

The total solar radiation sensor can be used to measure the total solar radiation intensity in the spectral range of 0.28-3  $\mu$  m. The core device of the radiation sensor is a high-precision photosensitive element, which has good stability and high precision; at the same time, a quartz glass cover made of precision optical cold processing is installed outside the sensing element, which effectively prevents environmental factors from affecting its performance. This product complies with ISO9060 and WMO World Meteorological Organization (CIMO Guide) technical specification requirements. It can be widely used in the measurement of solar radiation energy in departments such as meteorology, solar energy utilization, agriculture and forestry, building material aging and atmospheric environment monitoring.

This product meets the requirements of the latest Chinese Meteorological Standard "GB / T 19565-2017 Total Radiation Sensor".

## FEATURES

- Conform to the WMO standard
- Suitable for harsh environment
- With horizontal bubble
- High sensitivity
- Double transmission glass
- Visual desiccant window
- Easy installation



## APPLICATIONS

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

## SPECIFICATIONS

Item	Specification
Spectral range	280-3000nm
Range	0-2000W/m <sup>2</sup>
Output	0-20mV, 4~20mA, RS485
Standard	ISO 9060:1990,class one
Sensitivity	7-14 $\mu$ V*W-1*m <sup>2</sup>
Internal resistance	approximate to 800 $\Omega$
Non-linearity (@100W/m <sup>2</sup> ~1000W/m <sup>2</sup> )	$\pm$ 1%
Response time	$\leq$ 13s(95%)
Thermal Radiation Zero Offsetradiation	$\pm$ 10W/m <sup>2</sup>
Temperature change zero	$\pm$ 3W/m <sup>2</sup>
Instability (change in percentage of response rate each year)	$\pm$ 1%

Directional response	± 18W/m²
Spectral selectivity ISO (0.35~1.5um)	±3%
Cosine correction	≤±5%(Solar elevation angle=10°)
Temperature response(-10~40℃)	±3%
Operating temperature	-40℃~+85℃
Weight(unpacked)	0.58kg
Dimension	Ø143*107mm
Installation bracket(optional)	Horizontal bracket or adjustable angle bracket
Ingress Protection	IP65
Storage Condition	10℃-60℃@20%-90%RH

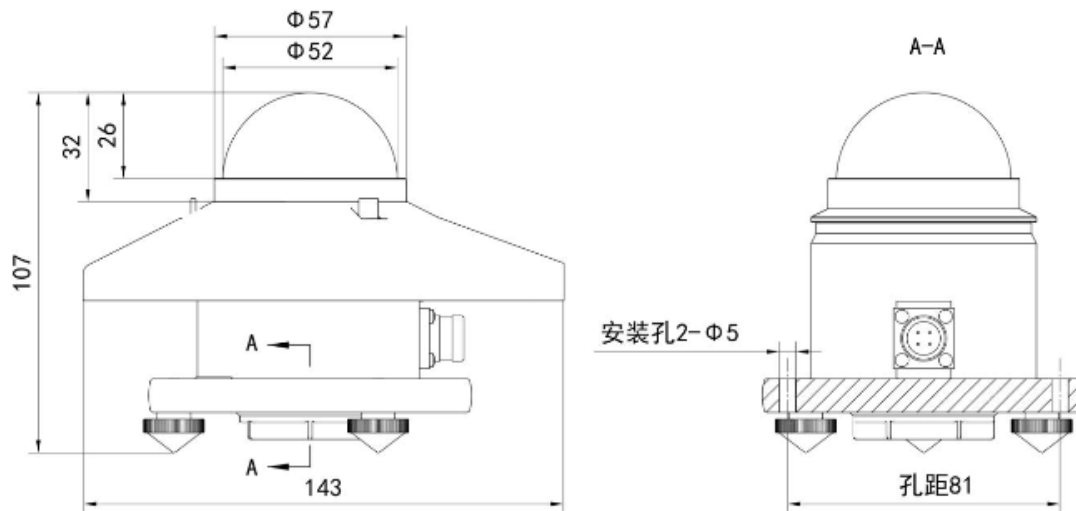
## OUTPUT CHARACTERISTICS

- **0-20mV**

Solar radiation values(W/m²)= Voltage output value(μV)/sensitivity coefficient(μV\*W<sup>-1</sup>\*m²),

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

## 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.
- Please make sure the desiccant to be dry .(Check the desiccant in the desiccant box. This is a non-toxic indicator silica gel. When the color changes from orange to dark green, it needs to be replaced in time.)

- 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.

## PARAMETER SELECTION TABLE

Remark	Series	Type	Supply	Output	Cable Length	
RK						
	200					
		03				
			A			5VDC
			B			12-24VDC
			X			Other
				A		4-20mA
				C		0-20mV(without power supply)
				D		RS485
				X		Other
					1500	Units:mm (typ)
					3000	Units:mm
					...	Units:mm

Example: RK200-03BA1500 Supply: 12-24V, Output:4-20mA,Cable Length:1.5m.



Complies with applicable CE directives.

Specifications subject to change without notice. Version 5.0

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