

RAIN MONITORING / DATA SHEET

SS206-05

Optical Rain Gauge

Compact optical rain gauge for reliable rainfall detection, optional illuminance monitoring and smart environmental applications.



Overview

- SS206-05 is available as an optical rain gauge, and as an optical rain + 20W illuminance transmitter option.
- Built-in optical probes detect rainfall using optical sensing principles, offering a compact, sensitive and maintenance-friendly alternative to traditional mechanical rain gauges.
- The optional illuminance version integrates a high-accuracy light sensor and outputs illuminance in Lux for applications requiring rainfall and light monitoring.

Rain-sensing diameter	Resolution	Max instantaneous rain	Output
6 cm	0.1 mm	24 mm/min	RS485 / Pulse

Key Advantages

- Small size, light weight and simple installation.
- Low-power design for energy-saving field deployment.
- High reliability in high-temperature and high-humidity environments.
- Optical measurement with dry-contact pulse output for convenient acquisition.

Application Scenarios

- Smart irrigation and agricultural water management.
- Marine navigation and mobile weather stations.
- Automatic windows, weather-responsive devices and outdoor control systems.
- Geological disaster and environmental observation sites.

MEASUREMENT PRINCIPLE

Technical Principle

The sensor uses multiple built-in optical probes to detect rainfall. Compared with conventional mechanical rain sensors, the optical design is more compact, sensitive and easier to maintain; optional configuration adds illuminance measurement.

SYSTEM DATA

Technical Specifications

GENERAL PARAMETERS

Item	Specification
Product Type	Optical Rain Gauge / Optical Rain Gauge + 20W Illuminance option

Rain-sensing Diameter	6 cm
Power Supply	9-30 V DC
Power Consumption	<0.24 W
Rainfall Resolution	Standard 0.1 mm
Maximum Instantaneous Rainfall	24 mm/min
Transmitter Temperature / Humidity	-40 to 80°C, 0-95% relative humidity, non-condensing
Working Pressure Range	Standard atmospheric pressure $\pm 10\%$

RS485 VERSION

Item	Specification
Rainfall Accuracy	$\pm 5\%$ (laboratory data)
Illuminance Resolution	1 Lux
Illuminance Accuracy	$\pm 7\%$ at 25°C
Illuminance Range	0-200,000 Lux
Long-term Stability	Illuminance $\leq 5\%$ /year
Output Method	RS485 output

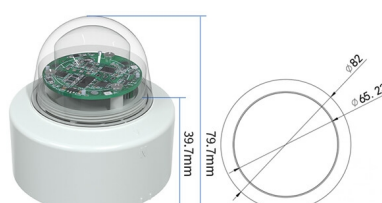
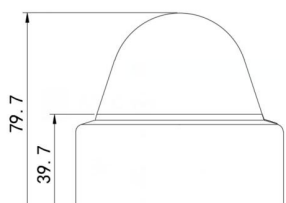
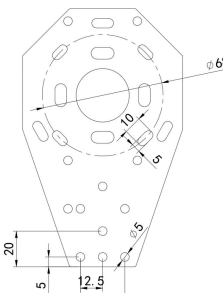
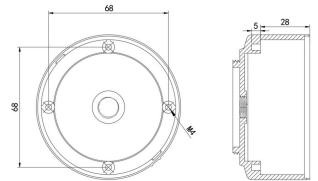
PULSE VERSION

Item	Specification
Power Supply	9-30 V DC
Power Consumption	<0.24 W at 12 V DC, current <20 mA
Resolution	Standard 0.1 mm
Typical Accuracy	$\pm 5\%$ (laboratory data)
Output Method	Dry-contact pulse output
Dry-contact Voltage Withstand	≤ 30 V DC
Dry-contact Current Withstand	≤ 1 A

MECHANICAL DATA

Dimensions and Mounting

The source file provides mechanical views for the optical rain gauge body, top diameter, mounting plate and base section. These views are preserved below for installation reference.

 Product size overview	 Side profile
 Mounting plate	 Base section

OUTPUT & SELECTION

Output Interface and Product Selection

Available outputs and model options are summarized below. Detailed wiring colors were not provided in the source file; confirm wiring assignment according to the final output type before installation.

PRODUCT SELECTION

SS SpeSense company code	206-05 Optical rain gauge	L- Optical rain + 20W illuminance; no pulse output
PL- Pulse type; not for rain + illuminance version	N01- RS485 / ModBus protocol output	1 Housing version -1

APPLICATIONS

Typical Workflow and Application Use

Rainfall Detection	Signal Output	Field Integration	Maintenance
Optical probes detect rainfall events and	RS485 or dry-contact pulse output sends data	Sensor integrates with irrigation, weather or	Compact optical design supports easier maintenance in outdoor

intensity.	to acquisition systems.	automation controllers.	use.
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Recommended Applications

- Smart irrigation systems requiring rainfall-triggered control.
- Mobile weather stations and compact meteorological installations.
- Marine navigation and outdoor equipment requiring rain-state detection.
- Geological disaster monitoring and rainfall event observation.

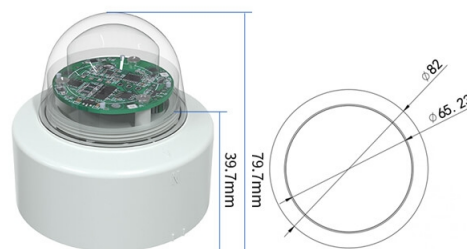
Configuration Notes

- Select RS485 output when digital ModBus integration is required.
- Select pulse output when dry-contact pulse acquisition is preferred.
- Select the illuminance option when rainfall and light intensity need to be monitored together.
- Confirm mounting plate orientation and wiring configuration before final installation.

PRODUCT VISUAL REFERENCE



Optical rain gauge product variants



Mechanical size reference

CONTACT / SUPPORT

SpeSense Technologies Inc.

For product selection, customization and technical support, please visit www.spesense.com.

Support Scope

- Sensor selection and model configuration
- Rainfall / illuminance monitoring integration
- Output-interface and installation guidance

SpeSense Technologies Inc.

Add: No. 9 Yuhe Road, Guitang Subdistrict, Yuhua District, Changsha City

Tel: +86-731-85222616

Email: info@spesense.com

Web: www.spesense.com



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