HONDE TECHNOLOGY CO.,LTD

Rain Gauges Introduce

ABS type

Resolution 0.5MM

Type NO.: RD-RGP-05

Website: https://hondetec.en.alibaba.com/ Email: hondetec@163.com

1. Product Description

The RD-RGP-05 rain sensor is used to measure the rainfall on the ground. The rainfall flows into the tipping bucket through a receiver. When a certain amount of rainwater flows into the tipping bucket, the tipping bucket flips, emptying the rainwater in the tipping bucket, and the tipping bucket starts to receive water again. The second flipping action is converted into a pulse signal (1 pulse = 0.5mm precipitation) through the reed pipe and transmitted to the acquisition system. This instrument is suitable for equipping the national basic rain gauge station, encrypted automatic weather (rain gauge station) and telemetering station under various climatic and environmental conditions in various places, to complete the automatic measurement and data collection of the precipitation process.

2. Scope of application

It can be used in meteorological stations (station), hydrological stations, agriculture and forestry, national defense, field surveying stations and other related departments to measure precipitation, precipitation intensity and precipitation time with the rainfall recorders independently developed by our company. It can provide raw data for flood control, water supply dispatching, and water management of power station reservoirs.

3. Technical indicators

Rain inlet size	¢110mm
Sharp edge	40～45°
Resolution	0.5mm
Rain intensity range	0～4mm/min
Measurement accuracy	±2%
Output signal	A: Pulse output (1 pulse=0.5mm precipitation)
	B: RS485 (standard Modbus-RTU protocol, device default address: 01)
Supply voltage	10~30V DC (when the output signal is 0~2V, 0~2.5V, RS485) No need power supply if pulse output
Way of sending	Two-way reed switch on and off signal output
working environment	Ambient temperature: 0 ° C ~ 60 ° C
Relative humidity	<95%(40℃)

4.Working Principle

The rainwater collected by the water-receiving port passes through the upper tube (funnel) and is injected into the metering tipping bucket-the tipping bucket is injection molded of engineering plastics and divided into two equal-volume half-cone chambers with a middle partition. It is a mechanical bistable structure. When one chamber receives water, the other chamber is in a waiting state. When the volume of the received rainwater reaches a predetermined value of 0.5mm, it overturns due to gravity and is in a waiting state, and the other chamber is in a water receiving state. When the water receiving volume reaches a predetermined value, it overturns by itself and is in a waiting state. A magnetic steel is installed on the side wall of the dumping bucket, which scans from the side of the dry reed tube when the dumping bucket is turned over, so that the dry reed tube is turned on and off. That is, every time the tipping bucket is overturned, the dry reed pipe is switched on and sends out a pulse signal.

5. Installation

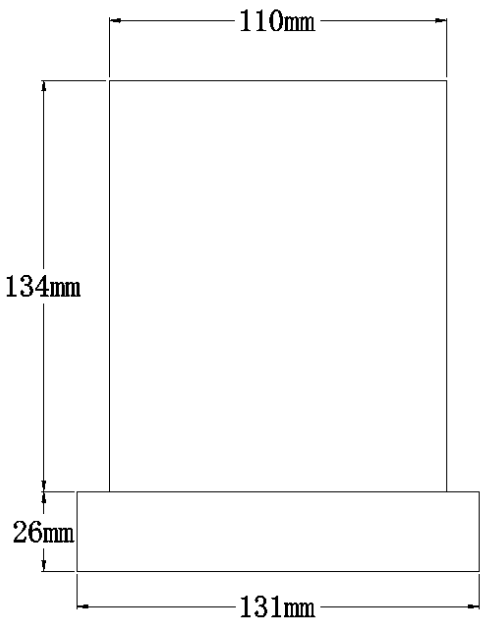
1. Open the rain gauge as shown in the figure, and use the matching screws to fix the rain gauge at the position to be detected, so that the entire instrument is kept at the best level and the accuracy of the rainfall data is ensured. The rain gauge is a two-wire system and can be connected at will.

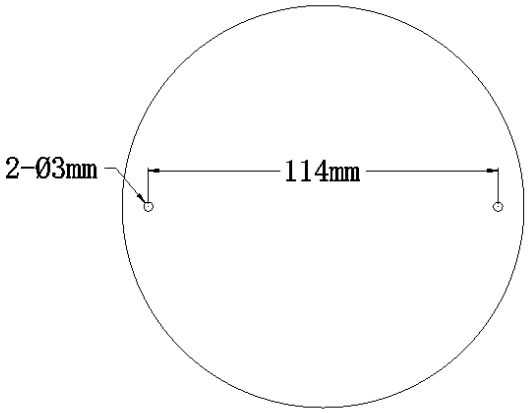
2. Equipment size

This rain gauge has a caliber of 110mm, a barrel height of 134mm, a base height of 26mm, a maximum diameter of 131mm, and a mounting hole distance of 114mm. The details are shown in the figure.

3. When the rain gauge is taken out of the packing box and the installation is complete, please turn the shell counterclockwise to separate the shell and the chassis. At this time, please cut off the cable tie on the tipping bucket inside the rain gauge, so that the tipping bucket can be flipped freely, then reinstall the shell and turn it clockwise to fasten it. (The function of this cable tie is to prevent the tipping bucket from falling off during transportation. If

you need to transport the rain gauge again, please tie a cable tie at this position to fix the tipping bucket.)





6. Daily maintenance and maintenance

1. The instrument should be maintained once a month during use to prevent sandstorms and other factors from affecting normal use;

2. Observe whether there is any dirt in the water bucket, if so, clean up the dirt;

3. Take off the bucket and observe whether there is any sediment in the black bucket. If so, gently take out the bucket, and then clean the sediment (note that during the cleaning process, do not wet the control panel and do not use the long screws on the side of the bucket) Loose and shift) and wipe the cleaned tumbler with a clean facial tissue. Then put the dumper back to its original place and gently flip the dumper so that it can be turned normally.

4. After the above work is completed, fix the water bucket and the chassis;

5. In winter or when it does not rain for a long time, the sensor housing should be covered with plastic to prevent wind and sand from blocking the sensor water inlet.