



Class A Solar Radiation Sensor, 180° Field of View, Conform to the WMO Standards

Overview

The **BS200-A Pyranometer (Class A)** is a high-precision shortwave solar radiation sensor designed for accurate solar irradiance monitoring. Compliant with the latest ISO 9060 and WMO standards, it measures global solar radiation (W/m^2) received from the hemispherical sky (2π steradians) on a horizontal surface.

Operating in a completely passive mode, the **BS200-A** utilizes advanced thermopile sensing technology to generate an output voltage proportional to the incoming solar radiation. Its dual-glass dome design minimizes thermal offset and other measurement errors, ensuring exceptional accuracy, long-term stability, and reliable performance in demanding environmental conditions.

To ensure accurate and stable performance, the device incorporates a built-in temperature compensation circuit. This feature minimizes the influence of ambient temperature variations on the sensor's output, maintaining consistent measurement reliability. The overall design enhances sensitivity while reducing environmental interference, making the **BS200-A** suitable for precise solar radiation monitoring applications.

Features

- ✓ Conform to the WMO Standards
- ✓ Suitable for Harsh Environment
- ✓ With Horizontal Bubble
- ✓ High Sensitivity
- ✓ Double Transmission Glass
- ✓ Visual Desiccant Window
- ✓ Easy Installation

Applications

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

Technical Specifications

Item	Specification
Classification	Class A High Quality
Response Time (95% Response)	<5 s
Zero Offset (200 W/m ² net Thermal Radiation Ventilated)	<7 W/m ²
Stability (Annual Change, % of full Scale)	±0.5%
Non-linearity (100~1000 W/m ²)	±0.2%
Directional Response	±10 W/m ²
Temperature Response (-10 ~ 40°C)	<1%
Tilt Response	<0.5%
Sensitivity Range	7-14 μV/(W/m ²)
Operating Temperature	-40 ~ 80°C
Internal Resistance	<50 Ω
Standard Cable Length	3 m (User Replaceable)
Measurement Range	0 ~ 4000 W/m ²
Spectral Range	280 ~ 3000 nm (50% Transmittance)
Reading Requirement	Differential Voltage Channel or single-Ended Voltage Channel
Leveling	Includes Bubble Level and Adjustable Feet
Daily Radiation Uncertainty	±1%
Weight (Excluding Cable)	0.8 kg
Calibration Traceability	ISO9847 Traceable to WRR, Procedure Follows ISO9847
Recommended Calibration Interval	Every two years
Output Signal	Raw Output 0-20 mV; Optional RS485 / 4-20 mA

Output Characteristics

● 0 ~ 20mV

Solar radiation values(W/m²)= Voltage output value(μV)/sensitivity coefficient(μV*W⁻¹*m²), Each product is with one sensitivity coefficient respectively (It is mentioned on the product's label).

● 4 ~ 20mA

Solar radiation values (W/m²) = ((I-4)/16)*4000
(Where I is output current value, unit:mA)

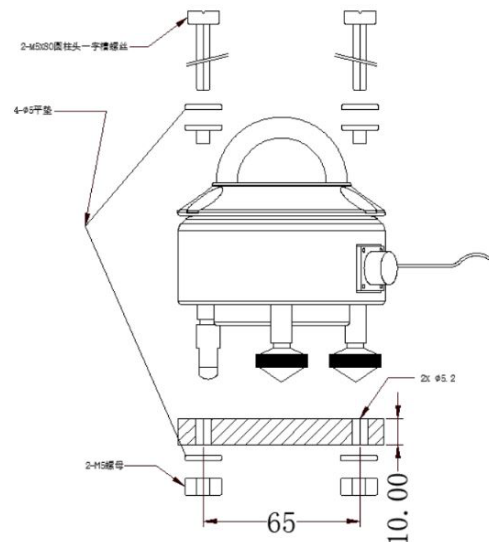
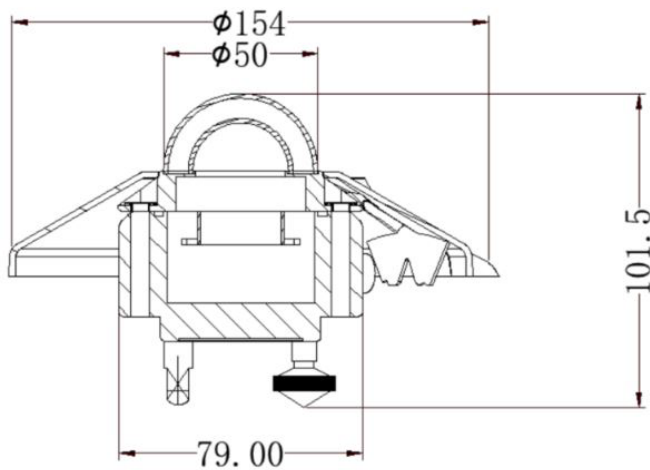
● RS-485

MODBUS-RTU

Mounting and 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 .(If the color of desiccant is changed from blue to red or white, it should be replaced,it is recommended to replace the desiccant every 6 month.)
- The sensitivity is recommended to be re-calibrated after two years use.

Dimensions



Parameter Selection Table

Remark	Series	Type	Supply	Output	Cable Length	
BS						
	200					
		A				
			A			5VDC
			B			12 ~ 24VDC
			X			Other
				A		4 ~ 20mA
				C		0 ~ 20mV (Without Power Supply)
				D		RS-485
				X		Other
					2500	Units: mm (typ)
					3000	Units: mm
					...	Units: mm

Example: BS200-A BA2500 Supply: 12 ~ 24V, Output: 4 ~ 20mA, Cable Length: 2.5m.

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



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