

RK900-10 automatic weather instrument is simultaneously measure the atmospheric temperature, atmospheric humidity, air pressure, wind speed, wind direction, solar radiation, Illuminance, dust concentration and precipitation. Temperature, humidity and air pressure sensor is placed within the radiation shield. Wind speed and direction of ultrasonic principle. 24G radar detection on rainfall, which can quickly detect rainfall and rainfall intensity. 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, which can calculate the real and virtual wind speed and direction, and is especially suitable for installation on motion vector, such as special vehicles or vessels, etc.

FEATURES

- High accuracy, fast response
- Easy to install, all-weather measurement
- RS485/RS232/SDI-12 output
- No moving parts, maintenance free
- Built-in heating device to ensure the normal work in cold climate
- Use radar measurement of precipitation, accurately reflect the rainfall and start-stop moment
- Can be added the electronic compass, GPS and BDS global positioning module



APPLICATIONS

- Unattended meteorological monitoring system
- Mobile meteorological monitoring system
- Electric power safety monitoring
- Solar or wind power generation
- Port and navigation of the ship
- Scenic region
- Meteorological science research

TECHNICAL SPECIFICATION

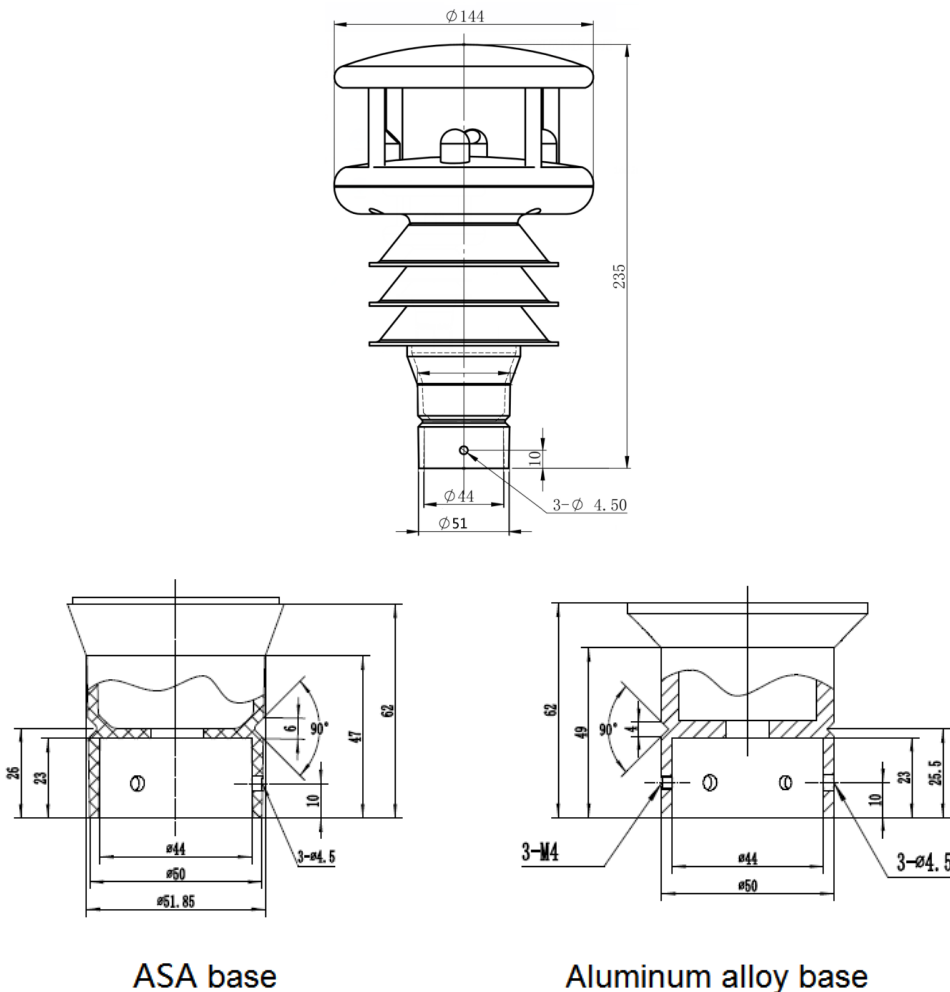
Measure item	Principle	Range	Resolution	Accuracy
Wind speed	Ultrasonic	0-60m/s	0.01m/s	±2%
Wind direction	Ultrasonic	0-360°	1°	±3°
Atmospheric temperature	MEMS	-40~+80°C	0.1°C	±1°C
Atmospheric humidity	MEMS	0-100%RH	0.1%RH	±3%
Atmospheric pressure	MEMS	150-1100hPa	0.1hpa	±1hPa
Precipitation (Rain/Hail/Snow)	Radar	0-200mm/hr.	0.1mm	±5% (@ wind speed≤5m/s)
Solar radiation	Silicon-cell	0-2000W/m ²	0.1W/m ²	±5% (@ Vertical irradiation)
Illuminance	Silicon-cell	0-200000lux	0.1lux	±5% (@ Vertical irradiation)

Dust concentration (PM2.5, PM10)	Photoelectric scattering	0-2000 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$	$\pm 10\%$
Visibility	Optical	10-5000m	1m	$\pm 15\%$
GPS①	Longitude, Latitude, Speed of ship, Real wind speed, Course			
Electronic Compass②	Real wind direction			
Supply	12-24VDC			
Output	RS485,RS232,SDI-12			
Communication Protocol	Modbus-rtu(default),NMEA-0183,SDI-12			
Data update cycle	1s(default),other optional			
Power consumption	<5W,auto-heating power: 9W			
Operating temperature	-40+80 $^{\circ}\text{C}$			
EMC	EN61000-6-3, EN61000-3-3 EN61000-3-2, EN61000-6-1			
IP Rating	IP66			
Main material	ASA, Aluminum alloy base(optional)			

①,② Optional when installed on moving objects

DIMENSION


Unit:mm



PARAMETER SELECTION TABLE

Remark	Series	Type	Supply	Output	Communication Protocol	Measure parameters	
RK							
	900						
		10					
			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	Wind speed, wind direction temperature & humidity air pressure
						M6	Wind speed, wind direction temperature & humidity air pressure, precipitation
						M9	Wind speed, wind direction temperature & humidity air pressure , precipitation, solar radiation, Illuminance, dust concentration
						X	Customized①

①Wind speed and direction are necessary, and other parameters can be combined freely, GPS positioning and electronic compass are optional configurations. GPS/BDS and electronic compass are optional configurations.


 Complies with applicable CE directives.

Specifications subject to change without notice. Version 4.1


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