal is 0 ~ 5v, 0 ~ 10v, 4 ~ 20mA)		
Power	≤0.2W		
Working environment	temperature	0℃ ~ 70℃	
	Humidity	≤100%RH	

Product Details

1 Leveling Bolts

Three sets of external leveling bolts for easier operation than internal leveling Built-in filter

2 Built-in Filter

Internal 304 stainless steel filter to effectively filter leaves and debris

from the natural environment.

3 Level Calibration

The chassis is equipped with a leveling bubble, which can effectively adjust the balance during installation.

4 Fine Material

ABS engineering plastic material shell moisture-proof and anti-corrosion, durable and wide range of applications

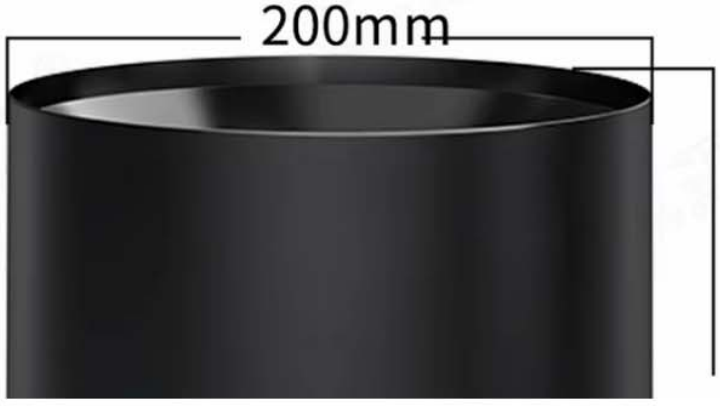
5 Smooth Rain Opening

The smoothness of the rain opening is high and the water stagnation error is small.

6 Structural Integration

Structural integration, factory internal assembly and commissioning has been completed, without the need for secondary commissioning, can be directly installed and used, saving time, labor and labor.

Dimension Drawing



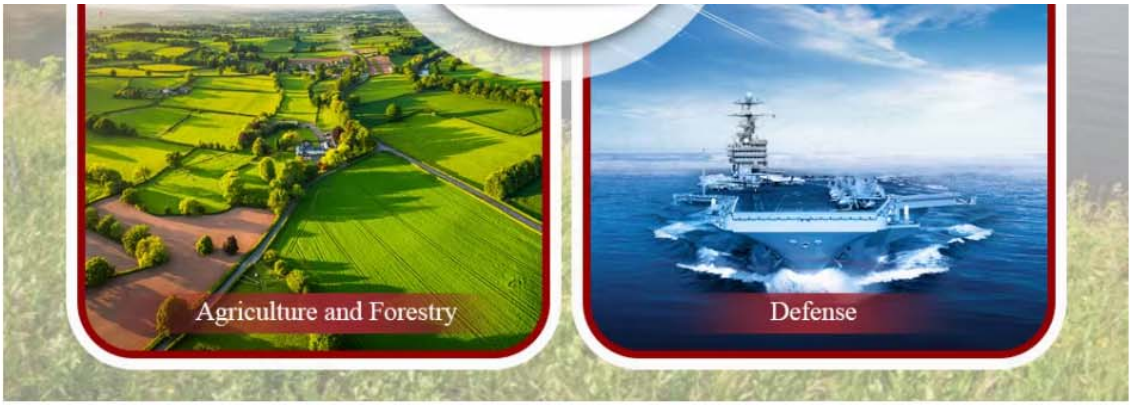
Output Method

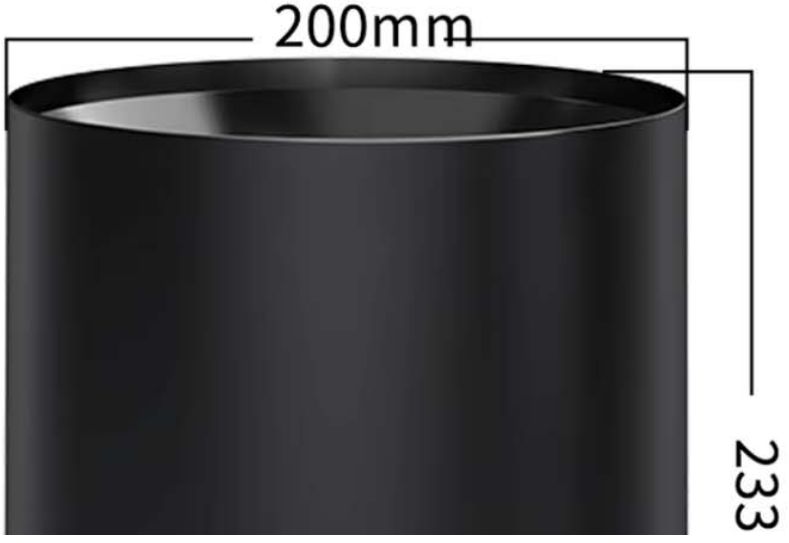
- Impulse
- RS485
- 4~20mA
- 0-2V
- 0-5V
- 0-10V

Installation

With professional mounting bracket to meet the needs of different occasions

APPLICABLE SCENARIOS


Agriculture and Forestry
Defense


200mm
233

The standard of output analog signal of tipping bucket rain gauge is to calculate from the zero point of the day (00：00). The default range of accumulated rainfall so far is 0 ~ 100 mm, and other ranges can be selected.

H: rainfall in mm;

V: voltage value collected by the collector, in V;

A: the current value collected by the collector, in Ma;

output signal	Data conversion method of each range		
	0～50mm	0～100mm	0～200mm
0～2V DC	H＝25*V	H＝50*V	H＝100*V
0～5V DC	H＝10*V	H＝20*V	H＝40*V
0～10V DC	H＝5*V	H＝10*V	H＝20*V
4～20mA	H＝3.125*A－12.5	H＝6.25*A－25	H＝12.5*A－50
pulse	One pulse represents 0.1mm/0.2mm/0.5mm rainfall.		

RS485 signal (default address 01):

Standard Modbus-RTU protocol, baud rate: 9600; Check bit: None; Data bits: 8; Stop bit: 1

This table lists the common phenomena, causes and troubleshooting methods that may occur in the instrument.

Central station expression form	Rainfall sensor failure	solution
When it rains, it can't be counted.	① reed switch failure. ② The distance between magnetic steel and reed switch is too far. ③ The welding wire falls off or the signal wire is broken.	① Replace reed switch. ② Adjust the reed switch distance. ③ Repair. ④ Exclusion

	④ The tipping bucket is stuck.↵ ⑤ Instrument blockage↵	⑤ Clear the blockage.↵
There is a big difference between the rainfall data received during rainfall and the rain gauge.↵	① The tipping angle of the rainfall sensor is out of balance, but the error is generally less than 10%.↵ ② The position of magnetic steel and reed switch is not good, resulting in ups and downs, so that some signals are missed.↵ ③ The rain gauge is far away from the system rain sensor or there is strong wind.↵	① Re-titrate to adjust the inclination angle.↵ ② Adjust the distance↵ (3) objective reasons, non-instrument failure.↵ ↵
It kept raining, but it didn't actually rain.↵	Check whether the socket is flooded, which often happens after heavy rain.↵	Treat the inlet water and reinstall it.↵