KH.JD Series Rain Gauges
Operating Instruction

科皓信息
KEHAOINFO

Shenzhen KEHAO Information Technology Co., LTD

CONTENTS

I Product Introduction

1. Overview

KH.JD02,05 is a precipitation measuring instrument.

KH.JD02,05 comply with the national GB/T 11832-2002 "Dumping Rain Gauge", SL61-2003 Hydrological automatic observation system specification; GB11831-2002 hydrological observation device remote measurement rain gauge standard.

This instrument is connected to a numerical collector or computer and can be used by various types of rain gauges to measure the start and end time of precipitation, cumulative precipitation and precipitation intensity.

2. Technical Parameter

Catching rain caliber: Φ200+0.6mm;

Resolution: 0.2, 0.5mm;

Rain intensity range: 0~4mm/min (maximum allowable rain intensity is 8mm/min);

Measurement accuracy: relative error is not more than ±2%;

Working environment: temperature-10℃ ~ +50℃, humidity <95%

(40℃);

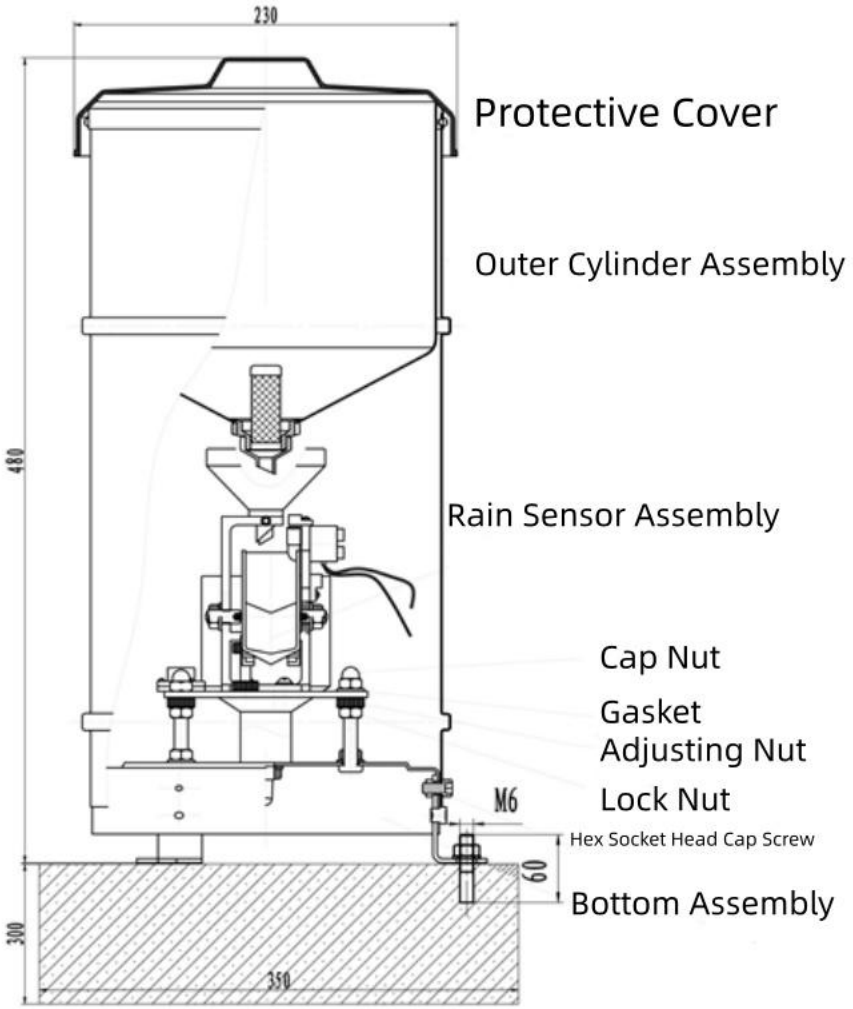
The average trouble-free working time is more than 25000h;

Edge Angle 40~50;

Bit error rate: less than 10-4.

II Structural Principle

As shown in the figure below, KH.JD05 consists of a stainless steel outer casing, water inlet, filter screen, funnel, triangular work platform, permanent magnet, dry reed tube, jewel bearing screw, hexagonal locking nut, tipping bucket component, limit screw, round locking nut, bracket, base, foot, level bubble, leveling screw, cable sheath, terminal block, and backup dry reed tube.


230
480
300
350
M6
60
Protective Cover
Outer Cylinder Assembly
Rain Sensor Assembly
Cap Nut
Gasket
Adjusting Nut
Lock Nut
Hex Socket Head Cap Screw
Bottom Assembly

Graph 1

III Installation and Adjustment

1. OOBA

Take the instrument out of the packing box, carefully check the packing list in accordance with the instruction manual to see if the accessories are complete;

Read the product manual carefully, check the product factory inspection records and product certificates;

Check whether the appearance of the instrument is damaged, especially check whether the bucket is intact, and pay attention to properly place the bucket to prevent the axles and arc-shaped water diversion tips at both ends of the bucket from being damaged. Under no circumstances should you touch the inner wall of the bucket with your fingers to avoid dirt on the bucket.

A. Installation and Trial Run

The following points should be noted during installation:

The installation height of the rain sensor is 0.7m (from the plane of the rain bearing aperture to the ground of the observation field). In order to ensure the continuity and comparability of the observation data in this region, the height of 1.2m can also be used in northern China.

When installing the rain sensor, use a level to level the rain inlet.

The rain sensor is mounted on three feet with three M6 foot bolts, screws (or expansion screws) to fix it on the concrete base. The depth

of the base buried in the soil should be able to ensure that the instrument is firmly installed and does not shake or tilt in a storm.

Note: When pouring the foundation concrete, it should be ensured that the three foundation bolts M6×60 are divided into three parts 120°, and the diameter of the circumference where the three foundation screws are located is ϕ236mm or ϕ280mm. It is selected by the user.

Adjust the leveling screw to make the round bubble in the center. After leveling the instrument, slowly tighten the three fixing screws. If the level bubble changes, adjust it again and fix it.

The base shall have outlets for drainage pipes and passages for cables. If drainage is required to monitor the accuracy of the system, a small chamber (pit) shall be constructed to hold a water collection container.

The signal output cable is a two-core shielded wire (A43VVT2*16/0.15 microphone wire).

The cable is inserted through the rubber sheath of the instrument base and tightened with a nut to increase tensile strength and prevent the wires from being pulled out during wiring. The two cores of the cable are stripped to a length of 20mm each, folded in half, twisted into strands, and inserted into the two wiring holes of the commonly used signal transmission component in the terminal block, which are then

tightened with screws.

Gently turn the bucket part with your hand to check whether the signal of the receiving part is normal.

Carry out manual water supply verification.

The rain receiver parts are mounted on the instrument base, and the instrument is installed.

2. Common Faults and Solutions

Fault Phenomenon	Possible Reasons	Terms of Settlement
The rain sensor has no signal output	1. The reed switch is damaged 2. The distance between the magnet and the dry reed tube is too large 3. Welding wire falls off 4. The dump is stuck and does not turn over	1. Replace the new reed switch. 2. Adjust the bearing screw so that the distance between the dry reed tube shell and the magnetic steel fixing shell is not greater than 2mm 3. The reed switch is output with an aviation plug, and the contact wire of the plug socket is disconnected and rewelded. 4. Find out the cause of the jam, troubleshoot and debug again.
The central station keeps coming in rain, but it doesn't actually rain	Check if the socket is flooded, which often happens after a heavy rain	Process the water and seal it again
The difference between the measured rainfall and the measured rainfall is large during rainfall	1. The tipping base point of the rain sensor is out of balance 2. The position of the magnet and reed switch is not good, resulting in good and bad, so that some signals are missed 3. The measuring rain gauge is far away from the system rain sensor or there is strong wind	1. Re-titrate and adjust the base point 2. Adjust the distance 3. The instrument is fault-free due to objective reasons
Other Phenomena		Please Contact KEHAO

IV Maintenance

Pay attention to protect the instrument from collision, especially the mouth of the instrument should not be deformed or hurt; ensure the stability of the body and the mouth of the instrument is horizontal.

When the instrument is not used for a long time, the cover should be placed on the ring of the instrument to protect the rain inlet;

During the use of the instrument, it is necessary to clean up the silt (sand, dust, leaves, insects and other debris) regularly according to the local actual situation, check and dredge the waterway, wipe the ring opening and inner surface of the rain receiver to ensure smooth water discharge.

If there is mud and sand in the water holding chamber of the tipping part, it can be cleaned with a cleaning pen dipped in clear water or alcohol. Do not touch the inner wall of the chamber with your fingers to prevent oil contamination and affect the measurement accuracy of the tipping part.

If there is a sense of obstruction in the flipping process of the bucket parts, clean the end shaft neck of the bucket shaft and the inner hole of the gem bearing with water or alcohol, especially in the wind and sand measurement station.

V Warranty and service

In order to facilitate you to obtain more satisfactory service and protect your rights and interests, please read the following terms carefully:

- If there is any defect in quality or process of the product, you can obtain a one-year free warranty service from the date of sale. However, the following circumstances are excluded:
- Man-made damage to the product;
- Damage to the product caused by unauthorized modification;
- Damage to the product caused by improper operation;
- The product is damaged due to accident or other force majeure;
- The faulty product is returned to the factory for repair due to improper packaging or transportation.
- If the whole set of equipment has not passed the warranty, the repaired or replaced parts will continue to enjoy the warranty service as when the product was purchased; if the whole set of equipment has passed the warranty, the three-month warranty service for similar problems will be enjoyed.
- Products outside the warranty period can be provided with unlimited paid service, and maintenance charges will be charged.

Contact Us

Should you have any questions or require technical support, please do not hesitate to contact us.

Shenzhen KEHAO Information Technology Co., LTD

Address: Software Industry Base, Haitian 2nd Road, Yuehai Sub-district, Nanshan District, Shenzhen, China

Email: export@kehaoinfo.com

Website: www.kehaoinfo.net

WhatsApp: +1 (213) 246-7245