

Technical Datasheet

SOUND LEVEL TRANSMITTER Atmos SERIES - SL50



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Atmos SERIES - SL50

The Polwax Sound Level Transmitter Model NoiseTrans50 is an advanced noise monitoring device designed to measure and transmit real-time sound pressure levels (SPL) in decibels (dB) for industrial, environmental, and commercial applications. With its high-precision microphone and signal processing unit, the Decibel 50 ensures accurate and reliable noise measurements across a wide frequency range. Equipped with multiple output interfaces including 4-20mA, 0-10V, RS485 (Modbus RTU), and MQTT over Wi-Fi, the NoiseTrans50 seamlessly integrates with industrial automation systems, environmental monitoring platforms, and smart city infrastructure. Its robust IP65-rated enclosure allows for deployment in both indoor and outdoor environments, making it suitable for factories, airports, traffic monitoring, hospitals, educational institutions, and more.

Features

- Easy to Install and suitable for Wall Mounting
- High Accuracy and Stability
- Wide Measuring Range
- Output Signal : 4 - 20 mA / 0 - 10 V
- High-sensitivity microphone
- Protection Rating: IP65 for outdoor and harsh environment use
- Low Power Consumption
- Compact and Durable Design
- User-Friendly Configuration
- Energy Efficient
- Easy Integration
- Ruggedized Enclosure
- Advanced Communication RS-485
- Compact Design



Installation & Configuration

- Wall or pole-mounted using standard brackets.
- Power and data connections via screw terminals or industrial connectors.
- Configurable via PC-based software or Modbus registers.
- Calibration options available for enhanced accuracy.



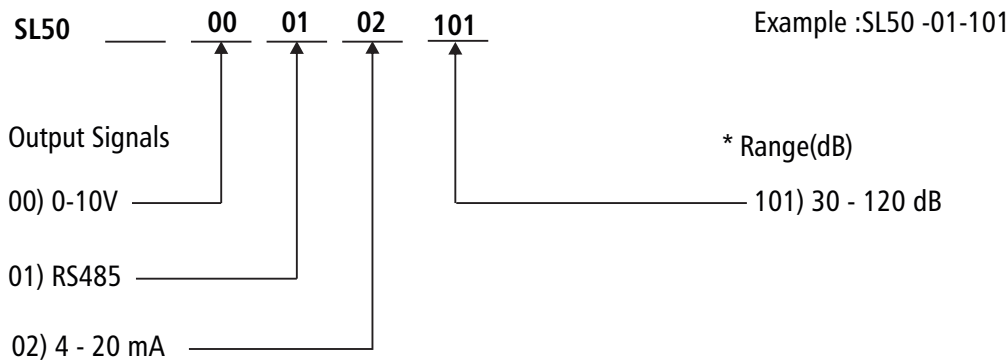


Technical Details

Measurement Range	30 dB to 120 dB
Accuracy	±1.5 dB
Resolution	0.1 dB
Response Time	≤30 seconds
Microphone Type	Precision Electret Condenser Microphone
Output Options	4-20mA, 0-10V, RS485 (Modbus RTU)
Power Supply	12V-24V DC
Frequency Range	20 Hz - 20 kHz
Operating Temperature	-10°C to 60°C
Storage Temperature	-20°C to 80°C
Humidity Range	0-95% RH (non-condensing)
Protection Rating	Ip65 (water-resistant and dustproof)
Output Signals	Rs485 (Modbus RTU), 4-20mA, 0-5V, 0-10V
Mounting Options	Wall mount, Pole mount,
Communication Protocols	MODBUS RTU
Housing Material	Industrial-grade ABS
Process Connection	High-strength, dustproof, waterproof

Model Selection Chart

Polwax SL50



Note: All ranges are bi-directional
(Specifications subject to change)

Why Choose Polwax Sound Level Transmitter – Model SL50?

When it comes to precise, real-time noise level monitoring, the Polwax NoiseTrans50 stands out as a reliable, industrial-grade solution designed to meet the needs of a wide range of applications. Here's why you should choose SL50 for your sound level monitoring requirements:

1. High-Precision Noise Measurement

- ✓ **Wide Measurement Range (30 dB – 120 dB):** Accurately captures ambient noise levels in industrial, commercial, and environmental settings.
- ✓ **High-Sensitivity Electret Condenser Microphone:** Provides superior noise detection with ± 1.5 dB accuracy, ensuring compliance with regulatory standards.

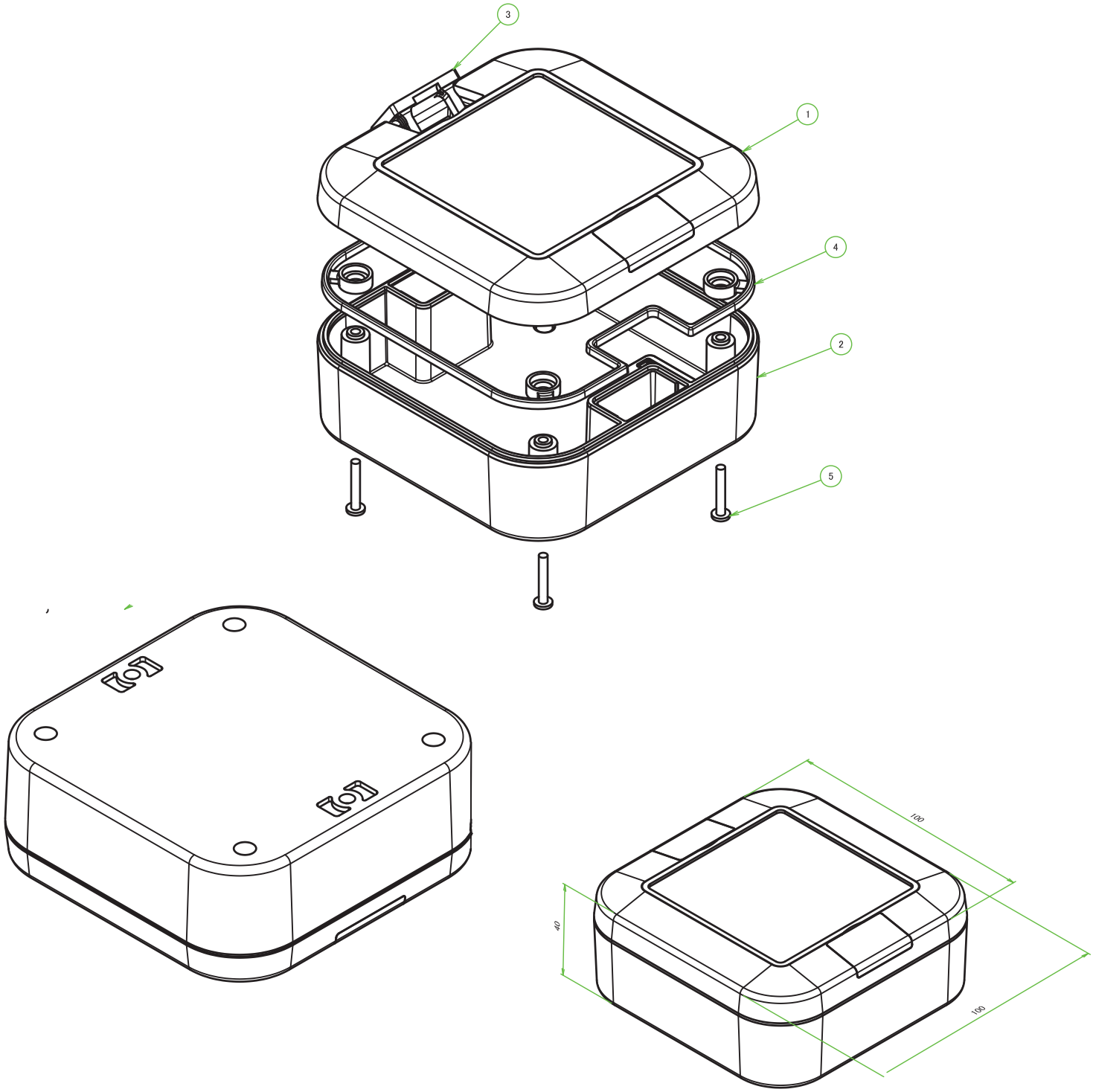
2. Versatile Output & Connectivity Options

✓ Multiple Industry-Standard Outputs:

- 1) 4-20mA & 0-10V for integration with existing industrial control systems.
- 2) Rs485 Modbus RTU for communication with SCADA, BMS, and PLCs.

- ✓ **Seamless Integration:** Works with smart city monitoring systems, environmental agencies, hospitals, factories, and more.

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Applications & Case Studies

Case Study 1: Smart City Noise Pollution Monitoring

Client: Municipal Environmental Protection Agency

Challenge: Urban noise pollution was increasing due to traffic congestion, construction activities, and nightlife. The city lacked a real-time monitoring system to assess the noise levels and implement noise control measures.

Solution: The Polwax SL50 was deployed across multiple high-traffic areas in the city. The devices were connected via MQTT over Wi-Fi, enabling real-time monitoring through a centralized dashboard.

Results:

- ✓ Identified noise pollution hotspots, helping policymakers take action.
- ✓ Automated alerts for areas exceeding permissible noise levels.
- ✓ 25% reduction in citizen complaints related to noise pollution.

Case Study 2: Industrial Noise Monitoring for Worker Safety

Client: Automotive Manufacturing Plant

Challenge: Workers were exposed to high noise levels exceeding 90 dB in specific areas, leading to hearing issues and regulatory non-compliance. The plant needed an automated noise level monitoring system to ensure worker safety.

Solution:

The Polwax SL50 was installed in high-noise areas. The 4-20mA output was integrated into the factory's PLC system, enabling automated safety measures such as triggering alarms and activating noise reduction mechanisms.

Results:

- ✓ 0% reduction in noise exposure complaints from workers.
- ✓ Improved compliance with OSHA noise regulations.
- ✓ Enhanced productivity with a safer work environment.



Case Study 3: Hospital Noise Level Management

Client: Multi-Specialty Hospital

Challenge: The hospital faced high noise levels in ICU and patient recovery areas due to constant staff movement, medical equipment, and external noise. This negatively impacted patient recovery.

Solution: Polwax SL50 units were installed across ICU, corridors, and waiting areas to monitor noise levels. RS485 Modbus integration allowed real-time tracking through the hospital's building management system (BMS).

Results:

- ✓ 30% reduction in noise levels in critical care areas..
- ✓ Enhanced patient recovery and improved hospital ratings.
- ✓ Real-time alerts helped staff maintain a quieter environment.





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