



MacSync-LN1 Overview

MacSync-LN1 is a compact and reliable LoRaWAN® Noise Sensor designed for continuous, real-time monitoring of ambient sound levels in both indoor and outdoor environments. It accurately captures noise levels across a wide frequency range, making it ideal for smart city, industrial, and environmental applications.

Perfect for use cases like traffic noise assessment, factory noise compliance, construction site monitoring, and community noise mapping, MacSync-LN1 works effortlessly with Macnman LoRaWAN® gateways and cloud solutions to support smarter, quieter cities.

Sensors

Noise Sensor

30 dB to 120 dB

Wireless Technology



Features

Fast Response & High Stability

Response time $\leq 3s$ with $<2\%$ drift over lifecycle

Wide Frequency Range

Measures 20Hz to 12.5kHz, diverse noise profiles

Accurate Even in Harsh Conditions

Independent of sound tone & background noise

LoRaWAN® Class A & C communication

Communication for flexible uplink strategies

IP66-Rated Enclosure (Sensor)

Designed for industrial & outdoor environments

Low power consumption

Optimized for battery-powered operations

Supports Macnman Beam Protocol

Direct control, & local device-to-device actions

Secure onboarding with pre-flashed DevEUI / AppEUI / AppKey

Supports periodic, threshold-based, & event-driven uplinks

Compatible with all LoRaWAN® network servers & gateways

Specifications

Measurement

Measuring Range	30 dB to 120 dB
Resolution	0.1 dB
Frequency Range	20 Hz – 12.5 kHz
Response Time (sensor)	< ±5 mm (Indoor lighting conditions)
Stability	< 2% over lifecycle
Accuracy	±0.5 dB (at 94 dB, 1 kHz reference)

Wireless Transmission

Technology	LoRaWAN® (v1.0.4), Macnman Beam Protocol
Antenna	Internal high-efficiency antenna
Supported Bands	IN865 / RU864 / EU868 / US915 / AU915 / KR920 / AS923-1/2/3/4
Tx Power	16 dBm @ 868 MHz 20 dBm @ 915 MHz 19 dBm @ 470 MHz
Sensitivity	-137 dBm @ 300 bps
Activation	OTAA / ABP
LoRaWAN® Class	Class A (default), Configurable to Class C via Maya

Led Status

LED Type	1 Internal Multi-Color LED
Solid Blue	Device is connected with Maya App
Flashing Blue	OTA (Over-the-Air) update in progress
Slow Blinking Green	Attempting to connect to the LoRaWAN® network
Single Red Blink	A confirmed parameter of MacSync is being modified

Configuration

Configuration	Via Macnman Maya Android App
Maya Fatures	Threshold / Trigger / Sample based alarm triggers
Stored Records	30,000 Records (accessible via Maya) (optional)
Remote Configuration	Yes - JSON format Data

Physical Characteristics

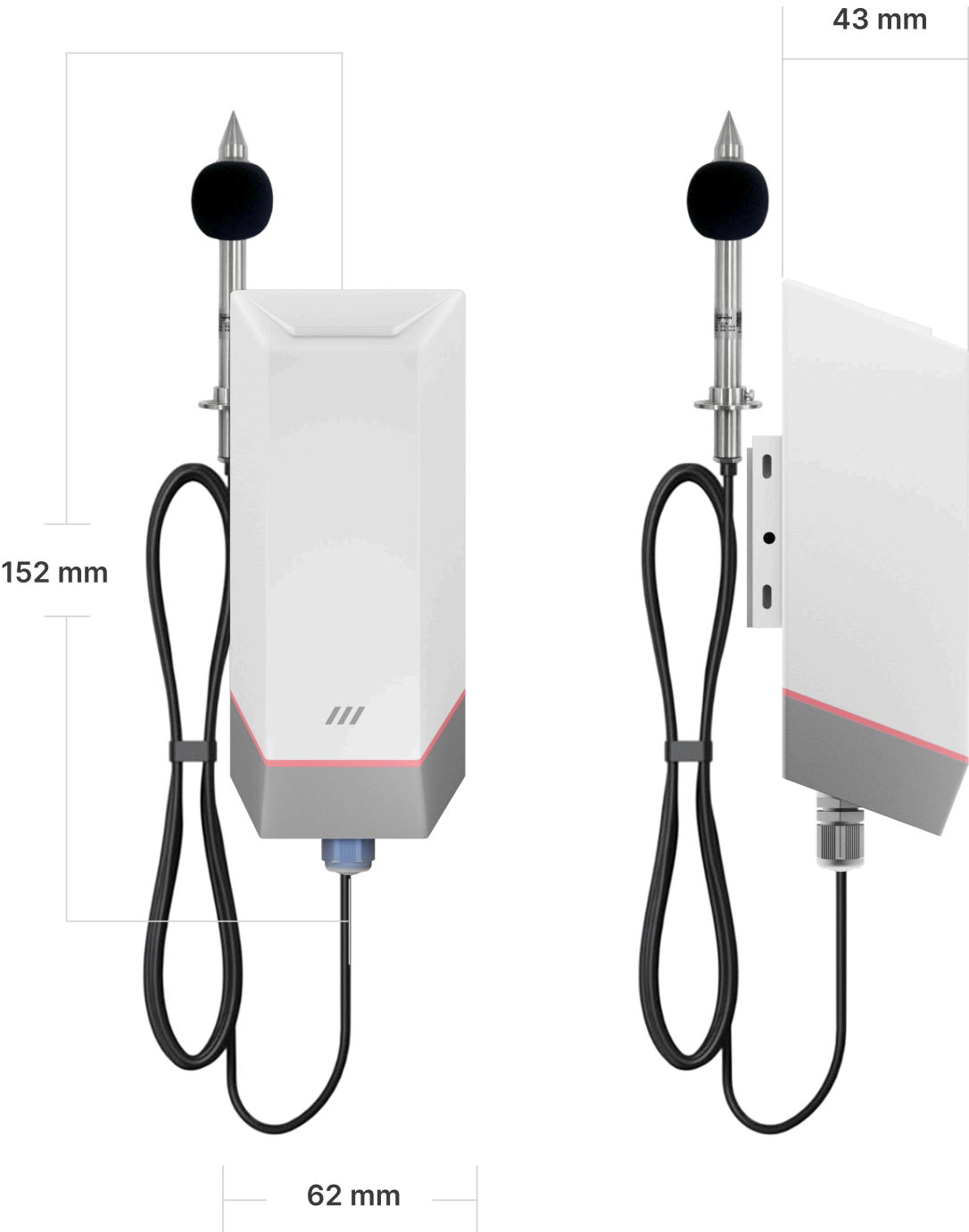
Power Supply	Inbuilt Battery - 19,000 mAh , Optional Solar Panel
Operating Temp	-40°C to +80°C
Humidity Range	0% to 100% RH (non-condensing)
Ingress Protection	IP65 standard (IP67 optional variant)
Housing Material	SS Metal(Sensor) , Glass field Nylon (MacSync)
Color	Matte White
Weight	~190g (with 19Ah battery)
Dimensions	Approx. 152 mm X 62 mm X 43 mm + Sensor Probe
Mounting Options	Wall Mounting - Screw fix type & Pole Mounting

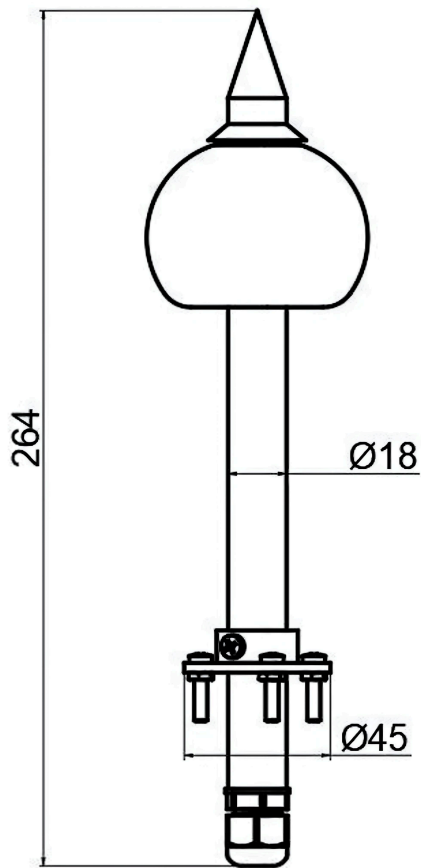
Certifications

Regulatory	WPC
Environmental	RoHS compliant

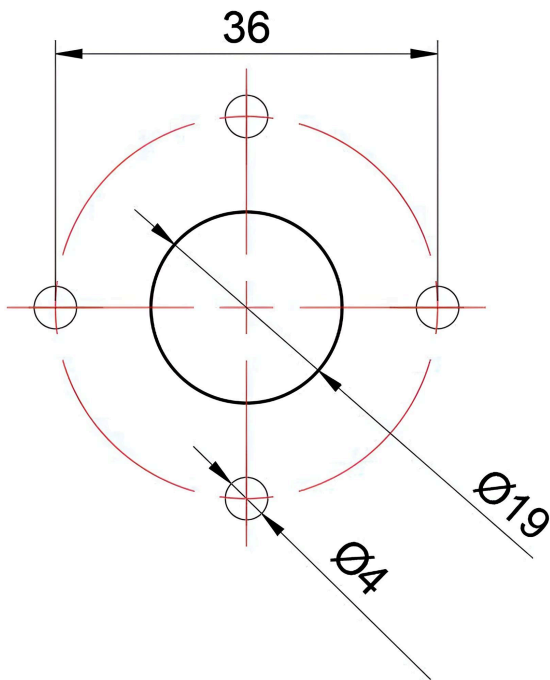
Product Dimension

Sensor Probe Cable: Free-mounted probe with 1-meter standard cable (custom lengths available on request)





A. Sensor Probe



B. Probe Mounting Plate

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