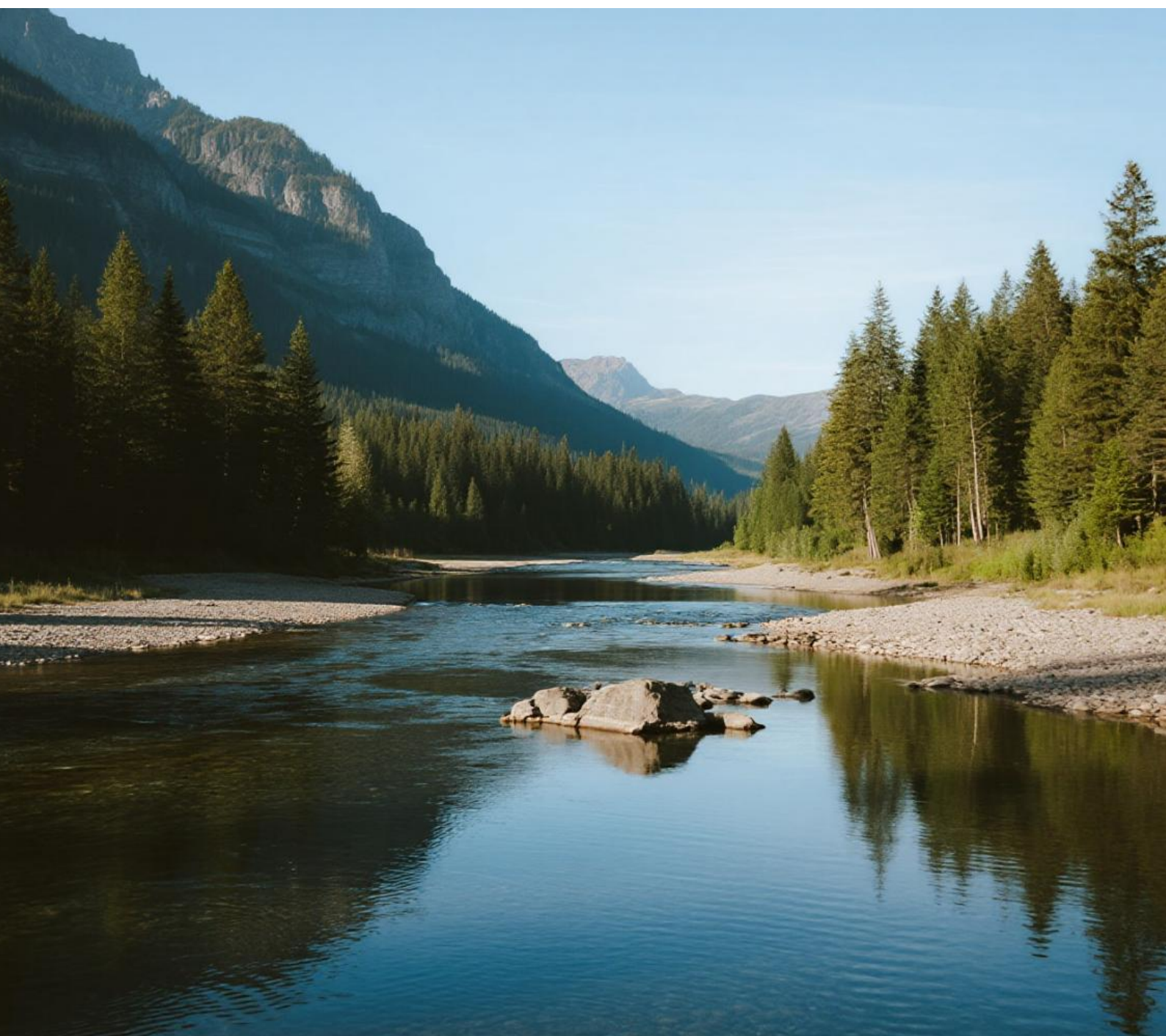




Environmental Monitoring Equipment

Hydrology Water Quality Meteorology Agriculture IoT Sensors and Solutions



Company Profile of KEHAO

Shenzhen KEHAO Information Technology Co., Ltd. ("KEHAO") was established in June 2001 with a registered capital of RMB 30 million. It is located in Shenzhen, Guangdong, China's innovation city. It focuses on product research and development and sales in the fields of water conservancy, water affairs, meteorology, and agricultural monitoring . It is China's leading new smart special field solution provider.

KEHAO is a "Chinese High-tech Enterprise", "Key Software Enterprise", "Specialized and New Enterprise", "Internet of Things Engineering Technology Research Center" and a "Member Unit of the Engineering Association". It has passed CMMI3, ISO9001, ISO14001, ISO27001, ISO45001 and other series of certifications , has many patents, many products have passed EMC and RHOS testing, and has rich experience in R&D, manufacturing and sales.

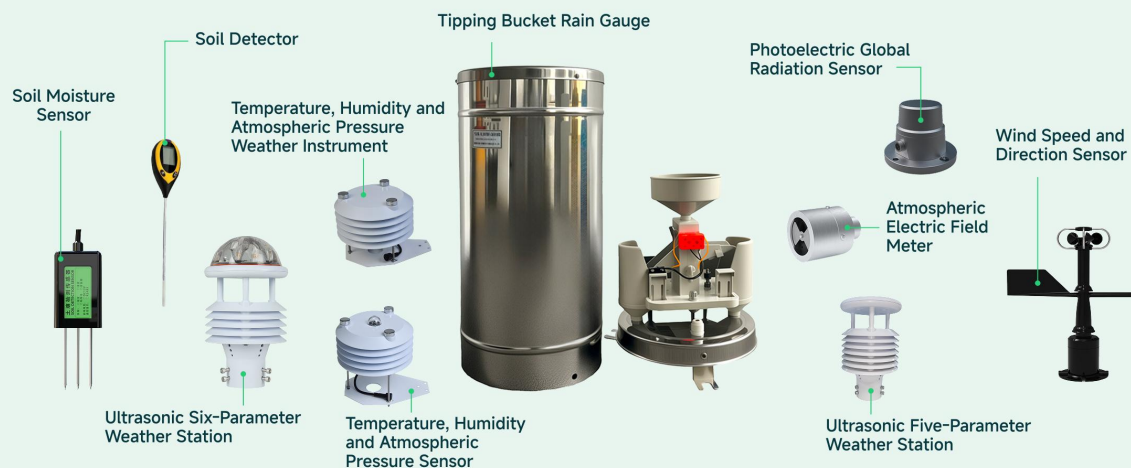
KEHAO has formed industry-university-research cooperation with the Chinese Academy of Water Resources and Hydropower Research and Development and sells a variety of sensor products and monitoring pole stations suitable for surface water, water supply networks, agriculture, and meteorology. They are widely used in lakes, reservoirs, rivers, water conservancy projects, pumps and sluices, water supply and drainage networks, meteorology, agriculture, transportation, construction engineering and other fields. More than 100,000 sets of products have been sold in China and exported to overseas markets, and are well received by customers.

KEHAO is dedicated to delivering high-quality products and exceptional service. We are committed to a customer-centric approach, striving to be a reliable and trusted supplier for our clients.

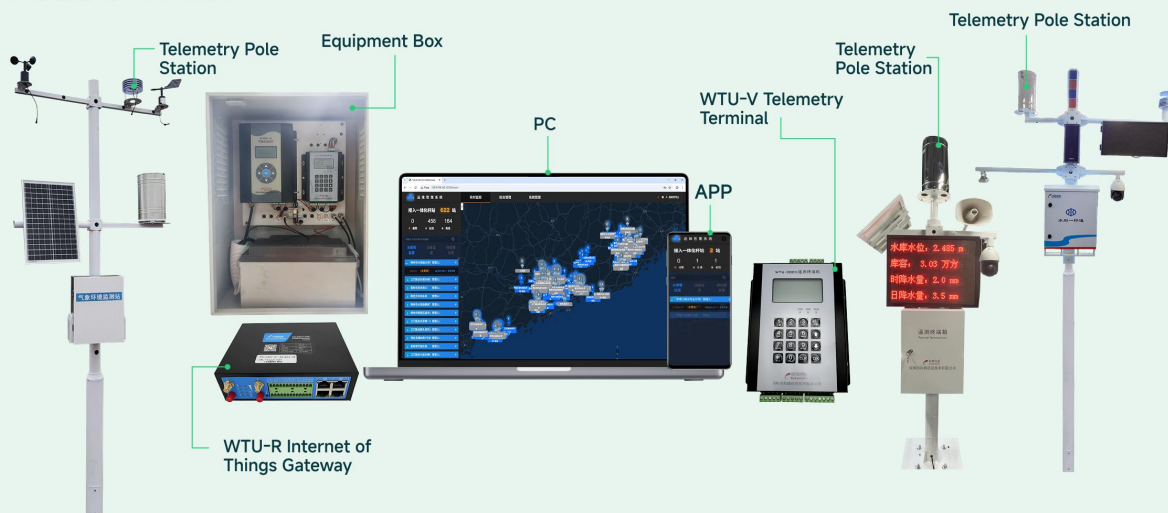
WATER



WEATHER&AGRICULTURE



POLE STATION



CONTENT

Company Profile of KEHAO	1
Instrument Sensor Series/KH.WQX Bubble Water Level Gauge	1
Instrument Sensor Series/KH.WLX Radar Water Level Meter	4
Instrument Sensor Series/KH.LDX Radar Current Meter	6
Instrument Sensor Series/KH.UOCF Radar Flow Meter	8
Instrument Sensor Series/KH.YLS Pressure Water Level Gauge	10
Instrument Sensor Series/KH.LBRD Radar Water Level Meter	13
Instrument Sensor Series/KH.CSB Ultrasonic Water Level Meter	15
Instrument Sensor Series/KH.WFH Float Water Level Gauge	18
Instrument Sensor Series/KH.DMS Type Water Accumulation Monitor	21
Instrument Sensor Series/KH.SC Type Electronic Water Gauge	24
Instrument Sensor Series/KH.DPL Doppler Flow Meter	27
Instrument Sensor Series/KH.JD Series Tipping Bucket Rain Gauge	30
Instrument Sensor Series/KH.YDS Piezoelectric Rain Gauge	32
Instrument Sensor Series/KH.SZ Water Quality Multi-Parameter Sensor	34
Instrument Sensor Series / KH Pen-Type Water Quality Meters	39
Instrument Sensor Series/KH.QX-2 Wind Speed And Direction Sensor	43
Instrument Sensor Series/KH.QX-3 Temperature, Humidity and Atmospheric Pressure Sensor	45
Instrument Sensor Series/KH.CQX-5 Ultrasonic Five-Parameter Weather Station	47
Instrument Sensor Series/KH.CQX-6 Ultrasonic Six-Parameter Weather Station	50
Instrument Sensor Series / KH.DC Atmospheric Electric Field Meter (Lightning	

Early Warning)	53
Instrument Sensor Series/KH.GZW Light Ultraviolet Radiation Sensor	55
Instrument Sensor Series/KH.GDF Photoelectric Global Radiation Sensor	57
Instrument Sensor Series/KH.TSQ Soil Moisture Sensor	59
Agricultural Lighting Series / KH.ZDP Greenhouse LED Plant Grow Light	61
Instrument Sensor Series / KH.YP Leaf Temperature and Humidity Sensor	63
Instrument Sensor Series/KH.TR-4 4-in-1 Soil Tester	65
Internet of Things Intelligent Terminal Series/KH.WTU-E Telemetry Terminal .	68
Internet of Things Intelligent Terminal Series/KH.WTU-V Telemetry Terminal .	70
Internet of Things Intelligent Terminal Series/KH.WTU-R Internet of Things Gateway	72
Scenario-Based Monitoring Station Series / KH.BXS Portable Hydrological Emergency Monitoring System	75
Scenario-Based Monitoring Station Series / KH.JDB Household Early Warning Rain Gauge	77
Scenario-based Monitoring Pole Station Series/Rain Gauge Monitoring Station	80
Scenario-Based Monitoring Pole Station Series/Rainwater Situation Video Integrated Early Warning Broadcast Monitoring Station	82
Scenario-based Monitoring Pole Station Series/Water And Rain Monitoring Pole Station	85
Scenario-based Monitoring Pole Station Series/Meteorological Monitoring Pole Station	88
Scenario-Based Monitoring Pole Station Series/Agricultural Monitoring Pole Station	91

Instrument Sensor Series/KH.WQX Bubble Water Level Gauge



Product Introduction

KH.WQX bubble water level gauge is a high-precision water level sensor independently developed and produced by KEHAO. It uses the compressed air generated by the piston pump to flow through the measuring tube and the bubble chamber and enter the measured water body. The static pressure in the measuring tube is proportional to the water level above the bubble chamber. This product measures the atmospheric pressure and bubble pressure in turn, takes the difference between the two signals, and calculates the water level above the bubble chamber.

Features

Leading in the industry: The company is the first to use imported three-way solenoid valves to solve the "zero drift" problem. In order to overcome the temperature drift and time drift of the differential pressure sensor, the intelligent control unit drives the switching operation of the three-way solenoid valve at a certain time interval. The measured flow value is used as the zero point. Every time the submerged pressure is measured, the zero drift value is automatically subtracted from the measurement result.

Invention patent: The automatic zero calibration technology is adopted to effectively improve the zero drift problem of the differential pressure sensor, ensuring the long-term stability and reliability of the data; the crank-connecting rod plug-type cylinder is adopted to greatly reduce the friction loss of the piston seal ring and extend the service life;

Test report: The accuracy within the measurement range of 0m~10m is level 1, which meets the standard requirements.

Application Scenarios

Monitoring of reservoirs, rivers, streams, channels, hydrological stations, oceanographic stations, pumping stations, hydropower stations, etc.

Technical Parameters

Power supply voltage: 9.6~30VDC;

Standby current: $\leq 1\text{mA}$;

Average current: $\leq 10\text{mA}$ (measurement interval 1 minute, RS485 or SDI-12 output);

Measuring range: 20m/30m/40m/50m/60m optional, 70-100m customizable;

Resolution: 1mm;

Accuracy compensation: support temperature compensation and latitude compensation;

Measurement accuracy: 0.03%FS;

Maximum water level change rate: 60cm/min;

Measurement interval: 1 minute - 24 hours, configurable, 5 minutes by default;

Communication interface: RS 485 or SDI-12;

Analog output: 4~20mA;

Measuring tube specifications: inner $\phi 3$ /outer $\phi 8$;

Temperature sensor: NTC 103 (optional);

Measuring medium: water (rivers, lakes, groundwater, etc.), special liquids can be customized;

Working temperature: $-20\sim 80^{\circ}\text{C}$;

Storage temperature: $-40\sim 85^{\circ}\text{C}$;

Ambient humidity: $\leq 95\%$.

Instrument Sensor Series/KH.WLX Radar Water Level Meter



Product Introduction

KH.WLX is a high-precision, low-power, and widely applicable non-contact radar water level meter. The radar adopts FMCW mode. It is small in size and compact in structure. It has the advantages of high precision, low power consumption, strong anti-interference ability, easy installation, and maintenance-free.

Features

Long service life: industrial-grade design, anti-condensation, waterproof, super lightning protection design, ultra-wide operating temperature, suitable for various field environments;

FMCW mode: non-contact measurement, not affected by climate, sediment and floating objects, easy to maintain and simple to operate.

Energy saving and consumption reduction: Combination of measurement operation and sleep mode to save energy and reduce consumption;

Measurement time: short measurement time (fastest response time 100ms);

Test report: in compliance with GB/T 15966-2017 "Basic Parameters and General Technical Conditions for Hydrological Instruments".

Application Scenarios

Applicable to water level monitoring in natural water bodies such as rivers, lakes, tides, and reservoirs; urban flood or waterlogging monitoring during the flood season, such as low-lying land and drainage outlet monitoring; auxiliary water treatment operations, such as urban water supply and sewage monitoring.

Technical Parameters

Distance measurement range: 0.15~40m

Measuring accuracy: $\pm 2\text{mm}$

Resolution: 1mm

Startup time: 100ms fastest

Working voltage: 9~24V, typical value 12V

Working current: 20mA

Output: RS485 communication mode, default baud rate 9600, ASCII/Modbus protocol can be switched freely

Transmitting frequency: 80GHz, 60GHz, 24GHz optional. Bandwidth 4G

Output power: 13dBm~20dBm

Beam width: 14° horizontally, 10° vertically

Working temperature: -45°C~+85°C

Protection level: IP68

Instrument Sensor Series/KH.LDX Radar Current Meter



Product Introduction

KH.LDX is a non-contact radar current meter with high precision, low power consumption and wide application scenarios. The product integrates microstrip antenna, RF circuit and signal processing circuit, directly outputs the speed information of the target; pre-low noise amplifier, ultra-high sensitivity.

Features

Industrial-grade design, anti-condensation, waterproof, super lightning protection design, ultra-wide operating temperature, suitable for various field environments;

Non-contact measurement, not affected by climate, sediment and floating objects, fast and accurate measurement, stable data output, suitable for high flow rate environment during flood period;

Combination of measurement operation and sleep mode to save energy and reduce consumption;

Small appearance, easy to install, maintain and operate.

Application Scenarios

It is suitable for flow velocity measurement and monitoring in rivers , channels, inlets and outlets, etc., and can be combined with water level detection for hydrological monitoring; urban flood monitoring during the flood season, such as waterlogging in low-lying areas, flow velocity and flow monitoring at drainage outlets, etc.; water flow velocity monitoring in channels/culverts/pipelines /underground pipe networks.

Technical Parameters

Measuring range: 0.1~20m/s

Measurement accuracy: $\pm 0.01\text{m/s}$

Resolution: 0.01m/s

Flow direction identification: automatic identification in both directions, configurable filtering

Measuring time: 1 time/s

Digital interface: RS485, default 9600bps

Supply voltage: 9V~24V, typical value 12V

Supply current: 100mA for standard power version, 29mA for low power version

Transmitting frequency: 24G

Radiated power EIRP: 20dBm

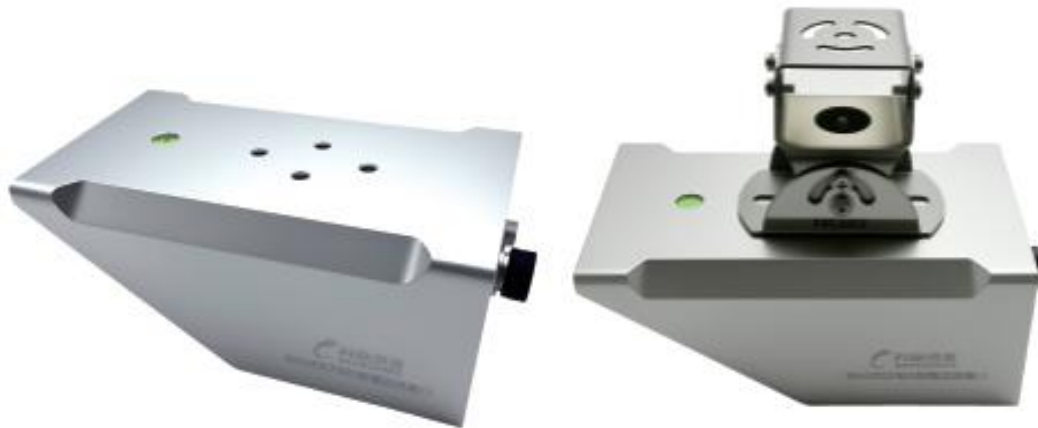
Transmit/receive antenna gain: 18.5dB

Transmit/receive antenna angle: $\pm 12\text{deg}$

Operating temperature: $-45^{\circ}\text{C}\sim+85^{\circ}\text{C}$

Protection level: IP68

Instrument Sensor Series/KH.UOCF Radar Flow Meter



Product Introduction

KH.UOCF is a radar flow meter that integrates liquid level measurement and flow velocity measurement based on microwave technology. It consists of a radar flow velocity sensor, a radar water level sensor, and a flow totalizer module. The product has the characteristics of low power consumption, small size, high reliability, and easy maintenance.

Features

Industrial-grade design, anti-condensation, waterproof, super lightning protection design, ultra-wide operating temperature, suitable for various field environments;

Non-contact measurement is not affected by temperature, haze, silt, floating objects, etc. The data output is stable, efficient and accurate; the measurement operation and sleep mode are combined to save energy and reduce consumption;

Parameters can be set via Bluetooth connection; real-time data on flow rate, water level and flow rate can be output.

Application Scenarios

It is mainly used for flow velocity, water level or flow measurement in rivers , lakes, tides, reservoir gates, groundwater pipe networks, irrigation canals, etc.

Technical Parameters

Working voltage: 9V~24V, typical value 12V

Working current: $\leq 160\text{mA}$, typical value 140mA

Working temperature: $-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$

Communication transmission mode: RS485, baud rate 9600bps can be set

Speed measurement range: 0.05~20m/s

Speed measurement accuracy: $\pm 0.01\text{m/s}$

Distance measurement range: 0.15~40m

Distance measurement accuracy: $\pm 2\text{mm}$

Resolution: Flow rate: 0.01m/s, Water level: 1mm

Antenna angle: Flow rate: 12deg, Water level: 14deg

Transmitting frequency: Flow rate: 24GHz, Water level: 80GHz, 60GHz, 24GHz optional

Flow direction identification: automatic identification in both directions, configurable filtering

Protection level: IP68

Instrument Sensor Series/KH.YLS

Pressure Water Level Gauge



Product Introduction

KH.YLS pressure water level gauge is a fully stainless steel, fully sealed, submersible intelligent liquid level measuring instrument. This product uses a highly stable, highly reliable piezoresistive OEM pressure sensor and a high-precision intelligent transmitter processing circuit, and uses precise digital temperature compensation technology and nonlinear correction technology. It is a high-precision liquid level measurement product.

Features

Stable and reliable: integrated structure with fully sealed design, using precise digital temperature compensation technology and nonlinear correction technology;

Two-wire working mode: can directly replace two-wire analog 4mA~20mADC output transmitter;

Small size and easy to install: small size, light weight, easy to install, supports

networking applications, and is suitable for various occasions.

Application Scenarios

particularly suitable for monitoring flowing water bodies, large, medium and small rivers, reservoirs, etc., such as: water conservancy and hydrology, upstream and downstream of dams, groundwater, chemical industry, sewage treatment plants , urban drainage pumping stations , etc.

Technical Parameters

Basic Range (Mh2O)	3.5	7	10	20	35	70	100	200
Overpressure (Mh2O)	5	10	15	30	50	100	150	300
All Intermediate Range Analog Output Transmitters (Not Overpressure) Are Implemented With Basic Range Expansion. The Minimum Range Expansion Is 1/5 Of The Basic Range.								
Normal Working Conditions:								
Temperature Range	Working Temperature: -10℃ ~ 70℃, -20℃ ~ 60℃ (Intrinsically Safe);							
	Compensation Temperature -10℃ ~ 70℃; Storage Temperature -20℃ ~ 85℃;							
	Special Temperature Ranges Can Be Negotiated With Us.							
Comprehensive Accuracy	±0.075%Fs (Minimum), ±0.1%Fs (Typical), ±0.25%Fs (Maximum);							
	Comprehensive Accuracy Includes Nonlinearity, Hysteresis, Repeatability And Temperature Errors;							
	The 3.5mh2O And 7mh2O Level Transmitters Have a Typical Comprehensive Accuracy Of ±0.5%Fs After Range Scaling.							

Long-Term Stability	±0.2%Fs/Year.
Output Signal	4ma ~ 20ma Dc; Rs485 Interface (Custom Protocol) Or Hart® Protocol.
Power Supply	10V~28V Dc (Rs485 Interface Type), 12V~30V Dc (Hart® Type); 10V~12V Dc (Intrinsically Safe Type, Powered By Safety Barrier).
Load Capacity	4ma ~ 20ma Dc Output, (U-10V/12V)/0.02A(Ω); Rs485 Bus Can Connect 99 Transmitters.
Insulation Resistance	100Mω, 50V.
Vibration	20g, 20Hz ~ 5000Hz.
Shock	20g, 11ms.
Protection Level	Ip68 (Transmitter Part); Ip65 (Junction Box Part).
Media Compatibility	Diaphragm: Stainless Steel 316L; Shell: Stainless Steel 1Cr18Ni9Ti; O-Ring: Fluororubber.

Instrument Sensor Series/KH.LBRD Radar Water Level Meter



Product Introduction

KH.LBRD radar water level meter is based on electromagnetic wave ranging technology with precise time measurement. The sensor emits electromagnetic waves to illuminate the water surface and receives its echo, thereby obtaining information such as the distance from the water surface to the electromagnetic wave emission point, the rate of change of distance (radial velocity), azimuth, height, etc. The radar water level meter is an innovative application of industrial ranging radar in the field of water level measurement, which has achieved a technological leap for water level meters to have high precision (millimeter level), large range (70 meters), high reliability, easy installation, and maintenance-free. Through the standard signal interface, it can be connected to computers, PLCs, etc., and can also be connected to corresponding display, recording, and control devices (such as RTU) to form a water level monitoring system.

Features

High precision: using high-frequency microwave ranging technology, the sensor has high precision, $\pm 3\text{mm}$;

Simple installation and maintenance : no mechanical wear, non-contact

measurement, continuous online data collection, unattended around the clock;

Anti-interference ability: The measurement is independent of water quality, is not affected by floating objects such as floating ice, does not require wave-breaking wells, and water flow has no effect on the measurement;

Low cost and long life.

Application Scenarios

It is suitable for monitoring the water level of rivers and reservoirs , open channel water level, in front of reservoir dams, and tailwater level under dams. It can also be used in water conservancy and hydrological occasions such as mountain torrents, flood control, and pressure regulating tower (well) water level monitoring.

Technical Parameters

Measuring range: 30m, 70m;

Accuracy: $\pm 3\text{mm}$;

Working temperature: $-40\sim +80$ degrees;

Working voltage: four-wire DC 12V; two-wire DC 24V;

Wiring: Four-wire shielded cable, waterproof terminal M20X1.5, suitable for cable outer diameter 9-13mm;

Power consumption: Maximum power consumption 0.15W;

Output signal: RS485 standard MODBUS RTU protocol; RS232 4-20mA/HART protocol;

Housing: cast aluminum, IP67;

Color: yellow/blue;

Horn antenna: stainless steel 304, diameter 76-120mm;

Installation accessories: stainless steel hexagonal nut G1-1/2.

Instrument Sensor Series/KH.CSB

Ultrasonic Water Level Meter



Product Introduction

KH.CSB ultrasonic water level meter is a digital liquid level meter controlled by a microprocessor. It uses the ultrasonic pulse principle for non-contact measurement. It is a highly reliable, cost-effective, easy to install and maintain level measuring instrument with temperature compensation, anti-interference and other functions.

Features

Stable and reliable: internally integrated temperature sensor, real-time temperature compensation for sound velocity; can automatically detect on-site electrical interference and suppress interference; provides alarm current output

to prevent the liquid level from entering the blind area or exceeding the range;

Service life: Non-contact measurement, all input and output lines have overvoltage and overcurrent protection, and long service life.

Application Scenarios

It is widely used in water conservancy, municipal administration, petrochemical and other industries, such as water level monitoring of natural waters such as rivers, lakes and reservoirs, tap water, sewage treatment, pumping stations, urban water supply and drainage monitoring, etc.

Technical Parameters

Type Content	Two-wire system		Four-wire system	
	All-in-one	All-in-one		Split type
Measuring Range	0 ~ 5m, 0 ~ 10m, 0 ~ 15m, 0 ~ 20m			
Blind Spot	0.25m ~ 0.8m (depending on the measuring range)			
Measurement Accuracy	±0.3% FS* (standard conditions*)			
Resolution	1mm			
Instrument Display	Liquid level, distance, current, echo waveform, and historical curve are displayed in Chinese and English			
Supply Voltage	DC12V ~ 36V / 22mA	DC12V ~ 36V / 80mA or AC85V ~ 265V / 5W		
Analog Output	4 ~ 20mA loop current output load is less than 400 ohms	4 ~ 20mA/bit12 current output load is less than 500 ohms		
Digital Output	HART 5.0 (optional)	RS485 interface / Modbus-RTU protocol		

			HART 5.0 (optional)		
Switching Output	none		2-way		4-way
			Contact power 3A 250VAC / 5A 30VDC		
Transmitter Material	ABS	Aluminum Alloy	ABS	Aluminum Alloy	ABS
Probe Material	Ordinary waterproof ABS / Corrosion-resistant ETFE / Customizable polytetrafluoroethylene PTFE probe				
Electrical Interface	PG9 interface	M20×1.5	PG9 interface	M20×1.5	G11 interface
Process Interface	G2 (customizable G1 1/2)				
Ambient Temperature	-20℃ ~ +60℃*				
Process Temperature	-20℃ ~ +90℃ (if the temperature is over +60℃, please indicate the requirement when ordering)				
Waterproof Grade	IP65	IP67	IP65	IP67	IP65
	In a humid environment all year round, it is recommended to apply glass glue on the waterproof joints and instrument cover seams				
Explosion-Proof Grade	-	have*	-	have*	-
Process Pressure	0.8 ~ 3bar / altitude less than 2000 meters				
<div>*Fs: Full Scale. *Standard Conditions: Temperature 20℃±5℃, Humidity 45% ~ 75%, No Wind, 1 Bar Air.</div> <div>*When The Ambient Temperature Is -40℃ ~ -20℃, The Lcd Cannot Display And The Instrument Works Slowly. When The Temperature Is Greater Than -20℃, The Instrument Operation And Lcd Display Return To Normal.</div>					

Instrument Sensor Series/KH.WFH Float Water Level Gauge



Product Introduction

KH.WFH float water level gauge (with water level display) is a digital sensor that integrates mechanical and electrical technologies. By converting the angular displacement of the output shaft into the corresponding digital quantity, the height of the measured liquid level can be measured with high precision and the accurate position can be confirmed. This instrument consists of a float, a wire rope, a weight, a measuring wheel, a sensor, a bracket, an output socket, etc.

The measuring wheel of the water level sensor is installed on the encoder input shaft. One end of the wire rope is connected to the float and the other end is connected to the weight. The wire rope is wound around the measuring wheel. When the liquid level changes, the float rises and falls with the change of the liquid level, the wire rope drives the measuring wheel to rotate, and the encoder outputs the corresponding real-time water level value.

Features

Stable and reliable: reasonable structure, strong anti-interference ability, stable and reliable performance, and long service life;

High precision: high resolution, large measuring range, measurement accuracy: $\leq \pm 2\text{cm}$ or $0.2\%F \cdot S$;

Power-off memory function: It has the function of signal tracking and memory after power failure.

Application Scenarios

Stable and reliable: reasonable structure, strong anti-interference ability, stable and reliable performance, and long service life;

High precision: high resolution, large measuring range, measurement accuracy: $\leq \pm 2\text{cm}$ or $0.2\%F \cdot S$;

Power-off memory function: It has the function of signal tracking and memory after power failure.

Technical Parameters

Measuring Range	0-5, 10, 20, 40, 80 meters as required
Water Level Change Rate	< 100 cm/min
Resolution	1cm
Water Level Wheel Starting Torque	< 100 g·cm (0.0098N · m)
Measurement Accuracy	$\leq \pm 2\text{cm}$ or $0.2\%F \cdot S$
Monitor	Mechanical decimal counter
Working Circumference Of Water Level Wheel	32cm
Diameter Of Counterweight	$\phi 20\text{mm}$
Measuring Cable	$\Phi 0.8\text{mm}$ stainless steel cable
Float Diameter	$\Phi 50\text{mm}$, $\Phi 100\text{mm}$, $\Phi 150\text{mm}$ are optional, according to actual needs
Contact Resistance	$\leq 0.5\Omega$
Insulation Resistance	$\geq 10\text{M}\Omega$
Output Signal (Determined By The Selected Encoder)	Parallel Gray code signal (B) 4-20mA standard analog signal (A) RS485 serial signal (M) SSI synchronous serial Gray code signal (S)
Ambient Temperature	$-30^{\circ}\text{C} \sim 85^{\circ}\text{C}$
Relative Humidity	$\leq 95\%(\text{RH}40^{\circ}\text{C})$
Reliability Index	MTBF ≥ 25000 hours
Operating Voltage	Matches the selected encoder

Instrument Sensor Series/KH.DMS Type Water Accumulation Monitor



Product Introduction

The KH.DMS waterlogging monitor is a waterlogging information monitoring and collection device launched for urban waterlogging. It uses ultrasonic sensing technology to accurately measure the depth of waterlogging. It can operate reliably in low temperature and corrosive environments.

This product adopts modular design, consisting of embedded acquisition terminal and monitoring host. Made of stainless steel and PVC, all module components such as water detection module, ultrasonic liquid level sensor, data acquisition module, data storage module, GPRS communication module, lithium battery, etc. are contained in the waterproof shell without any external connection. It has the advantages of small size, high precision, and easy installation and deployment.

Features

Small size and easy installation: 10 cm in size, installed by drilling holes on the road surface, can be integrated with roads, bridges and other projects;

Low power consumption: supports low power sleep mode. The sensor does not

work when there is no water accumulation. It has a built-in lithium battery and does not require external power supply.

High precision and stable transmission: resolution 1mm, LORA communication is used between the sensor and the host, and 4G communication is used between the host and the center;

Data storage and retransmission: It can store water accumulation data for more than 5 years; after communication failure, it can store communication data and automatically retransmit it after communication is restored;

Intelligent collection frequency: Multiple collection frequencies are adjustable, the higher the water level, the higher the collection frequency.

Application Scenarios

It can be used in real-time monitoring scenarios for waterlogging, such as municipal drainage, road traffic, smart cities, smart communities, smart emergency response, flood control and drainage. It can automatically monitor the waterlogging situation in low-lying areas in real time and report it to the monitoring platform, thus realizing rapid monitoring and early warning of waterlogged sections in cities.

Technical Parameters

Technical indicators of embedded acquisition terminal:

Water level range: >1m;

Water level error: <1cm;

Collection blind area: ≤3cm;

Water level display resolution: <1mm;

Data storage capacity: 16MB;

Signal penetration: can penetrate more than 1m of road surface water;

Sealing: IP68 waterproof rating, can operate continuously for 30 days in water no

deeper than 1 meter;

Shell material: stainless steel, top is engineering plastic;

Battery capacity: DC3.6V/26000mAh lithium battery;

Communication module: LoRa;

Weight bearing capacity: After the product is installed, the surface can withstand a 10-ton vehicle passing by without damage;

Standby time: more than 3 years without water accumulation;

Working time: In the case of water accumulation, data is collected every five minutes and can work for more than 30 days.

Monitoring host technical indicators:

Data storage capacity: 128MB;

Sealing: IP67 waterproof grade;

Shell material: aluminum alloy;

Battery capacity: DC3.7V/10000mAh;

Communication module:4G.

Instrument Sensor Series/KH.SC Type Electronic Water Gauge



Product Introduction

KH.SC type electronic water gauge is an integrated inductive electronic water level gauge consisting of a measuring part and a circuit conversion transmission part. The sensor measuring body uses a mechanical method to position the sensing device to sense water level changes, and after digital coding processing, it realizes digital division, digital sampling, and digital transmission. It is a new type of fully digital electronic water level gauge.

This product can be connected to a personal computer, PLC, etc. through the R485 signal interface, and can also be connected to corresponding display, recording, and control devices (such as RTU) to form a water level measurement (control) system.

Features

Service life: The interior is specially treated with high-performance sealing materials, with built-in lightning protection device, anti-corrosion, anti-freeze, heat-resistant and aging-resistant;

Stable and reliable: advanced technology, stainless steel protective shell, high reliability and anti-interference performance; not affected by pollutants and sediments such as mud, dirty liquid and corrosive liquid; not affected by external factors such as atmospheric temperature, pressure, humidity, sand content, freezing, etc.

Sampling accuracy: 1cm/(full range equal precision measurement), high accuracy;

Sampling frequency: 1 second, fast sampling;

Digital filtering: Digital filtering is performed on the water level waves to ensure the true value of the water level.

Application Scenarios

It can be used for water level monitoring in water conservancy projects such as rivers, lakes, reservoirs, hydropower stations, irrigation areas and water delivery. It can also be used for municipal projects such as tap water, urban sewage treatment, urban road waterlogging, and liquid level monitoring in food and chemical projects such as wine and beverages.

Technical Parameters

Unit specifications: 6 length specifications of 40cm/64cm/80cm/104cm/120cm/160cm;

Amplitude range: can be freely combined with the above different unit specifications;

Accuracy: 1cm/(full range equal accuracy measurement) vertical installation;

Power supply voltage: DC9-36V;

Output signal: RS485 (Modbus-RTU);

Sampling frequency: 1 second;

Static current: $\leq 18\text{mA}$ (100cm sensor/DC12V power supply);

Power consumption: $\leq 200\text{mW}$ (100cm sensor/DC12V power supply);

Working temperature: $0^{\circ}\text{C} \sim 60^{\circ}\text{C}$;

Installation method: vertical installation, inclined installation (installation angle can be set).

Instrument Sensor Series/KH.DPL Doppler Flow Meter



Product Introduction

KH.DPL Doppler flow meter uses the ultrasonic Doppler principle to measure flow velocity, ultrasonic time difference method or static pressure method to measure water level, and calculates flow by setting the cross section. Its principle is the Doppler effect, the frequency difference between sending and receiving is related to the flow velocity, the time difference between ultrasonic sending and receiving is related to the liquid level, the static pressure liquid level is used for special working conditions, and the ambient temperature measurement is used to correct the actual propagation speed of the ultrasonic wave.

Features

Long life: waterproof, anti-corrosion, strong and durable, the protection level of the probe part is IP68, supporting long-term underwater work;

Easy maintenance: no consumable parts, less maintenance; pure physical method measurement, no need for calibration or calibration;

High measurement accuracy: high flow velocity measurement accuracy, 1mm/s error; high ultrasonic level measurement accuracy, error 1mm (within 2m); not afraid of interference from chemical reagents, liquid viscosity and other factors.

Application Scenarios

It is suitable for scenes such as rivers, open channels, reservoirs, pipelines, etc., and can monitor the flow velocity, water level, temperature, instantaneous flow and accumulated flow of water areas online.

Technical Parameters

Flow rate range: 0~10m/s, bidirectional;

Flow rate resolution: 0.001m/s;

Flow rate accuracy: 0.001m/s (flow rate \leq 5m/s); 0.02m/s or 0.3% of the actual peak velocity (the larger value is used) (flow rate $>$ 5m/s);

Ultrasonic level measuring range: 6.5m;

Ultrasonic liquid level accuracy: 0.001m;

Ultrasonic level resolution: 0.0005m;

Static pressure level range: 0~10m;

Static pressure level accuracy: $\pm 0.1\%$ FS;

Static pressure level resolution: 0.001m;

Temperature range: -20~60℃;

Sensor size: 165*50*29.5mm;

Transmitter size: 231*185*119mm;

Protection grade: IP68;

Power supply DC: 12V/24V;

Power consumption: <70mA when measuring; <25mA when sleeping;

Communication interface: RS485, Modbus;

Working temperature: -20~60℃;

Lightning protection, surge protection, EMI suppression: supported.

Instrument Sensor Series/KH.JD Series Tipping Bucket Rain Gauge



Product Introduction

KH.JD series tipping bucket rain gauge is a precipitation measuring instrument. It complies with the national GB/T 11832-2002 "Tipping bucket rain gauge", SL61-2003 hydrological automatic measurement and reporting system specification; GB11831-2002 hydrological measurement and reporting device telemetering rain gauge standard. This instrument can be connected with a data collector or a computer to various types of rainfall observation stations for measuring precipitation start and end time, cumulative precipitation and precipitation intensity.

Features

Service life: Stainless steel outer cover, corrosion-resistant, suitable for various

harsh environments;

Stable and reliable: the tipping bucket is sensitive and reliable;

Automatic monitoring: fully automatic and unattended around the clock;

Easy installation.

Application Scenarios

It is suitable for remote sensing of water and rainfall conditions, flood control, early warning of mountain torrent disasters, and rainfall monitoring in agriculture, environmental protection, meteorology, roads and railways, airports and ports.

Technical Parameters

Specifications: KH.JD02, KH.JD05;

Rain-receiving diameter: $\Phi 200 \pm 0.6$ mm;

Resolution: 0.2mm/0.5mm;

Rainfall intensity range: 0-4 mm/min (maximum rainfall intensity allowed is 8 mm/min);

Measurement accuracy: $\leq \pm 3\%$;

Working environment: temperature $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$, humidity $< 95\%$ (40°C);

Average trouble-free working time: $\geq 25000\text{h}$;

Cutting edge angle: $40^{\circ} \sim 45^{\circ}$.

Instrument Sensor Series/KH.YDS

Piezoelectric Rain Gauge



Product Introduction

The KH.YDS piezoelectric rain gauge uses PVDF piezoelectric film as a rain sensing device, and uses an embedded AI neural network to distinguish raindrop signals to avoid false triggering caused by interference such as sand, dust, and vibration.

The KH.YDS piezoelectric rain gauge has no mechanical parts, so it is more durable, sensitive and reliable than rain gauges of other technologies. Compared with the traditional tipping bucket rain sensor, the developed piezoelectric rain sensor has the characteristics of high integration, small size, large range and maintenance-free.

Features

Integrated design, exquisite appearance, easy installation, no maintenance, high

reliability. Using advanced sensor technology for real-time measurement, it can achieve all-weather, long-term continuous online monitoring in harsh environments;

High measurement accuracy, wide range, good stability, low power consumption, strong anti-interference ability, can work around the clock, not affected by weather changes, no calibration required;

All-solid-state design, solid structure, high strength, weather resistance, corrosion resistance and waterproofness, long service life.

Application Scenarios

It is suitable for remote sensing of water and rainfall conditions, flood control, flash flood disaster warning, rainfall monitoring in agriculture, environmental protection, meteorology, roads and railways, airports and ports, etc.

Technical Parameters

Measurement Type: Rain

Measuring range: 0-4mm/min

Measurement accuracy: $\leq \pm 4\%$

Resolution: 0.01mm

Sampling frequency: <1S

Communication interface: RS485

Communication protocol: MODBUS

Power supply: DC12V

Power consumption: 0.12W

Working temperature: -40~85℃

Working humidity: 0~100%RH

Instrument Sensor Series/KH.SZ Water Quality Multi-Parameter Sensor



Product Introduction:

KH.SZ Multi-parameter sensor of water quality, including 5 parameters of water quality: pH, conductivity, dissolved oxygen, turbidity and temperature.

There are also a variety of water quality sensors, such as salinity, ammonium nitrogen, residual chlorine, nitrate nitrogen, nitrite, oxygen demand, and total hardness.

Features:

It is easy to install and supports automatic recognition of digital sensor probes, plug and play.

It has the function of remote upgrade and control, and can realize the network of sensor probes, remote control, fault diagnosis and other work, which is convenient for maintenance.

It has the function of automatic reset after power failure.

Application Scenarios:

It is suitable for water treatment, sewage treatment, industrial wastewater monitoring, rivers, lakes, reservoirs, aquaculture and other scenarios of water quality monitoring.

Technical Parameters:

KH.SZ-PHG pH Sensor

KH.SZ-PHG The pH meter is based on the principle of glass electrode method, and adopts digital circuit of single chip microcomputer for measurement and temperature compensation. The reading of PH is displayed directly on the instrument.

Method of measurement: glass electrode method

Measurement range: 0-14 pH, adjustable

Accuracy (reading error): $\pm 0.1\text{pH}$

Repeatability (precision): $\leq 0.1\text{pH}$

Resolution: 0.01pH

pH drift (pH=4, 7, 9): $\pm 0.1\text{pH}$

Temperature compensation: $\pm 0.1\text{pH}$, automatic compensation from 0°C to 60°C ;

Response time: $< 30\text{s}$

MTBF: ≥ 720 hours per cycle

Actual water sample comparison test: $\pm 0.1\text{pH}$

Voltage stability: $\pm 0.1\text{pH}$ variation in indication

Calibration cycle: 6 months

Protection rating: IP68, rated for submersion up to 60 meters

Communication method: RS-485 (Modbus RTU)

KH.SZ-DDM Electrical Conductivity (EC) Sensor

KH.SZ-5 The conductivity meter is based on the principle of electrolytic conductivity, and adopts digital circuit of single chip microcomputer for measurement and temperature compensation.

Method of measurement: electrode method

Measurement range: 0~200/500 mS/cm, adjustable

Accuracy (display error): $\pm 1\%$

Repeatability (precision): $\leq 1\%$

Resolution: 0.01 $\mu\text{S/cm}$

Response time: <30s

Zero drift: $\pm 1\%$

Range drift: $\pm 1\%$

Temperature compensation accuracy: $\pm 1\%$, with automatic compensation from 0°C to 60°C

Actual water sample comparison test: $\pm 1\%$

Voltage stability: $\pm 1\%$ variation in indication

Protection rating: IP68, rated for submersion up to 60 meters

Communication method: RS-485 (Modbus RTU)

KH.SZ-RDO Optical Dissolved Oxygen (RDO) Sensor

The fluorescence dissolved oxygen sensor operates on the principle of fluorescence quenching in physics. When excitation light strikes the fluorescent material on the sensor's surface, it becomes excited and emits fluorescence. The

quenching time of this fluorescence is determined by the oxygen concentration at the sensor's surface. By measuring the phase difference between the fluorescence and excitation light and comparing it with an internal calibration curve, the oxygen concentration can be calculated. The final output value is then adjusted for temperature and salinity compensation.

Method: Fluorescence

Measurement range: 0.0~20.0mg/L or (0~200)%, adjustable

Accuracy (reading error): ± 0.3 mg/L

Repeatability (precision): ≤ 0.3 mg/L

Resolution: 0.01 mg/L

Response time (T90): <60s

Zero drift: ± 0.3 mg/L

Range drift: ± 0.3 mg/L

Temperature compensation accuracy: ± 0.3 mg/L

MTBF: ≥ 720 hours per cycle

Actual water sample comparison: ± 0.3 mg/L

Voltage stability: ± 0.3 mg/L variation in the indication value

Insulation resistance: over 5 M Ω

Protection rating: IP68, rated for submersion up to 60 meters

Communication method: RS-485 (Modbus RTU)

KH.SZ-ZS Turbidity Sensor

The turbidity sensor is composed of the instrument sensor light source component which emits light to the sample, the light beam is scattered by the suspended particles in the sample, the scattered light at 90 degrees to the incident light is detected by the light source detector, and the turbidity of the

sample is obtained through photoelectric conversion, a series of signal processing and software calculation.

Method: light scattering

Measurement range: 0~4000 NTU, adjustable

Accuracy (display error): $\pm 5\%$

Repeatability (precision): $\leq 5\%$

Resolution: 0.01 NTU

Zero drift: $\pm 3\%$

Range drift: $\pm 3\%$

Actual water sample comparison: $\pm 10\%$

Voltage stability: $\pm 3\%$ variation of the indicated value

Protection rating: IP68, rated for submersion up to 60 meters

Communication method: RS-485 (Modbus RTU)

Instrument Sensor Series / KH Pen-Type Water Quality Meters



Product Introduction

The KH Pen-Type Water Quality Meter series is designed for on-site and field operations.

It supports the measurement of pH, salinity (YD), TDS, dissolved oxygen (DO), residual chlorine (CL), electrical conductivity (EC), and temperature, providing a compact and portable solution for rapid and accurate water quality assessment.

These meters are widely used in drinking water source monitoring, aquaculture, environmental protection, textile and dyeing, electroplating, beverage production, and scientific research institutions.

Features

- No installation required; compact and easy to carry
- Automatic recognition of digital sensing probes; plug-and-play operation
- High accuracy, fast response, and stable performance
- Suitable for field monitoring and daily rapid inspection
- Optional models for different measurement needs

Application Scenarios

Ideal for water treatment, wastewater monitoring, industrial effluent detection, rivers, lakes, reservoirs, aquaculture, and other water quality monitoring environments.

Technical Parameters

KH.LPH-101 pH

Measurement range: pH 0.1–14.0; Temperature 0–50°C (32–122°F)

Resolution: pH 0.1; Temperature 0.1°C / 1°F

Accuracy: pH ± 0.2 ; Temperature $\pm 1^\circ\text{C}$ / $\pm 2^\circ\text{F}$

Calibration: 3-point calibration at 25°C (4.0 / 6.9 / 9.2)

Operating temperature: 0–50°C (32–122°F)

Power supply: 1.5 V battery \times 4 pcs

Dimensions: $\Phi 40 \times 190$ mm

Weight: 88 g

KH.LYD-101 Salinity

Measurement range: 0–10‰

Resolution: 0.1‰

Accuracy: $\pm 0.2\%$

Temperature range: 0–50°C (32–122°F)

Automatic temperature compensation: 0–50°C

Dimensions: $\Phi 40 \times 185$ mm (Electrode Included)

Weight: 88 g (Electrode Included)

KH.LTDS-101 TDS

Measurement range: 0–9999 mg/L

Resolution: 1 ppm

Accuracy: $\pm 2\%$ FS

Automatic temperature compensation: 0–50°C

Operating temperature: 0–50°C

Calibration: 1am automatic calibration

Dimensions: $\Phi 40 \times 185$ mm (including electrode)

Weight: 88 g

KH.LDO-101 Dissolved Oxygen

Measurement range: 0–20.00 mg/L

Resolution: 0.01 mg/L

Accuracy: $\pm 1\%$ FS; Temperature $\pm 0.3^\circ\text{C}$

Operating temperature: 0–50°C

Dimensions: $\Phi 46 \times 204$ mm (Electrode Included)

Weight: 128 g (Electrode Included)

Protection rating: IP65

KH.LCL-101 Residual Chlorine

Measurement range: 0–2.00 mg/L

Resolution: 0.01 mg/L

Accuracy: $\pm 1\%$ FS; Temperature $\pm 0.3^\circ\text{C}$

Operating temperature: 0–50°C

Dimensions: $\Phi 46 \times 204$ mm

Weight: 128 g

KH.LEC-101 Conductivity

Measurement range: 0–2000 $\mu\text{S}/\text{cm}$

Resolution: 1 $\mu\text{S}/\text{cm}$

Accuracy: $\pm 2\%$ FS

Temperature display: $0.1^\circ\text{C} / ^\circ\text{F}$

Operating temperature: 0–50°C

Automatic temperature compensation: 0–50°C

Dimensions: $\Phi 40 \times 185$ mm

Weight: 88 g

Features	Edge warning: intelligent data analysis, intelligent graded warning Data reporting: data collection and reporting at the hour Remote upgrade: FOTA remote upgrade Parameter configuration: remote configuration, local configuration Resume data transmission after network disconnection: restore data after network disconnection
Protection level	IP68
Protection features	Anti-mildew, anti-salt spray, high and low temperature resistance

Explosion-proof grade	Ex ia IIC T3 Ga
Electromagnetic compatibility	GB/T 17626
Operating temperature	-20~70℃
Storage temperature	-20~60℃

Instrument Sensor Series/KH.QX-2 Wind Speed And Direction Sensor



Product Introduction

Mechanical wind speed and direction sensors sense wind force through simple mechanical movement, convert physical movement into measurable electrical signals, and output wind speed and direction data.

Features

The principle is intuitive and the technology is mature

High reliability

Lower cost

No complicated power supply required

Direct measurement

Intuitive maintenance

Application Scenarios

weather stations, environmental monitoring stations, transportation, airports, building bridges, agriculture, industrial ventilation

Technical Indicators

Power supply: DC12V

Working environment: -40~70℃, humidity ≤100% without condensation

Communication interface: RS485

Working current: 55mADC12V

Starting wind speed: 0.5m/s

Shortest data interval: 0.5S

Shell material: polymer engineering plastic

Sensor Parameters

Parameter	Measuring Range	Resolution	Accuracy
Wind speed	0-60m/s	0.01m/s	±0.2m/s
Wind direction	0-360 degrees	0.1 degrees	±1 degree
Average Wind Speed☆	0-60m/s	0.01m/s	±0.2m/s

Instrument Sensor Series/KH.QX-3

Temperature, Humidity and Atmospheric Pressure Sensor



Product Introduction

Temperature, humidity and atmospheric pressure weather instruments have mature technology and low price, and have been widely used in smart agriculture, meteorological monitoring, urban environment

Environmental monitoring, wind power generation, marine vessels, aviation airports, highways, bridges and tunnels , etc.

Product Features

Strong anti-interference ability, with watchdog circuit, automatic reset function, to ensure stable operation of the system

High integration, no moving parts, zero wear and maintenance-free, no need for on-site calibration

Adopt ASA engineering plastics for outdoor application and no discoloration for many years

Product design Output signal is standardly equipped with RS485 communication interface (MODBUS protocol); 232, USB, Ethernet interface are optional, support

real-time data reading ☆

Optional wireless transmission module, minimum transmission interval 1 minute

Technical Parameters

Air temperature: $-40-60^{\circ}\text{C}$ ($\pm 0.3^{\circ}\text{C}$);

Air humidity: 0-100%RH ($\pm 3\%$ RH);

Atmospheric pressure: 300-1100hpa ($\pm 0.25\%$);

Power: 0.12W

Instrument Sensor Series/KH.CQX-5

Ultrasonic Five-Parameter Weather Station



Product Introduction

KH.CQX-5 Five-Parameter Micro-Meteorological Instrument is to emit continuous frequency-converting ultrasonic signals and detect wind speed and direction by measuring relative phase. Compared with traditional ultrasonic anemometers, our products overcome the need for high-precision timers and avoid inaccurate measurements caused by sensor startup delays, demodulation circuit delays, and temperature changes.

KH.CQX-5 Five-Parameter Micro-Meteorological Instrument innovatively realizes the five meteorological standard parameters (ambient temperature, relative humidity, wind speed, wind direction, and atmospheric pressure) through a highly integrated structure, which can realize 24-hour continuous online monitoring of outdoor meteorological parameters and output six parameters to users at one time through a digital communication interface.

Application scenarios

It can be widely used in meteorological monitoring, urban environment monitoring, wind power generation, marine vessels, aviation airports, highways, bridges and tunnels, etc.

Product Features

Hidden ultrasonic probe on the top cover to avoid interference from rain and snow accumulation and natural wind shielding.

The principle is to transmit continuous frequency-converting ultrasonic signals and detect wind speed and direction by measuring the relative phase.

The five elements of wind speed, wind direction, temperature, humidity and atmospheric pressure are integrated .

Advanced sensing technology is adopted for real-time measurement without starting wind speed.

Strong anti-interference ability, watchdog circuit, automatic reset function, to ensure stable operation of the system.

High integration, no moving parts, zero wear and maintenance-free, no need for on-site calibration

ASA engineering plastics /304 stainless steels are used for outdoor applications and do not change color all year round.

Product design output signal is standardly equipped with RS485 communication interface (MODBUS protocol); 232, USB, Ethernet interface are optional to

support real-time data reading

Optional wireless transmission module, the minimum transmission interval is 1 minute.

The probe is snap-on design to solve the problem of looseness and inaccuracy during transportation and installation.

Technical Parameters

Wind speed: Measurement principle ultrasonic, 0-60m/s (± 0.1 m/s), resolution 0.01m/s;

Wind direction: Measurement principle ultrasonic, 0-360° ($\pm 2^\circ$), resolution: 1°;

Air temperature: Measurement principle diode junction voltage method, -40-80°C ($\pm 0.3^\circ\text{C}$), resolution 0.01°C;

Air humidity: Measurement principle capacitive, 0-100%RH ($\pm 3\%$ RH), resolution: 0.01%RH;

Atmospheric pressure: Measurement principle piezoresistive, 300-1100hPa ($\pm 0.25\%$), resolution 0.1hPa;

Power: 0.72W

Instrument Sensor Series/KH.CQX-6

Ultrasonic Six-Parameter Weather Station



Product Introduction

KH.CQX six-parameter micro-meteorological instrument is to emit a continuous frequency-converting ultrasonic signal and detect the wind speed and direction by measuring the relative phase. Compared with the traditional ultrasonic anemometer, our products overcome the need for high-precision timers and avoid the measurement inaccuracy caused by sensor startup delay, demodulation circuit delay, and temperature changes.

The KH.CQX six-element micro-meteorological instrument innovatively realizes the six meteorological standard parameters (ambient temperature, relative humidity, wind speed, wind direction, atmospheric pressure, and optical rainfall) through a highly integrated structure, which can realize 24-hour continuous online monitoring of outdoor meteorological parameters and output the six parameters to the user at one time through the digital communication interface.

Application Scenarios

It can be widely used in meteorological monitoring, urban environment monitoring, wind power generation, marine vessels, aviation airports, highways, bridges and tunnels, etc.

Features

The ultrasonic probe is hidden in the top cover to avoid interference from rain and snow accumulation and natural wind shielding.

The principle is to emit continuous frequency-converting ultrasonic signals and detect wind

speed and direction by measuring the relative phase. The six elements of wind speed, wind direction, temperature, humidity, atmospheric pressure and optical rainfall are integrated.

Advanced sensing technology is adopted for real-time measurement without starting wind speed.

Strong anti-interference ability, with watchdog circuit and automatic reset function to ensure stable operation of the system.

High integration, no moving parts, zero wear and maintenance-free, no need for on-site calibration .

ASA engineering plastics are used for outdoor applications and do not change color all year round.

Product design output signal is standardly equipped with RS485 communication interface (MODBUS protocol); 232, USB, Ethernet interface are optional to support real-time data reading

Optional wireless transmission module, minimum transmission interval 1 minute

The probe is snap-on design to solve the problem of looseness and inaccuracy during transportation and installation.

Technical Parameters

Wind speed: Measurement principle ultrasonic, 0-60m/s (± 0.1 m/s) resolution 0.01m/s;

Wind direction: Measurement principle ultrasonic, 0-360° ($\pm 2^\circ$); Resolution: 1°;

Air temperature: Measurement principle diode junction voltage method, -40-80°C ($\pm 0.3^\circ\text{C}$), Resolution 0.01°C;

Air humidity: Measurement principle capacitive, 0-100%RH ($\pm 3\%$ RH), Resolution: 0.01%RH;

Atmospheric pressure: Measurement principle piezoresistive, 300-1100hpa

($\pm 0.25\%$), Resolution 0.1hpa;
Optical rainfall: 0-4mm/min ($\leq \pm 4\%$);
Power: 0.84W

Instrument Sensor Series / KH.DC

Atmospheric Electric Field Meter (Lightning Early Warning)



Product Introduction

The KH.DC Atmospheric Electric Field Meter (Lightning Monitor) is a high-precision lightning detection and early warning instrument that monitors changes in the atmospheric electric field in real time. It accurately captures lightning activity and provides strong technical support for lightning disaster prevention and risk management.

In the field of meteorological observation, the atmospheric electric field meter can be widely used in meteorological stations for continuous and uninterrupted monitoring of lightning activity within a region. It provides key data for weather forecasting and meteorological disaster warning. By analyzing variations in the atmospheric electric field, meteorological departments can predict the probability, intensity, and development trend of lightning events in advance, issuing timely warnings to ensure safety for the public as well as for aviation and maritime operations.

The measured data can be transmitted via RS485 communication.

Features

- Integrated design with elegant appearance, easy installation, and maintenance-free operation with high reliability
- Advanced sensing technology for real-time, high-precision, and stable measurement
- Low power consumption and strong anti-interference capability for 24/7 long-term monitoring in harsh environments
- Fully solid-state design with robust aluminum alloy housing, excellent weather resistance, corrosion resistance, and waterproof performance
- Long service life and suitable for continuous outdoor operation

Application Scenarios

- Agriculture lightning monitoring
- Environmental protection and meteorological stations
- Transportation monitoring
- Airports and ports
- Lightning safety management in open environments

Technical Parameters

Parameter	Specification
Measuring Range	-100 kV/m to +100 kV/m
Accuracy	±0.001% F.S
Response Time	3 s
Housing Material	6061 Aluminum Alloy
Power Supply	12 VDC (0.5 W @ 12 V)
Communication	Modbus-485

Instrument Sensor Series/KH.GZW Light Ultraviolet Radiation Sensor



Product Introduction

KH.GZW type light ultraviolet radiation meter uses a photoelectric detector to measure the intensity of ultraviolet radiation in sunlight or artificial light sources, converts the received ultraviolet photons into weak electrical signals, and the internal electronic circuit amplifies and processes the electrical signals, and calculates the radiation intensity value based on the calibration coefficient. The value can be output via RS485.

Features

Integrated design, exquisite appearance, easy installation, no maintenance, high reliability. Using advanced sensing technology for real-time measurement , high accuracy, good stability, low power consumption, strong anti-interference ability, can achieve all-weather, long-term continuous online monitoring in harsh environments;

All-solid-state design, solid structure, high strength, weather resistance, corrosion resistance and waterproofness, long service life.

Applicable Scenarios

Suitable for light monitoring in agriculture, environmental protection, meteorology, highways, railways, airports and ports, etc.

Technical Indicators

Power supply: DC12V

Working environment: -40~85℃

Communication interface: RS485

Working current: 20mA@DC12V

Shortest data interval: 0.5S

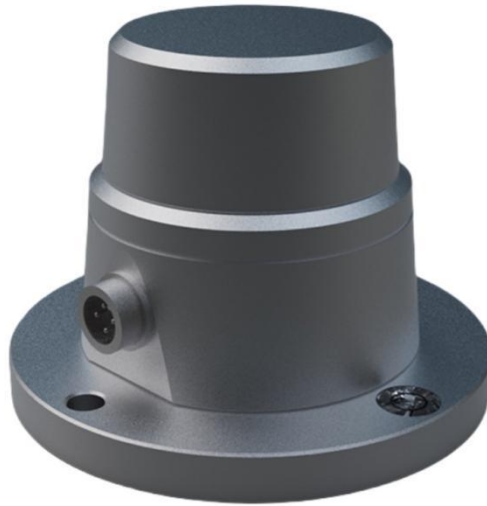
Shell material: polymer engineering plastics

Technical Parameters

Parameter	Measuring Range	Resolution	Accuracy
Illumination	0~ 157286 Lux	1 Lux	< ±3%
Total radiation	0 ~ 1242 W/m ²	1W/m ²	< ±3%
Ultraviolet radiation	0 ~ 262144m W/m ²	1mW/m ²	< ±3%

Instrument Sensor Series/KH.GDF

Photoelectric Global Radiation Sensor



Product Introduction

KH.GDF photoelectric global radiation sensor uses a photoelectric detector to measure the total short-wave radiation value under sunlight, and the value can be output via RS485.

Features

Integrated design, exquisite appearance, easy installation, no maintenance, high reliability. Using advanced sensing technology for real-time measurement , high accuracy, good stability, low power consumption, strong anti-interference ability, can achieve all-weather, long-term continuous online monitoring in harsh environments;

All-solid-state design, solid structure, high strength, weather resistance, corrosion resistance and waterproofness, long service life.

Applicable Scenarios

Suitable for light monitoring in agriculture, environmental protection, meteorology, energy, transportation and construction environments

Technical Indicators

Power supply: DC12V

Power consumption: 0.0-36 W

Working environment: -20 ~ 65 °C

Communication interface: RS485

Working current: 3 mA@DC12V

Shortest data interval: 0.5S

Response time: ≤10S

Annual stability: ≤± 3 %

Zero drift: ≤6 W/m²

Sensor Parameters

Parameter	Scope	Resolution	Accuracy	Unit
Irradiance	0-2000	1	< ± 3 %	W/m ²
Sunshine hours	0-6500	0.1	< 0.2	h

Instrument Sensor Series/KH.TSQ Soil Moisture Sensor



Product Introduction

KH.TSQ probe soil sensor can simultaneously measure four parameters : soil moisture content, soil temperature , soil conductivity and total salt content in the soil. The values can be output via RS485.

Features

Integrated design, exquisite appearance, easy installation, no maintenance, high reliability. Using advanced sensing technology for real-time measurement , high accuracy, good stability, low power consumption, strong anti-interference ability, can achieve all-weather, long-term continuous online monitoring in harsh environments.

Applicable Scenarios

It is suitable for agriculture and irrigation, hydrological monitoring, geological

disaster warning, ecological research, engineering construction, etc. The agricultural linkage irrigation system automatically waters according to the water demand of crops, saving up to 20-40% of water.

Technical Indicators

Power supply: DC12V

Power consumption: <0.1W

Working temperature : -30 ~ 70 °C

Communication interface: RS485

Working current: 8 mA@DC12V

Minimum data interval: 60S

Sensor Parameters

Parameter	Measuring Range	Accuracy	Resolution	Unit
Soil Temperature	-30 ~ 70 °C	± 0.3 (-10 ~ 50 °C)	0.01	°C
Soil Moisture Content	0~100%	±3 % (loam) High organic matter soils (soil organic carbon content > 12%) High clay content soils (clay content > 45%) Calibration may be required for specific soil types due to their dielectric relaxation properties	0.01%	---
Soil Conductivity	0~20000	±3 (15 °C 0~10000us/cm) ±5% (full scale)	1	us/cm
Soil Salt Content	0~12800	± 3 %	1	mg/L

Agricultural Lighting Series / KH.ZDP Greenhouse LED Plant Grow Light



Product Introduction

The KH.ZDP LED Plant Grow Light is designed according to plant growth data and the principles of photosynthesis. It provides supplemental lighting for greenhouse plants to promote growth, extend flowering periods, and improve overall crop quality. The light spectrum and intensity are optimized for different stages of plant development, ensuring efficient photosynthetic activity and healthier plant growth.

Features

- Accelerates seedling growth, reducing cultivation time by up to 50%
- Helps reduce the incidence of pests, diseases, and malformed fruits

- Promotes earlier flowering, fruiting, and maturation by 15–20 days
- Long lifespan of approximately 8,000 hours per lamp
- Energy-efficient design suitable for intensive greenhouse cultivation

Application Scenarios

Ideal for greenhouse crops, potted flowers, seedlings, succulents, and other indoor or protected environment plants requiring supplemental lighting.

Parameter

Light Type: LED Plant Grow Light

Power: High-power lamp suitable for greenhouse use; 30W/50W/80W

Lifespan: ~8,000 hours

Effectiveness: Promotes growth, extends flowering, improves crop quality

Energy Efficiency: Designed for low energy consumption

Target Crops: Vegetables, flowers, succulents, potted plants, seedlings

Instrument Sensor Series / KH.YP Leaf Temperature and Humidity Sensor



Product Introduction

The KH.YP Leaf Temperature and Humidity Sensor integrates a high-precision thermistor and transmitter to accurately measure temperature across the full range.

The humidity sensor is based on the dielectric constant measurement principle, designed in the shape of a real leaf to simulate the physical characteristics of leaf surfaces.

By detecting changes in the dielectric constant on the leaf surface, the sensor can accurately measure surface humidity.

The measurement data can be output via RS485 communication.

Features

- Integrated design with elegant appearance and easy installation
- Maintenance-free, high reliability, and stable performance
- Advanced sensing technology for real-time and precise measurement
- Low power consumption and strong resistance to external interference
- Suitable for long-term, continuous monitoring in harsh outdoor environments

Application Scenarios

- Agricultural monitoring and crop growth analysis
- Meteorological observation
- Ecological and environmental research

Technical Parameters

Power Supply: DC 5–30 V

Maximum Power Consumption: 0.75 W (12 V DC)

Operating Temperature: -40°C to +60°C

Protection Level: IP67

Sealing Material: Black flame-retardant epoxy resin

Default Cable Length: 2 m (customizable)

Dimensions: 45 × 15 × 123 mm

Output Signal: RS485 (Modbus Protocol)

Humidity Parameters

Measuring Range: 0–100% RH

Resolution: 0.1% RH

Accuracy: ±5% RH (@25°C)

Temperature Parameters

Measuring Range: -40°C to +80°C

Resolution: 0.1°C

Accuracy: ±0.5°C (@25°C)

Instrument Sensor Series/KH.TR-4 4-in-1 Soil Tester



Product Introduction

KH.TR-4 4-in-1 soil tester can measure the soil moisture content, soil temperature, soil pH value and light intensity at the same time, and the values are directly displayed on the high-definition backlight LCD screen.

Features

Integrated design, exquisite appearance, easy to install, no maintenance, high reliability. The advanced sensing technology is used for real-time measurement, high accuracy, good stability performance, low power consumption, strong anti-interference ability, simple operation and portable.

Applicable Scene

Suitable for agricultural, courtyard and pot crop plant soil testing.

Technical Indicators

- Power supply: 9V battery
- Size: length 310mm* width 63mm* thickness 36mm
- Operating temperature: -5~ +40℃
- Weight: 0.23KG
- Large LCD screen, backlight assisted lighting, convenient reading
- Temperature conversion function in English
- Low battery warning function
- The automatic shutdown function can save power, and the system will shut down automatically after 5 minutes without any operation

Parameter

Class	Project	Parameter
Essential Parameter	Measuring Range	Soil PH:3.5-9 Temperature: -9℃ to +50℃ (16 to 122°F) Lighting: LOW-, LOW, LOW+, NOR-, NOR, NOR+, HGH, HGH-, HGH+ Humidity: DRY+, DRY, NOR, WET, WET+
	Resolution Ratio	PH:0.5 Temperature : 1℃/1°F
	Error Range	PH : ±0.5, Temperature : ±1°F/1℃
	Product Size	190*60*35mm
	Packing Measurement	72*53*328mm
	Net Weight Of Product	54g
	Product Gross Weight	135g (including battery)
	Battery Type	9V
	Case Material	ABS

Internet of Things Intelligent Terminal Series/KH.WTU-E Telemetry Terminal



Product Introduction

KH.WTU-E telemetry terminal is a product with data collection and transmission functions. It can directly connect to sensors and send data such as rainfall and water level on site to the remote monitoring center through 4G communication data transmission and other methods. It can be used with IOT platform and mobile phone APP.

- ◆ With digital and switch interfaces, it can connect various types of sensors and data acquisition units;
- ◆ Supports data self-reporting, incremental reporting, call and test response, etc.; supports automatic time synchronization;
- ◆ Support on-site and remote upgrades; support on-site and remote settings and inquiries of working parameters;
- ◆ With network detection, power supply detection and abnormal alarm functions;
- ◆ Wide voltage design, with reverse connection protection, overvoltage and

overcurrent protection and anti-lightning surge absorption functions.

Application Scenarios

This product is suitable for various distributed data acquisition system applications, such as water level and rainfall monitoring.

Technical Parameters

Supply Voltage	10 ~ 30VDC
Static Power Consumption	< 40mA (with communication module)
Switch Input	2 channels (low level valid)
Rs485 Interface	1 channel (can be connected to digital interface sensors and other data acquisition modules)
Rs232 Interface	2-way
Ambient Temperature	-20 - 65℃
Ambient Humidity	<95%

Internet of Things Intelligent Terminal Series/KH.WTU-V Telemetry Terminal



Product Introduction

KH.WTU-V telemetry terminal is an RTU product with data collection, storage and transmission functions, which can be used with IOT platform and mobile phone APP.

Features

- ◆ Industry-leading: The innovative structure of the original telemetry terminal (complete with built-in 4G full-network DTU, image capture module, solar charging controller, lightning arrester, etc.), the first in the industry, the built-in equipment does not need to be purchased separately, economical and reliable;
- ◆ Invention patent: Built-in RF transmission module, supports local wireless networking function. Solve the inconvenience of field construction wiring, and facilitate on-site installation and maintenance. It has solar battery charging management function, power detection and alarm function, and can perform three-stage intelligent charging of external batteries.

Application Scenarios

Reservoirs, flood control monitoring stations, mountain torrents, urban waterlogging, irrigation areas, hydrological and oceanographic stations, pumping and sluice stations, hydropower stations, meteorology, and agricultural soil moisture monitoring stations.

Technical Parameters

Supply Voltage	10 ~ 30VDC	Multiplexing Interface	1 channel (RS485/RS232 interface can be set)
Static Power Consumption	≤1mA (basic type, 12V power supply)	Gray Code Input	14-bit
Working Current	≤6.5mA (basic type, 12V power supply)	Rf Operating Frequency	433MHz (visible transmission distance is 3km)
Analog Input	2 channels (4-20mA)	Operating Temperature	-45 ~ +70℃
Analog Quantity Acquisition Accuracy	0.1%FS	Ambient Humidity	Less than 98%RH
Switch Input	2 channels (low level valid)	Storage Temperature	-45 ~ +80℃
Switching Output	2 channels (12V/500mA driving capability)	Mtbf	≥50000h
Rs485 Interface	2 channels (for connecting various digital interface sensors)	Clock Accuracy	Better than ±1s/d
Rs232 Interface	2-way (for connecting various communication devices or servers)		

Internet of Things Intelligent Terminal Series/KH.WTU-R Internet of Things Gateway



Product Introduction

The WTU-300R telemetry terminal is an industrial-grade IoT wireless gateway designed to fully meet industrial standards and the needs of industrial users. It uses a high-performance industrial-grade 32-bit communication processor, software multi-level detection and hardware multiple protection mechanisms to improve device stability. This series of products can help users quickly access high-speed Internet and realize the collection and transmission of video and sensor data.

The product can be used with IOT platform and mobile phone APP.

Features

Rich interfaces: can connect to various types of devices, 3 LAN ports, 1 WAN port; 2 relay outputs (optional), 2 DI, 2 ADC, 1 CAN (optional), 2 RS232, 3 RS485

Stability: Industrial-grade design, EMC indicators reach level 3

Security: Supports multiple VPN protocols (OpenVPN, IPSEC, PPTP, L2TP, etc.) to ensure the security of data transmission.

Application Scenarios

Reservoirs, flood control monitoring stations, mountain torrents, urban waterlogging, irrigation areas, hydrological and oceanographic stations, pumping and sluice stations, hydropower stations, meteorology, and agricultural soil moisture monitoring stations.

Technical Parameters

Power Interface	Standard power supply: DC 12V/1.5A; Power supply range: DC 5 ~ 35V; Built-in power reverse protection and overvoltage protection.
Relay Interface	Load capacity: 2-way relay output interface; Maximum switching voltage : 30VDC/220VAC; Maximum switching current: 5A; Function description: Control the power supply of peripherals.
Rs232 Interface	2 standard RS232 interfaces, built-in 8KV ESD Protection
Rs485 Interface	3 standard RS485 interfaces, built-in 15KV ESD protection.
Ethernet Interface	1 WAN interface, 3 10/100M Ethernet interfaces (RJ45 sockets), adaptive MDI/MDIX, and built-in 1.5KV electromagnetic isolation protection.
Adc Input	2 ADC inputs, support 4~20mA input or 0~5V.
Di Input	2-way switch input interface (optical isolation);logic 0: wet node 0-3VDC, or dry node conduction; logic 1: wet node 5-30VDC, or dry node disconnection .
Can Interface (Optional)	1 CAN interface.
Power Output	1 controlled output power supply (output voltage value is the same as the device power supply voltage, default 12V, single rated output current 1A built-in overcurrent protection).
Indicator Lights	It has power, system, WiFi, communication and online indicators, signal strength and warning lights.

Antenna Interface	Standard SMA female antenna interface, characteristic impedance 50 ohms.
Sim/Uim Card Interface	Standard drawer-type user card interface, supports 1.8V/3V SIM/UIM cards, built-in 15KV ESD protection.
Temperature And Humidity Range	Working temperature: -40 ~ +75℃; Storage temperature: -40 ~ +80℃; Relative humidity: 93%±3 %.
Power Consumption	Standby power consumption: 220~265mA@12VDC; Communication power consumption : 280~330mA@12VDC.
Anti-Interference Level	Class 3, suitable for equipment installed in typical industrial environments.
Reliability	MTBF≥100000h; EMC level indicators reach level 3; NTP technology, built-in RTC.
Protection Level	Protection level IP30, housing and system are safely isolated, especially suitable for industrial control field applications.
Dimensions	145*114*45mm (excluding antenna and mounting parts).

Scenario-Based Monitoring Station Series / KH.BXS Portable Hydrological Emergency Monitoring System



Product Introduction

KH.BXS Portable Hydrological Emergency Monitoring System adopts an integrated and portable design. It combines rain gauge interface, water level sensor, lithium battery with power adapter, and hydrological telemetry terminal (including water level and rainfall data collection, analysis, storage, and transmission). Each module is independently designed and connected through standard interfaces. The compact structure and lightweight body make it convenient to carry and install.

Features

- Ultra-low power consumption design, powered by lithium battery; compatible

with solar and AC power supply

- Compact, lightweight, and easy to deploy; suitable for field use
- Easy sensor installation and simple on-site setup
- Multiple communication channels for stable and reliable data transmission

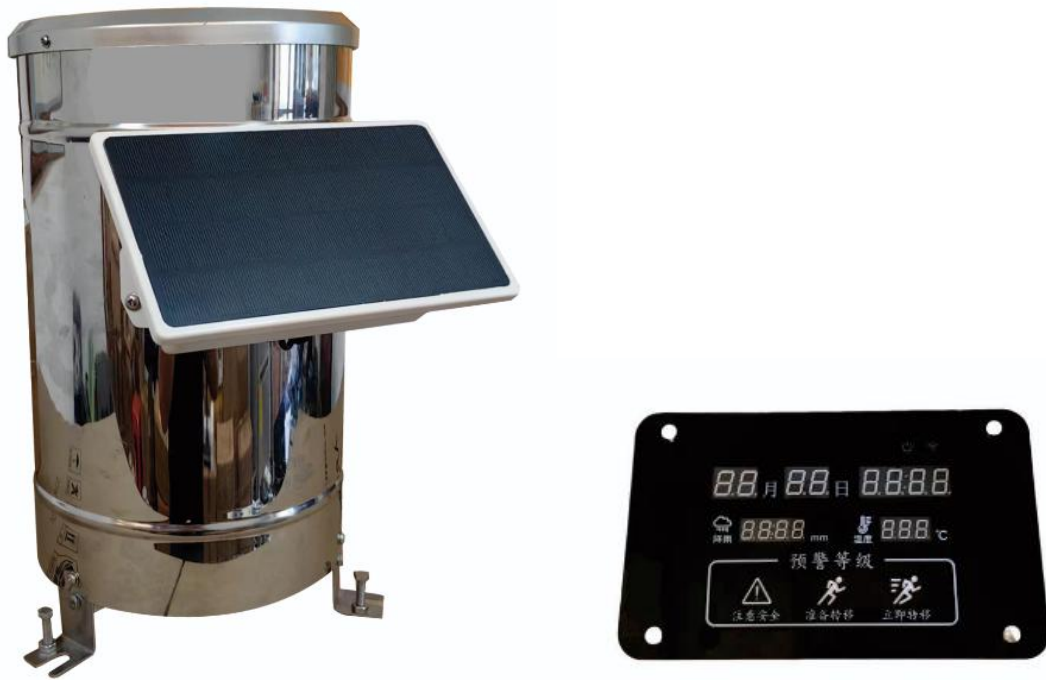
Application Scenarios

Suitable for hydrological emergency monitoring, temporary observation, and rapid deployment in field environments

Parameter

Battery Capacity	20Ah / 12V
Battery Type	Lithium battery pack
Operating Duration	Up to 30 days
Water Level Measurement	Pressure-type water level sensor, compatible with other types
Measuring Range	0mH ₂ O – 1mH ₂ O...300mH ₂ O (customizable)
Accuracy	±0.05%FS (min), ±0.1%FS (typical), ±0.25%FS (max)
Resolution	0.1cm
Communication	4G full network coverage
Monitoring Parameters	Water level, rainfall, image data, etc.
Transmission Interval	Configurable from 1 minute to 24 hours
Protection Level	Enclosure IP67, water level sensor IP68
Total Weight	Approx. 3kg

Scenario-Based Monitoring Station Series / KH.JDB Household Early Warning Rain Gauge



Product Introduction

The KH.JDB Rain Gauge Station is a terminal product integrating rain data collection, storage, real-time monitoring, and LORA wireless self-organizing network communication. It can also be integrated with 4G IoT communication to synchronize data to IoT management software.

It is widely used for natural disaster warning and features convenient installation, no geographical restrictions, low cost, and high integration.

Features

- Easy to install, maintenance-free, and high reliability

- Advanced sensing technology for real-time measurement with high accuracy, good stability, and low power consumption, supporting all-weather long-term continuous online monitoring
- Fully solid-state design with robust structure, high strength, weather resistance, corrosion resistance, and waterproof performance for long service life
- Supports 5 time periods and 3 levels of alarm thresholds to trigger alerts
- Multi-point data group sending and serial port data configuration functions
- Ultra-low power functional sleep/wake capability
- Data reissue and remote upgrade functions
- Rainfall data statistics and alarm record storage
- Access to multiple management platform functions

Application Scenarios

Suitable for rain monitoring in agriculture, meteorology, mountain flood areas, geological sites, communities, and household environments

Parameter

Real-time rainfall collection

Cumulative rainfall counted every 5 minutes

Device status uploaded after startup; rainfall data uploaded regularly (every 1 hour)

Rainwater inlet inner diameter: $\Phi 200 \pm 0.6$ mm, blade edge at 45°

Rainfall resolution: 0.1–0.5 mm (configurable)

Measurement range: 0–8 mm/min, measurement error: $\leq \pm 4\%$

Communication: 4G full network, LORA wireless

Battery: 3.7 V / 10 Ah lithium battery

Solar panel: 5 V / 3 W

Operating temperature: -10°C to +75°C

Working humidity: <95% RH

Standby current: <12 mA

Scenario-based Monitoring Pole Station Series/Rain Gauge Monitoring Station



Product Introduction

Rainfall monitoring station installs all equipment including rain gauge, telemetry terminal, transmission equipment, lightning arrester, solar charge controller, solar panels and batteries on a column made of galvanized steel pipe and in an equipment box . It collects rainfall monitoring data in real time and can send the data to multiple monitoring management centers simultaneously via 4G .

- ◆ Integrates data collection, data superposition, broadcast warning, voice intercom, and LED local display functions;
- ◆ Convenient construction: modular design, no external connection, centralized assembly, and standardized implementation.

Application Scenarios

It is particularly suitable for rainfall monitoring in mountain torrents, flood control, agriculture, meteorology and engineering fields .

Pole Station Composition

Main Equipment	Configuration options
Rain	Tipping bucket rain gauge /piezoelectric rain gauge
Telemetry Terminal	WTU-300: E type, V type
Transmission Equipment	4G communication module / network card+router
Lightning Arrester	RTU built-in, external independent module
Solar Charge Controller	RTU built-in, external independent module
Solar Panels	18V / 10W ~ 30W
Battery	20Ah ~ 56Ah
Outdoor Terminal Box	570mm (height) X 400mm (width) X 200mm (thickness)
Integrated Rod (Including Full Set Of Brackets)	Galvanized steel pipe, customized specifications
Remote Management Software	IOT platform, mobile APP

Scenario-Based Monitoring Pole Station Series/Rainwater Situation Video Integrated Early Warning Broadcast Monitoring Station



Product Introduction

The rain and water situation video integrated early warning broadcast monitoring station integrates rain gauges, water level gauges, ball cameras, intercom broadcasts, LED display screens, telemetry terminals, transmission equipment, lightning arresters, solar charge controllers, solar panels and storage. All equipment including batteries are installed on a pole made of galvanized steel.

pipes , which collects real-time monitoring data such as rainfall, water level, and video , and realizes monitoring data superimposition video, voice intercom, and broadcast warning. And the data can be sent to multiple monitoring management centers at the same time through the 4G communication module .

- ◆ Integrates data collection, data superposition, broadcast warning, voice intercom, and LED local display functions;
- ◆ Multi-type sensor collection: integrated rainfall collection, video collection, water level collection, etc., and timely inform the public through the system Issue early warning;
- ◆ Data overlay: monitoring data overlay video;
- ◆ Convenient construction: modular design, no external connection, centralized assembly, and standardized implementation.

Application Scenarios

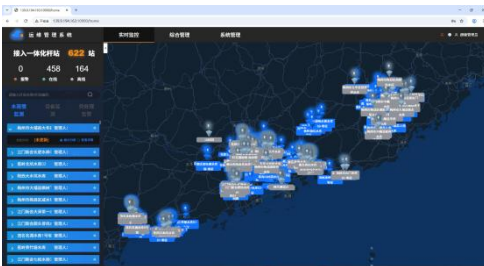
It is particularly suitable for safety monitoring in engineering fields such as reservoir dams, railway bridges, mine tunnels, slopes, foundation pits, etc.

Pole Station Composition

Main Equipment	Configuration options
Rain	Tipping bucket rain gauge /piezoelectric rain gauge
Water	Water level: Bubble water level gauge/pressure water level gauge /radar water level gauge/float water level gauge/ultrasonic water level gauge/electronic water gauge Flow rate: Radar flow meter, Doppler open channel flow meter
Video	Intelligent security video surveillance camera
Intercom Broadcast	Active tweeter horn speaker, pickup

Main Equipment	Configuration options
Telemetry Terminal	KH. WTU : R type: V type, E type, R type
Led Screen	Outdoor display
Communications Equipment	4G router, 4G transmission, monitoring data and video overlay
Lightning Arrester	RTU built-in, external independent module
Solar Charge Controller	RTU built-in, external independent module
Solar Panels	18V / 30W ~ 100W
Battery	12V/20Ah~100Ah
Outdoor Terminal Box	570mm (height) X 400mm (width) X 200mm (thickness)
Grounding Accessories	Galvanized angle iron, graphite grounding electrode
Integrated Rod (Including Full Set Of Brackets)	Galvanized steel pipe, customized specifications
Remote Management Software	IOT platform, mobile APP

Scenario-based Monitoring Pole Station Series/Water And Rain Monitoring Pole Station



Product Introduction

A one-pole water and rainfall image/video monitoring station is a station that installs all the equipment including rain gauge, water level meter , current meter, flow meter , telemetry terminal , communication transmission equipment, lightning arrester, solar charge controller, solar panel and battery on the A pole and mounting assembly made of galvanized steel pipe can collect real-time monitoring data such as rainfall and water level, and can send the data to multiple monitoring management centers simultaneously via 4G . It can be configured for use with the IOT platform and mobile phone APP .

- ◆ Convenience: No need for field investigation, exploration and pre-embedding in advance, simple on-site installation, 1-2 monitoring stations can be installed every day Pack.

- ◆ **Reliability:** Installation and debugging are completed before leaving the factory, and aviation plugs are used for connection with the motherboard. No on-site wiring is required, which fully guarantees the quality of the project.
- ◆ **Economical:** unified design, centralized assembly, standardized implementation, improved work efficiency, and reduced implementation costs.
- ◆ **Aesthetics:** Optimize the installation layout of the main poles and various equipment, hide all leads, and truly embody an integrated design idea.

Application Scenarios

It can be widely used in reservoirs, mountain torrent warning, rivers, irrigation areas, hydropower stations and other application fields.

Pole Station Composition

Main Equipment	Configuration options
Rain	Tipping bucket rain gauge /piezoelectric rain gauge
Water	Water level: Bubble water level gauge/pressure water level gauge /radar water level gauge/float water level gauge/ultrasonic water level gauge/electronic water gauge Flow rate: Radar flow meter Flow rate: Radar flow meter, Doppler open channel flow meter
Image (Video)	Images , Videos
Telemetry Terminal	KH. WTU: E-type, V-type, R-type
Transmission Equipment	4G communication module / network card+router

Main Equipment	Configuration options
Lightning Arrester	RTU built-in, external independent module
Solar Charge Controller	RTU built-in, external independent module
Solar Panels	18V / 10W ~ 100W
Battery	12V/20Ah~100Ah
Outdoor Terminal Box	570mm (height) X 400mm (width) X 200mm (thickness)
Grounding Accessories	Galvanized angle iron, graphite grounding electrode
Integrated Rod (Including Full Set Of Brackets)	Galvanized steel pipe, customized specifications
Remote Management Software	IOT platform, mobile APP

Scenario-based Monitoring Pole Station Series/Meteorological Monitoring Pole Station



Product Introduction

A one-pole weather station is a station that has all the equipment installed on it, including a rain gauge, weather sensor , telemetry terminal , communication transmission equipment, lightning arrester, solar charge controller, solar panels and batteries. A pole and mounting assembly made of galvanized steel pipe can collect real-time monitoring data such as rainfall and weather , and can send the data to multiple monitoring management centers simultaneously via 4G . It can be configured for use with the IOT platform and mobile phone APP.

- ◆ Convenience: No need for field investigation, exploration and pre-embedding in advance, simple on-site installation, 1-2 monitoring stations can be installed every day Pack.
- ◆ Reliability: Installation and debugging are completed before leaving the factory, and aviation plugs are used for connection with the motherboard. No on-site wiring is required, which fully guarantees the quality of the project.
- ◆ Economical: unified design, centralized assembly, standardized implementation, improved work efficiency, and reduced implementation costs.

-
- ◆ **Aesthetics:** Optimize the installation layout of the main poles and various equipment, hide all leads, and truly embody an integrated design idea.

Application Scenarios

It can be widely used in meteorology, transportation, engineering and other application fields.

Pole Station Composition

Main Equipment	Configuration options
Rain	Tipping bucket rain gauge /piezoelectric rain gauge
Meteorological	Mechanical wind speed and direction sensor, temperature, humidity and atmospheric pressure sensor Ultrasonic five-parameter sensor/Ultrasonic six-parameter sensor
Image (Video)	Images , Videos
Telemetry Terminal	KH. WTU- V type, R type
Transmission Equipment	4G communication module / network card+router
Lightning Arrester	RTU built-in, external independent module
Solar Charge Controller	RTU built-in, external independent module
Solar Panels	18V / 10W ~ 100W
Battery	12V/20Ah~100Ah
Outdoor Terminal Box	570mm (height) X 400mm (width) X 200mm (thickness)

Main Equipment	Configuration options
Grounding Accessories	Galvanized angle iron, graphite grounding electrode
Integrated Rod (Including Full Set Of Brackets)	Galvanized steel pipe, customized specifications
Remote Management Software	IOT platform, mobile APP

Scenario-Based Monitoring Pole Station Series/Agricultural Monitoring Pole Station



Product Introduction

A single-pole agricultural monitoring pole station is a station that installs all the equipment including rain gauge, meteorological sensor , light sensor, soil moisture sensor, telemetry terminal , communication transmission equipment, lightning arrester, solar charge controller, solar panel and battery on the A pole and mounting assembly made of galvanized steel pipe can collect real-time monitoring data such as rainfall , weather, light, and soil moisture , and can send the data to multiple monitoring management centers simultaneously via 4G . It can be configured for use with the IOT platform and mobile phone APP .

- ◆ Convenience: No need for field investigation, exploration and pre-embedding in advance, simple on-site installation, 1-2 monitoring stations can be installed every day Pack.
- ◆ Reliability: Installation and debugging are completed before leaving the factory, and aviation plugs are used for connection with the motherboard. No on-site wiring is required, which fully guarantees the quality of the project.
- ◆ Economical: unified design, centralized assembly, standardized implementation,

improved work efficiency, and reduced implementation costs.

- ◆ Aesthetics: Optimize the installation layout of the main poles and various equipment, hide all leads, and truly embody an integrated design idea.

Application Scenarios

It can be widely used in agriculture and other application fields.

Pole Station Composition

Main Equipment	Configuration options
Rain	Tipping bucket rain gauge /piezoelectric rain gauge
Meteorological	Mechanical wind speed and direction sensor, temperature, humidity and atmospheric pressure sensor Ultrasonic five-parameter sensor/Ultrasonic six-parameter sensor
Agriculture	Light UV radiation sensor, light global radiation sensor, soil moisture sensor, leaf temperature and humidity sensor
Image (Video)	Images , Videos
Telemetry Terminal	KH. WTU- V type, R type
Transmission Equipment	4G communication module / network card+router
Lightning Arrester	RTU built-in, external independent module
Solar Charge Controller	RTU built-in, external independent module
Solar Panels	18V / 10W ~ 100W

Main Equipment	Configuration options
Battery	12V/20Ah~100Ah
Outdoor Terminal Box	570mm (height) X 400mm (width) X 200mm (thickness)
Grounding Accessories	Galvanized angle iron, graphite grounding electrode
Integrated Rod (Including Full Set Of Brackets)	Galvanized steel pipe, customized specifications
Remote Management Software	IOT platform, mobile APP



Intelligent Water Resources, Hydrology Professional Solution Provider

Shenzhen KEHAO Information Technologies Co.Ltd

Address: 802A, Block E, Building 5, Software Industry Base,
Nanshan District, Shenzhen, China

Email: export@kehaoinfo.com

WhatsApp: +1 (213) 246-7245

Website: www.kehaoinfo.net