

VERTICAL POLE WATER QUALITY MONITORING STATION



Introduction

The water quality monitoring station can monitor water temperature, water level height, ammonia nitrogen ion concentration, pH value, dissolved oxygen concentration, conductivity, etc.;

It can be extended with camera equipment and display screens; the data of the equipment can be uploaded to the monitoring software platform via GPRS, or connected to the local area network through the network port.

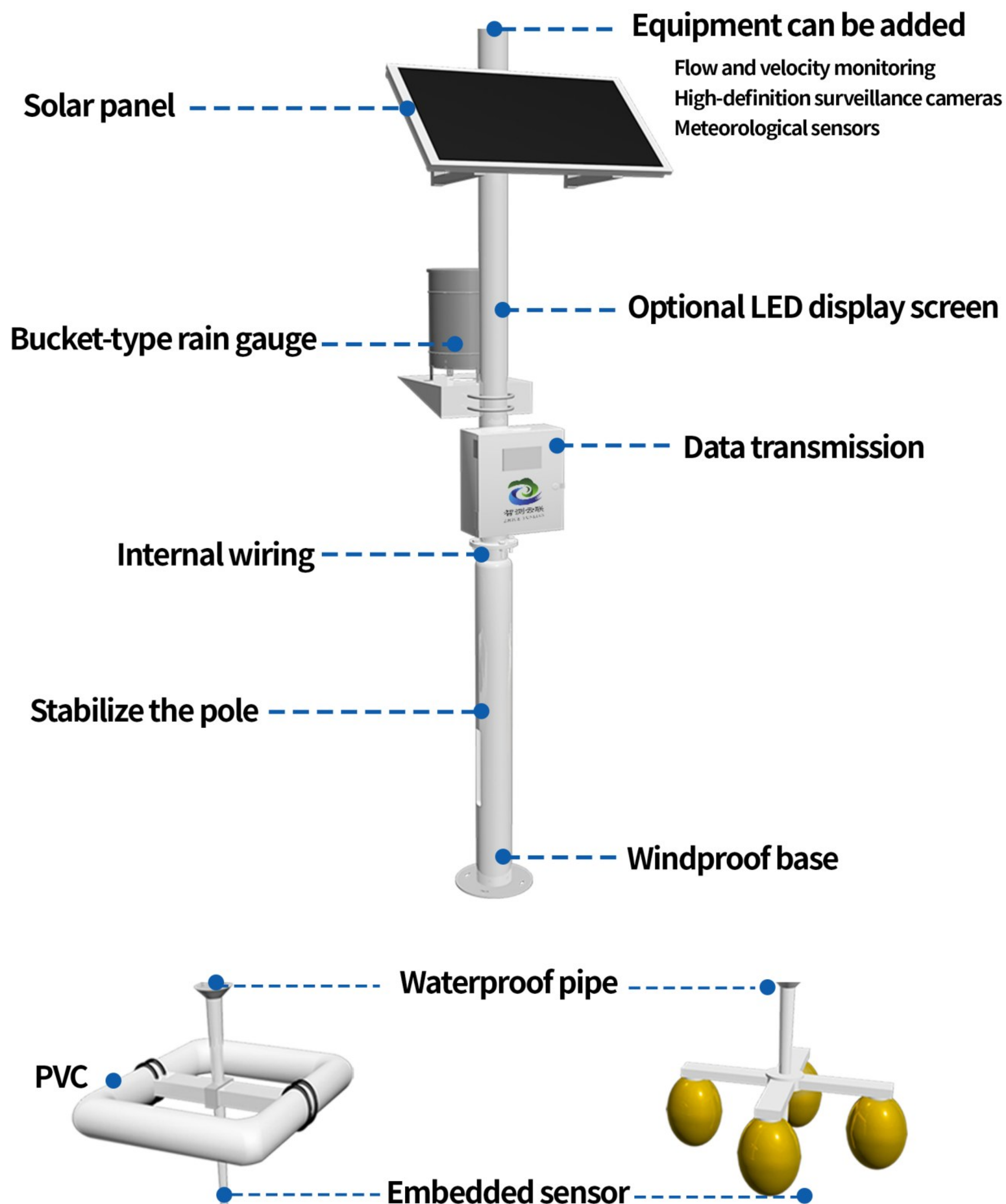
Application fields

Rivers, lakes, tides, reservoir gates, groundwater pipelines, irrigation canals and channels, etc. Measurement of flow rate, water level, flow volume and rainfall.

Assistance in water treatment operations, such as urban water supply and sewage monitoring. Flow calculation, monitoring of inflow and outflow flow volumes, etc.



Product structure



Specifications

Category	Measurement Range / Interface	Details
Data Upload	RJ45 Ethernet Port	Data upload via Ethernet port
	GPRS Wireless	Data upload via GPRS
	GSM SMS	Supports SMS alarm
Data Acquisition	ModBus-RTU Slave Interface	Supports external devices to query data from the weather station via ModBus-RTU protocol
	Slave RS485 Interface	Capable of collecting data from 1-32 RS485 transmitters; maximum communication distance ≥ 1500 m
LED Screen Display	LED Screen Display Interface	Supports monochrome LED display with maximum dot matrix of 1024×256
1-channel DC Voltage Acquisition	Acquisition range: 0-100V	Acquisition accuracy: $\pm 0.1V$; input impedance $\geq 100K\Omega$; conversion coefficient configurable
2-channel Relay Output	Relay dry contact output	Relay capacity: 250VAC/30VDC 5A; this relay can be linked to upper/lower limits of any channel for alarm or automatic control
3-channel	4-20mA current signal acquisition	Acquisition resolution: 3000; input impedance $\leq 120 \Omega$; conversion coefficient configurable
4-channel Switching Signal Input	Detectable dry contact on/off status	External passive dry contact; response time $\leq 0.2s$
Data Upload Interval	1s~10000s	Data upload interval: 1s~10000s; default upload every 30s
Built-in Storage Capacity	-	Can store up to 520,000 records
Power Supply Mode	External AC Power Supply	220V AC power supply
	Dual Power Supply	Supports 220V mains power and solar panel dual power supply (mains power priority; when mains power is cut off, solar panel and battery supply power, ensuring uninterrupted operation)
	Solar Power Supply	Equipped with our solar panel and battery (60W solar panel, battery life: approx. 7 days)



Sensor parameters

Sensor Type	Measuring Range	Accuracy
COD Sensor	0~500mg/L	±5%
PH Sensor	0~14pH	±0.1ph
Dissolved Oxygen Sensor	0~20mg/L	±2%
Turbidity Sensor	0~1000NTU	±3%
Electrical Conductivity Sensor	0~5000μS/cm	±1.5%
Ammonia Nitrogen Sensor	0~100mg/L	±10
ORP Sensor	-1500~+1500mV	±3mV
Water Hardness Sensor	0~1000mg/L	±10%
Residual Chlorine Sensor	0~20mg/L	±5%
Sludge Concentration Sensor	0~20g/L	±5%
Suspended Solids Sensor	0~2000mg/L	±5%
Oil-in-Water Sensor	0~40mg/L	±3%
Colority Sensor	0~2000Hazen	±5%
Salinity Sensor	0~2mg/L	±5%
Nitrate Nitrogen Sensor	0~100mg/L	±10%
Potassium Ion Sensor	0~100mg/L	±10%
Fluoride Ion Sensor	0~100mg/L	±10%
Chloride Ion Sensor	0~35000mg/L	±5%
Chlorophyll Sensor	0~400μg/L	±3%
Cyanobacteria Sensor	0~300Kcells/mL	±3%





Introduction to the upper computer software

Function Category	Specific Description
Core Functions	Realize integrated management of data reception, storage, viewing and analysis in the PC standalone environment
Data Reception and Processing	1. Support data reception via serial port, as well as data processing and visual display 2. Compatible with communication methods such as JSON string and MODBUS485
Parameter Configuration	1. Allow independent setting of data storage time 2. Support custom collection time in MODBUS485 collection mode
Monitoring Parameter Management	Support users to independently add, delete and modify monitoring parameters, including information such as parameter protocols, names and icons
Data Processing Expansion	1. Equipped with data post-processing function 2. Support external running of JAVASCRIPT scripts



Introduction to Cloud Platform

Function Category	Specific Description
Architecture & Access Method	Adopts a CS architecture software platform, supporting direct access and observation via mobile phones and PC browsers without additional software installation
Account & Device Management	Supports multi-account and multi-device login, meeting the collaborative management needs of multiple users and terminals
Data Display Function	1. Provides dashboards for real-time data display and historical data display 2. Supports data curve analysis 3. Supports map display and device information viewing
Data Storage & Stability	Implements cloud data storage based on cloud servers, featuring stability, reliability, easy scalability and load balancing
Alarm & Threshold Management	Supports SMS alarm function, allowing custom alarm threshold settings to respond to abnormal data in a timely manner
Data Processing & Output	1. Supports data export in table format 2. Has data post-processing function 3. Supports external running of JAVASCRIPT scripts to enhance customization capabilities
Data Forwarding Function	Supports data forwarding via multiple protocols, including HJ-212 protocol, TCP forwarding, HTTP protocol, etc.

