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Automatic Tracking Solar Radiation Measurement System
BS200-08

Accurately Observes, Direct, Scattered and Total Solar Radiation

Overview

BS200-08 Automatic Tracking Solar Radiation Measurement System is a high-performance solution for unattended solar radiation monitoring. This advanced system simultaneously measures direct, diffuse, and total solar radiation using precision angle sensors and four-quadrant balanced light sensor technology. Its automatic sun-tracking mechanism ensures that sunlight remains consistently aligned and parallel to the radiation sensor within the defined cone of light.

The **BS200-08** features a track motion trajectory tracking system that follows the sun and light way, combined with 2D automatic control to achieve a fully automatic real-time tracking of the sun.

The system is composed of a base, bench, screw, gearbox, motor, microcomputer controller, direct radiation sensor, scattered and total solar radiation sensors, power supply, and other components.

It can measure direct and scattered solar radiation in the spectral range of 280 to 3000 nm, and can also measure sunshine time directly. This makes it ideal for a wide range of applications, including photovoltaic environmental monitoring, meteorological radiation observation, agricultural and forestry research, and more.

Features

- ✓ Conform to the WMO Standard
- ✓ Level Adjustment
- ✓ Simple Operation, Simple Initialization can start Measurement
- ✓ Closed-Loop Mechanical Rotation Prolongs the Service Life of the Tracker
- ✓ High Tracking Accuracy
- ✓ Optional AC or DC Power Supply
- ✓ Mounting Bracket has Good Compatibility and can be Compatible with Similar Sensors

Applications

- ✓ Solar Energy Resources Evaluation
- ✓ Solar Energy and Photovoltaic Power
- ✓ Generation
- ✓ Agriculture and Forestry Monitoring
- ✓ Crop Growth Monitoring
- ✓ Tourism Eco
- ✓ Weather Stations

Technical Specifications

Item		Specification		
		Direct Radiation	Scattered Radiation	Total Solar Radiation (Optional)
Spectral Range		280 ~ 3000nm	400 ~ 1100nm	300 ~ 3200nm
Range		0 ~ 2000W/m2		
Output		0 ~ 20mV or Customized (RS485...)		
Sensitivity		7 ~ 14μV* W ~ 1*m2		
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℃ ~ 40℃)		
Operating Temperature		-40℃ ~ 70℃, 0 ~ 100%RH		
Tracking System	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℃ ~ 70℃, 0 ~ 100%RH		
Communication Interface		RS232, RS485, USB		
Storage Condition		10℃ ~ 60℃ @ 20% ~ 90%RH		
Weight (Unpacked)		6.5kg (Including Sensors)		

For comprehensive details, visit: www.buraq.com/BS200-08

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