

LIGHT MONITORING / DATA SHEET

SS205-01

Wall-Mounted Illumination Sensor

SS205-01 is a high-precision illumination sensor for Lux-based light intensity monitoring. The device adopts a wall-mounted waterproof enclosure and supports RS485 Modbus-RTU, WiFi and 4G data transmission for agricultural greenhouses, flower cultivation, open-field agriculture and electronic production lines.



Range	Protection	Communication	Response
0-65535 Lux / 0-200,000 Lux	IP65 wall-mounted enclosure	RS485 / WiFi / 4G	Illumination: 0.1 s

Key Advantages

- High-precision illuminance detection with selectable measuring ranges.
- RS485 Modbus-RTU communication with configurable address and baud rate.
- WiFi / 4G versions support remote upload and monitoring platforms.
- Waterproof wall-mounted enclosure suitable for outdoor and harsh environments.
- Optional high-accuracy illumination range with maximum error of 4%.

Application Scenarios

- Agricultural greenhouses and flower cultivation rooms.
- Open-field agriculture requiring light intensity monitoring.
- Electronic equipment production lines and workshops.
- Outdoor environmental monitoring systems.
- Integrated temperature / humidity / illumination monitoring.

MEASUREMENT PRINCIPLE

Technical Principle

The sensor uses a photosensitive element to receive incident light intensity and converts the optical signal into a Lux value through the internal signal-conditioning circuit. Optional integrated temperature and humidity probes can provide combined environmental monitoring data through the same transmitter family.

SYSTEM DATA

Technical Specifications

Item	Specification
Supply voltage	10-30 VDC; 0-10 V output version requires DC 24 V
Illuminance range	0-65535 Lux; 0-200,000 Lux selectable
Illuminance accuracy	Standard: $\pm 7\%$ at 25°C; high-accuracy option: $\pm 4\%$ at 25°C
Working environment	-40°C to +60°C; 0%RH to 95%RH, non-condensing
Long-term stability	Illuminance $\leq 5\%$ /year; temperature $\leq 0.1^\circ\text{C}$ /year; humidity $\leq 1\%$ /year
Response time	Illuminance 0.1 s; humidity ≤ 6 s; temperature ≤ 18 s at 1 m/s airflow
Protection / installation	IP65 wall-mounted waterproof enclosure

VARIANT SPECIFICATIONS

Communication & Output Versions

Version / Item	Specification
RS485 version	Power: 10-30 VDC; maximum power: 0.4 W; output: RS485 Modbus protocol; communication distance up to 2000 m.
RS485 settings	Standard ModBus-RTU protocol; communication address and baud rate are configurable.
Analog output version	Power: 10-30 VDC; maximum power: 1.2 W; outputs: 4-20 mA, 0-5 V or 0-10 V.
Analog load capability	Voltage output resistance $\leq 250 \Omega$; current output $\leq 600 \Omega$.
WiFi version	Power: 10-30 V DC; average current < 85 mA; 0.3 W at 24 VDC; supports LAN/WAN communication.

WiFi acquisition/upload	Data acquisition interval: 2 s; upload interval: default 30 s, configurable from 5 s to 65535 s.
4G version	Supports real-time upload to cloud platform or customer server; web/local/mobile data viewing.

PRODUCT DETAILS

Structure & Sensing Elements



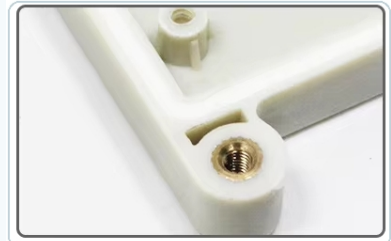
High-quality photosensitive ball

Receives light intensity and transmits the sensing signal to the internal chip for data processing.



Temperature / humidity probe

Optional integrated probe enables combined illumination, temperature and humidity monitoring.

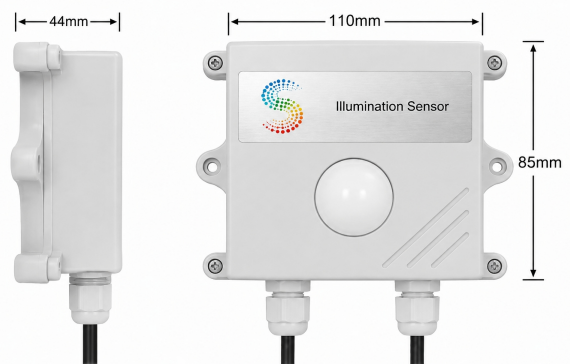
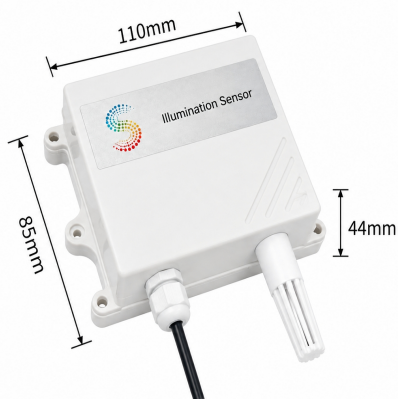


High-density housing

Waterproof wall-mounted housing with sealed structure for harsh-site measurement.

MECHANICAL DATA

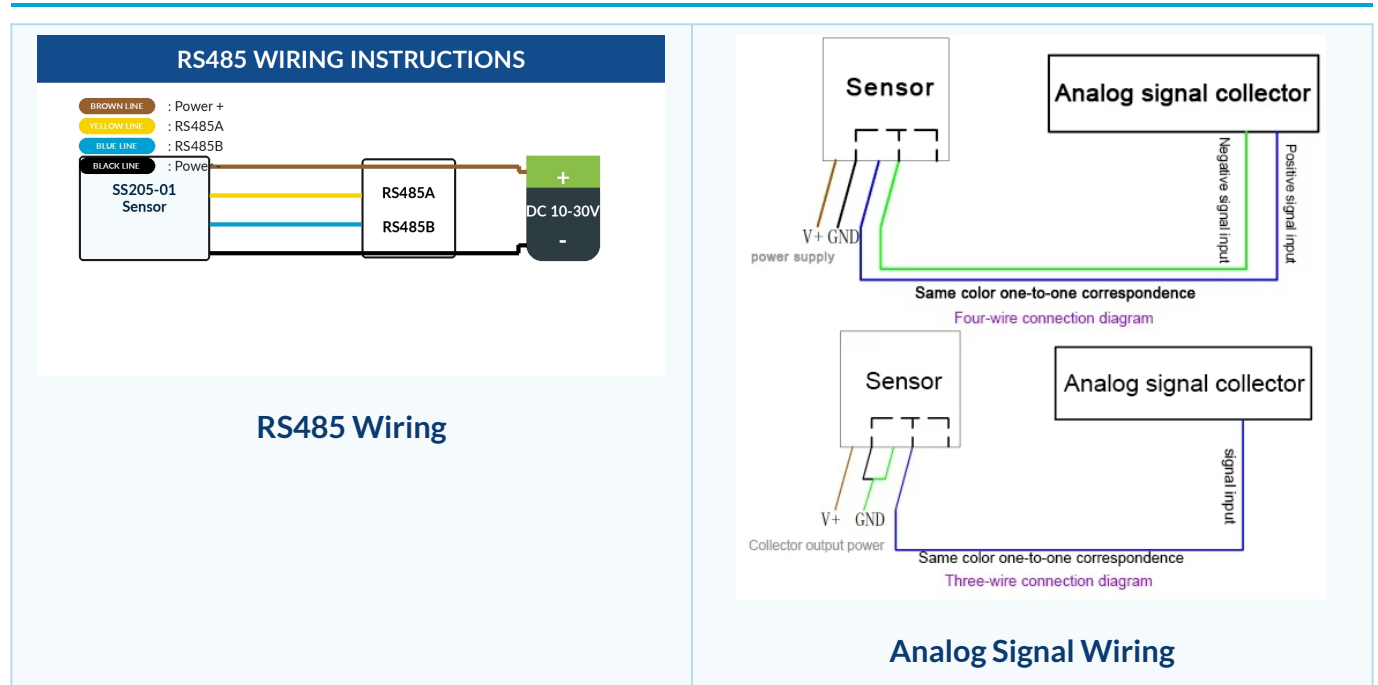
Dimensions



Overall housing dimensions shown in the source material: 110 mm × 85 mm × 44 mm.

WIRING & INTEGRATION

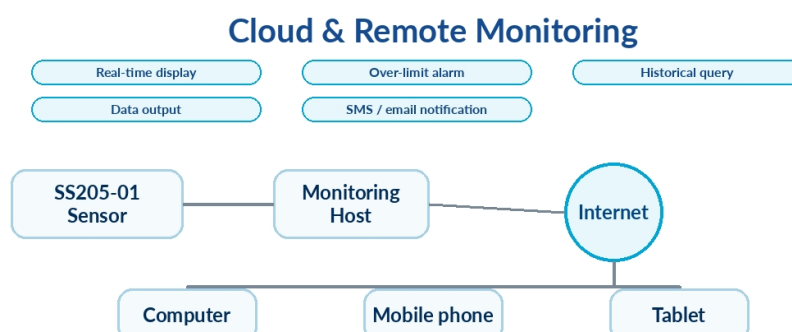
RS485 and Analog Wiring



Wire color	RS485 function
Brown	Power + (DC 10-30 V)
Black	Power -
Yellow	RS485A
Blue	RS485B

REMOTE MONITORING

Cloud Platform & Data Upload



WiFi and 4G versions support remote data upload. The source material describes support for local monitoring software, environmental monitoring cloud platform access, web/local/mobile viewing and customer server upload.

PRODUCT SELECTION

Ordering Code

Code	Description
SS	SpeSense company code
205-01	Illumination intensity transmitter / sensor
S	Illumination + temperature + humidity 3-in-1 transmitter / sensor
I20-	4-20 mA current output; not available for the light + temperature + humidity integrated type
V05-	0-5 V voltage output; not available for the integrated type
V10-	0-10 V voltage output; not available for the integrated type
N01-	RS485 output with ModBus protocol
WIFI-	WiFi data upload
4G-	4G data upload
2-	Wall-mounted enclosure
65535	Range: 0-65535 Lux
20W	Range: 0-200000 Lux
6WH	Range: 0-65535 Lux; high-accuracy option, maximum error 4%
20WH	Range: 0-200000 Lux; high-accuracy option, maximum error 4%

CONTACT / SUPPORT

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