

Introduction

The RS485 Photoelectric Solar Radiation Sensor is designed to measure solar radiation in the **spectral range of 400-1100nm**. It uses the photoelectric principle to convert sunlight into electrical signals. Featuring a highly sensitive photosensitive element and a wide-spectrum absorption range, the sensor delivers accurate solar radiation measurements.

The integrated dust cover, with a transmittance of up to 95%, ensures minimal interference from environmental factors, further enhancing measurement accuracy. Additionally, the sensor operates with a wide voltage range of DC 5-30V and supports Modbus-RTU communication via RS485, making it an ideal choice for integration with [Arduino](#).

Wide Voltage Support

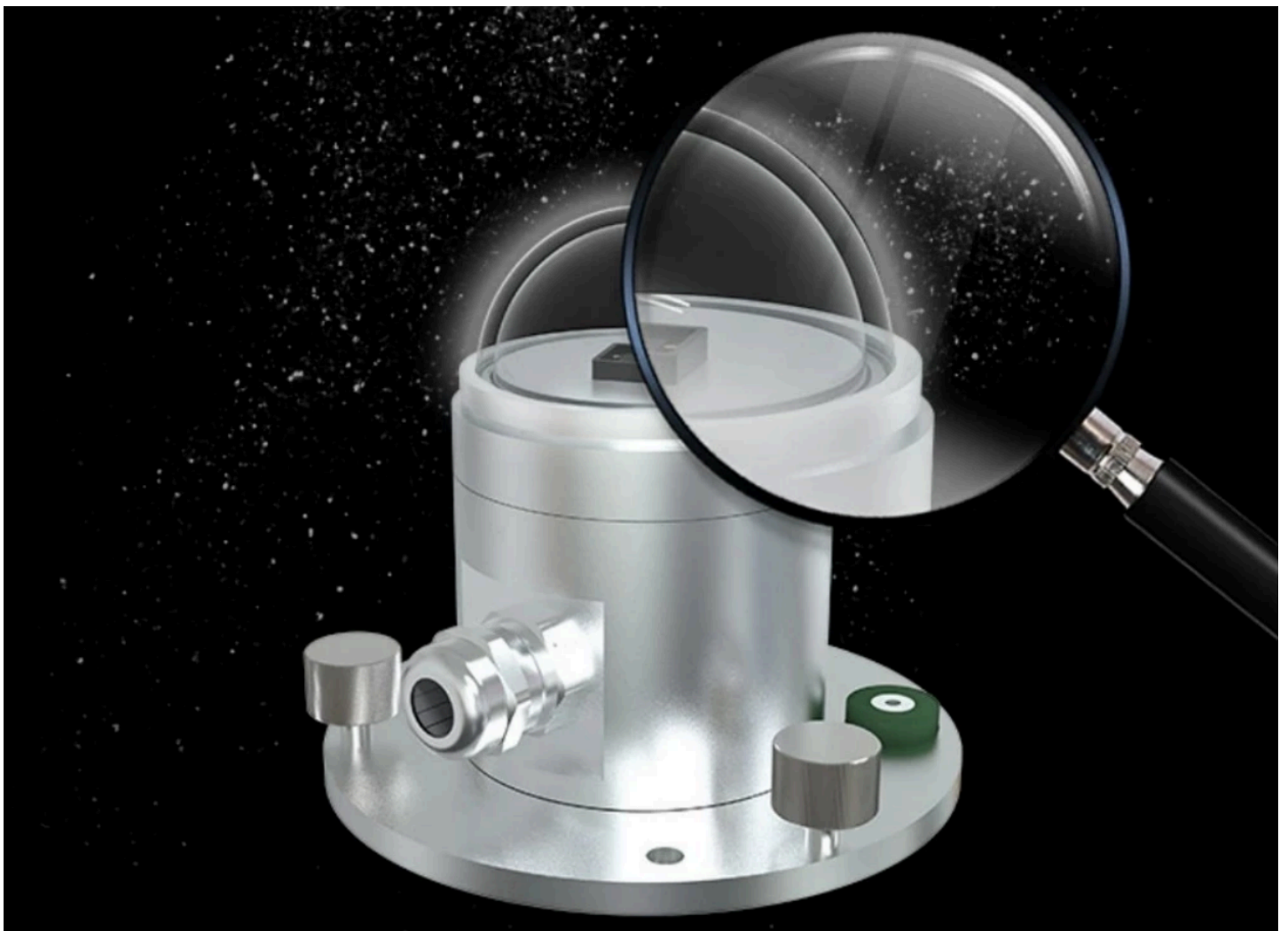
The sensor operates on a DC 5-30V power supply, ensuring compatibility with various systems and making it versatile for different applications.

High Sensitivity and Wide Spectrum Range

Utilizing high-precision photosensitive elements, the sensor ensures accurate measurement across a broad spectrum, from 400 to 1100nm, making it ideal for solar radiation applications in various fields.

Durable and Environmentally Resistant

The sensor is housed in a rugged metal aluminum shell with an IP67 protection level, ensuring durability and reliability even in harsh outdoor environments. The dust cover is specially treated to reduce dust absorption, enhancing long-term stability and performance.



Applications

- Crop Growth Monitoring: Measure solar radiation to optimize agricultural practices.
- Photovoltaic Systems: Monitor solar energy input for efficient power generation.
- Meteorological Monitoring: Collect solar radiation data for weather analysis.
- Plant Physiology Research: Study the impact of sunlight on plant growth.
- Environmental Protection: Assess solar radiation for ecological research and conservation efforts.

Specification

- Power Supply: DC 5-30V
- Working Current: $<10\text{mA}$
- Output Mode: RS485
- Measurement Range: $0\text{-}1800\text{W/m}^2$
- Wavelength Range: 400-1100nm
- Accuracy: $\pm 5\%$
- Resolution: 1W/m^2
- Response Time: $\leq 10\text{S}$
- Non-Linearity: $< \pm 2\%$
- Annual Stability: $\leq \pm 2\%$
- Cosine Response: $\leq \pm 10\%$
- Operating Temperature: -25°C to $+60^{\circ}\text{C}$
- Protection Level: IP67
- Sensor Cable Length: 20cm
- Adapter Cable Length: 70cm

Shipping List

- RS485 Photoelectric Solar Radiation Sensor x1
- Adapter Cable x1
- Screw Package x1

Documents

[•Product Wiki](#)