

Specification

BX-RS Rainfall sensor



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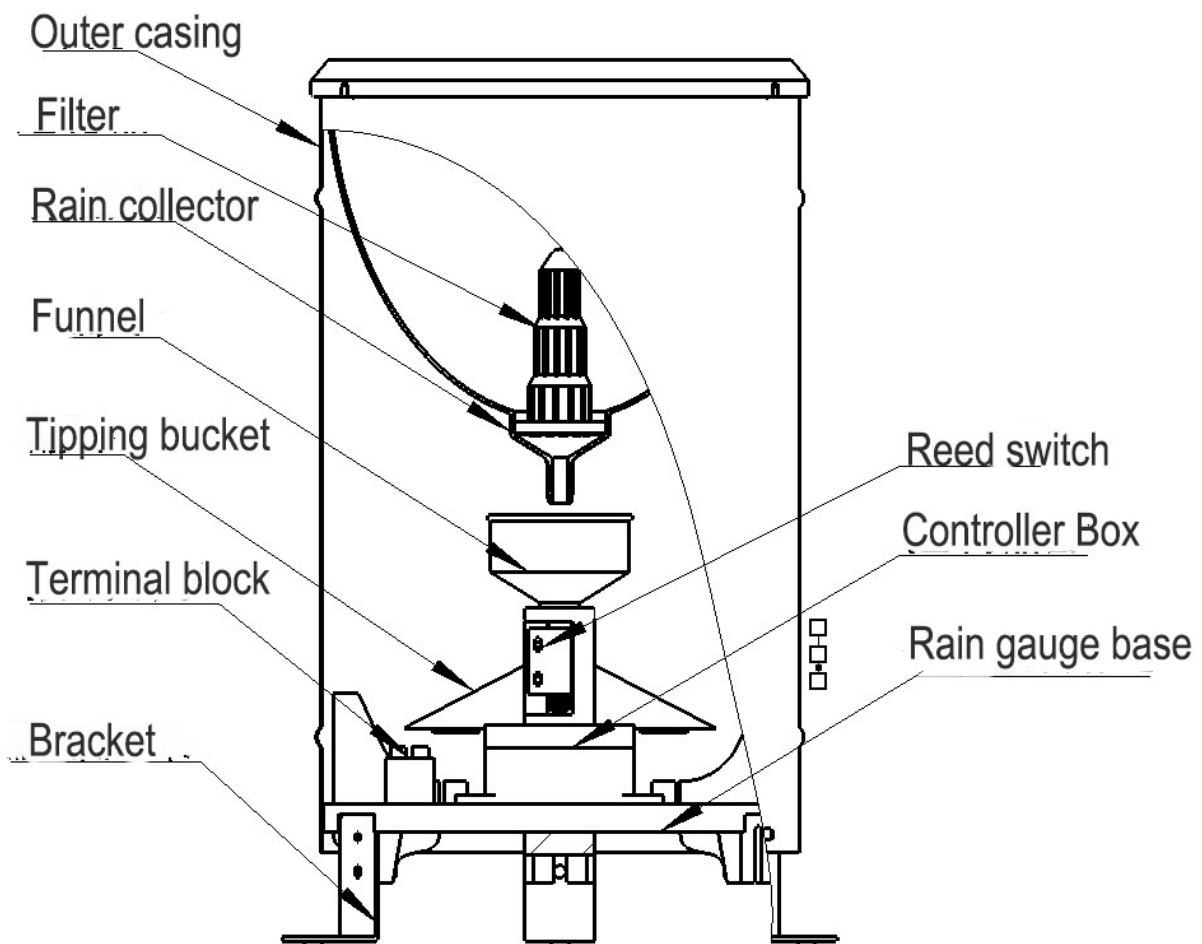
Use Guiding

Safety note

- ◆ This sensor operates on 12V power. Do not reverse the power or communication connections, and ensure the supply voltage does not fall below 12V. Strictly maintain the quality of the sensor's power supply.
- ◆ Users must not disassemble the sensor or touch the sensor core to prevent product damage.
- ◆ Keep the sensor away from high-power interference sources like inverters or motors to prevent measurement inaccuracies. Always disconnect power before installing or removing the transmitter. Water ingress into the transmitter may cause irreversible damage.
- ◆ Before connecting or disconnecting any signal or control cables, ensure all power cables are disconnected.
- ◆ Before adding or removing hardware components, ensure all signal and power cables are disconnected.
- ◆ Operate in a clean, dry, and well-ventilated environment. Avoid exposure to high temperatures, humidity, or similar conditions.
- ◆ As an electronic device, keep this product away from fire, water, and flammable or explosive hazardous materials.
- ◆ This product contains high-voltage components. Do not open the casing or attempt repairs yourself.
- ◆ If smoke, unusual odors, or other abnormalities occur, immediately turn off the power switch and contact your dealer.

Product Overview

The core component of this sensor—the tipping bucket—features a three-dimensional streamlined design that ensures smoother water tipping while offering self-cleaning dust resistance and easy maintenance. A permanent magnet is mounted on the tipping bucket, and a reed switch is installed on the reed switch bracket. Both the magnet and reed switch are factory-adjusted to an optimal coupling distance, establishing a precise proportional relationship between the sensor output signal and the number of bucket tip-overs. One of the sensor's dual signal outputs serves for on-site counting and measurement, while the other is used for remote telemetry signaling. When connecting the sensor to a telemetry terminal, a matching interface circuit must be employed to prevent counting and signaling errors caused by reed switch vibration or bucket rebound.



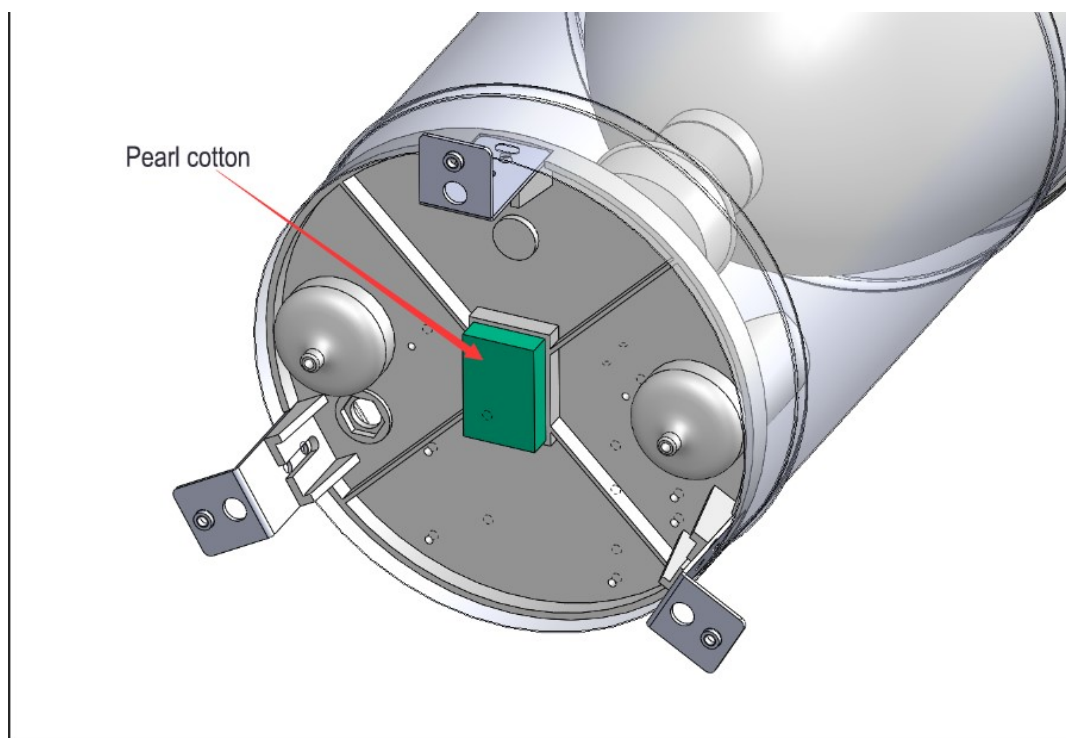
Features

- ◆ The product's core component, the tipping bucket, features a three-dimensional streamlined design. This enables smoother water tipping, self-cleaning dust removal, and easy maintenance.
- ◆ RS485 signal output allows direct rainfall reading without secondary calculations, offering simplicity and convenience.
- ◆ Pre-assembled internal structure eliminates on-site installation of internal components, simplifying field setup.
- ◆ Offers distinct advantages in meeting future diverse requirements.
- ◆ Suitable for outdoor use with excellent stability, strong anti-interference capability, and reliable quality.

Installation Diagram

Indoor Installation and Commissioning

As shown below: Remove the foam cushioning from the bottom of the instrument, then install the included mounting blocks onto the instrument base.



Outdoor Installation and Commissioning

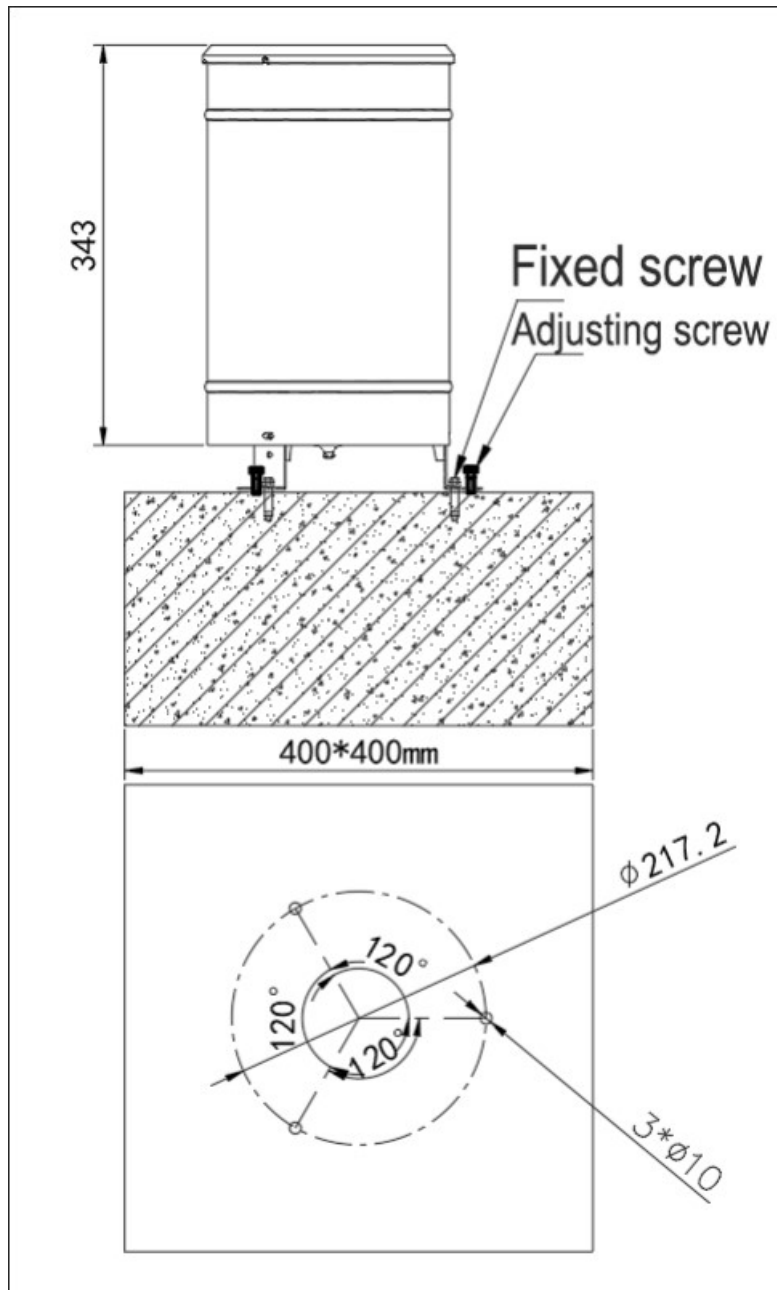
1. Preparing the Installation Base

For outdoor ground and rooftop installations, prepare a concrete installation base according to the dimensions and requirements shown below. The top surface of the concrete base must be level. Typical dimensions for the concrete foundation are either a square base measuring 40cm × 40cm with a minimum height of 30cm, or a circular base with a diameter of 40cm. The instrument's rain inlet must be positioned 70cm above ground level. Ensure no obstructions taller than the rain inlet are present within 3 to 5 meters around the instrument inlet.

2. Instrument Installation and Rain Receiver Leveling

Drill three $\phi 12$ mounting holes (8–10 cm deep) into the concrete foundation. Insert expansion bolts into the holes and secure them with lock nuts. Mount the instrument base onto three height-adjustable

support nuts. Adjust the height of the support nuts and use a spirit level to verify the rain receiver is horizontal. Finally, secure the instrument with the lock nuts.



Wiring Definition

When connecting wires, the numbers on the terminal block of this unit must correspond to the numbers on the label affixed to the product body.

Wire color	Instruction
Brown	D+
Black	D-
Yellow	485A
Blue	485B

Technical Specification

Parameters	Specification
Rainwater outlet diameter	φ200mm
Blade edge acute angle	40° ~ 45°
Resolution	0.2mm
Measurement Range	0mm ~ 4mm/min
Measurement Accuracy	±2%
Operating Voltage	12V or 24VPower supply
Response Speed	60s
Rated Power	≤0.24W
Communication Method	RS485 Communication (Standard MODBUS-RTU Protocol)

We suggest customer use' rainfall sensor of BX, or we cannot ensure the quality of it.

Match with BX-Y08A / Y 1A / Y 1SW / Y 3A.