MacSync-LTNC-Xx Overview

The MacSync-LTNC-Xx Series is a high-performance, non-contact infrared temperature sensor designed for accurate temperature measurement of moving, inaccessible, or high-temperature objects. It provides precise readings without physical contact, making it ideal for industrial, metallurgical, and process monitoring applications.

The sensor converts the detected infrared radiation emitted by the target surface into a temperature value, ensuring reliable operation even in harsh and high-temperature environments.

Sensors	Temperature
Wireless Technology	LoRa LoRaWAN

❘ Features

Non-Contact Infrared Sensing Ideal for moving, hot, or inaccessible objects	**High Measuring Range** Extreme temperature ranges up to 1500°C
IP65-Rated Enclosure Designed for industrial & outdoor environments	**Supports periodic, threshold-based, & event-driven uplinks**
BLE Support Easy local configuration and diagnostics with Maya	**Massive 19Ah built-in lithium battery** Up to 10+ years depending on settings
Supports Macnman Beam Protocol Direct control, & local device-to-device actions	**Secure onboarding with pre-flashed DevEUI / AppEUI / AppKey**
Optional Onboard Data Buffering To prevent data loss in case of network downtime	**Compatible with all LoRaWAN® network servers & gateways**

Specifications

Measurement

Sensor Type	Infrared (Non-Contact) Temperature Sensor
Range	0 °C to 1000 °C & 0 °C to 1500 °C Models
Accuracy	±1 % of reading or ±1 °C (whichever is greater)
Resolution	0.1°C
Repeatability	±0.5 % of reading
Optical Resolution (D:S)	15 : 1 (optional 30 : 1 version available)
Spectral Response	8 – 14 μm
Response Time (95 %)	< 250 ms
Emissivity Adjustment	0.10 – 1.00 (configurable)
Power Supply	12 – 24 V DC
Power Consumption	< 50 mA (typical)

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

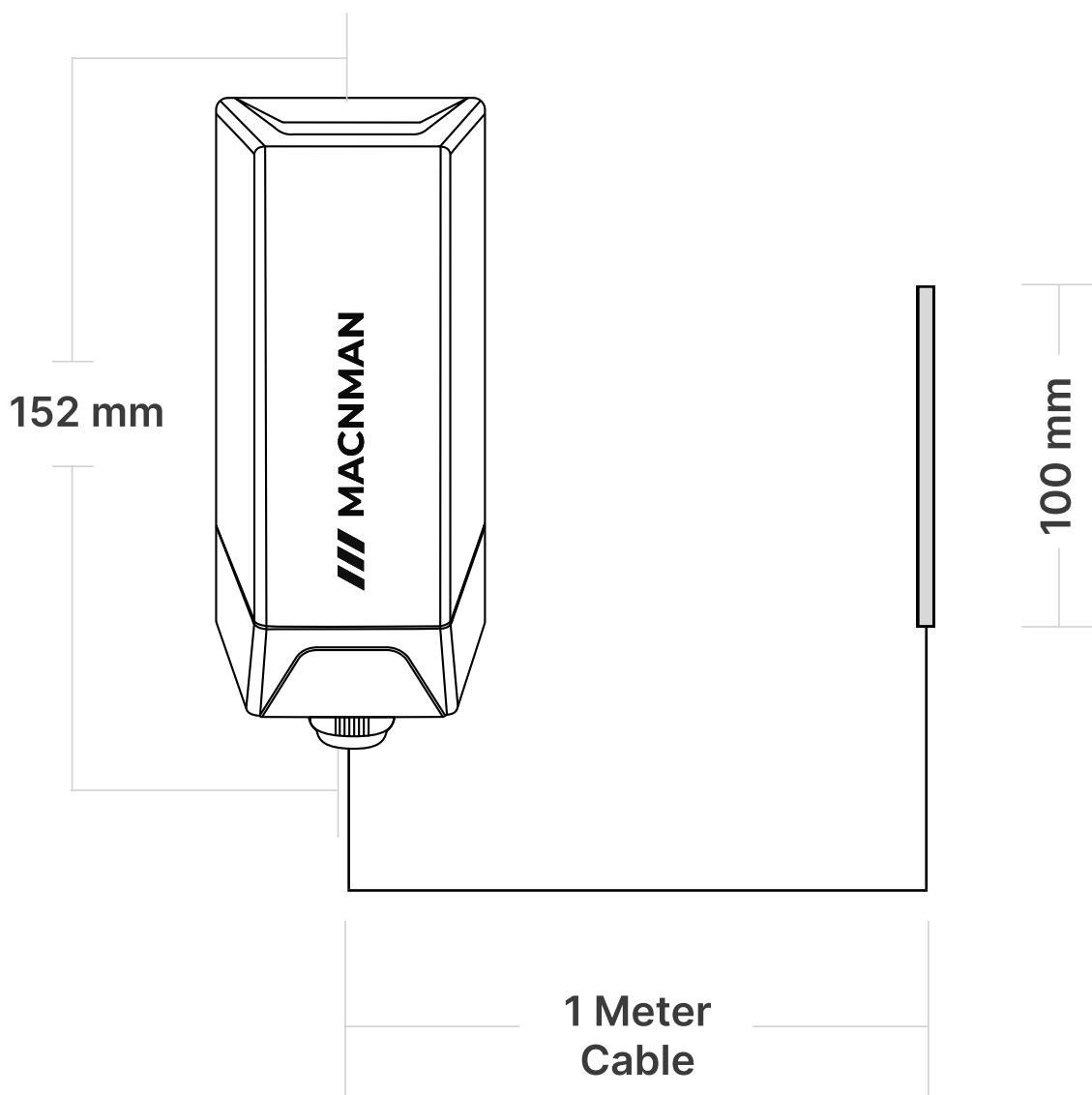|	
Configuration	Via Macnman Maya Android App
Maya Fatures	Threshold / Trigger / Sample based alarm triggers
Stored Records	30,000 Records (accessible via Maya)
Remote Configuration	Yes - JSON format Data

Physical Characteristics

Power Supply	1 × 19,000 mAh Li-SOCl$_2$ battery (field-replaceable)
Battery Life*	Up to 10+ years (SF7, 10-minute interval)
	~5.8 years (SF10, IN865)
Operating Temp	-30°C to +70°C
Humidity Range	0% to 100% RH (non-condensing)
Ingress Protection	IP65 standard (IP67 optional variant)
Housing Material	Glass Field Nylon
Color	Matte White

Weight	~240g (with 19Ah battery)
Dimensions	Approx. 186 mm X 62 mm X 43 mm (customizable branding available)
Mounting Options	Wall mount (screw), 3M adhesive, cable tie slots

Certifications

Regulatory	WPC
Environmental	RoHS compliant

Device Dimensions

152 mm

100 mm

1 Meter
Cable

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Say Hello 👋

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