



RK200-02 Photosynthetically Active Radiation Sensor



Overview

RK200-02 PAR sensor is primarily used for measuring solar radiation within the spectral ranges of 350-1100nm and 400-700nm. Featuring easy installation, it can operate continuously under various weather conditions. When exposed to sunlight, the silicon photodetector inside the sensor generates a voltage output proportional to the incident light intensity. Its sensitivity follows the cosine response of the incident light's direct angle. Each unit is individually calibrated with a unique sensitivity coefficient and can directly output radiation values in units of W/m^2 or $\mu mol/m^2 \cdot s$.

Features

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

Applications

Agrometeorological research
Crop growth monitoring
Ecological research
Environment surveillance
Greenhouse control

Technical Parameter

Item		Type A 0-2500 $\mu mol \cdot m^{-2} \cdot s^{-1}$	Type B 0-2000 W/m^2
Spectral range		400~700nm	350~1100nm
Sensitivity	0-2000mV	800 $\mu V/(\mu mol \cdot m^{-2} \cdot s^{-1})$	1000 $\mu V/(W/m^2)$
	4-20mA(2-wires)	6.4 $\mu A/(\mu mol \cdot m^{-2} \cdot s^{-1})$	8 $\mu A/(W/m^2)$
Supply		5VDC, 12V-24VDC	
Accuracy		$\pm 5\%$ rdg	
Range		0-2500 $\mu mol \cdot m^{-2} \cdot s^{-1}$, 0-2000 W/m^2	
Output		0-2000mV, 4-20mA(2-wires), RS485	
Response time		<1s(99%)	
Temperature effect		<0.05%/°C	
Cosine correction		<10%(until 80°)	
Non-linearity		< $\pm 2\%$	
Operating temperature		-40~+80°C	
Shell material		Aluminum alloy	
Storage condition		10°C-60°C@20%-90%RH	

Output Characteristics

0-2000mV

Range:0-2000W/m² PAR values(W)= Voltage output value(μV)/1000

4-20mA

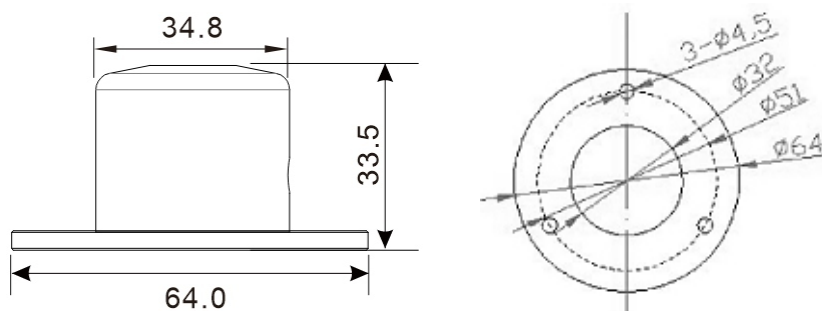
Range:0-2000W/m² PAR values(W)=(I(μA)-4000μA)/8 (Where I is output current value,unit:μA)

RS485

MODBUS-RTU

Dimensions

Unit:mm



In order to ensure measurement accuracy, please keep the horizontal installation.

Parameter Selection Table

Remark	Series	Type	Supply	Range	Output	Cable Length	
RK	200	02	A				5V
			B				12-24V
			X				Other
				A			0-2500μmol·m ⁻² ·s ⁻¹
				B			0-2000W/m ²
				X			Other
					A		4-20mA(2 wires)
					B		0-5V
					C		/
					D		0-2000mV
					E		RS485
					X		Other
						1500	Units:mm(typ.)
						3000	Units:mm
						...	Units:mm

Example: RK200-02BBA1500 Supply:12-24V, Range: 0-2000W/m², Output:4-20mA,Cable Length:1.5m.