

SNOW & WEATHER MONITORING / DATA SHEET

SS206-10

Snow Depth Sensor

Phase-method laser ranging sensor for continuous snow depth monitoring.

Overview

- SS206-10 uses phase-method laser ranging and temperature compensation to provide digital snow depth measurement.
- Stable observation continuity is maintained in heavy snow and blizzard conditions, supporting real-time snow depth monitoring.
- The sensor is suitable for meteorological stations, monitoring systems, road traffic safety, aviation and agricultural applications.



Measurement Range	Resolution	Accuracy	Output
0.05–2.5 m	1 mm	±1 mm	RS485 / 4G

Key Advantages

- Automatic tilt-angle measurement removes the need for manual angle measurement during installation.
- IP65 protection supports long-term outdoor operation.
- Automatic heating starts below the configured temperature to help maintain measurement stability.
- RS485 and 4G configurations support local and remote monitoring.

Application Scenarios

- Meteorological stations and automatic snow observation.
- Road traffic and road-weather safety monitoring.
- Aviation and environmental monitoring.
- Agricultural production monitoring and integrated weather stations.

MEASUREMENT PRINCIPLE

Technical Principle

The sensor uses phase-method laser ranging to measure the distance between the transmitter and the snow surface. Temperature compensation improves laser stability, enabling accurate and continuous snow depth observation under changing outdoor conditions.

SYSTEM DATA

Technical Specifications

Item	RS485 Version	4G Version
Power supply	DC 10–30 V	DC 10–30 V
Maximum power consumption	0.8 W (3.5 W when heating)	1 W (3.8 W when heating)
Operating environment	–40°C to +50°C; 0–95%RH, non-condensing	–40°C to +50°C; 0–95%RH, non-condensing
Resolution	1 mm	1 mm
Accuracy	±1 mm	±1 mm
Measurement range	0.05–2.5 m	0.05–2.5 m
Output / data upload	RS485 (Modbus protocol)	4G upload; default 30 s per upload, configurable from 5 s to 65,535 s
Laser type	635 nm, <1 mW	635 nm, <1 mW
Laser class	Class II	Class II
Single measurement time	0.05–1 s	0.05–1 s
Spot size	Point spot: 5 mm @ 10 m; line spot: 3 mm × 150 mm @ 10 m	Point spot: 5 mm @ 10 m; line spot: 3 mm × 150 mm @ 10 m

OUTPUT & COMMUNICATION

Output and System Integration

The source provides two system configurations. RS485 is used for local bus communication, while the 4G version uploads data to a cloud platform or customer server for remote viewing.

RS485 SYSTEM	4G SYSTEM
RS485 (Modbus protocol) → local data acquisition or monitoring platform.	4G upload → cloud platform or customer server → web interface, local computer or mobile APP.
Integration notes • The 4G version supports a default upload interval of 30 s per upload; the interval can be configured from 5 s to 65,535 s. • The sensor can be integrated with a weather station and LED display system for combined field observation.	

INSTALLATION & OPERATION

Installation Notes

- Mount the transmitter with the laser path directed toward the snow surface; keep the observation area unobstructed.

- Automatic tilt-angle measurement simplifies alignment; manual angle measurement is not required according to the source material.
- For outdoor deployment, maintain the specified environment and use the IP65 enclosure.
- Where low-temperature stability is required, allow automatic heating to operate; see heating power in the specifications.
- Verify communication and power wiring against the supplied configuration before commissioning.



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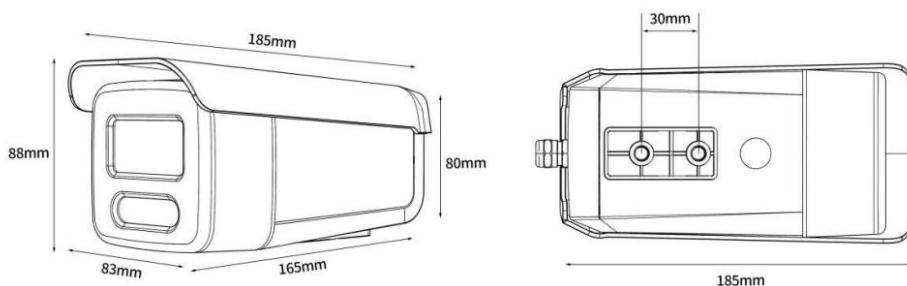
Configuration & Support Summary

- Phase-method laser ranging with temperature compensation.
- RS485 and 4G versions for local or remote acquisition.
- Automatic tilt-angle measurement; IP65 outdoor protection.
- Automatic heating for low-temperature stability.

MECHANICAL DATA

Mechanical Dimensions & Structure

The source dimension drawing is reproduced without changing the numeric dimensions. Overall dimensions shown include 185 mm length, 83 mm front width, 88 mm front height, 80 mm side height, 165 mm body length and 30 mm mounting spacing.



Dimension Drawing

ORDERING INFORMATION

Product Selection

Code	Description
SS206-10	SpeSense product model

Code	Description
LSD-	Laser snow depth transmitter
N01-	RS485 output, Modbus protocol
4G-	4G data upload
1	Generation 1 housing

Select the output code according to the required configuration: N01- for RS485 or 4G- for 4G data upload. The final code should be confirmed against the supplied product configuration.

CONTACT / SUPPORT

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