UV RADIATION MONITORING / DATA SHEET

# SS207-04

## UV Radiation Sensor

Online UV radiation measurement for environmental and agricultural monitoring.

### Overview

- High-sensitivity UV measurement across 290–390 nm.
- IP67 protection with RS485 and analog output options.

| SPECTRAL BAND | UV RANGE | TYPICAL ACCURACY | OUTPUT |
|---|---|---|---|
| 290–390 nm | 0–15 mW/cm² | ±10% FS | RS485 / analog |

### Key Advantages

- Sensitive detector and high-transmission optical material
- IP67 protection for outdoor use.
- Long-distance RS485 communication.

### Application Scenarios

- Environmental and weather monitoring.
- Agriculture and forestry monitoring.
- Atmospheric and artificial-light monitoring.

MEASUREMENT PRINCIPLE

## Technical Principle

UV radiation is detected by a photosensitive element and converted into a measurable electrical signal for continuous monitoring. The integrated transmitter combines the UV sensing element and signal-conditioning electronics in a high-protection enclosure. The source describes imported industrial-grade processing electronics and a high-precision UV sensor; no additional performance claims are added here.

SYSTEM DATA

## Technical Specifications

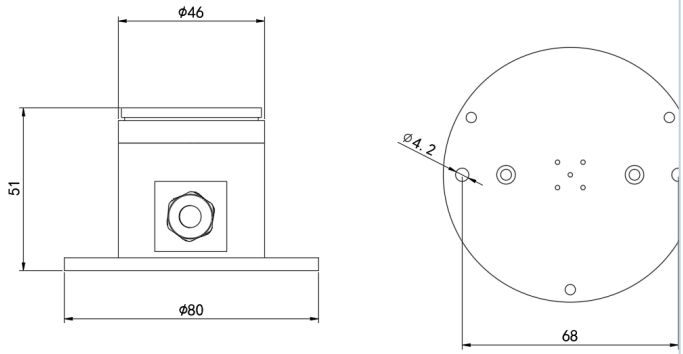
| Item | Specification |
|---|---|
| **Power supply** | 10–30 V DC; 0–10 V version: DC 24 V only |
| **Maximum power consumption** | RS485: 0.06 W; analog output: 0.6 W |
| **Typical accuracy** | ±10% FS (@365 nm, 60%RH, 25 °C) |
| **UV intensity range** | 0–15 mW/cm² |
| **Measurement wavelength range** | 290–390 nm |
| **Response time — UV intensity** | 0.2 s |
| **Response time — UV index** | 0.2 s |
| **RS485 communication distance** | Up to 2000 m |
| **Ingress protection** | IP67 |

| | |
|---|---|
| **Enclosure / weather resistance** | High-protection enclosure; rain- and snow-resistant |
| **Output signal** | RS485 (Modbus-RTU) / 4–20 mA / 0–5 V / 0–10 V |

MECHANICAL DATA

## Mechanical Dimensions & Structure

The source dimension drawing is retained and presented in the SpeSense datasheet system. The product view is reproduced from the supplied source image; numeric dimensions are not supplemented beyond the supplied drawing.

| Dimension Drawing | Product View |
|---|---|
|  |  |





**SOURCE DIMENSIONS**

ϕ 46 mm body; 51 mm height; ϕ 80 mm base; ϕ 4.2 mm mounting holes; 68 mm hole spacing.

ELECTRICAL CONNECTION

## Wiring Instructions

Wire colors and functions are translated from the supplied connection tables. Verify the final wiring against the ordered output configuration before installation.

| RS485 / MODBUS-RTU | Connection | ANALOG OUTPUT | Connection |
|---|---|---|---|
| **Brown wire** | Power +<br>10–30 V DC | **Brown wire** | Power + |
| **Black wire** | Power – / GND | **Black wire** | Power – / GND |
| **Yellow / green wire** | RS485-A | **Blue wire** | Signal + |
| **Blue wire** | RS485-B | **Yellow / green wire** | Signal – |

### ANALOG OUTPUT NOTE

The source file provides both 3-wire and 4-wire analog examples. Use the arrangement supplied for the selected 4–20 mA, 0–5 V, or 0–10 V configuration; the source table identifies blue as signal positive and yellow/green as signal negative.

INSTALLATION & OPERATION

## Installation Notes

- Install the sensor with a clear view of the monitored UV source and keep the optical window unobstructed.
- Use the selected supply voltage and connect the output conductors according to the ordered configuration.
- For RS485 systems, use the Modbus-RTU communication arrangement and matching A/B conductors.
- For outdoor deployment, ensure the enclosure and cable entry remain properly sealed during installation.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## Configuration & Support Summary

- 290–390 nm UV measurement with 0–15 mW/cm² intensity range.
- RS485 Modbus-RTU and selectable analog outputs for flexible data acquisition.
- IP67 enclosure for outdoor environmental, weather, agricultural and forestry monitoring.
- Engineering support is available for output selection and system integration.

ORDERING INFORMATION

## Product Selection

| Code | Description |
|---|---|
| **SS207-04** | Model |
| **UV-** | UV radiation transmitter |
| **N01-** | RS485 communication; Modbus-RTU protocol |
| **I20-** | 4–20 mA current output |
| **V05-** | 0–5 V voltage output |
| **V10-** | 0–10 V voltage output |
| **AL** | Aluminum enclosure |

### CONFIGURATION NOTE

Select one output code where applicable. The 0–10 V version is specified for DC 24 V supply in the source table; confirm the final ordering combination with the selected output and enclosure code.

## CONTACT / SUPPORT

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