PRECIPITATION MONITORING / DATA SHEET

SS206-04

Weighing Rain Gauge

High-precision weighing precipitation sensor for liquid, solid and mixed precipitation monitoring.

Overview

- SS206-04 uses weighing technology and a high-precision sensor to measure precipitation intensity and accumulated precipitation.
- It supports all-type precipitation monitoring, including solid, liquid and mixed precipitation, and can be equipped with an automatic heating option for cold and freezing conditions.
- Low-power operation, convenient installation, low maintenance and simple calibration make it suitable for hydrology, meteorology, emergency response, transportation, agriculture, forestry, power and research applications.

Intensity Range	Capacity Range	Resolution	Output
6-1800 mm/h	0-300 mm	0.1 mm	RS485 / Pulse

Key Advantages

- Wide precipitation intensity range up to 1800 mm/h.
- Heating option enables snow measurement and prevents winter freezing.
- Automatic drainage when water volume reaches 80% of capacity.
- Convex housing design reduces wind influence and evaporation.
- RS485 Modbus-RTU and pulse outputs for flexible data acquisition.

Application Scenarios

- Hydrological precipitation observation stations.
- Meteorological and climate monitoring networks.
- Cold-region rain and snow monitoring.
- Emergency response, transportation and road-weather systems.
- Agriculture, forestry, marine and scientific research applications.

MEASUREMENT PRINCIPLE

Technical Principle

The instrument measures precipitation by detecting the load change caused by collected rain, snow or mixed precipitation. The high-precision weighing sensor converts precipitation mass into an electrical signal, and the transmitter calculates real-time precipitation intensity and accumulated precipitation for output to a monitoring system.

SYSTEM DATA

Technical Specifications

Item	Specification

Power supply	12 V DC
Power consumption	0.15 W at DC12V
Heating power	30 W optional, DC12V supply
Precipitation intensity range	6-1800 mm/h
Capacity / rainfall range	0-300 mm; optional 0-1000 mm
Resolution	0.1 mm
Collector orifice inner diameter	ϕ 200 mm; tolerance +0 to +0.6 mm
Measurement error	±0.2 mm when ≤10 mm; ±2% when >10 mm
Transmitter operating condition	-35°C to +65°C; 0-95%RH, non-condensing
Automatic drainage	Drains automatically when water volume reaches 80% of capacity
Heating control	Optional automatic heating starts below 1°C and stops above 9°C
Outputs	RS485 Modbus-RTU / pulse signal
Applicable standard reference	Organized according to SL21-2015 precipitation observation specification and weighing precipitation sensor functional requirements

ORDERING INFORMATION

Product Selection

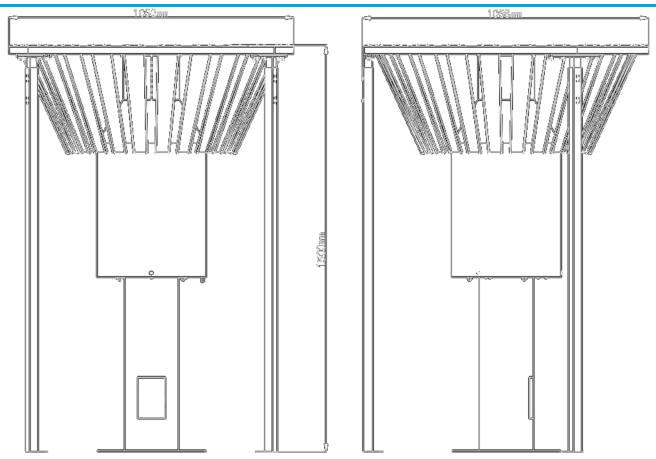
Code	Description
SS	SpeSense company code
206-04	Weighing rain gauge
N01-	RS485 signal output, standard Modbus-RTU protocol
PL	Pulse signal output
1-	Housing selection
blank	Without heating
H	With heating

Example ordering codes: SS206-04N01-1-H for RS485 output with heating; SS206-04PL-1 for pulse output without heating.

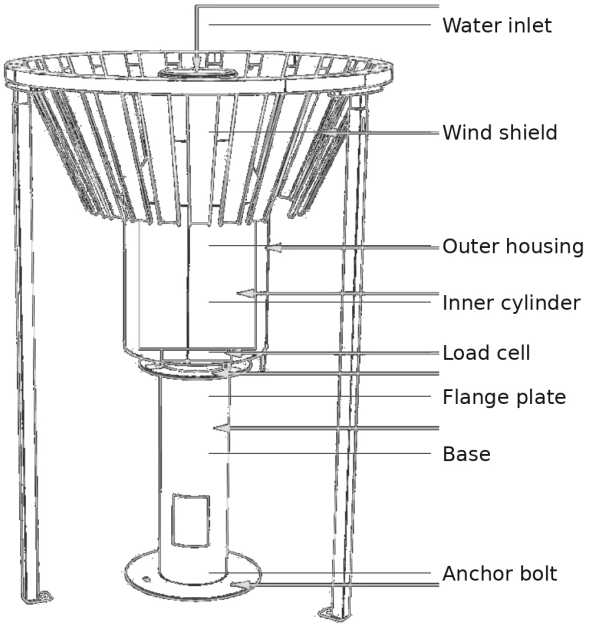
MECHANICAL DATA

Mechanical Dimensions & Structure

The following source diagrams are adapted into the SpeSense datasheet system. Numeric dimensions are retained from the source material; functional component labels are translated to English.



Dimension Drawing



Structure Diagram

ELECTRICAL CONNECTION

Wiring Instructions

Wire colors are translated from the source wiring tables. Verify final wiring against the supplied product configuration before installation.

RS485 Version	Description
Brown wire	Power +
Black wire	Power -
Yellow wire	RS485A
Blue wire	RS485B

Pulse Version	Description
Brown wire	Power +
Black wire	Power -
Yellow wire	Pulse output NO terminal
Blue wire	Pulse output COM terminal

INSTALLATION & OPERATION

Installation Notes

- Install the rain gauge vertically on a stable foundation with a clear surrounding area and minimal obstruction above the collector.
- For freezing environments, select the heating configuration to keep the collecting inlet from being sealed or narrowed by ice and snow.
- Use the low-power operating mode and solar-powered acquisition system where field stations require independent power supply.
- Perform regular visual inspection and simple calibration as required by the monitoring program.

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Configuration & Support Summary

- RS485 Modbus-RTU and pulse output versions are available for different acquisition systems.
- Heating configuration is recommended for snow, freezing rain and cold-region precipitation monitoring.
- Low-power operation supports solar-powered field stations and remote monitoring deployments.
- Engineering support is available for product selection, field integration and customized configurations.

CONTACT / SUPPORT

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