

## RK200-02 PAR Sensor

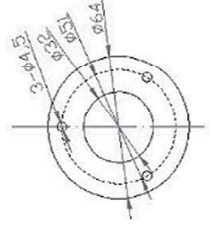
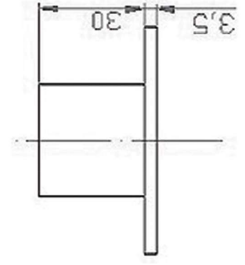
The RK200-02 PAR Sensor, is mainly used for measuring solar radiation within 400-700nm wavelength. It is easy installation and can work continuously in all weathers. When there is sunlight, voltage output proportional to incident light intensity will be generated by the silicon-photo detector in the sensor. Its sensitivity is proportional to the cosine of incident light direct angle. Each product is with one sensitivity coefficient respectively. It can directly output radiation value in unit of  $\mu\text{mol}/\text{m}^2\cdot\text{s}$ .

### FEATURES

Metal construction
Harsh environment workable
High sensitivity
No power supply measurement
Compact size for easy use



ITEM	Specification
Spectral range	400 ~ 700nm
Supply	350-1100nm
Accuracy	5VDC, 12V-24VDC
Range	$\pm 5\%$ rdg
Output	0-2500 $\mu\text{mol}/\text{m}^2\cdot\text{s}$ , 0-20000W/m <sup>2</sup>
Sensitivity	0-2000mV 800 $\mu\text{V}/\mu\text{mol}/\text{m}^2\cdot\text{s}$ 1000 $\mu\text{V}/\text{W}/\text{m}^2$
Response time	4-20mA(2-wires) 6.4 $\mu\text{A}/\mu\text{mol}/\text{m}^2\cdot\text{s}$
Temperature effect	8 $\mu\text{A}/\text{W}/\text{m}^2$
Cosine correction	< 1s (99%)
Non-linearity	< 0.05%/°C
Operating temperature	< 10% (until 80°)
Shell material	Aluminum alloy
Storage Condition	$\pm 2\%$ -40~+80°C 10°C-60°C@20%-90%RH



## RK200-03 Pyranometer

The RK200-03 Pyranometer is produced based thermopile 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
With horizontal bubble
High sensitivity
Double transmission glass
Visual desiccant window
Easy installation



ITEM	Specification
Spectral range	300-3200nm
Supply	5V, 12-24VDC
Range	0-2000W/m <sup>2</sup>
Output	0-20mV, 0-5V, 4-20mA, RS485
Sensitivity	7-14 $\mu\text{V}/\text{W}\cdot\text{m}^2$
Internal resistance	350 $\Omega$
Non-linearity	< $\pm 2\%$
Measuring angle	2 $\pi$ solid angle
Response time	$\leq 20\text{s}$ (99%)
Zero drift( temperature drift:5k/h)	$\pm 5\text{W}/\text{m}^2$
Stability	$\pm 2\%$ /year
Cosine correction	$\leq \pm 7\%$ (Solar elevation angle=10°)
Temperature effect	$\pm 2\%$ (-10°C~+40°C)
Operating temperature	-40°C~+80°C
Recalibration interval	2 years
Desiccant	Silica gel desiccant
Weight(unpacked)	2.5kg
Pack	Aluminum alloy instrument box
Dimension	$\varnothing 185 \times 120\text{mm}$
Installation bracket(optional)	Horizontal bracket or adjustable angle bracket
Ingress Protection	IP65
Storage Condition	10°C-60°C@20%-90%RH

## RK200-04 Solar Radiation Sensor

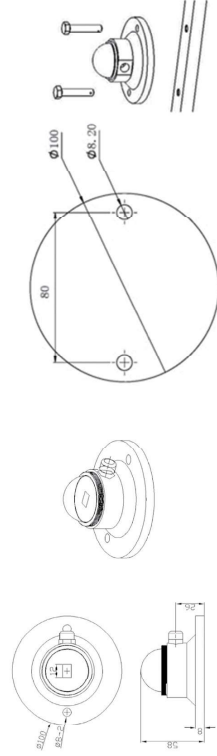
RK200-04 Solar Radiation Sensor is designed on basis of silicon-cell principle. It is mainly used for measuring solar radiation within 300 ~ 1100nm wavelength. If the sensing face is downwards, it can test the reflected radiation and solar radiation on the incident to the inclined plane. If shad is added, 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 silicon-cell 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	Specification
Spectral range	300 ~ 1100nm
Supply	5V,12-24VDC
Range	0-1500W/m <sup>2</sup>
Resolution	1W/m <sup>2</sup>
Output	0-5V,4-20mA,RS485
Response time	≤5s
Cosine correction	≤±10%(Solar elevation angle=10°)
Non-linear	≤±3%
Temperature effect	±0.08%/°C
Stability	≤±2%/year
Operating Temperature	-40°C~+80°C
Ingress Protection	IP65
Weight(unpacked)	420g
Shell material	Aluminum alloy
Storage Condition	10°C-60°C@20%-90%RH



## RK200-07 Ultraviolet(UV) Radiation Sensor

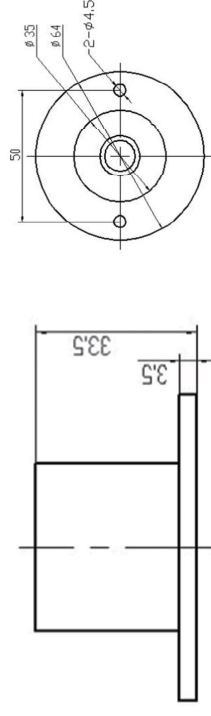
RK200-07 UV Radiation Sensor is a precision instrument used to measure the atmosphere of the sun's ultraviolet radiation (UVA & UVB), supporting the product related information acquisition instrument use can provide public concern: the UV index, UV erythema measurement, on the health effects of the UV and UV special biology and chemistry, highly meteorology, industry construction, medical attention, are widely used in the exposure caused erythema dose, integrated environment ecological effect; the study of climate change and ultraviolet radiation monitoring and forecast.

### FEATURES

Light weight
No moving parts, no maintenance, can work in any altitude
High sensitivity
Low power consumption
Long service life



ITEM	Specification
Spectral range	280 ~ 400nm
Supply	5V,12-24VDC
Range	0-200W/m <sup>2</sup> ,0-200μW/cm <sup>2</sup> (only for 0-2V output),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%/°C
Stability	≤±2%/year
Operating Temperature	-40°C~+85°C
Ingress Protection	IP65
Weight(unpacked)	150g
Shell material	Aluminum alloy
Storage Condition	10°C-60°C@20%-90%RH



## RK200-08 Automatic Tracking Solar Radiation Measurement System

RK200-08 Automatic tracking solar radiation measurement system is an unattended solar radiation monitoring system, which can accurately observe direct, scattered and total solar radiation at the same time. It uses the Angle sensor and the four quadrant balance light sensor technology, automatic tracking the sun, the sun rays remain vertical to the radiation sensor within the cone of light, track motion trajectory tracking system according to the sun and light way, the combination of 2D automatic control, realize a full automatic real-time tracking of the sun. Products from the base, bench, screw, gear box, motor, microcomputer controller, direct radiation sensor, scattered and total solar radiation, power and other parts. The product is used to measure the direct and scattered solar radiation in the spectral range of 280 to 3000 nm. It also can be directly measured sunshine time. It can match RK600 series data logger. It is widely used in photovoltaic environmental monitoring, meteorological radiation observation, agricultural and forestry research and many other fields.

### FEATURES

Conform to the VIM0 standard
Simple operation, simple initialization can start measurement,
High tracking accuracy
Mounting bracket has good compatibility and can be compatible with similar sensors
Level adjustment
Closed-loop mechanical rotation prolongs the service life of the tracker
Optional AC or DC power supply



ITEM	Direct radiation	Scattered radiation	Total solar radiation(optional)
Spectral range	280-3000nm	400-1100nm	300-3200nm
Range		0-2000W/m <sup>2</sup>	
Output		0-20mV or Customized(RS485...)	
Sensitivity		7-14μV*/V/-1* <sup>2</sup> m <sup>2</sup>	
Internal resistance	Approx. 100Ω	Approx. 350Ω	Approx. 350Ω
Non-linearity	<±2%	<±2%	<±2%
Response time	≤25s(99%)	≤20s(99%)	≤20s(99%)
Stability	±1%/year	±2%/year	±2%/year
Temperature effect		±1%(-10°C→+40°C)	
Operating temperature		-40°C→70°C, 0-100%RH	
Motor		Stepper motor	
Tracking accuracy		<±0.3°(4h)	
Torque		12Nm	
Power consumption		3W	
Tracking way		Automatic tracking the two-dimensional Angle	
Supply		DC12V, AC220V or other	
Speed		50°/s	
Horizontal Angle(azimuth)		0-200°	
Vertical Angle(declination)		-15→+90°	
Ingress Protection		IP65	
Operating temperature		-40°C→70°C, 0-100%RH	
Communication interface		RS232, RS485, USB	
Storage Condition		10°C-60°C@20%-90%RH	
Weight(unpacked)		6.5kg(include sensors)	

## RK200-17 Ultraviolet (UVC) Radiation Sensor

RK200-17 adopts high precision UV probe, compact structure, widely used in ultraviolet sterilization equipment, industrial sewage treatment ultraviolet sterilization equipment, hospital health system and other fields of ultraviolet light source detection. There is a high cost performance. The sensor is suitable for monitoring the ultraviolet light source in the field of ultraviolet sterilization (253.7nm).

### FEATURES

Light weight
High precision
High sensitivity
Low power consumption
Long service life



ITEM	Specification
Spectral range	210 ~ 280nm
Supply	24VDC
Range	0-2000W/m <sup>2</sup>
Output	4-20mA, RS485
Peak response spectrum	253.7nm
Response time	≤0.5s
Non-linear	±0.1%FS
Temperature drift coefficient	<-0.1%/°C
Operating Temperature	-20°C→70°C
Ingress Protection	IP65
Shell material	ABS /Aluminum alloy
Storage Condition	10°C-60°C@20%-90%RH

