RK400-07 Tipping Bucket Rainfall Sensor

Overview

The RK400-07 Tipping Bucket Rainfall Sensor is an instrument designed to measure rainfall in natural environments. To meet the requirements of information transmission, processing, recording, and display, rainfall is converted into pulse output. This sensor is widely used in weather stations, hydrometric stations, agriculture, forestry, defense, and field monitoring stations. It provides essential data for flood prevention, water supply systems, and reservoir water management in plants.

Features

- Compact size for easy installation and use
- High accuracy and excellent stability
- Optional filter available
- Precision-engineered tipping bucket with low resistance
- Horizontal bubble level at the base for proper alignment
- Rain collector with a filter to prevent leaves and debris from clogging the opening

Applications

- Water supply system
- Hydrologic monitoring
- Natural disaster monitoring
- Agro-meteorological research
- Climate research

Technical Parameter

Item	Technical Specification
Rainfall collector	ϕ200mm, 40-45°
Measured rainfall intensity	Max: 4mm/min
Allowable rainfall intensity	Max: 10mm/min
Resolution	0.5mm
Accuracy(2mm/min)	±4%(Indoor static test, rain intensity of 2mm/min)
Maximum load voltage	30VDC(pulse output)
Maximum load current	20mA(pulse output)
Output	Reed switch pulses,RS485(12-24VDC supply)
Operating temperature(no freeze)	0-70℃
Main material	Collector:304SS,tipping bucket:ABS
Tipping bucket	Single
Bird spikes	Optional
Heating(optional)	200W@220V
Collector filter	Removable filter (prevent leaves and sundries)
Weight(unpacked)	3.5kg

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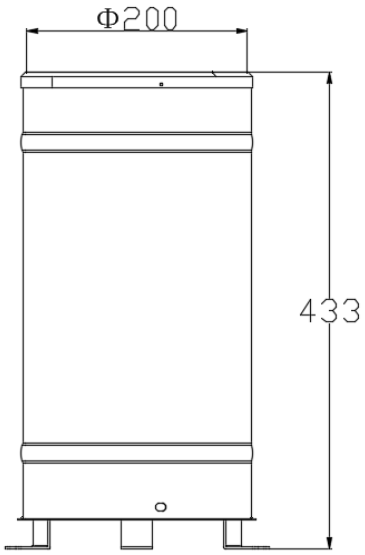
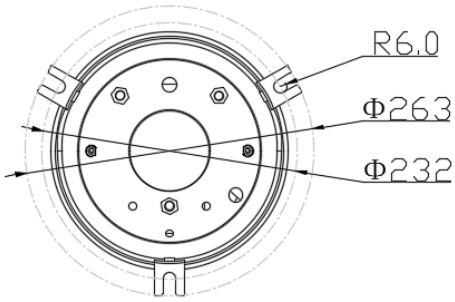
Dimension

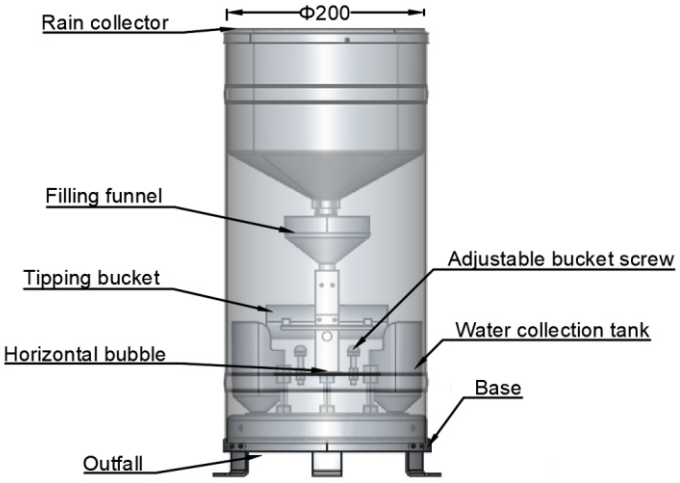
Unit:mm





Working Process

Rainfall is captured by the 200mm diameter collector funnel and directed through a delivery pipe to fill a divided ABS injection-molded tipping bucket device. The bucket is pivoted at its center and calibrated to tip after accumulating 0.2mm of rainfall. When the bucket is full, it pivots and empties—this action magnetically closes and opens a reed switch, sending a pulse signal to the data logger or electronic counter. The other side of the bucket then aligns to receive the flow from the delivery pipe. This tipping cycle repeats continuously during rainfall.



Accessories

M10*80 Expansion screws

Filter

Bird spikes(Optional)

Parameter Selection Table

Remark	Series	Type	Output	Resolution	Heating	Bird Spikes	Cable Length	
RK								
	400							
		07						
			A					Pulse(Reed switch)
			B					RS485
			C					Customization
				A				0.5mm(default)
				X				Other
					A			Without heating
					B			With heating(independent cable)
						A		Without bird spikes
						B		With bird spikes
							5000	Units:mm(Typ.)
							10000	Units:mm
							…	Units:mm

Example: RK400-07AAAA5000 Output: Pulse(Reed switch), Resolution:0.5mm, Without heating,Without bird spikes,Cable length:5m.

Revision time	Reviser	Current Version	Remarks
20250616	Echo	V5. 0	