

RAINFALL MONITORING / DATA SHEET

SS206-03

Small Tipping Bucket Rainfall Sensor

Compact optical and pulse rainfall sensor for reliable rainfall and optional illuminance monitoring in field applications.

Overview

- Uses optical and pulse principles for sensitive rainfall detection with a compact, intelligent structure.
- Designed for smart irrigation, ship navigation, mobile weather stations, automatic doors/windows and geological-disaster monitoring.
- Optional integrated illuminance sensing provides Lux output for applications requiring both rainfall and light-intensity data.



Rain diameter 6 cm	Resolution 0.1 mm	Max rainfall 24 mm/min	Output RS485 / Pulse
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Key Advantages

- Small size, light weight and simple installation.
- Low-power design helps reduce energy consumption.
- High reliability for high-temperature and high-humidity environments.
- Easy-maintenance structure reduces blockage by leaves or debris.

Application Scenarios

- Smart irrigation and agricultural field monitoring.
- Ship navigation and mobile meteorological stations.
- Automatic doors and windows requiring rainfall detection.
- Geological-disaster and field warning systems.

MEASUREMENT PRINCIPLE

Technical Principle

The SS206-03 detects rainfall using optical and pulse-based sensing. The compact structure improves sensitivity, reliability and maintenance convenience compared with traditional mechanical rain sensors. The optional illumination version uses a high-precision photosensitive element to output light intensity in Lux.

SYSTEM DATA

General Specifications

Item	Specification
Product Type	Optical and pulse tipping bucket rainfall sensor
Rain Sensing Diameter	6 cm

Power Supply	9-30 V DC
Power Consumption	<0.24 W
Rainfall Resolution	Standard 0.1 mm
Rainfall Typical Accuracy	±4%
Maximum Instantaneous Rainfall	24 mm/min
Operating Temperature / Humidity	-40°C to +80°C; 0-95% RH, non-condensing
Working Pressure Range	Standard atmospheric pressure ±10%

RS485 Version

Item	Specification
Output Method	RS485 output
Illuminance Resolution	1 Lux
Illuminance Accuracy	±7% (25°C)
Illuminance Range	0-200,000 Lux
Long-Term Stability	Illuminance ≤5%/year

Pulse Version

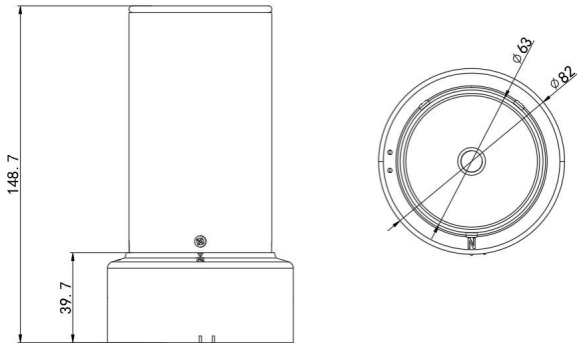
Item	Specification
Power Supply	9-30 V DC
Power Consumption	<0.24 W (12 V DC, current <20 mA)
Resolution	Standard 0.1 mm
Typical Accuracy	±4%
Maximum Instantaneous Rainfall	24 mm/min
Output Method	Dry-contact pulse output
Dry Contact Voltage	≤30 V DC
Dry Contact Current	≤0.5 A

MECHANICAL DATA

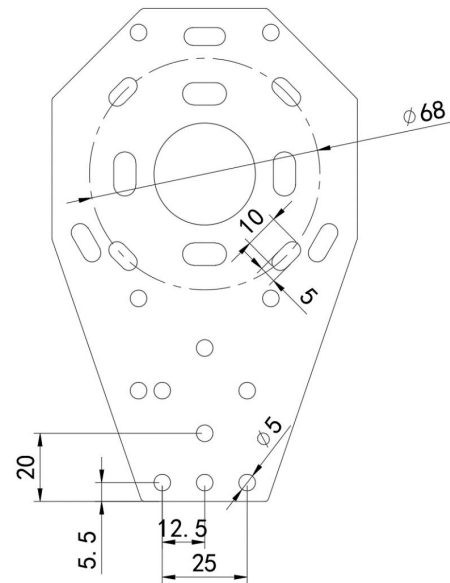
Mechanical Dimensions & Mounting

The source dimensional drawings are retained for direct engineering reference. The compact cylindrical body and mounting plate support field installation in irrigation, mobile weather and rainfall-detection systems.

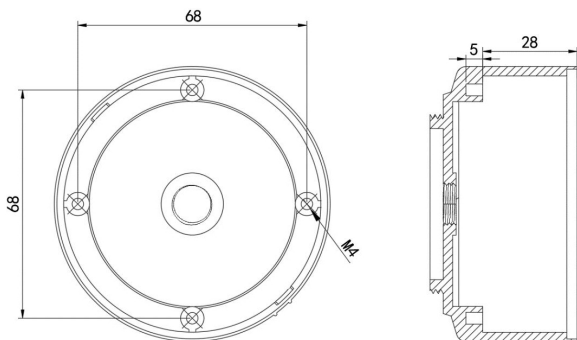
Body / Top View



Mounting Plate



Base / Section View



Product Views



Installation Notes

Recommended Installation Considerations

- Install the sensor vertically and keep the rainfall inlet exposed to open sky.
- Avoid nearby obstructions that may reduce rain capture or cause splashing.
- Keep the optical/rainfall path clear and perform regular maintenance when deployed in areas with leaves or dust.
- Use shielded and waterproof wiring practices for outdoor installations.

PRODUCT CONFIGURATION

Product Selection

Item	Specification
SS	SpeSense company code
206-03	Optical tipping bucket rainfall sensor
206-03L	Optical tipping bucket rainfall sensor + 200,000 Lux illuminance option
PL-	Pulse version; not available for rainfall + illuminance integrated configuration
N01-	RS485 version with Modbus protocol output
1	Housing appearance / enclosure option

Typical Workflow

Rainfall Capture Rain enters the compact optical tipping-bucket structure.	Signal Conversion Optical/pulse principle converts rainfall into digital or pulse signals.	Data Output RS485 or dry-contact pulse output is sent to the acquisition system.	Field Action Rainfall or light data supports irrigation, warning and automation decisions.
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CONTACT / SUPPORT

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