SOUND MONITORING / DATA SHEET

SS200-03

Mushroom Noise Sensor

Overview

Compact aluminum acoustic sensor for stable noise monitoring with optional environmental parameters.

SS200-03 is designed for detecting and monitoring environmental sound levels. The sensing core is a high-sensitivity electret condenser microphone that converts sound vibration into electrical signals for reliable data output.

Range	Accuracy	Resolution	Frequency
30-130 dB	±1.5 dB	0.1 dB	35 Hz-20 kHz

Key Advantages

- Sleek industrial design with all-aluminum construction.
- Compact mushroom structure with weather-shielding canopy.
- ±1.5 dB accuracy and 0.1 dB resolution.
- A-weighted noise measurement for perceived loudness evaluation.
- Supports customization of integrated measurement parameters.

Application Scenarios

- Industrial environmental noise monitoring.
- Warehouses, workshops and factory spaces.
- Office, campus and public building acoustic monitoring.
- Public venues, event spaces and transportation-adjacent environments.
- Outdoor monitoring with optional integrated environmental parameters.

Measurement Principle

The sensor uses a capacitive electret microphone that is sensitive to acoustic pressure. When sound waves cause the electret film to vibrate, capacitance changes and a small voltage signal is generated. The internal circuit converts this sound signal into stable electrical output for monitoring, transmission and system integration.

SYSTEM DATA

Technical Specifications

Item	Specification
Operating environment	-20°C to +60°C @ 10% to 90% RH
Storage	-20°C to +80°C @ 10% to 90% RH
Shell material	Aluminum alloy
Cable length	1 m standard; other lengths on request
Power supply	DC 12-24 V standard; DC 5 V on request
Output signal	RS485 Modbus-RTU; 4-20 mA; 0-3 V / 0-5 V / 0-10 V

Parameter	Measuring Range	Accuracy	Resolution	Notes
Noise	30-130 dB	±1.5 dB (2 kHz, 80 dB point correction)	0.1 dB	Frequency response: 35 Hz-20 kHz; frequency weighting: A
Temperature	-20°C to +125°C	±0.2°C @ 0-60°C	0.01°C	Optional integrated element
Relative Humidity	0-100% RH	±2% RH	0.01% RH	Optional integrated element
Barometric Pressure	26 kPa-126 kPa	±10 Pa @ 80-110 kPa	10 Pa	Optional integrated element

Optional Configuration Matrix

Ordering Code	Integrated Parameters	Output Signal	Power Supply
SS200-03-X1	Noise	RS485 Modbus-RTU; 4-20 mA; 0-3/5/10 V	DC 12-24 V standard; DC 5 V on request
SS200-03-X2	Noise + Temperature + Relative Humidity	RS485 Modbus-RTU	DC 12-24 V standard; DC 5 V on request
SS200-03-X3	Noise + Barometric Pressure	RS485 Modbus-RTU	DC 12-24 V standard; DC 5 V on request
SS200-03-X4	Noise + Temperature + Relative Humidity + Barometric Pressure	RS485 Modbus-RTU	DC 12-24 V standard; DC 5 V on request

Product Views / Product Features

The following product views and feature notes use the uploaded product images and source product material, adapted into the SpeSense datasheet system.

Perspective View

Front / Lower View

Full Product with Cable

Core Feature Notes

Feature	Source-based description
All-aluminum construction	Sleek industrial design using an aluminum alloy shell for a compact sensor structure.
A-weighted noise measurement	Frequency weighting: A; suitable for noise monitoring applications that require perceived loudness evaluation.
Optional integrated parameters	Noise can be combined with temperature, relative humidity and/or barometric pressure according to the selected configuration.
Customizable cable length	1 m cable is standard; other lengths can be supplied on request.
Flexible outputs	X1 supports RS485 Modbus-RTU and analog outputs; X2-X4 support RS485 Modbus-RTU.

Product Selection

Code	Description
SS	SpeSense company code
200-03	Mushroom noise sensor
X1	Noise only
X2	Noise + temperature + relative humidity
X3	Noise + barometric pressure
X4	Noise + temperature + relative humidity + barometric pressure
Default cable	1 m standard, other lengths on request
Optional power	DC 5 V on request; DC 12-24 V standard

Application Scenarios

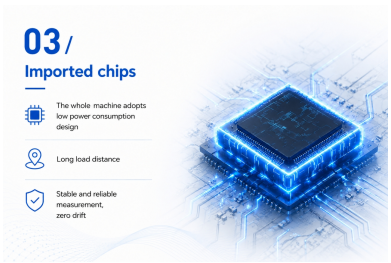
Widely used in multiple fields, providing accurate and reliable noise measurement data for environmental and industrial monitoring.

- Industrial measurement
- Automobile / traffic-related measurement
- Warehouse measurement
- Home appliance measurement
- Office measurement
- Event and competition measurement

Deployment Notes

- Install the sensor where the acoustic environment is representative of the target monitoring point.
- Avoid placing the sensing area directly against walls, corners, or obstacles that may cause sound reflection errors.
- Use stable mounting and sealed cable routing for long-term monitoring applications.
- Select the integrated parameter configuration according to the target project requirements.

Supporting Feature Assets



Low-power Chip / Stable Measurement

Waterproof Cable / Stable Transmission

A-weighting / Perceived Loudness

CONTACT / SUPPORT

SpeSense Technologies Inc.
Add: No. 9 Yuhe Road, Guitang Subdistrict, Yuhua District, Changsha City
Tel: +86-15386478166
Email: info@spesense.com
Web: www.spesense.com

WHATSAPP WECHAT

WhatsApp / WeChat