RIKA

Make Your Measurement Easy, Accuracy & Smart

Company profile

Hunan RIKA Electronic Technology Co.,Ltd is a high-tech company specialized in researching, manufacturing, and marketing good quality, reliable, professional wind speed & direction sensors, solar & lightning detectors, atmospheric pressure / temperature/ humidity sensors, soil moisture/temperature/EC/salinity sensors, rain gauges,PH/DO/ORP sensors,liquid level sensors and weather stations. We have steadily found new uses in environmental monitoring, solar energy, wind power utility , agriculture and other industrial applications.

As always, physical property, electrical input/output and package configuration are all important considerations when developing products to meet our customers' needs. We are committed to provide users with high-quality products, effective technical support, timely delivery and advanced project solutions.

Our professional sales team, high-quality product and good after-sales service have earned many good reputation from customers at home & abroad. Our products have been exported to 20+ countries and regions such as US, Germany, Italy, Russia, South Korea, and India.

We sincerely wish to cooperate with friends all over the world! Rika Sensor is always endeavoring to be your close business partner!! We are alert and responsive. We understand and anticipate all your needs!

CERTIFICATE

APPLICATION INDUSTRY
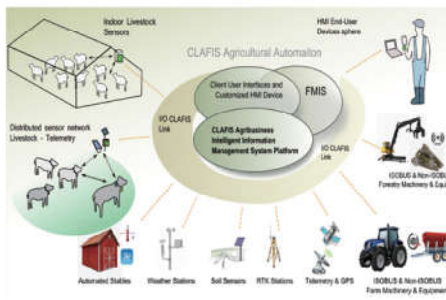
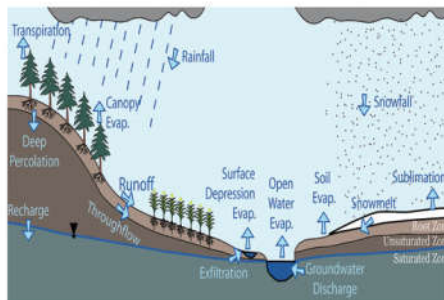Smart agriculture

Photovoltaic (pv) power

High equipment safety monitoring

Environmental monitoring

Water treatment

Hydrological monitoring

# CATALOG

➤ RK100-01 Wind Speed Sensor

The RK100-01 Wind Speed Sensor is specifically designed to accurately and reliably measure wind velocity under the adverse environmental conditions. Shell is made of high-strength aluminum alloy, the wind cup is made of 304 stainless steel, the PCB board is painted with anti-corrosion coating, featured with water proof, corrosion resisting. It has good performance in harsh environment.

FEATURES
Low starting threshold
Massive all-metal construction
Strong corrosion resistant ability
Stainless steel Wind cup, anti-wind load until 70m/s
Double bearing design
Surge protection design
Easy Installation

| Output	Pulses	4-20mA	RS485	0-5V/0-10V/1-5V
Supply Voltage	5-24VDC	12-24VDC	12-24VDC	12-24VDC
Load Capacity	>2kΩ	<500Ω(typ 250Ω)		>2kΩ
Range	0-30m/s, 0-60m/s	0-30m/s, 0-60m/s	0-30m/s, 0-60m/s	0-30m/s, 0-60m/s
Accuracy	±0.5m/s(<5m/s) ±3%FS(≥5m/s)	±0.5m/s(<5m/s) ±3%FS(≥5m/s)	±0.5m/s(<5m/s) ±2%FS(≥5m/s)	±0.5m/s(<5m/s) ±3%FS(≥5m/s)
Starting Threshold	<0.8m/s			
Limit wind speed	70m/s			
Ingress Protection	IP65			
Operating Temperature	-30℃-+70℃			
Weight(unpacked)	240g			
Dimension	Cup rotor:ø200mm,Height:150mm			
Main material	Cup:304stainless steel, Main Body:Aluminum alloy			
Finish	Polyester powder electrostatic spraying(black)			
Storage Condition	10℃-60℃@20%-90%RH			
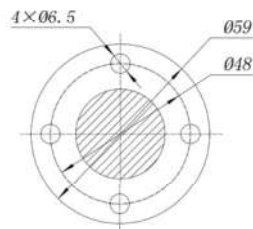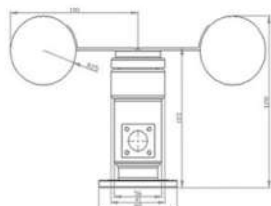
➤ RK100-02 Wind Speed Sensor

The RK100-02 Wind Speed Sensor uses a sensitive 3-cup anemometer designed to measure wind speed and wind run. The cups are made of carbon fiber material, with high intensity and low starting threshold. The signal processing units are built in the housing shell. It can be widely used in meteorology, marine, environmental monitoring, airport, harbor, laboratory, industrial and agricultural areas.

FEATURES
Low starting threshold
Overall carbon fiber material
Strong corrosion resistant ability
Light structure
Various output signals optional
Easy Installation

| Output	Pulses	4-20mA	0-5V	RS485
Supply Voltage	5V,12V-24V	5V,12V-24V	5V,12V-24V	5V,12V-24V
Load Capacity	>1kΩ	<500Ω(typ 250Ω)	>1kΩ	
Range	0-45m/s	0-45m/s	0-45m/s	0-45m/s
Accuracy	±(0.3+0.03V)m/s; (V is the current wind speed)			
Starting Threshold	<0.5m/s			
Limit wind speed	50m/s			
Ingress Protection	IP65			
Operating Temperature	-40℃~ +50℃			
Cable Grade	Nominal voltage:300V ,Temperature grade:80℃			
Weight(unpacked)	170g			
Dimension	Cup rotor:ø179mm,Height:160mm			
Main material	Carbon fiber			
Storage Condition	10℃-50℃@20%-90%RH			
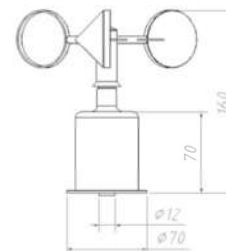
➤ RK110-01 Wind direction sensor

The RK110-01 Wind direction sensor is a sensitive wind direction indicator that gives a visual indication of wind direction. Only the highest quality corrosion resistant materials, such as high strength aluminum and stainless steel are used. The sensor has good resistance to sand,dust, salt spray and fungus resistance.This sensor is ideal for wind resource assessment studies and similar applications requiring accuracy, reliability and minimal maintenance.

FEATURES

Low starting threshold
Massive all-metal construction
Strong corrosion resistant ability
Various output signals optional
Surge protection design
Double bearing design
Easy Installation

Output	4-20mA	RS485	0-5V/0-10V/1-5V
Supply Voltage	12-24VDC	12-24VDC	12-24VDC
Load Capacity	<500Ω(typ. 250Ω)		>2kΩ
Range	0-360°		
Accuracy	±3°		
Resolution	16 direction		
Starting Threshold	<0.5m/s		
Limit wind speed	70m/s		
Ingress Protection	IP65		
Operating Temperature	-30℃-+70℃		
Weight(unpacked)	410g		
Main material	Vane:304stainless steel,Main Body:Aluminum alloy		
Finish	Polyester powder electrostatic spraying(black)		
Storage Condition	10℃-60℃@20%-90%RH		
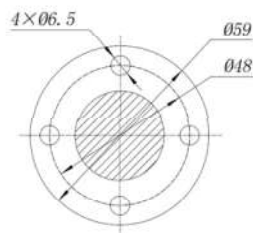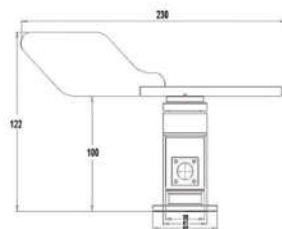
➤ RK110-02 wind direction sensor

The RK110-02 wind direction sensor is a sensitive wind direction indicator that gives a visual indication of wind direction. High precision magnetic sensitive chips are built in the housing shell. The wind vane is constructed on low inertia light metal to show wind directions. The product is wide range, good linearity, strong anti- lightning strike, good performance.

FEATURES

Low starting threshold
Great dynamic characteristics
Overall carbon fiber material
Strong corrosion resistant ability
Light structure
Various output signals optional
Easy Installation

Output	4-20mA	0-5V	RS485
Supply Voltage	5V,12V-24V	5V,12V,24V	5V,12V-24V
Load Capacity	<500Ω(typ 250Ω)	>1kΩ	
Range	0~360°		
Accuracy	±3°		
Resolution	1°		
Starting Threshold	<0.5m/s		
Limit wind speed	50m/s		
Ingress Protection	IP65		
Operating Temperature	-40℃~+50℃		
Cable Grade	Nominal voltage:300V ,Temperature grade:80℃		
Weight(unpacked)	195g		
Dimension	Turning Radius:147mm,Height:199mm		
Main material	Carbon fiber		
Storage Condition	10℃-50℃@20%-90%RH		
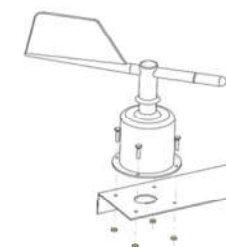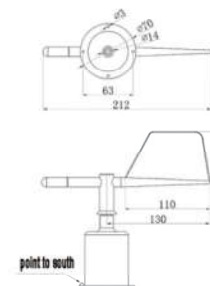
➤ RK120-01 Wind Speed & Direction Sensor

RK120-01 Wind Speed & Direction Sensor is an integrated design construction which combines wind speed and direction sensing element in one unit. The sensing component is sealed in the waterproof housing shell.The rotary wind cups drive the electronic counter for counting, and then the wind speed can be recorded by counting datum within a fixed time period. The wind direction is measured by the vane rotary which can drive the angular velocity sensor.It features low starting, non-blind zone measurement and a long service life.
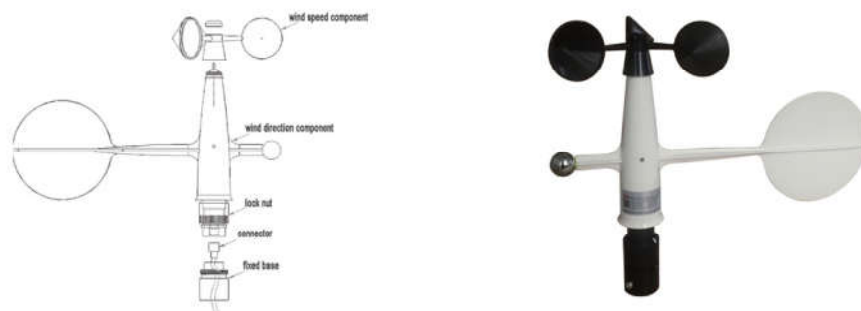
Item	Technical Specification	
	Wind speed	Wind direction
Range	0-60m/s	0-360°
Resolution	0.2m/s	1°
Accuracy	±2%	≤±3°
Acquisition Cycle	3s	
Supply	12-24VDC	
Output Signal	RS485,4-20mA	
Operating Temperature	-40℃-+70℃	
Ingress Protection	IP65	
Main material	Housing: AlMgSi, gray anodized	
Storage	10-60℃@20%-90%RH	
Dimensions	265 (h) × 360 (Ø) mm	
Weight(unpacked)	380g	

Recommended mast location in open area
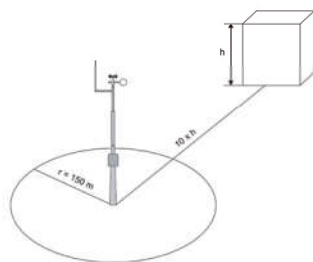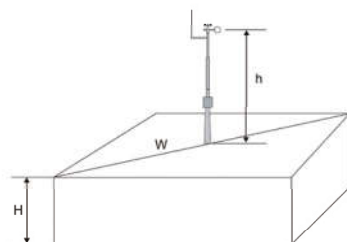
Recommended mast length on the top of a building

➤ RK120-03 Economical Ultrasonic Wind Sensor

RK120-03 Economical Ultrasonic Wind Sensor is a fully digital detector, high-precision sensors, integrated by the ultrasonic wind speed and direction sensors. it can accurately and quickly detect the wind speed, wind direction, with the structure lightweight and compact, no moving parts, high-strength structural design can be accurately detected in the harsh climatic conditions,made the accurate and stable elements, low maintenance, an open communications protocol and so on.It can be widely used in meteorology, oceanography, environment, airports, ports, laboratories, industry and agriculture, and transportation and other fields.

FEATURES

Adapt to complex weather conditions

No moving parts, long service life

The surface preservative treatment

Strong anti-interference

High accuracy

Item	Technical Specification	
Power Supply	12-24VDC	
Power consumption	24V@60mA	
Output Signal	RS232/RS485(Modbus/NMEA-0183),Voltage(0-5V),Current(4-20mA) optional	
Operating Temperature	-30℃-+70℃	
Ingress Protection	IP65	
Heating power(optional)	3W	
Electronic compass	Optional	
Atmospheric pressure	Optional	
Dimension	Φ145*138mm	
Weight(unpacked)	0.8kg	
Main material	ABS Engineering plastic	
Item	Technical Specification	
	Wind speed	Wind direction
Range	0-45m/s,0-60m/s	0-360°
Resolution	0.01m/s	1°
Accuracy	≤10m/s : ±0.2m/s >10m/s : <±2% the current value	±3°
Starting Threshold	0.1m/s	0.1m/s
Extreme Wind Speed	60m/s	

145

138

50
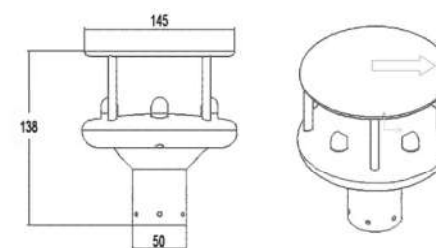
➤ RK150-01 Wind Speed Display Controller

The RK150-01 wind speed display controller gives a visual indication of real-time wind speed , with a LED digital display. In its housing shell, build in a microprocessor with the function of high performance, low power consumption. The wind speed early warn value and alarm value can be set by buttons on the panel. When alarming, the signal output can be controlled by relay. RK150-01 is the companion to our RK100-01 wind speed sensor.

FEATURES

| Easy operation |
| Visual display |
| Real-time monitoring |
| Rapid response |
| Low power consumption |

Item	Specification
Range	0-60m/s,0-216km/h
Resolution	0.1m/s
Accuracy	±1m/s
Signal input	RS485 or wireless
Alarm response time	<100mS
Type of alarm	Sound and light alarm
Contact capacity	5A@30VDC
Early warning	Any value within 1 m/s ~59 m/s, the early warning value must be lower than the alarm value
Alarm	Any value within 1 m/s~59 m/s
Operating Temperature	-30℃-+70℃
Power supply	AC110V/AC220V(with adapter)/DC12V/DC24V
Power consumption	With wire:<3W(sensor & controller) Wireless:sensor: 0.25W,controller: 2.5W
Ingress Protection	Controller:IP54,wind speed sensor:IP65
Weight(unpacked)	Controller:315g,wind speed sensor:240g
Main material	Controller:ABS,wind speed sensor:Aluminum alloy & 304SS
Storage Condition	10℃-50℃@20%-90%RH
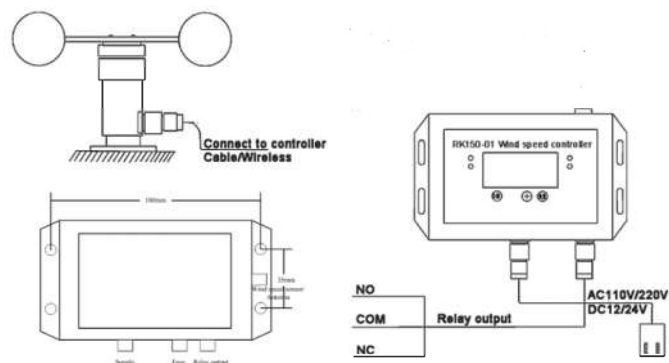
➤ RK200-03 Pyranometer

The RK200-03 Pyranometer is produced based thermoelectric principle; sensing elements are made by winding - plated thermopiles with multi contacts.Its surface is coated by black coating with high absorption rate. Hot contacts on the sensors surface, while the cold junction is located within the body,temperature difference between the hot and cold junction generates electromotive force, the thermoelectric effect is proportional to the solar radiation. In order to reduce the ambient temperature effect ,temperature compensation circuit designed here to reduce the effects to products properties.

FEATURES

| Conform to the WMO standard |
| Suitable for harsh environment |
| Measuring without power |
| High sensitivity |
| Double transmission glass |
| Easy installation |

Item	Specification
Spectral range	300-3200nm
Supply	5V,12-24VDC
Range	0-2000W/m2
Output	0-20mV,0-5V,4-20mA,RS485
Sensitivity	7-14μV*W-1*m2
Internal resistance	350Ω
Non-linearity	<±2%
Measuring angle	2π solid angle
Response time	≤35s(99%)
Stability	±2%/year
Cosine correction	≤±7%(Solar elevation angle=10°)
Temperature effect	±2%(-10℃-+40℃)
Operating temperature	-40℃-+80℃
Weight(unpacked)	2.5kg
Pack	Aluminum alloy instrument box
Dimension	ø165*120mm
Ingress Protection	IP65
Storage Condition	10℃-60℃@20%-90%RH
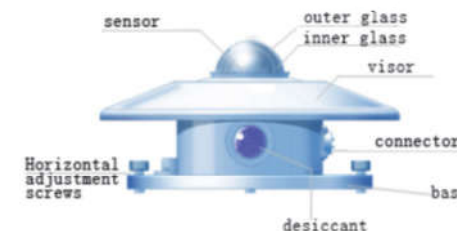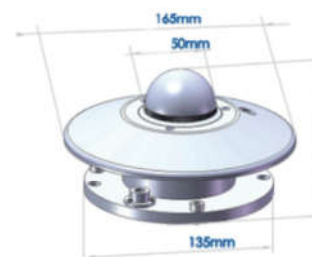
➤ RK200-04 Solar Radiation Sensor

RK200-04 Solar Radiation Sensor is designed on basis of optical principle. It is mainly used for measuring solar radiation within 300-3000nm wavelength. If the sensing face is downwards, it can test the reflected radiation and solar radiation on the incident to the inclined plane. If shad is added, it can test the scattered radiation. It is widely used to monitor the solar radiation in meteorology, solar energy, agriculture, construction materials aging and atmospheric pollution and etc..

| FEATURES |
| --- |
| Designed on optical principle |
| No moving parts, no maintenance, can work in any altitude |
| High sensitivity |
| Low power consumption |
| Light weight, long service life |
| Used as sunshine duration sensor |

Item	SPECIFICATIONS
Spectral range	300 ~ 3000nm
Supply	5V,12-24VDC
Range	0-1500W/m2
Output	0-5V,4-20mA,RS485
Response time	≤5s
Cosine correction	≤±10%(Solar elevation angle=10°)
Non-linear	≤±3%
Temperature effect	±0.08%/℃
Stability	≤±2%/year
Operating Temperature	-40℃-+80℃
Ingress Protection	IP65
Weight(unpacked)	420g
Shell material	Aluminum alloy or ABS optional
Storage Condition	10℃-60℃@20%-90%RH
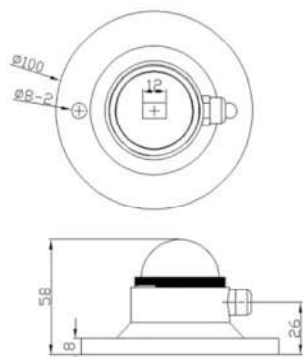
➤ RK200-02 PAR Sensor

The RK200-02 PAR Sensor is mainly used for measuring solar radiation within 400~700nm wavelength. When there is sunlight, voltage output proportional to incident light intensity will be generated by the silicon-photo detector in the sensor. Its sensitivity is proportional to the cosine of incident light direct angle.
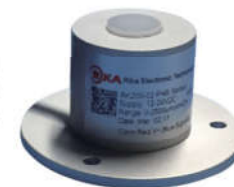
Item	Specifications		
Spectral range	400 ~ 700nm		
Supply	5VDC,12V-24VDC		
Accuracy	±5% rdg		
Range	0-2500μ*mol/m²*s,0-2000W		
Output	0-2000mV	4-20mA(2-wires)	RS485
Sensitivity	160μV/μ*mol*m²*s	6.4μA/μ*mol*m²*s	
	1000μV/W/m²	0.15μA/W/m²	
Response time	<1s		
Temperature effect	<0.05%/℃		
Cosine correction	<10% (until 80°)		
Non-linearity	<±2%		
Operating temperature	-40-+80℃		
Shell material	Aluminum alloy		
Storage Condition	10℃-60℃@20%-90%RH		

➤ RK200-07 UV Radiation Sensor

RK200-07 UV Radiation Sensor is used to measure the atmosphere of the sun's ultraviolet radiation (UVA & UVB),It provides public concern: the UV index, UV erythema measurement, on the health effects of the UV and UV special biology, are widely used in the exposure caused erythema dose, integrated environment ecological effect, the study of climate change and ultraviolet radiation monitoring and forecast.

Item	Specification
Spectral range	280 ~ 400nm
Supply	5V,12-24VDC
Range	0-200W/m², 0-200uW/cm², 0-15UV index
Output	0-2V,4-20mA(2 wires),0-5V,RS485
Accuracy	±5% rdg
Response time	≤1s
Cosine correction	≤±4%(Solar elevation angle=30°)
Non-linear	≤±3%
Temperature effect	±0.08%/℃
Stability	≤±2%/year
Operating Temperature	-40℃-+85℃
Ingress Protection	IP65
Weight(unpacked)	220g
Shell material	Aluminum alloy
Storage Condition	10℃-60℃@20%-90%RH

➤ RK210-01 Illuminance Sensor

RK210-01 Illuminance Sensor is very sensitivity and can detect weak light, has a wide measuring range, high accuracy, good waterproof performance, easy to use, easy to install. It's suitable for most applications, especially in agricultural greenhouses, urban lighting and other places.

Item	Specification
Range	0-100lux,0-2000lux,0-20klux,0-200klux optional
Spectral range	380-780nm
Supply	5VDC,12-24VDC
Output	4-20mA,0-5V,0-10V,RS485
Accuracy	<5%FS
Response time	1s
Temperature effect	±0.2%/℃
Repeatability	<1%FS
Display	LCD optional
Operating temperature	-40℃-+75℃
Weight(unpacked)	170g
Shell material	ABS,metal shell can be customized
Dimension	117*86*56mm

➤ RK220-01 Paste Type Temperature Sensor

RK220-01 Paste Type Temperature Sensor adopts high precision thermistor as the sensing component. It is with high accuracy, good stability. The signal conversion module can convert temperature to corresponding voltage, current or RS485 optionally. RK220-01 Past type temperature sensor is compact, easy-to-install, with good linearity, strong load capacity, long transmission distance and good anti- interference ability.

Item	Specification			
Range	-50-+100℃, -20-+50℃			
Supply Voltage	5VDC,12-24VDC			
Accuracy	±0.5℃			
Output	4-20mA	0-5V	RS485(MODBUS)	PT100/PT1000
Load Capacity	≤250Ω	≥1K		
Ingress Protection	IP65			
Operating Temperature	Probe: -50℃-+120℃ Conversion module:-40℃-+85℃			
Weight(unpacked)	Probe: 85g			
Transmitter module dimension	98*66*49mm or Φ25*120mm			
Storage Condition	10℃-60℃@20%-90%RH			
Surface mount adhesive	Attached			

➤ RK300-01 Wall-mounted Barometric Pressure Sensor

RK300-01 Wall-mounted Barometric Pressure Sensor with small size, reliable performance, high precision, long transmission distance, strong anti-jamming capability,which is widely used in meteorology, marine, environment, airports, ports, laboratory, agricultural and transportation and other fields.

Item	Technical Specification
Range	0-110kPa,80-110Kpa,60-110KPa optional
Resolution	0.01kPa
Accuracy	+0.2%FS
Temperature Drift	≤0.02%FS/℃
Response Time	<1s
Supply	5VDC,12-24VDC
Output Signal	RS485,4-20mA,0-5V, 0-10V optional
Operating Temperature	-40℃-+75℃
Ingress Protection	IP65
Storage	10-60℃@20%-90%RH
Dimensions	117 *86*40 mm
Weight(unpacked)	155g

➤ RK300-02 Dust Sensor

RK300-02 Dust Sensor using laser scattering principle, detecting the existence of dust particle concentration in the air, the minimum can detect 1.0um particles, has a good consistency and stability.According to different usage environment ,there are indoor type and outdoor type to select.

Item	Technical Specification
Sampling object	PM1.0,PM2.5,PM10
Range	0-1000ug/m^3
Accuracy	±3%FS@25℃
Supply	5VDC,12-24VDC
Output	4-20mA,0-5V,0-10V,RS485
Power Consumption	<50mA@24V(4-20mA)
Warm Up Time	3min
Response Time	<90s
Temperature Drift	≤0.2%FS/℃
Stability	<±2%FS
Repeatability	<±1%FS
Operating Temperature	-20℃-+50℃@15-80%RH
Storage	-40-60℃@20%-90%RH
Shell material	ABS

➤ RK300-03 CO_2 Sensor

RK300-03 CO_2 Sensor is using NDIR principle to detect the CO_2 concentration in the air, designed with advanced infrared absorption gas detection technology ,a precise optical path and an excellent circuit. A temperature sensor built-in realizes temperature compensation to ensure the accuracy of measurement. It is without oxygen dependence , of long service life.

Item	Technical Specification
Range(concentration)	0-2000ppm,0-5000ppm,0-10000ppm
Accuracy	±3%FS@25℃
Supply	5VDC,12-24VDC
Output	4-20mA,0-5V,RS485
Power Consumption	<50mA@24V(4-20mA)
Warm Up Time	3min
Response Time	<90s
Temperature Drift	≤0.2%FS/℃
Stability	<±2%FS
Repeatability	<±1%FS
Operating Temperature	-20℃-+60℃@15-80%RH
Storage	-40-70℃@20%-90%RH
Shell Material	ABS

➤ RK300-04 Leaf Wetness Sensor

RK300-04 Leaf Wetness Sensor is an important tool for observing and studying leaf wetness, preventing pests and diseases, and spraying sprinkler control. The accurate measurement of the moisture content of the leaf surface can be used to monitor the trace moisture or ice crystal residue. The shape of the sensor is simulated by the blade, which can simulate the characteristics of the leaf surface, so that it can reflect the situation of the leaf surface more accurately. By measuring the variation of the dielectric constant of the upper surface of the blade, the mist, water vapor and ice can be measured.

Item	Technical Specification
Range	Wetness: 0-100% Temperature: -40-+80℃
Accuracy	Wetness: ±5% Temperature: ±0.5℃
Repeatability	<±3%FS
Temperature Drift	≤0.2%FS/℃
Supply	5VDC,12-24VDC
Output	4-20mA,0-5V,0-2V,RS485
IP Rating	IP65
Operating Temperature	-40℃-+80℃
Dimension	65*13*145mm
Storage	-40-70℃@20%-90%RH

➤ RK330-01 Atmospheric Temperature, Humidity & Pressure

RK330-01 Atmospheric Temperature, Humidity & Pressure Sensor is a professional measurement of air temperature, relative humidity & barometric pressure. Sensors are built-in the water-proof and anti-UV shelter. It is widely used in agriculture, forestry, meteorology as well as a climate chamber, warehousing and other places.This model also can be equipped with 11 plates radiation shield(RK95-01) to protect the sensors from solar radiation and rain.

FEATURES
High Sensitivity
Fast response time
Long service life
Low consumption
Good stability of output
High temperature and high humidity environment for long-term use
Can integrated temperature humidity air pressure at the same time

Item	Technical Specification		
	Temperature	Humidity	Pressure
Range	-40-60℃	0-100%RH	10-110kPa(100-1100mbar)
Resolution	0.1℃	0.5%RH	0.1mbar
Accuracy	±0.5℃	±3%RH	±1mbar
Supply	5VDC, 12-24VDC		
Output Signal	4-20mA,0-10V,RS485(MODBUS),IIC,SDI-12		
Current Consumption	<20mA		
Operating Temperature	-40℃-+80℃		
Ingress Protection	IP65		
Storage	10-60℃@20%-90%RH		
Weight(unpacked)	120g		
Probe Material	ABS or aluminum alloy		
Radiation Shield(optional)	RK95-01,11 plates,M25*1.5		

MOUNTING

1. Install the product in stable environment area, avoid direct sunlight, away from windows air-conditioning, heating and other equipment. Otherwise it will cause measurement inaccuracies.
2.Fixing rail is optional.
3.If you use indoor, recommends clamp to install, as shown on the right picture.

➤ RK310-01 Atmospheric Temperature Sensor

RK310-01 Atmospheric Temperature Sensor is produced with precision platinum resistance(PT100,PT1000) as the sensing element,and the platinum resistance located in the probe head where is done with overall seal to ensure the accuracy , If need,this model also can be equipped with 11 plates radiation shield(RK95-01/02) to protect the sensors from solar radiation and rain.

Item	Technical Specification
Range	-50-+150℃
Accuracy(IEC751/EN60751)	PT100/1000 Class A
Output Signal	PT100/PT1000(3-wire)
Operating Temperature	-40℃-+85℃
Ingress Protection	IP67
Storage	10-60℃@20%-90%RH
Probe material	304ss
Cable material	Teflon skin with metal shielding net
Dimension(probe)	Φ6*50mm
Radiation Shield(optional)	RK95-01 11 plates

➤ RK330-02 Atmospheric Temperature & Humidity Sensor

RK330-02 Atmospheric Temperature & Humidity Sensor is a professional measurement of air temperature and relative humidity . Sensor element is digital temperature and humidity IC.Sensors are built-in the water-proof and anti-UV shelter. It is widely used in agriculture, forestry, meteorology as well as a climate chamber, warehousing and other places.

Item	Technical Specification	
	Temperature	Humidity
Range	-30-+70℃,0-50℃	0-100%RH
Accuracy	±0.3℃@25℃	±3%RH(10%-90%)
Repeatability	±0.1℃	±0.1%RH
Long-term Stability	<0.04℃/year	<0.5%RH/year
Response Time	<1s	
Supply	5VDC, 12-24VDC	
Output Signal	4-20mA,0-5V,RS485 MODBUS(RTU)	
Display(universal)	LCD is optional	
Current Consumption	<20mA	
Operating Temperature	-40℃-+70℃	
Ingress Protection	IP65	
Storage	10-60℃@20%-90%RH	
Weight(unpacked)	170g	
Dimension	117*86*41mm	
Shelter material	ABS	

➤ RK330-05 Atmospheric Temperature & Humidity Sensor

RK330-05 Atmospheric Temperature & Humidity Sensor is a professional measurement of air temperature & relative humidity. Sensors are built-in the water-proof and anti-UV shelter. It is widely used in agriculture, forestry, meteorology as well as a climate chamber, warehousing and other places.This model also can be equipped with RK95-02B to protect the sensors from solar radiation and rain.

Item	Technical Specification	
	Temperature	Humidity
Range	-40-+80℃ optional	0-100%RH
Resolution	0.05℃	0.5%RH
Accuracy	±0.2℃	±3%RH,±2%RH,
Supply	12-24VDC	
Output Signal	4-20mA,0-5V,0-10V,RS485(MODBUS)	
Power Consumption (US: power supply)	4-20mA: P≤US*0.02W 0-5V/0-10V: P≤US*0.008W RS485: P≤US*0.015W	
Operating Temperature	-40℃-+80℃	
Ingress Protection	IP65	
Storage	10-60℃@20%-90%RH	
Probe material	Metal	
Radiation Shield(optional)	RK95-02B	

➤ RK400-02 Rain & Snow Sensor

RK400-02 Rain & Snow Sensor is a high sensitive detector to achieve qualitative detection of rain and snow. There is a ring conductor sense rain board on the surface. Products are optional automatic melting snow and melting ice function (automatic heating). When it rains or snows, it will output switch signal.

Item	Specification
Supply Voltage	5VDC,12-24VDC
Heating power(optional)	10W
Output	Relay(NO/NC),NPN/PNP
Load Capacity(relay)	AC120V/2A ,DC24V/2A
Ingress protection	IP67
Operating Temperature	-30℃-+70℃
Weight(unpacked)	150g
Dimension	90*60*40mm
Shell material	ABS
Storage Condition	10℃-60℃@20%-90%RH

➤ RK400-01 Tipping Bucket Rainfall Sensor

The RK400-01 Tipping Bucket Rainfall Sensor is an instrument for testing rainfall in the nature. In order to meet the requirement of information transmission, processing, recording and display, the amount of rainfall is converted to pulse output. It can be widely used in weather stations, hydrometric stations, agriculture & forestry, defense & field monitoring stations. It can provide the original data for flood-prevention, water-supply system, and reservoir water management in plant.

FEATURES

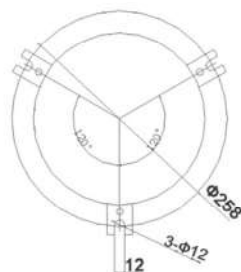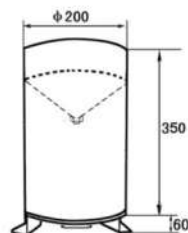| |
|---|
| Compact size for easy use |
| High accuracy, good stability |
| Mesh in the funnel preventing debris such as leaves and insects from entering the working of rain sensor(mesh is optional) |
| Well made tipping bucket with low resistance |
| Highly polished stainless steel construction |
| Horizontal Bubble in the bottom |
| Rain collector with filter, to prevent the leaves, such as debris jam over the hole |
| Optional heating function in cold region |

Item	Specification
Rainfall collector	Diameter :φ200mm, height: 350mm
Measured rainfall intensity	Max: 4mm/min
Allow rainfall intensity	Max: 8mm/min
Resolution	0.1mm, 0.2mm
Accuracy(2mm/min)	±4%
Maximum load voltage	30VDC(pulse output)
Maximum load current	20mA(pulse output)
Output	Reed switch pulses,RS485(12-24VDC supply)
Operating temperature(no freeze)	-20-+80℃
Main material	Collector:304SS,tipping bucket:ABS
Tipping bucket	Single
Heating(optional)	Heating power: approx.1000W Heating voltage:220VAC
Weight(unpacked)	3.5kg

➤ RK400-04 Economical Tipping Bucket Rainfall Sensor

RK400-04 Economical Tipping Bucket Rainfall Sensor is a hydrology, meteorological instrument used to measure the nature of rainfall, and it converts the precipitation into a pulse signal output. Designed with insect-proof nets, free blocking nozzle and built-in leveller. The model can be used in meteorology, hydrology, agriculture, forestry, field monitoring stations and other industries .Combined with rainfall recorder can be used to measure measure precipitation, precipitation intensity, precipitation time.

FEATURES

Compact size for easy use
High accuracy, good stability
Mesh in the funnel preventing debris such as leaves and insects from entering the working of rain sensor
Well made tipping bucket with low resistance
The main body made of high strength ABS
Horizontal Bubble in the bottom
Outlet with insect-proof screen

Item	Specification
Collector	Diameter :φ200mm, height: 271mm
Measured rainfall intensity	Max: 4mm/min
Allow rainfall intensity	Max: 8mm/min
Resolution	0.2mm
Accuracy(2mm/min)	±4%
Maximum load voltage	30VDC(pulse output)
Maximum load current	20mA
Output	Pulses(@10kΩ&0.01uF),RS485(12-24VDC supply)
Operating temperature	0-60℃@0%-100%RH
Main material	Rainfall collector & tipping bucket: ABS, Supporting leg:304SS
Weight(unpacked)	2.5kg
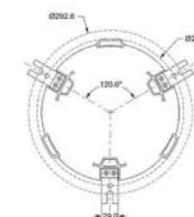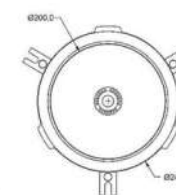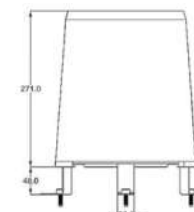
➤ RK400-06 Super-long Standby Rainfall Recorder

RK400-06 is an instrument which can automatically observe and store rainfall parameter. It mainly consists of rain sensor, data acquisition recorder, built-in lithium battery. It can long-term observe and record rainfall data in the field, the data read irregularly through a (laptop) computer. Data can be stored without network.The product lasts up to 3-5 years, no need replacing the battery.It can provide raw data for the measurement of precipitation, precipitation intensity, precipitation time and other parameters for the meteorological station, hydrological station .

Item	Specification
Power supply	Build-in lithium battery(attached)
Collector diameter	φ200mm
Measured rainfall intensity	Max: 4mm/min
Allow rainfall intensity	Max: 8mm/min
Resolution	0.2mm
Accuracy(2mm/min)	±4%
Storage capacity	16M bit (continiously storing data for 10 years)
Recording interval	1min-240min optional
Communication interface	USB
Operating Temperature	0-60℃@0%-100%RH
PC software	Attached
Main material	Rainfall collector & tipping bucket: ABS, Supporting leg:304SS

➤ RK400-07 Tipping Bucket Rainfall Sensor

The RK400-07 Tipping Bucket Rainfall Sensor is an instrument for testing rainfall in the nature. In order to meet the requirement of information transmission, processing, recording and display, the amount of rainfall is converted to pulse output. It can be widely used in weather stations, hydrometric stations, agriculture & forestry, defense & field monitoring stations. It can provide the original data for flood-prevention, water-supply system, and reservoir water management in plant.

Item	Specification
Rainfall collector	Diameter :φ200mm, height: 350mm
Measured rainfall intensity	Max: 4mm/min
Allow rainfall intensity	Max: 8mm/min
Resolution	0.5mm, 1mm
Accuracy(2mm/min)	±3%
Maximum load voltage	30VDC(pulse output)
Maximum load current	20mA(pulse output)
Output	Reed switch pulses,RS485(12-24VDC supply)
Operating temperature(no freeze)	-20-+60℃
Main material	Collector:304SS,tipping bucket:ABS,base:304SS
Tipping bucket	Single
Weight(unpacked)	3kg

➤ RK500-02 pH Sensor

Usually the pH in the range of 6.5-7.5 soil is called the neutral soil.RK500-02 pH sensors measure the pH value should be a good solution without professional calibration instruments, complex operation, expensive and difficult to carry, can be for continuous measurement of soil, waste water pH value, suitable for agriculture, sewage treatment plant, chemical industry, printing and dyeing, paper making, pharmacy, electroplating and environmental protection and other fields.

FEATURES
On-line & real-time monitoring
Solid dielectric and PTFE liquid junction, not easy jam, maintenance free
High accuracy
Simple operation and high reliability
External module is converted into a standard signal output
Multiple output signal is optional
Probe can be used under water
Submerged mounting bracket is optional

Item	Technical Specification
Range	0-14PH
Supply	5VDC,12-24VDC
Accuracy	±0.1PH
Resolution	0.01PH
Response time	<10s(in water)
Stability	≤0.02PH/24h
Output Signal	4-20mA,0-5V,0-2V,RS485
Operating Temperature	0-+80℃
Ingress Protection	IP67
Storage	10-60℃@20%-90%RH
Dimension	Probe: Φ28*160mm Transmitting Module: 82*52*35mm

INSTALLATION AND FIXED

When used for online soil measurement, transmitting module and probe is waterproof joint connection(gland) ,can not be separated, probe(with filter and protective cap) and transmitting module buried directly to use,show in figure 1.

Figure 2

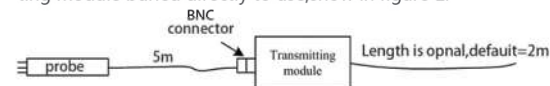Mounting bracket(length=1m):

Figure 1

If need to use in a pool or tank, you can choose submersible mounting bracket, between the probe and transmitting module use BNC connectors(show in figure 2), convenient to probe through the mounting bracket.
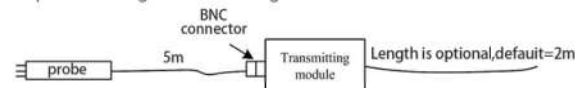
Filter and protective cap:

➤ RK500-03 EC and Salinity Sensor

The probe of EC sensor is made of graphite electrode that has the characteristics of stable performance,high sensitivity, wide application scope. EC sensor is used in the field monitoring of water & salt dynamics in soil.Also,it can be used in the anti-corrosion monitoring of underground oil,gas pipelines and other pipelines.The sensor can also be directly submerged in liquid,to measure its electrical conductivity.

Soil salinity sensor integrates graphite electrode and precision platinum resistance, to measure the soil salt through temperature compensation algorithm. After submerged into the soil, it can directly test salt content in the soil.

FEATURES
On-line & real-time measurement
With temperature compensation
High accuracy
Simple operation and high reliability
Fast response
Strong resistance to corrosion

Item	Technical Specification	
	EC	Salinity
Range	0-20mS/cm	0-0.15mol/L
Supply	5VDC, 12-24VDC	
Accuracy	±2%	
Response time	<1s	
Output Signal	4-20mA,0-2V,0-5V,RS485	
Electrode	Graphite	
Housing material	ABS	
Operating Temperature	-30℃-+70℃	
Ingress Protection	IP67	
Storage	10-60℃@20%-90%RH	

INSTALLATION & USAGE

1.In soil

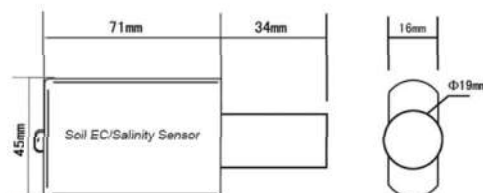Section installation

Ground stiletto installation

Measure the soil solution

Take a 1 mm sieve separation of 20.00 g dried soil, put in 250 ml bottle drying triangle, add distilled water, 100 ml (water:soil = 5:1),   oscillation for 5 minutes, the filtered in dry triangle in the bottle.Take the   filtered   solution 30 ml, placed in small 50 ml   beaker, the sensor electrode in the leaching liquid to   be tested.
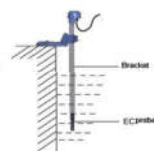
2.In liquid

Directly into the liquid

Adopt submersible mounting bracket(show in the below figure)

71mm   34mm   16mm

45mm   Soil EC/Salinity Sensor   Ф19mm

Mounting bracket(length=1m):   in liquid,probe submersible installation

➤ RK500-01 Soil/Liquid Temperature Sensor

RK500-01 Soil/Liquid Temperature Sensor is used to measure the temperature of the soil or liquid medium, applied to the automatic meteorological station, soil temperature testing,   pond or reservoir water temperature detection and other fields.The products can be used into the water or buried in the soil.Sensor with precision thermal resistance as a sensing component, built-in signal sampling and amplification, zero drift and temperature compensation function, has the characteristics of high measuring precision and good stability.

Item	Technical Specification
Range	-20-+50℃,-50-+100℃
Supply	5VDC,12-24VDC
Accuracy	±0.5℃
Response Time	<1s
Output Signal	PT100,4-20mA,0-5V,RS485
Operating Temperature	-50℃-+80℃
Ingress Protection	IP68
Storage	10-60℃@20%-90%RH
Size	Probe:Ø19 ×119 mm,Transmitting module:Ø27*120mm
Probe weight(unpacked)	145g
Housing material	304 stainless steel

➤ RK500-04 Dissolved Oxygen(DO) Sensor

RK500-04 Dissolved Oxygen(DO) Sensor design based on the principle of polarographic type and high performance through oxygen membrane, with short response time, measurement accuracy, stable performance, etc.The product adopts 3 electrodes system, the better performance in addition to the traditional silver platinum cathode and anode, and a silver reference electrode, greatly improve the stability and precision of the signal zero stability, It can be directly put into water online measurement, with multiple output signal is optional.

Split type

Integral type

Item	Technical Specification	
	DO	Tem perature
Range	0-20mg/L	0-60℃
Accuracy	±0.5%FS	±0.3℃
Resolution	0.01mg/L	0.1℃
Supply	5VDC,12-24VDC	
Temperature compensation	0-60℃	
Output	4-20mA,0-5V,RS485	
Measuring principle	Polarographic	
Maintenance	Every 6 months to replace head and internal electrolyte	
Power consumption	<0.4W	
Operating Temperature	0-+80℃	
Ingress Protection	IP68	
Storage	10-60℃@20%-90%RH	

➤ RK500-06 ORP Sensor

RK500-06 ORP sensor is a simple and effective solution for a wide variety of waste water and process applications. This all-in-one sensor provides simultaneous measurement of ORP and temperature. The wide body sensors (26 mm diameter) hold four separate elements in one unbreakable Ryton body, large volume gelled electrolyte and the double junction reference system slows down depletion and poisoning extending the life time.

Split type   Integral type

Item	Technical Specification	
	ORP	Tem perature
Range	-1999mV-+1999mV	0-100℃
Resolution	0.1mV	0.1℃
Accuracy	±1%	±0.3℃
Supply	5VDC,12-24VDC	
Temperature compensation	0-100℃	
Output	4-20mA,0-5V,RS485	
Operating Temperature	0-+80℃	
Measuring principle	Electrochemical	
Maintenance	Every 1 months to clean the electrode ,every 3 months calibrated	
Power consumption	<0.4W	
Ingress Protection	IP68	
Storage	10-60℃@20%-90%RH	

➤ RK510-01 Soil Moisture Sensor

RK510-01 is on the principle of FDR to measure the dielectric constant of the soil, stainless steel probe is inserted into the soil surface or soil profile to quickly online measurement of soil volumetric moisture content. It can be used permanently embedded in the soil.Soil moisture sensor can be widely applied to the soil moisture monitoring, water-saving irrigation, greenhouse control, fine agriculture, hydrology and meteorology, and other fields, road monitoring.

Item	Technical Specification
Range(m3/m3)	0-100%,0-50%,0-30%,
Accuracy	±2%(0-50%)
Output Signal	4-20mA ,0-5V,0-2V,RS485 optional
Response Time	<1s
Supply	5V,12-24VDC
Effective measurement area	With the center of the probe diameter is 70mm, high 70mm cylinder
Housing	ABS
Dimensions	Ø50*208mm(probe:Ø4*78mm)
Operating Temperature	-30℃-+70℃
Ingress Protection	IP67
Storage	10-60℃@20%-90%RH
Probe material	316L stainless steel

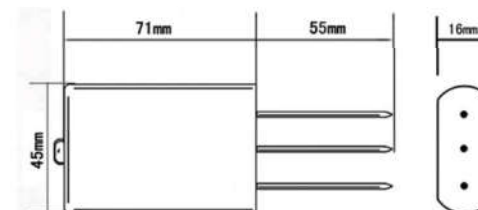## ➤ RK520-01 Soil Moisture & Temperature Sensor

The moisture measurement part is designed on the basis of the principle of FDR, by measuring the dielectric constant of the soil in order to measure the volume of the soil moisture content, temperature part adopts precision platinum resistance element, the product built-in drift calibration and temperature compensation circuit, can adapt to most applications.The probe can be permanently embedded underground and be connected to a data logger for unlimited testing.

FEATURES
High precision
Fast response
Soil properties affect little
Directly buried in soil
Widely used

Item	Technical Specification	
	Moisture	Tem perature
Range	0-100% (m3/m3)	-30℃-+70℃
Accuracy	±3%(0-50%)	±0.2℃
Output Signal	4-20mA ,0-5V,0-2V,RS485 optional	
Response Time	<1s	
Supply	5VDC,12-24VDC	
Effective measurement area	With the center of the probe diameter is 70mm, high 70mm cylinder	
Housing	ABS	
Dimensions	71*45*16mm(probe:2* Ø3*55mm,1*Ø4*55mm)	
Operating Temperature	-40℃-+80℃	
Ingress Protection	IP67	
Storage	10-60℃@20%-90%RH	
Probe material	316L stainless steel	

71mm   55mm   16mm

45mm

MOUNTING

1.Testing medium should be with uniform intensity.
2. If surface soil water content measurement, the sensor should be insert into soil vertically;
3. If multi-layer soil water content measurement, the sensor should be buried in the soil and parallel to the ground;
4. When removing sensors from the soil, please hold the sensor housing shell and do not forcibly pull on the cable. Soil on probes should be brushed tightly.
5. Please keep the sensor in dry & clean conditions.
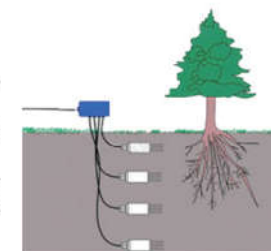
➤ RK520-02 Soil Moisture, Temperature & EC Sensor

RK520-02 Soil Moisture, Temperature & EC Sensor is integrated the moisture,temperature & EC measurement.The stainless steel probe is inserted into soil surface or soil profile to test quickly. The product with temperature compensation to ensure the accuracy of measurement.The probe can be permanently embedded underground and be connected to a data logger for unlimited testing.

Item	Technical Specification		
	Moisture	Temperature	EC
Range	0-100%（m3/m3）	-30℃-+70℃	0-20mS/cm
Accuracy	±3%	±0.2℃	±2%FS
Output Signal	RS485,0-2V		
Response Time	<1s		
Supply	5VDC, 12-24VDC		
Effective measurement area	With the center of the probe diameter is 70mm, high 70mm cylinder		
Housing	ABS		
Dimensions	71*45*16mm(probe:2* Ø3*55mm,1*Ø4*55mm)		
Operating Temperature	-40℃-+80℃		
Ingress Protection	IP67		
Storage	10-60℃@20%-90%RH		
Probe material	316L stainless steel		

➤ RK600-04 Intelligent Digital Indicator

RK600-04 Intelligent Digital Indicators can be used with variety of analog output sensors and transmitters to accomplish the measurement, transfer, display, transmission and control of temperature, pressure, speed,flow, level, force and displacement etc.The product is embedded bonding designed instrument, which is Chip microprocessors-based. It has a great expending capacity for the hardware, and flexible platform for software. It has not only the standard function, but also the function of expending the ON-OFF input, timing, sequential program control etc. They can be composed according to the actual need to achieve the best effect.

Display Mode	-1999~9999, decimal place optional through settings
Display Resolution	1/10000
Input Signal	Current Signal: 4-20mA 0-10mA 0-20mA (optional through settings)
	Pressure Signal: 1~5VDC 0~5VDC (optional through settings)
	Thermal resistance: Pt100 Pt500 Pt1000 (optional through settings)
	Thermocouple: K S R B N E J T (optional through settings)
Alarm Output	Two ways of relay output: Contact capacity 3A/220VAC
Transmitting Output	Current Signal:4-20mA
	Pressure Signal:1-5VDC 0-5VDC
Accuracy	±0.2%FS
Supply Voltage	220VAC: 220V ± 10%, Power consumption< 7VA
	12VDC: 9V ± 10%, Power consumption< 5VA
Measurement Resolution	1/60000 16bit A/D
Measurement Control Period	0.2s
Dimension(mm)	160^80^125、96^48^112 (W^H^L)

➤ RK600-03 General Color Data Logger

RK600-03 General Color Data Logger contains the signal collection, display, processing, operation, alarm, recording and other functions.The product adopts high-speed, high-performance 32-bit CPU(M4 microprocessors), PCB after "anti-corrosion,moisture-proof & dust-proof" three prevention treatment.Have strong anti-interference ability.
The recorder can be used in metallurgical, meteorology, petroleum, chemical industry, building materials, paper, electricity, food, pharmaceutical and industrial water treatment and other industries.

Item	Details
Display	3.5" TFT true color LCD display, 320 * 240 resolution, high-definition LED back-light, three side close to zero point of view
Input channels	1-18 optional(signal type can be configured)
Input signal	Current:4-20mA,0-10mA,0-20mA Voltage:0-5V,0-10V,1-5V Thermocouple:B,E,J,K,S,T,R,N Thermal resistance:Cu50,PT100 Other signals can be customized
Accuracy	0.2%FS
Internal storage capacity	48M
External storage	U-disk(attached)
Supply	AC220V,DC24V
Operating temperature	-10-+55℃@10-85%RH
Storage condition	-20-+60℃@5-95%RH
Communication mode	RS485(MODBUS RTU),RS232(add external module)
Power-drop protection	Data stored in the internal flash, historical data and configuration parameters will not be lost when power supply drop
Alarm output	Max.4 channels relay NO,250V/2A
Dimension	96*96*100mm(hole size:92*92mm)
Weight(unpacked)	370g

➤ RK600-02B Data Logger

RK600-02B Data Logger with data acquisition, storage, transmission and management, and other functions, is the core component of automatic weather station (RK900-01), which can connect 16 sensors at the same time, has the settings and LCD display, can communication with PC via cable or wireless connection, convenient for secondary development.

Item	Details
LCD	192 * 64
Internal storage	12M (If set to store every 4 hours can store data for more than 6 years)
External storage	Use special (U disk or SD card) to store data (optional function)
Data interface	RS232, RS485, USB
Supply	12VDC, AC110V, AC220V, solar power supply system optional
Record interval	1min-240min adjustable
Power consumption	2W
Operating temperature	-40-+75℃
Sensor connection	Max.:16 sensor interface
Weight(unpacked)	3.2kg
Dimension	310*218*120mm
Shell material	Metal(IP65,outdoor use directly) optional
Meteorological monitoring software	Use to display, analysis and storage data on the PC

➤ RK900-01 Automatic Weather Station

RK900-01 Automatic Weather Station is used for atmospheric temperature, relative humidity, atmospheric pressure,wind speed & direction,solar radiation,light,rainfall,soil temperature and humidity parameters measurement.The station consists of various types of sensors, LCD screen, meteorological data collector, chassis, support and other parts.It can be widely used in meteorology, hydrology, agriculture, forestry, sci-entific research and other fields.

FEATURES

High accuracy

Strong resistance to harsh environment

Strong corrosion resistant ability

Automatic storage and backup

Convenient data download

All-metal construction of bracket

Solar power supply optional

Parts	Details	Note
Data logger	Meteorological data collection, display, storage and communications	
Sensors & cable	Wind speed sensor, wind direction sensor, atmospheric temperature, atmospheric humidity, atmospheric pressure, rainfall, solar radiation, soil temperature, soil moisture,etc. (Optional according to user's requirements)	
Meteorological monitoring software	Use to real-time display, analysis and storage data on the PC	Attached
Multi-plate radiation shield	Used to install the atmospheric temperature, atmospheric humidity and atmospheric pressure sensors	
Tripod & accessories	2.5m typ.,other height is optional, stainless steel or steel with coating	
Data logger protective box	Used to install data logger, stainless steel or steel with coating	
110VAC/220VAC adapter	Optional when using AC power supply	
RS232 cable	2m typ.,other length is optional	
RS485 cable	2m typ.,other length is optional	
USB to RS232 converter	Used to connect PC without RS232 serial port	
U disk	Used for data storage	optional
GPRS module	Used for wireless data transmission, need to match with the local mobile communication network	optional
WIFI module	Used for wireless data transmission,need for wireless networking	optional
Ethernet module	Used for wireless data transmission,need for cable network	optional
LED screen	Size and display content can be customized	optional
Solar power supply system	Include photovoltaic panels(30W), controller, dual power supply controller, battery(25AH)	optional
Lightning protection device(optional)	Contain the lightning rod, connecting wires and grounding angle steel	optional

TYPICAL APPLICATION & TECHNICAL SPECIFICATION

Measure item	Measure range	Resolution	Accuracy
Wind speed	0-45m/s	0.1m/s	$\pm$ (0.3$\pm$0.03V) m/s
Wind direction	0-360°	1°	$\pm$3°
Atmospheric temperature	-50-+100℃	0.1℃	$\pm$0.5℃
Atmospheric humidity	0-100%RH	0.1%RH	$\pm$5%
Atmospheric pressure	10-1100hPa	0.1hpa	$\pm$0.3hPa
Solar radiation	0-2000W/m²	1W/m2	$\pm$5%
PAR sensor	0-4000μ*mol*m²*s	1μ*mol*m²*s	$\pm$1%
Rainfall	0-4mm/min	0.2mm	$\pm$4%
Soil temperature	-50-+80℃	0.1℃	$\pm$0.5℃
Soil moisture	0-100%	1%	$\pm$3%
CO2(optional)	0-5000ppm	1ppm	$\pm$3%
Soil PH(optional)	0-14PH	0.1PH	$\pm$0.02PH
Soil salinity(optional)	0-15000mg/L	1mg/L	$\pm$5%
Soil EC(optional)	0-15mS/cm	0.01mS/cm	$\pm$5%

Notice:

1.The measurement items can be increased or deleted in the table;

2.Measured data is automatically recorded and stored for download analysis;

3.If there are other functional requirements, you can contact us, we can provide professional solutions.
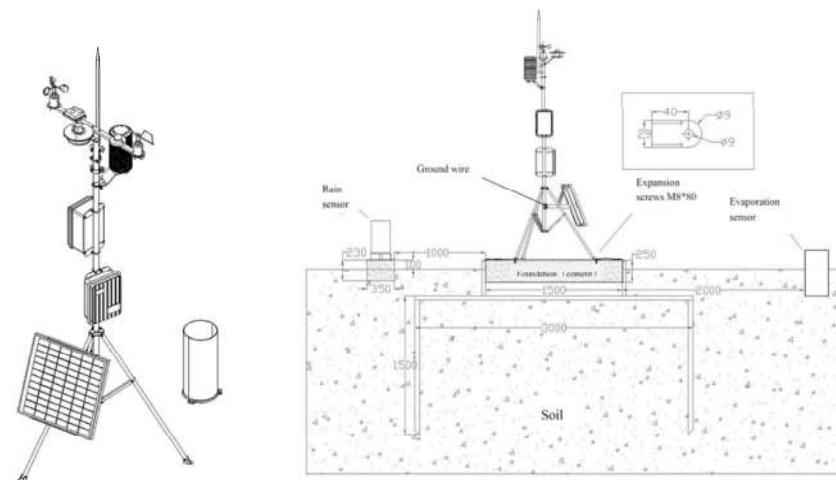
➤ RK900-03 Portable Weather Station

RK900-03 Portable Weather Station is a high-integrated mini weather station of micro-power consumption, equipped with a lightweight telescopic tripod for rapid installation. Its functions as : short-term meteorological observations; chronically continuously monitoring small weather station and adaptable for mobile real-time data collection.The test data can be transmitted to a fixed meteorological data center or vehicle mobile center system via RS232, RS485, USB or GPRS wireless communications.

Measure item	Measure range	Resolution	Accuracy
Wind speed	0-45m/s	0.1m/s	± (0.3±0.03V) m/s
Wind direction	0-360°	1°	±3°
Atmospheric temperature	-50-+100℃	0.1℃	±0.5℃
Atmospheric humidity	0-100%RH	0.1%RH	±3%
Atmospheric pressure	10-1100hPa	0.1hpa	±0.3hPa

Item	Details
Storage capacity	Store a consecutive month of record data
Communication mode	Default R232,RS485 & GPRS is optional
Supply	Recharged 4.8 AH lithium battery, ac adapter, external expanding power box
Electronic compass(optional)	With electronic compass when installation does not need to manually to the north
Portable aluminum alloy instrument box(optional)	600*200*500mm
Installation	The AWS can complete the installation within 1 minute
Ingress protection	IP65
Operating temperature	-40℃-+70℃
Dimension	1375 mm(Shrinkage at 1135 mm,Height can be customized.)
Weight(unpacked)	5kg

➤ RK900-05 Wireless Home Weather Station

RK900-05 Wireless Home Weather Station used to measure the indoor temperature and humidity and outdoor temperature and humidity, atmospheric pressure, light, ultraviolet radiation, wind speed and direction, dew-point,rainfall, large screen color LCD display and built-in large capacity storage function, the product can be through the WIFI meteorological data uploaded to www.wunderground.com, also can through the APP to view data.

Measure item		Measure range	Resolution	Accuracy
Outdoor Temperature		-30-+65℃	0.1℃	±1℃
Outdoor Humidity		0-99%RH	1%RH	±5%RH
Rainfall		0-9999mm	0.3mm (< 1000mm) 1mm (≥ 1000mm)	±10%
Wind speed		0-50m/s (0~100mph)	0.1m/s	± 1m/s (<5m/s) ±10% (≥5m/s)
Illumination		0-400k Lux	1Lux	±15%
Indoor Temperature		-10-+60℃	0.1℃	±1℃
Indoor Humidity		0-99%RH	1%RH	±5%RH
Barometric pressure		300-1100hPa	0.1hPa	±3hpa
Supply	Console	5V DC adapter (included)		
	Indoor sensor	2*AAA alkaline batteries (not included)		
	Outdoor sensor	3*AA rechargeable batteries (not included)		
Transmission distance in open field		100m(330 feet)		
Communication Frequency		433 MHz / 868 MHz / 915 MHz (optional)		
Measuring interval outdoor sensor		16s		
Measuring interval indoor sensor		64s		
Alarm duration		120s		

➤ RK900-10 Automatic Weather Instrument

RK900-10 Automatic Weather Instrument is simultaneously measure the atmospheric temperature, atmospheric humidity, wind speed, wind direction, air pressure and precipitation.Temperature, humidity and air pressure sensor is placed within the radiation shield.Internal GPS global positioning module and electronic compass can be mounted to the system to give a good indication of latitude and longitude and relative speed, and is especially suitable for installation on motion vector, such as special vehicles or vessels, etc.

Measure item	Measure range	Resolution	Accuracy
Wind speed	0-50m/s	0.01m/s	±2%
Wind direction	0-360°	1°	±3°
Atmospheric temperature	-40-+80℃	0.1℃	±0.2℃
Atmospheric humidity	0-100%RH	0.1%RH	±2%
Atmospheric pressure	150-1020hPa	0.1hpa	±1hPa
Rainfall	0-10mm/min	0.01mm	±0.4mm
Solar radiation	0-1750W/m2	1W/m2	±5%

Supply	12-24VDC
Output(Modbus-RTU)	RS485,RS232
Data update cycle	1s(default),other optional
Power consumption	<3W,heating power: 6W
Operating temperature	-40-+80℃
EMC	EN61000-6-3 , EN61000-3-3 EN61000-3-2 , EN61000-6-1
IP Rating	IP65
Main material	ABS

➤ RK95-03 Solar Power Supply System

Solar power supply system consists of solar panel, solar controller and battery.According to the actual needs can also configure the inverter.It can provide reliable power to sensors or weather stations, mainly used for wireless sensor, automatic test station, automatic weather stations and other power supply.

Application scope	Single wireless(WIFI,GPRS,Lora, etc.) sensor	RK160-02,RK200-05 or RK400-03	RK900-01
Solar panel	5Wp@18V	10Wp@18V	30Wp@18V
	240*230*17mm	295*295*20mm	520*420*25mm
Controller	10A@12V/24V	10A@12V/24V	10A@12V/24V
	81*62*20mm	81*62*20mm	81*62*20mm
Lead-acid battery	7AH@12V	12AH@12V	20AH@12V
	151*65*94mm	151*98*95mm	181*76*165mm
Protection box	Customized	Customized	Customized
Cable	RVV2*0.5	RVV2*0.75	RVV2*0.75

➤ RKL-01 Submersible Liquid Level Transmitter

RKL-01 Submersible Liquid Level Transmitter is with stainless steel isolation diaphragm diffusion silicon pressure core or ceramic capacitor core, the pressure core body adopts the process of laser trimming resistor for a wide temperature range of zero and sensitivity temperature compensation. Special cable for air-venting conduit and waterproof technology ensures water tightness, and ventilation between inside and outside , so as to acquire accurate and stable measuring data.

| Item	Technical Specification
Range	0 ~ 0.5m...200mH2O or 0 ~ 5KPa...2MPa
Sensing element	Diffusion silicon core or ceramic capacitor core
Output	4-20mA,0-5V,0-10V,RS485
Supply Voltage	10-30VDC,24V typ.
Over Pressure	2×FS
Measuring Medium	Liquid(not sticky)
Total Accuracy	0.1%FS,0.3%FS,0.5%FS
Long-term Stability	0.1%FS/year typ.,0.2%FS/year max.
Diameter	Diffusion silicon core: 27mm, 19mm optional Ceramic capacitor core: 27mm, 40mm, 45mm optional
Housing material	304SS,316L,Teflon(diameter=45mm)
Ingress Protection	IP68
Operating Temperature	-40℃~ +80℃
Compensating Temperature	-10℃~ 70℃
Temperature Drifting	0.03%FS/℃ typ.,0.05%FS/℃
Cycle Life	1*10^8 @25℃
Power Consumption	Current output:(U*0.02)W, Voltage output:(U*0.008)W, Digital output:(U*0.015)W
Load Capacity	Current output:≤(U-7)/0.02Ω, Voltage output:≥100kΩ
Storage Condition	10℃-50℃@20%-90%RH

FIXED BRACKET(OPTIONAL)

MOUNTING

As shown in picture 1,when the sensor is installed in static water such as in poos,water towers,probe is immersed into the bottom and should be as far as possible away from the pump or valves.
As shown in picture 2,when the sensor is installed in dynamic water such as dams or rivers,probe should be inserted into a steel pipe(inner dia is around 45mm),burrowing several holes at different height on the pipe side wall which is opposite to the water flow direction.
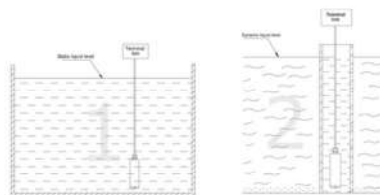
➤ RKL-02 Radar Liquid Level Transmitter

RKL-02 Radar Liquid Level Transmitter antenna emitter narrow microwave pulse, the pulse in the space at the speed of light transmission, met on the surface of measured medium, some of its energy is reflected back, by the same antenna.Firing pulse and receives the pulse interval and the antenna to the surface of the measured medium is proportional to the distance, to calculate the distance on the surface of the antenna to the measured medium.

Item	Technical specifications	
	Type A	Type B
Range	30m	70m
Output	4-20mA,RS485(MODBUS)	
Supply Voltage	12-24VDC	
Process connection	G1_1/2,support flange	
Working frequency	26GHz	
Accuracy	±3mm	
Display	LCD optional,display resolution:1mm	
Ingress Protection	IP65	
Medium temperature	-40 ~ +150℃	
Medium pressure	-100 ~ 100kPa	
Operating Temperature	-40℃~ +85℃	
Housing material	Aluminum alloy or ABS	
Antenna material	304ss	
Shock	10m/s²@10 ~ 150Hz	
Cable interface	M20*1.5,NPT1/2	
Storage Condition	10℃-50℃@20%-90%RH	

➤ RKL-03 Ultrasonic Liquid Level Transmitter

RKL-03 Ultrasonic Liquid Level Transmitter is a kind of non-contact, high reliability, high cost performance, easy installation and maintenance of material level measuring instrument.Firing pulse and receives the pulse interval and the antenna to the surface of the measured medium is proportional to the distance, to calculate the distance on the surface of the antenna to the measured medium.

Item	Technical specifications
Range	5m,10m,15m,20m,30m,40m,50m,60m
Output	4-20mA(4wires or 2wires),RS485
Supply Voltage	24VDC,220VAC
Accuracy	0.5%-1%
Resolution	±3mm or 0.1%FS(take the maximum value)
Display	LCD optional
Control output	Relay AC250V/8A or 30V/5A
Ingress Protection	Probe:IP68,Display unit:IP65
Operating Temperature	Probe:-40℃~ +85℃,Display unit:-20℃~ +60℃
Housing material	Anti-aging corrosion resistant engineering plastics
Process connection	Range=0-5m:M48*2 Range=0-10m:G2 or M60*2 Range=0-20m:G3 or M78*2 Range=0-30m:G3 M78*2 Range>30m:M108*2
Storage Condition	10℃ 50℃@20% 90%RH

➤ Multi-Plate Radiation Shield

The Multi-Plate Radiation Shield protects temperature,relative humidity or barometric pressure sensors from error-producing solar radiation and precipitation. The radiation shield reflect sunlight from any direction, prevent sun direct radiation and reflection on the ground to the sensor radiation, to protect the instrument from the effects of strong winds, rain, snow, etc.Freely through the air, making instrument work in ventilated environment, to ensure the accuracy of measured data.Products with high reflectivity and low thermal conductivity, resistance to ultraviolet ray function, can be used in extreme weather conditions.

RK95-01

RK95-02

RK95-07

RK95-08(with fan)

APPLICATION CASE