



CDY-10B Metal Economical Tipping Bucket Rainfall

For weather automation applications



Features

- Compact size for easy use
- High accuracy, good stability
- Mesh in the funnel preventing debris such as leaves and insects from entering the working of rain sensor
- Well made tipping bucket with low resistance
- The main body made of high strength 304 stainless steel
- Horizontal Bubble in the bottom
- Outlet with insect-proof screen

The CDY-10B Tipping Bucket Rainfall Sensor is an instrument for testing rainfall in the nature. In order to meet the requirement of information transmission, processing, recording and display, the amount of rainfall is converted to pulse output. It can be widely used in weather stations, hydrometric stations, agriculture & forestry, defense & field monitoring stations. It can provide the original data for flood-prevention, water-supply system, and reservoir water management in plant. .

Typical installation locations

- Top of building
- Solar energy
- Open areas
- Outdoor locations

Design structure

The rain water enters the water bearing device through the water bearing mouth, and then flows into the tipping bucket through the funnel mouth. When the amount of water in the tipping bucket reaches a certain degree (such as 0.1mm, 0.2mm, 0.5mm, etc., different types of sensors may have different set values), the tipping bucket will be turned over due to the loss of balance due to gravity. Each time the skip is turned over, a switching signal is triggered (for example by a reed tube, etc.), producing a pulse signal. By recording the number of pulse signals, the corresponding precipitation can be converted.

Easy installation

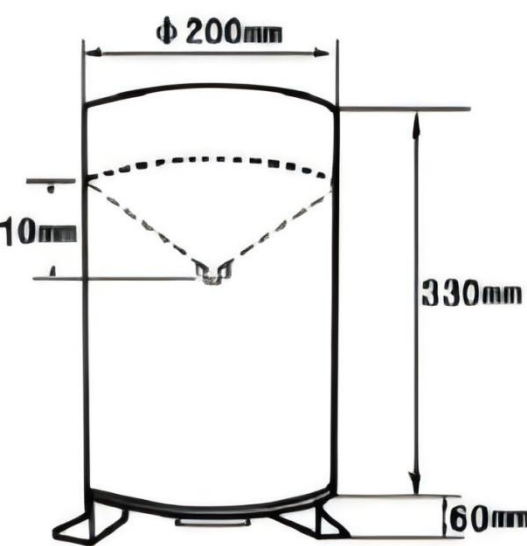
should be installed in an open, flat and unobstructed area, and avoid installation near buildings, trees or other objects that may affect the accurate measurement of rainfall. It is generally required that the distance between the height of the instrument's rain socket and the ground plane is 70cm, and it is ensured that no shelter higher than the instrument's rain socket is allowed within 3-5 meters around the instrument's mouth.

Reliable operation

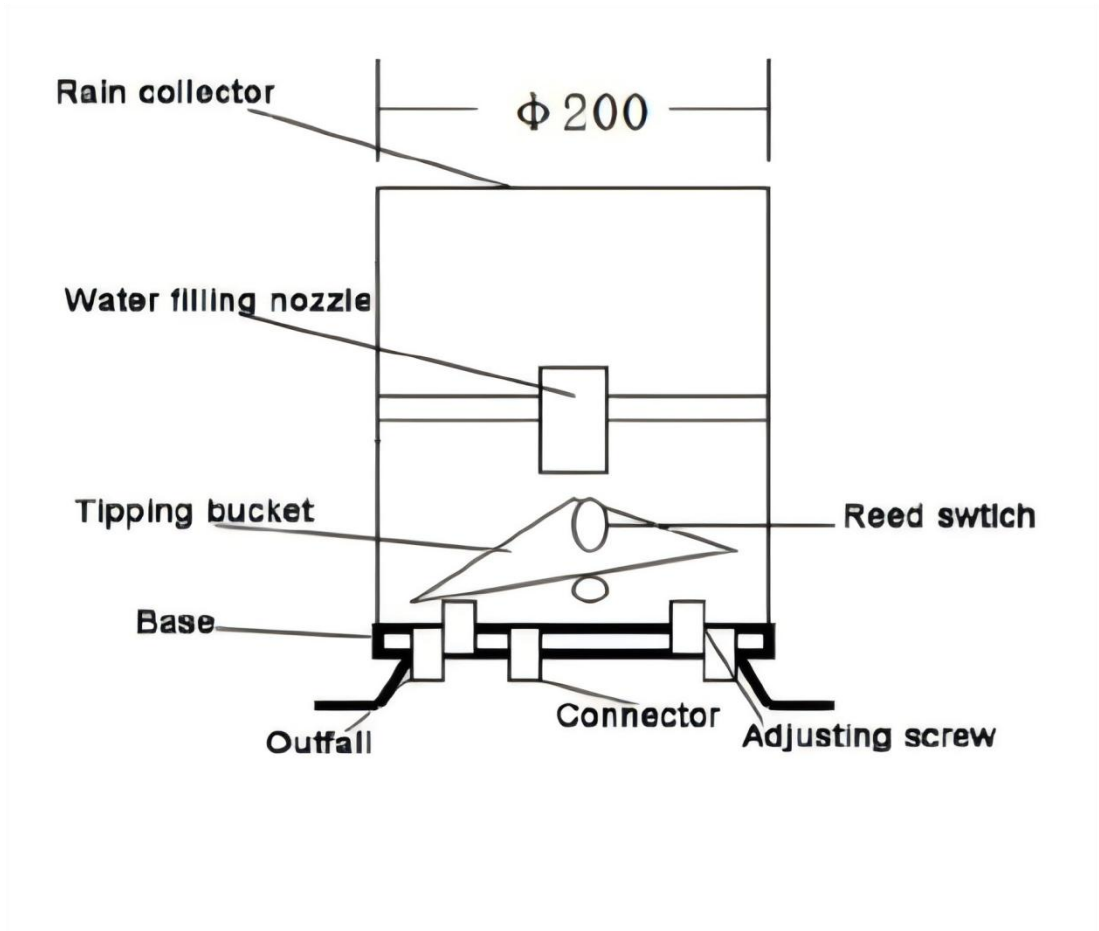
The correct installation position and method are critical to the reliability of the sensor. The sensor should be installed in an open, unobstructed place to ensure that rainwater can accurately flow into the water receiver. At the same time, the installation should ensure the level of the sensor to avoid affecting the measurement accuracy due to tilt. Regular maintenance and calibration are important measures to ensure the reliability of the sensor. This includes cleaning the water carrier, checking the rotation flexibility of the tipper, and calibrating the measurement accuracy of the sensor. Detecting and handling sensor faults in a timely manner can prevent fault expansion and improve sensor reliability.

Dimensions & packing

CDY-10B connector dimension



Operating principle



Technical data

Measurement performance,
models CDY-10B

Item	Specification
Rainfall collector	Diameter :φ200mm, height: 330mm
Measured rainfall intensity	Max: 4mm/min
Allow rainfall intensity	Max: 10mm/min
Resolution	0.1mm,0.2mm, 0.5mm
Accuracy(2mm/min)	±4%
Maximum load voltage	30VDC(pulse output)
Maximum load current	20mA(pulse output)
Output	Reed switch pulses,RS485(12-24VDC supply)
Operating temperature(no freeze)	-20~+80℃
Main material	Collector:304SS,tipping bucket:ABS
Tipping bucket	Single
Heating(optional)①	Heating power: approx.350W Heating voltage:220VAC
Collector filter	Removable filter (prevent leaves and sundries)optional
Weight(unpacked)	3.5kg

Model number	Type	Output	Special features
CDF-10A	Wind speed	Pulses(PNP) RS485 4-20MA 0-5V	Three cup plastic wind speed
CDF-11A	Wind direction	RS485 4-20MA 0-5V	Plastic wind direction sensor
CDF-20B	Combined Wind Speed & Direction	RS485 4-20MA 0-5V 0-10V	Integrated wind speed and direction
CDG-10B	Solar Radiation	0-5V,4-20mA,RS485	Spectral range:300~1100nm
CDG-13B	Ultraviolet(UV) Radiation	0-5V 0-10V 4-20mA RS485	Spectral range:280~400nm
CDW-33A	Atmospheric Temperature, Humidity & Pressure	RS485	Shelter installation
CDY-10B	Metal Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 330mm
CDY-11A	Rain & Snow Sensor	Relay(NO) RS485	Gold-plated(Strong corrosion resistance)
CDY-12A	Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 271mm
CDY-14B	Evaporation sensor	RS485	Range 75mm
CDY-15A	Optical Rain Sensor	Pulses(@10kΩ&0.01uF),RS485(12VDC supply)	Diameter :φ82mm, height: 80mm
CDQ-X100	Piezoelectric Type Rain	RS485	Measuring range: 0-200mm/h
CDY-18B	Automatic rainfall station	4G/WIFI/Ethernet	LCD display

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Hunan Coda Electronic Tech Co.,Ltd

T: +86-0731-85117089 W: www.codasensor.com E: Molly@codasensor.com