

**SOUND MONITORING / DATA SHEET**

# SS200-02

## Wall Mounted Noise Sensor

SS200-02 is a high-precision wall-mounted noise sensor designed for environmental and industrial sound monitoring. It delivers accurate and reliable sound level measurement for homes, offices, workshops, vehicles, factories, construction sites and other monitoring applications.



| Range     | Frequency      | Accuracy | Resolution |
|-----------|----------------|----------|------------|
| 30-130 dB | 20 Hz-12.5 kHz | ±0.5 dB  | 0.1 dB     |

### Key Advantages

- High-sensitivity condenser microphone for stable and accurate sound detection.
- Wide measuring range, good linearity and built-in temperature compensation.
- Wall-mounted waterproof enclosure with compact structure and convenient installation.
- Multiple outputs: RS485, analog 4-20 mA / 0-5 V / 0-10 V, WiFi, 4G and LoRa.
- Designed for long-distance transmission and remote monitoring applications.

### Application Scenarios

- Residential and community noise monitoring.
- Office, commercial building and campus acoustic monitoring.
- Workshop, factory and industrial site sound monitoring.
- Construction site and traffic-related noise monitoring.
- Environmental monitoring systems requiring remote data upload.

### Measurement Principle

The sensor uses a high-sensitivity condenser microphone to detect environmental sound pressure levels. The acoustic signal is processed by the internal signal-conditioning circuit and converted into stable digital or analog output signals for real-time monitoring, data logging and system integration.

## Technical Specifications

### SYSTEM DATA

| Item       | Specification |
|------------|---------------|
| Resolution | 0.1 dB        |

|                            |                                          |
|----------------------------|------------------------------------------|
| <b>Frequency range</b>     | 20 Hz-12.5 kHz                           |
| <b>Response time</b>       | ≤3 s                                     |
| <b>Stability</b>           | <2% over service cycle                   |
| <b>Accuracy</b>            | ±0.5 dB at reference tone, 94 dB @ 1 kHz |
| <b>Working environment</b> | -20°C to +60°C; 0-95%RH, non-condensing  |

## Variant Specifications

| Version / Item                     | Specification                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RS485 version</b>               | Power supply: 10-30 V DC; power: 0.4 W; interface: RS485 Modbus; measurement range: 30-130 dB; configurable through RS485 interface.        |
| <b>RS485 communication</b>         | Baud rate: 2400 / 4800 (default) / 9600; 8 data bits; no parity; 1 stop bit; default Modbus address: 1; function code: 03.                  |
| <b>Analog output version</b>       | Power supply: DC10-30V; maximum power: 1.2 W; range: 30-120 dB; outputs: 4-20 mA, 0-5 V, 0-10 V.                                            |
| <b>Load capability</b>             | Voltage output resistance ≤250 Ω ; current output ≤600 Ω .                                                                                  |
| <b>4G version</b>                  | Power: 7-30 V DC; range: 30-130 dB; upload interval: default 30 s, adjustable 5-65535 s; acquisition interval: 2 s.                         |
| <b>WiFi version</b>                | Power: 7-30 V DC; range: 30-130 dB; upload interval: default 10 s, adjustable 1-65535 s; acquisition interval: 2 s; 802.11b/g/n.            |
| <b>WiFi security/configuration</b> | Security: WEP / WPA-PSK / WPA2-PSK with WEP / TKIP / AES; configuration tool: Bluetooth touch configuration.                                |
| <b>LoRa version</b>                | Power: DC7-30V; output: LoRa; range: 30-130 dB; long-range wireless transmission and relay forwarding supported by the product code family. |

## Communication & Output Options

|                                   |                                                            |                                   |                                     |                                                       |
|-----------------------------------|------------------------------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------------------------|
| <b>RS485</b><br><b>Modbus RTU</b> | <b>Analog</b><br><b>4-20 mA / 0-5 V</b><br><b>/ 0-10 V</b> | <b>WiFi</b><br><b>802.11b/g/n</b> | <b>4G</b><br><b>Cellular upload</b> | <b>LoRa</b><br><b>Wireless</b><br><b>transmission</b> |
|-----------------------------------|------------------------------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------------------------|

## Details Images / Product Features

The following images and feature notes are taken from the source product material and adapted into the SpeSense datasheet visual system.



SS200-02 (OLED) - With OLED Display



SS200-02 (STD) - Without Display

### DIMENSIONS



**Compact Size**  
Easy to install in various applications



**Precision Design**  
Carefully engineered for accurate monitoring



**Reliable Performance**  
Stable structure ensures consistent measurement



### Original Imported High-Density Material Shell

High-quality engineering plastic enclosure, strong, durable and resistant to aging.



**High Quality Material**  
Selected high-density engineering plastic, strong and impact-resistant.



**All-weather Protection**  
IP65 protection level, waterproof and dustproof, suitable for various environments.



**Aging Resistance**  
Excellent UV resistance and corrosion resistance, long service life.



**Easy Installation**  
Wall-mounted compact design, simple and efficient installation.



**Durable Structure**



**IP65 Protection**



**UV & Corrosion Resistance**



**Long Service Life**



### Dimensions

#### ANTI-INTERFERENCE CABLE

High-quality shielded cable design effectively reduces external interference and ensures stable signal transmission.

- Strong Anti-Interference**  
Shielded layer reduces electromagnetic interference and ensures accurate data.
- High-Quality Materials**  
Durable cable jacket, resistant to wear, corrosion and aging.
- Wide Temperature Range**  
Stable performance in extreme environments, -30~70°C.
- Flexible and Easy to Install**  
Soft and flexible cable for easy routing and installation.

Anti-interference Design

Stable Signal Transmission

-30~70°C Operating Temperature

Durable and Reliable



#### Anti-interference Cable

### High-density Material Shell

#### WATER RELEASE STRIP

High-density material shell with a water release strip inside to prevent water accumulation and ensure excellent moisture-proof performance.

- Prevents Water Accumulation**  
Water release strip design effectively drains condensation and prevents water buildup.
- Moisture-proof Performance**  
Keeps the sensor interior dry, ensuring stable and accurate measurements.
- Durable and Reliable**  
High-quality materials for long-term outdoor use.

Moisture Protection

Stable Performance

All-weather Applicable

Easy Maintenance



#### Water Release Strip

## Communication, Installation & Ordering

#### RS485 COMMUNICATION

Standard RS485 output, supports Modbus-RTU protocol, enabling easy integration with various monitoring systems.

- RS485 Output**  
Standard RS485 interface for stable and reliable data transmission.
- Modbus-RTU Protocol**  
Compatible with Modbus-RTU protocol, easy to integrate and configure.
- Long-Distance Transmission**  
Supports long-distance communication, suitable for various applications.
- Strong Anti-Interference**  
Industrial-grade design, strong anti-interference ability ensures data accuracy.

Easy Integration  
Compatible with multiple systems

Stable Communication  
Reliable data transmission without data loss

Long Distance  
Up to 1200m communication

Industrial Grade  
Designed for harsh environments



#### RS485 Communication

#### Wall Mounted Type

- Compact and lightweight**  
Easy to install on the wall
- All-weather protection**  
Reliable performance in different environments
- Space-saving design**  
Ideal for various monitoring applications

IP65 Protection

-30~70°C Working Temperature

High Accuracy

Stable Performance



#### Wall-mounted Type

## Product Selection

| Code          | Description            |
|---------------|------------------------|
| <b>SS</b>     | SpeSense company code  |
| <b>200-02</b> | Noise transmitter      |
| <b>N01-</b>   | RS485 interface output |
| <b>I20-</b>   | 4-20 mA current output |
| <b>V05-</b>   | 0-5 V voltage output   |
| <b>V10-</b>   | 0-10 V voltage output  |
| <b>WIFI-</b>  | WiFi upload            |
| <b>4G-</b>    | 4G upload              |

|               |                                                            |
|---------------|------------------------------------------------------------|
| <b>LORAH-</b> | Wireless LoRa transmission; supports LoRa relay forwarding |
| <b>2-</b>     | Wall-mounted enclosure                                     |
| <b>blank</b>  | Without display                                            |
| <b>OLED</b>   | With OLED display                                          |

## Deployment Notes

- Suitable for indoor and outdoor wall-mounted noise monitoring.
- Designed for robust enclosure installation and reliable operation.
- Applicable to smart cities, construction sites, industrial sites, campuses and public infrastructure projects.

## Outdoor Weather Station Configuration

An optional weather-station-style acoustic monitoring configuration can be used when the sensor is installed as part of a wider outdoor environmental monitoring system.



Weather Station Type / Outdoor Configuration

## CONTACT / SUPPORT

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