



RK900-12 Ultrasonic Automatic Weather Instrument



Overview

RK900-12 Ultrasonic Automatic Weather Instrument is a civilian comprehensive weather station, which can simultaneously measure six major meteorological elements, including atmospheric temperature, atmospheric humidity, wind speed, wind direction, air pressure, and rainfall. RK900-12 uses a low-power chip with a power consumption of only 1.7W, making it particularly suitable for solar or battery powered environments with power consumption requirements. Due to the adoption of new technologies and processes, the structure is more compact. You can also choose solar radiation and solar irradiance detection modules, which are very suitable for supporting agricultural meteorological systems. The shell is made of ASA engineering plastic.

Features

- High accuracy, fast response
- Easy to install, all-weather measurement
- RS485/RS232/SDI-12 output
- No moving parts, maintenance free
- Use radar measurement of precipitation, accurately reflect the rainfall and start-stop moment
- Low power consumption

Applications

- Environmental monitoring
- Sea-going vessel
- Bridge & Tunnel
- Solar and wind power generation
- Drilling platform
- Smart city
- Agriculture

Technical Parameter

Item	Principle	Range	Resolution	Accuracy
Wind speed	Ultrasonic	0-70m/s	0.1m/s	±3%FS
Wind direction	Ultrasonic	0-359°	1°	±3°
Atmospheric temperature	MEMS	-40°C- +80°C	0.1°C	±0.5°C
Atmospheric humidity	MEMS	0-100%RH	1%RH	±3%RH
Atmospheric pressure	MEMS	300-1100hPa	0.1hPa	±1hPa
Rainfall	Radar	0-200mm/hr	0.1mm	±5%
Altitude	MEMS	-500m - 9000m	1m	±5%
Solar radiation	Silicon-cell	0-2000W/m ²	0.1 W/m ²	±5%
UV	Silicon-cell	0-2000W/m ²	0.1W/m ²	±10%
Illumination	Silicon-cell	0-200000lux	0.1 lux	±5%
PM2.5,PM10	Photoelectric scattering	0-2000µg/m ³	1µg/m ³	±5%(PM2.5) ±8%(PM10)
Visibility	Forward scattering	10-10000m	1m	±15%
Noise	MEMS	30-130 dB	0.1dB	±3dB



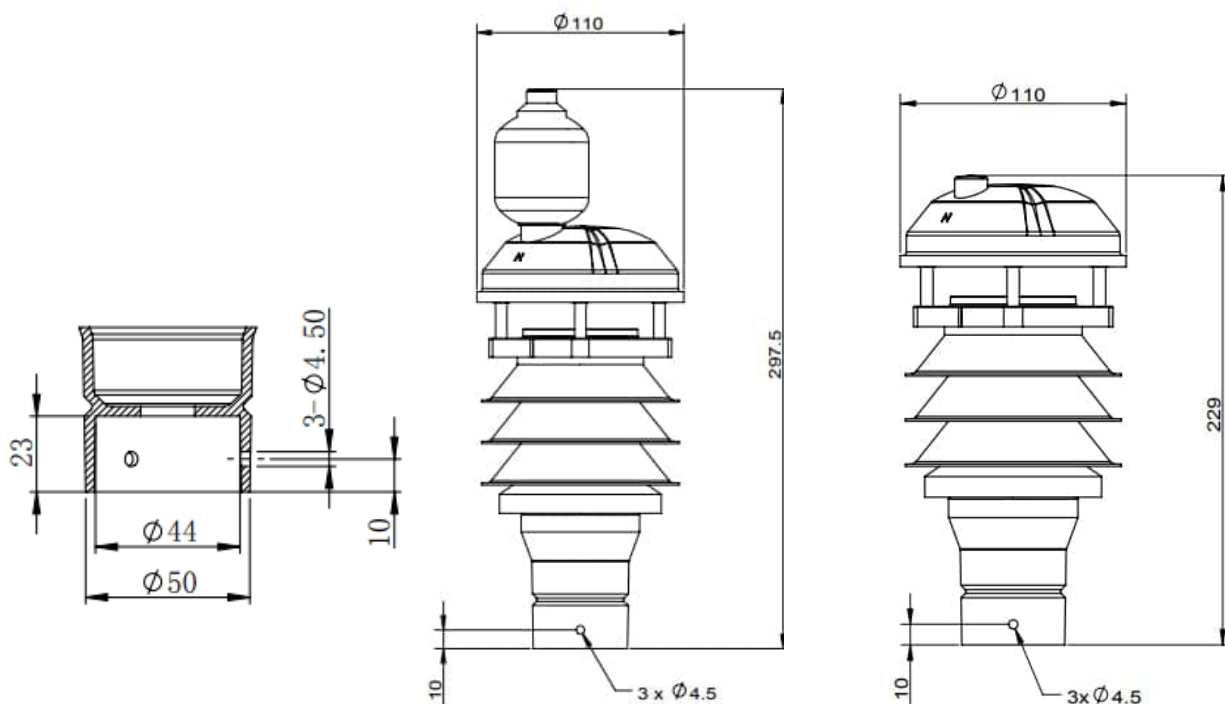
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Technical Parameter

Item	Technical Specification
Power supply	12-24VDC
Power consumption	<1.7W
Output signal	RS232/RS485(Modbus or NMEA-183), SDI-12
Operating temperature	-20℃-+70℃
Ingress protection	IP65
Dimension	Φ110*(217-298)mm(Dimensions will vary depending on the parameters)
Weight(unpacked)	0.39kg
Main material	ASA

Dimension&Mounting

Unit:mm

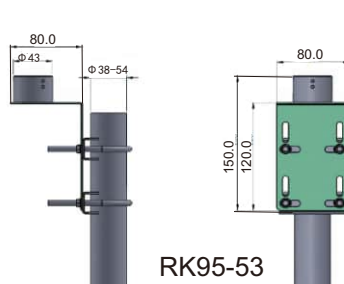




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Installation

Users can design, process, and install columns or corresponding installation methods based on the measurement dimensions of the base. You can also purchase corresponding installation brackets from our company separately. The following installation methods and dimensions are for reference only.



Note:
During installation, use a standard compass to determine the geographic north direction, and align the instrument's northward wind direction with the compass

Parameter Selection Table

Remark	Series	Type	Supply	Output	Communication protocol	Measure parameters	
RK							
	900						
		12					
			A				12-24VDC
			X				Other
				A			RS232
				B			RS485
				C			SDI-12
					A		Modbus-RTU(default)
					B		NMEA-0183
					C		SDI-12
					X		Other
						M5	Windspeed&direction, temp.&hum.air pressure
						M6	M5+rainfall
						X	Customized①

①Wind speed and direction are necessary, and other parameters can be combined freely

Revision time	Reviser	Current Version	Remarks
20260416	Echo	V5. 3	