



LoRaWAN Non Contact Temperature Sensor

MacSync LNCT Xx



Introduction

The MacSync LNCT Xx is an industrial-grade LoRaWAN® Non-Contact Temperature Sensor designed for accurate surface temperature monitoring without physical contact. Using advanced infrared temperature sensing technology, the device enables safe and reliable temperature measurement of moving, hazardous, high-temperature, or difficult-to-access objects across industrial and outdoor environments.

With rugged industrial construction, configurable reporting intervals, and support for public and private LoRaWAN® networks, the MacSync LNCT Xx enables scalable wireless thermal monitoring deployments with minimal installation complexity and maintenance requirements.

Features

- Non-Contact Infrared Temperature Measurement
- Ultra-Low Power Architecture for Long-Term Deployment
- Configurable Sampling & Transmission Intervals
- BLE-Based Configuration via Maya App
- Wireless Replacement for Wired Temperature Systems
- Compatible with Public & Private LoRaWAN® Networks & MacTalk Protocol

Key Advantages

- Ideal for Rotating Machinery & Conveyor Systems
- Detects Overheating Before Equipment Failure
- Enables Real-Time Thermal Visibility Across Industrial Assets
- Improves Equipment Reliability & Operational Efficiency
- Ideal for Remote & Unmanned Industrial Installations

Temperature Measurement Specifications

Sensor Type	Infrared Temperature Sensor
Temperature Range	0 °C to 600 °C & 0 °C to 1500 °C (Check Variants)
Optical Resolution (D:S)	15:1
Accuracy	±1% of reading or ±1 °C (whichever is greater)
Resolution	0.1 °C
Repeatability	±0.05 °C
Spectral Response	8 – 14 μm
Emissivity Adjustment	0.10 – 1.00
Response Time (Sensor)	< 250 ms (95%)

Wireless Specifications

Wireless Protocols	LoRaWAN® (v1.0.4), Macnman MacTalk Protocol
Antenna	Internal high-efficiency antenna
Supported Bands	IN865 / RU864 / EU868 / US915 / AU915
Tx Power	23 dBm @ 865 MHz
Sensitivity	-137 dBm @ 300 bps
LoRaWAN® Class	Class A (Default), Configurable to Class C via Maya
Device Activation	OTAA
Supported LNS	Private LNS ,Chirpstack ,The Things Networks , MQTT, Orbiwise

Device Management

Configuration Method	Via Macnman Maya Android App
Local Configuration	BLE-Based Local Configuration
Remote Configuration	Over-the-Air Configuration (Downlink Commands)
Status LED	X 1 Internal Multi-Color LED

Device Configuration Parameters

Data Reporting Mode	Periodic / Event-based / Hybrid
Transmission Interval	Independent uplink interval for optimized power consumption
Threshold-Based Alerts	Configurable Temperature Threshold for Event-Triggered Transmission
Sampling Interval	Configurable data acquisition interval (e.g., 1 min to 24 hours)

Power & Battery Performance

Power Supply	Inbuilt Battery - 19,000 mAh
Battery Type	Lithium Thionyl Chloride (Li-SOCl ₂)
Estimated Battery Life at 25 °C	
5-minute reporting interval	~2 years
15-minute reporting interval	~4 years
60-minute reporting interval	~7+ years

Physical & Environmental Specifications

Enclosure & Mechanical

Material	Glass Filled Nylon
Protection Rating	IP65
Dimensions	152 mm X 62 mm X 43 mm (Without Sensor Probe)
Weight	~175 g

Mounting & Installation

Wall - Mounted Installation	Yes , With Clip
Pole - Mounted Installation	Yes , Without Clip

Environmental Conditions

Operating Temperature	-40°C to +80°C
Operating Humidity	0% to 95% RH (non-condensing)

Regulatory Certifications & Compliance

Wireless Certification	WPC
Environmental	RoHS compliant

What's in the Box?

- MacSync Model
- Mounting Clip
- User Manual
- Warranty Card
- IP68 Cable Extender *
- Mounting Screws
- Power Adapters *

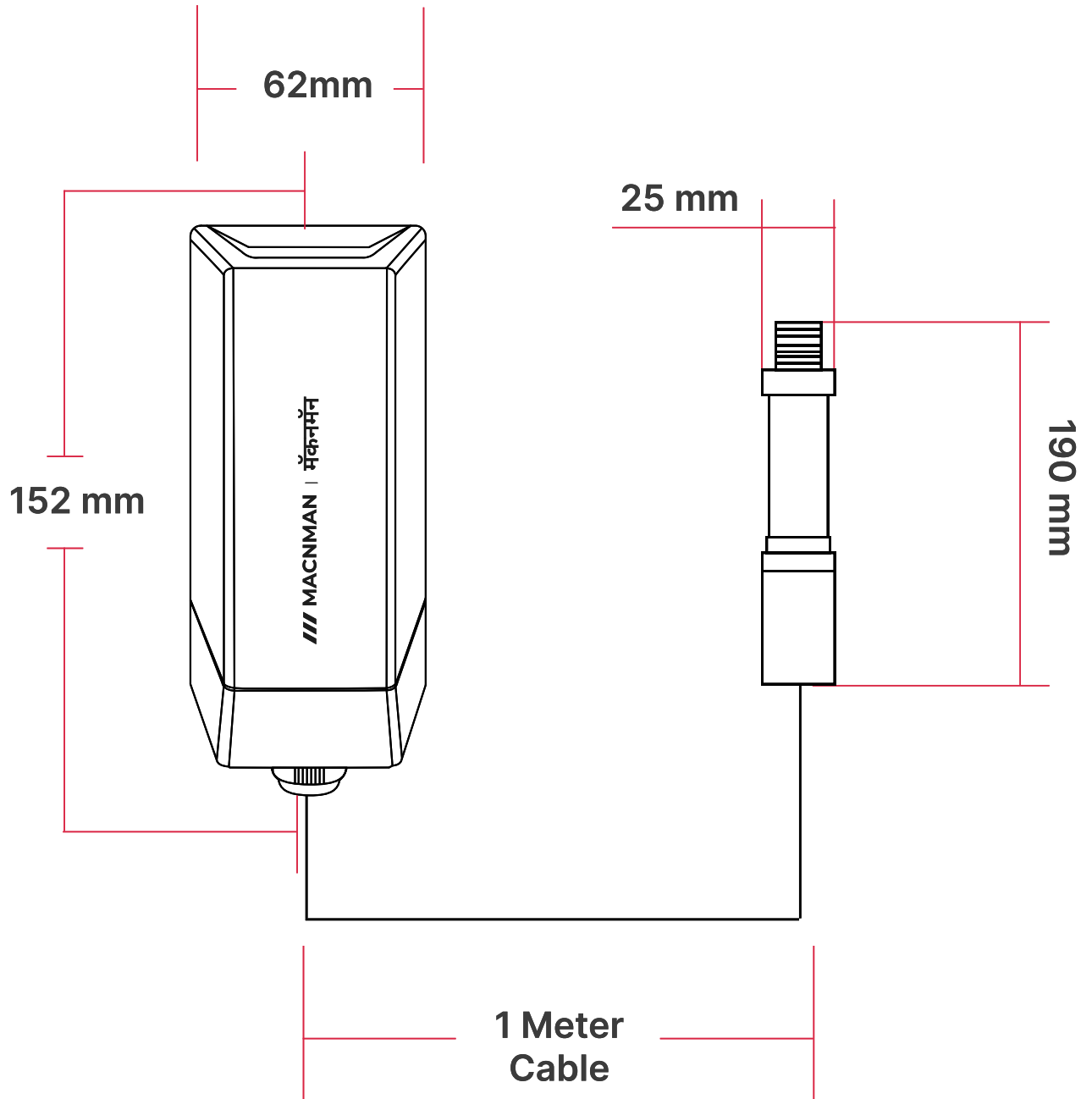
Models & Ordering Information

Variant Name	Power Source	Temperature Range
MacSync LNCT X1 PO	External Power (9–36 V DC)	0 °C to 600 °C
MacSync LNCT X1 BO	Inbuilt Battery (19 Ah)	0 °C to 600 °C
MacSync LNCT X2 PO	External Power (9–36 V DC)	0 °C to 1500 °C

Notes

- Power operated models are only available with external probe option
- (*) Marked accessories are need to be purchased separately

Device Dimensions






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