

EVAPORATION MONITORING / DATA SHEET

SS206-06

Evaporation Sensor

Pressure-type weighing sensor for continuous water-surface evaporation monitoring.

Overview

- Double-layer stainless-steel construction reduces solar-radiation interference and improves measurement stability.
- Pressure/weighting measurement converts liquid-weight change in the evaporation pan into water-level change and evaporation.
- Digital sensor design provides a wide range, high sensitivity, no temperature/time drift and long-term stability.



Measurement Range 0–200 mm	Accuracy ±1% FS	Response Time <1 s	Output RS485 / Analog
Key Advantages • 304 stainless-steel construction resists corrosion and supports long service life. • Pressure-based weighing principle provides more precise and scientific evaporation measurement. • Bottom cable outlet reduces exposed wiring and simplifies installation. • Double-layer protective structure isolates external interference. • Wide 10–30 V DC power supply for field integration.		Application Scenarios • Meteorological observation. • Plant cultivation and seed research. • Agriculture and forestry. • Geological surveys. • Scientific research and monitoring stations.	

MEASUREMENT PRINCIPLE

Measurement Principle

PRESSURE / WEIGHING PRINCIPLE

The sensor measures the change in liquid weight inside the evaporation pan, calculates the corresponding water-level height change and derives evaporation. The source states that this method is not affected by liquid freezing in the same way as ultrasonic liquid-level measurement.

SYSTEM DATA

Technical Specifications

Item	Specification
Power Supply	10–30 V DC

Item	Specification
Power Consumption	0.17 W
Measurement Range	0–200 mm
Measurement Accuracy	±1% FS
Response Time	<1 s
Output Type	RS485 Modbus-RTU; 4–20 mA / 0–5 V / 0–10 V options
Ingress Protection	IP66
Inner Cylinder Diameter	18.4 cm
Inner Cylinder Height	20 cm
Operating Temperature	–40 to 85 °C
Operating Humidity	0–100%RH
Storage Temperature	–40 to 125 °C
Storage Humidity	<80% (non-condensing)
Construction	304 stainless steel

Output and Communication

The sensor provides standard industrial 4–20 mA, 0–5 V and 0–10 V analog outputs, as well as standard Modbus-RTU RS485 communication. It can be connected to field display meters, PLCs, inverters, industrial computers and data acquisition equipment.

ORDERING INFORMATION

Product Selection

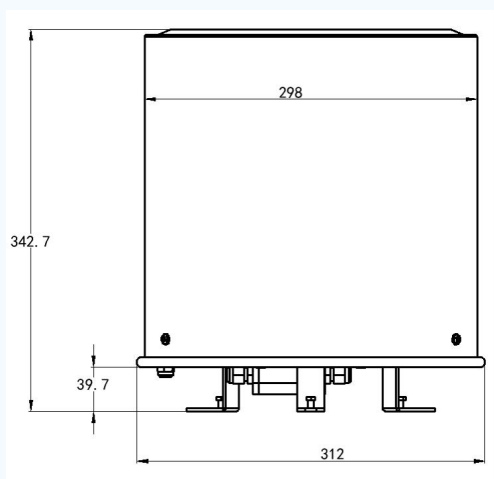
Code	Description
SS206-06	Model
EVA-	Evaporation sensor
N01-	RS485 output, standard Modbus-RTU
I20-	4–20 mA analog output
V05-	0–5 V analog output
V10-	0–10 V analog output
2	Stainless-steel housing

MECHANICAL DATA

Mechanical Dimensions & Structure

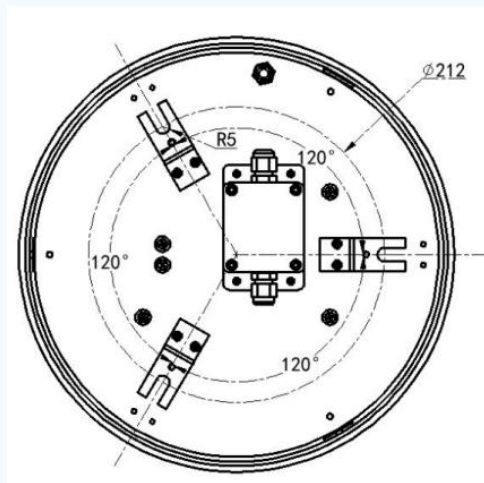
The following source drawings are retained in the SpeSense datasheet system. Numeric dimensions and component descriptions are reproduced from the supplied source material; no unprovided dimensions are added.

Overall dimensions



Source drawing dimensions: 298 mm body width, 342.7 mm overall height, 312 mm base width and 39.7 mm lower support level.

Mounting layout



Source drawing references: three support positions at 120° spacing, with an indicated Ø212 mm reference circle.

Installation base dimensions

The supplied installation drawing indicates a 400 × 400 mm concrete foundation, three Ø10 mm mounting holes, Ø336 mm outer reference and 303 mm installation height.

Construction and components

- Double-layer protective shell and evaporation pan.
- Weighing platform, weighing sensor and sensor connection platform.
- Pad, PG7 waterproof connector, L-shaped connection plate and control box.
- Leg supports and adjustment screws for field installation and leveling.

ELECTRICAL CONNECTION

Wiring Instructions

Wire colors are translated from the supplied analog and RS485 wiring tables. The source provides the same four-wire color order for both output families; signal polarity is retained as Signal + and Signal –.

Output	Wire Color	Function / Connection
Analog / RS485	Brown	Power + (10–30 V DC)
Analog / RS485	Black	Power –
Analog / RS485	Blue	Signal +
Analog / RS485	Green	Signal –

WIRING NOTE

Use the wiring table that matches the selected output configuration. Keep the power supply within 10–30 V DC and verify polarity before energizing the sensor.

INSTALLATION & OPERATION

Installation Notes

- Before installation, loosen the three bottom support screws counterclockwise until the screw heads are at least 3 cm above the mounting platform, or remove them.
- Remove the three top support foam pads before operation. If the inner cylinder shifts from center, reposition it by hand.

- Installation option 1: mount the sensor on the tray of a meteorological station pole.
- Installation option 2: mount the sensor on a raised concrete base to prevent rainwater flooding or entering the equipment.
- For a concrete foundation, install the three leg supports in the outer base holes, drill three Ø10 mm holes in the 400 × 400 mm foundation, insert expansion bolts and lock them with nuts.



SS206-06 Evaporation Sensor

Application & Integration Summary

- Combine with an automatic water-replenishment device and data acquisition/transmission equipment for automatic evaporation monitoring.
- Connect to a data logger for automatic storage of evaporation data.
- Combine with a rain sensor and remote transmission equipment for automatic evaporation and rainfall observation.
- Use as part of rain, evaporation, weather or environmental monitoring stations.

CONTACT / SUPPORT

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



WhatsApp / WeChat