RK200-03 Pyranometer

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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
- Easy installation

APPLICATIONS

- Solar energy & photovoltaic power generation
- Agriculture and forestry monitoring
- Crop growth monitoring
- Tourism eco
- Weather stations

SPECIFICATIONS

Item	Specification
Spectral range	300-3200nm
Supply	5V,12-24VDC
Range	0-2000W/m^2
Output	SDI-12
Sensitivity	7-14μV*W-1*m^2
Internal resistance	350Ω
Non-linearity (Accuracy)	≤±2% of full measurement scale
Measuring angle	2π solid angle
Response time	≤20s(99%)
Zero drift(temperature drift:5k/h)	±5W/m2
Stability	±2%/year
Cosine correction	≤±7%(Solar elevation angle=10°)
Temperature effect	±2%(-10℃-+40℃)
Operating temperature	-40℃-+80℃
Recalibration interval	2 years
Weight(unpacked)	2.5kg
Pack	Aluminum alloy instrument box
Dimension	ø185*120mm
Installation bracket(optional)	Horizontal bracket or adjustable angle bracket

Ingress protection	IP65
Storage condition	10℃-60℃@20%-90%RH

OUTPUT CHARACTERISTICS

- **0-20mV**

Solar radiation values(W/m^2)= Voltage output value(μV)/sensitivity coefficient(μV*W^{-1}*m^2),

Each product is with one sensitivity coefficient respectively (It is mentioned on the product's label)

- **0-5V**

Solar radiation values(W/m^2)=(V/5)*2000(Where V is output voltage value,unit:V)

- **4-20mA**

Solar radiation values(W/m^2)=((I-4)/16)*2000(Where I is output current value,unit:mA)

- **RS485**

MODBUS-RTU

- **SDI-12**

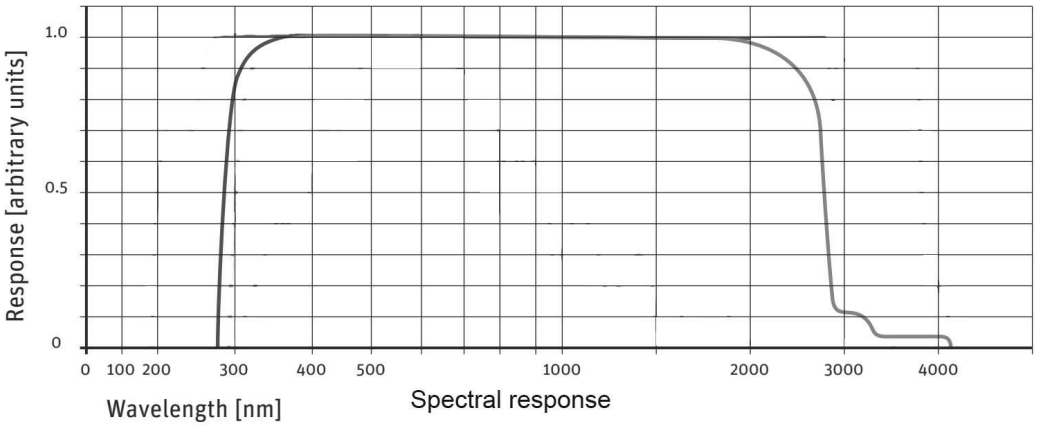
Standard Communication Protocol

DIMENSION

MOUNTING & MAINTENANCE

- The sensor should be installed in the open air without any shield above the sensing surface .
- The sensor connector should be faced to the north, fix it after the horizontal position is well adjusted.
- Please check the filter cover regularly & make sure it is clean.
- Please do not remove or loose the filter cover,otherwise the accuracy will be affected.
- Protection cover is not necessary in general rainfall, but if prolonged heavy rains or hail, the protective cover is recommended to be installed.
- The sensitivity is recommended to be re-calibrated after two years use.

SPECTRAL RESPONSE



PARAMETER SELECTION TABLE

Remark	Series	Type	Supply	Output	Cable Length	
RK						
	200					
		03				
			A			5VDC
			B			12-24VDC
			X			Other
				A		/
				B		/
				C		/
				D		/
				E		SDI-12 (12-24V power supply)
				X		Other
					2500	Units:mm（typ）
					3000	Units:mm
					...	Units:mm

Example: RK200-03BE2500 Supply: 12-24V, Output:SDI-12,Cable Length:2.5m.

Complies with applicable CE directives.

Specifications subject to change without notice. Version 4.0

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