

RAIN & SNOW DETECTION / DATA SHEET

SS206-07

Rain and Snow Sensor

Qualitative sensor for detecting the presence or absence of rain and snow in outdoor environments.

Overview

- Detects whether rain or snow is present, with a response time of ≤ 0.5 s.
- AC measurement technology helps prevent sensing-plate oxidation and maintains long-term sensitivity.
- Reliable, outdoor-ready design for environmental, greenhouse, aquaculture and building monitoring.



Detection Rain / Snow	Response Time ≤ 0.5 s	Protection IP68	Output RS485 / Relay
Key Advantages • AC measurement helps prevent oxidation of the sensing plate. • IP68 design supports long-term outdoor operation. • Optional heating supports snow detection and anti-icing in cold, humid conditions. • Adjustable sensitivity and alarm/reset delay improve field flexibility. • RS485 and relay output options support centralized monitoring.		Application Scenarios • Environmental monitoring. • Greenhouses. • Aquaculture facilities. • Buildings and facilities. • Outdoor precipitation monitoring.	

MEASUREMENT PRINCIPLE

Measurement Principle

AC PRESENCE DETECTION

The sensor uses an AC measurement technique to determine whether the sensing surface is wetted by rain or snow. AC excitation helps prevent oxidation and supports long-term sensitivity. The supplied source describes qualitative presence/absence detection; no rainfall depth or intensity measurement is inferred.

SYSTEM DATA

Technical Specifications

Item	Specification
Power Supply	10–30 V DC
Normal Power Consumption	0.4 W

Item	Specification
Heating Power Consumption	7.5 W
Operating Temperature	-40 to 60 °C
Storage Temperature	-40 to 80 °C
Parameter Setting	Software setting
Heating Start Temperature	<15 °C (default)
Maximum Heating Temperature	40 °C (default)
Relay Load Capacity	250 VAC 1 A / 30 V DC 1 A
Default Modbus Address	01
Output Signal	RS485 / relay
Supported Function Codes	03 / 06

Output and Communication

The sensor is available with RS485 Modbus-RTU output, relay normally-open contact output, or a combined RS485/relay configuration. The relay version provides one relay output. For RS485 installations, do not reverse the A/B lines and avoid address conflicts between multiple devices on the same bus.

ELECTRICAL CONNECTION

Wiring Instructions

Use the wiring table matching the ordered output configuration. The analog/relay wiring colors and RS485 A/B assignments below are translated from the supplied source table.

Configuration	Wire Color	Function / Connection
N01 RS485	Brown	Power + (10–30 V DC)
N01 RS485	Black	Power –
N01 RS485	Yellow	RS485-A
N01 RS485	Blue	RS485-B
R01 Relay	Brown	Power + (10–30 V DC)
R01 Relay	Black	Power –
R01 Relay	White / Green	Relay normally-open contact

WIRING NOTE

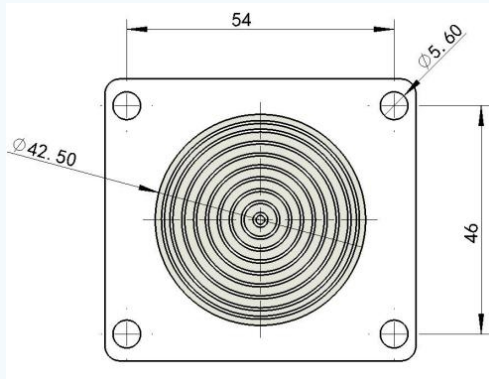
For RS485, keep A/B polarity correct and ensure that devices on the same bus use non-conflicting addresses. For relay output, the white and green wires form the normally-open contact pair.

MECHANICAL DATA

Mechanical Dimensions & Structure

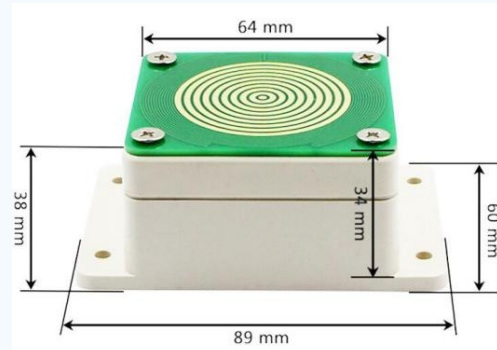
The following source drawings are retained in the SpeSense datasheet system. Numeric dimensions and installation references are reproduced from the supplied source material; no unprovided dimensions are added.

Sensor top view



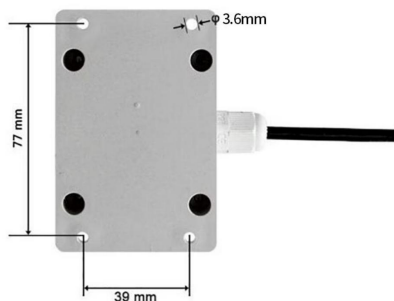
Source drawing dimensions: 54 mm horizontal hole spacing, 46 mm vertical hole spacing, Ø42.50 mm sensing area and Ø5.60 mm mounting holes.

Sensor profile



Source drawing dimensions: 64 mm sensing plate width, 89 mm base width and 60 mm overall height.

Base mounting pattern



Source drawing dimensions: 77 mm base length, 39 mm hole spacing and Ø3.6 mm mounting holes.

Installation reference

Install the sensor at a 15° angle relative to the water surface, as indicated in the supplied source drawing.

- Rain/snow sensing plate.
- Protective enclosure and cable gland.
- Mounting base with four fixing holes.

INSTALLATION & OPERATION

Installation Notes

- Install the sensing surface at the 15° angle shown in the supplied source drawing, relative to the water surface.
- Use the 10–30 V DC supply range and verify polarity before energizing the sensor.
- Select automatic heating when snow detection or anti-icing operation is required; the default heating start temperature is below 15 °C and the default maximum heating temperature is 40 °C.
- Adjust sensitivity and alarm/reset delay through the software settings when required by the application.

Features

Waterproof outlet design

High quality waterproof outlet design, easy to use, suitable for a variety of harsh field environments



Automatic heating function

Optional automatic heating function prevents icing condensation in snowy conditions with long-term temperatures below 0 degrees and high humidity



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Application & Integration Summary

- Qualitative rain and snow presence detection for outdoor monitoring.
- Select RS485, relay or combined RS485/relay output for centralized monitoring.
- Optional automatic heating supports snow detection and helps prevent icing or condensation.
- Integrate with environmental, greenhouse, aquaculture and building monitoring systems.

ORDERING INFORMATION

Product Selection

Code	Description
SS206-07	Model
YUX-	Rain and snow sensor
R01-	Relay, normally-open contact output
N01-	RS485 output, Modbus-RTU
N01R01-	RS485 / relay, normally-open contact output
H	Automatic heating

CONTACT / SUPPORT

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