

# ThinkNode-M1\_Transceiver Device(Meshtastic)\_Power By nRF52840

## Description

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Elecrow **ThinkNode-M1** is a high-performance multi-function device integrating advanced wireless communication technology and multiple sensors. It is designed for outdoor adventures, environmental monitoring, and emergency communications. It uses **nRF52840** as the main processor and supports Bluetooth. Users can easily configure and monitor it through their mobile phones. M1 comes pre-installed with **Meshtastic firmware**. Combined with the **SX1262 wireless chip**, the device can efficiently send and receive **LoRa signals**, providing users with reliable long-distance communication capabilities. M1 is perfectly compatible with **the Meshtastic official App**. Users can use the App to **configure and manage device parameters**, message communication, map and location sharing, network status monitoring, data recording and exporting, custom settings, etc.

The built-in **1.54-inch EDP display** can view data and device status in **real-time**, which is convenient for users. In addition, M1 has a built-in **1200mAh rechargeable battery** with a battery life of more than 48 hours, which meets the needs of **long-term outdoor use**. The **external LoRa antenna** supports different frequency selections. The device adopts an integrated closed shell design, which is **compact, easy to carry, and durable**. The built-in **GPS module** of M1 can provide **accurate positioning** in any environment and can be used as an **independent communication tool** in the absence of network coverage or in emergencies to protect the safety of users.

With a highly integrated design concept, ThinkNode-M1 integrates advanced communication technologies such as **LoRa and GPS** to achieve efficient connection and data exchange between devices. Whether in remote areas where cellular networks are not covered or in emergencies, M1 can be a reliable independent communication tool to provide users with critical safety protection.

Self-developed by Elecrow with exclusive design.

For customized requirements (based on MOQ), please contact us at [service@elecrow.com](mailto:service@elecrow.com).

**Model CIL12901M-1**



Powered By nRF25840



## Hardware Overview

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1. Switch/backlight Adjustment: You can control the brightness of the front light and realize the on/off function at the same time.
2. GPS Positioning Switch: GPS on or off.
3. Function Button: Function keys, click to send ping, double-click to turn on/off the front light; triple-click to trigger/off the buzzer; long-press to enter low-power mode.
4. Page Switch: Realization of the screen's page flip.

5. Reset Button: Use the card pin to press to reset, and double-click to enter burn-in mode.
6. Type-C Interface : Enables charging and firmware burning.
7. Status Indicator:

Blue light, blinks when buzzer is on (red and blue lights blink alternately).

Red light, red light is always on after power on, red light blinks when charging, always on when full, red light blinks when the battery is low, blinks when the buzzer is on (red and blue light blinks alternately), red light goes out when the power is off/ goes into low power consumption.

## Features

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- Thinknode M1's firmware is adapted to the Meshtastic protocol, it can realize efficient and stable transmission and reception of LoRa signals;
- Built-in GPS module, providing accurate positioning functions including GPS, GLONASS, BeiDou, QZSS;
- RTC clock can keep accurate time records even when power is off, and can realize faster hot start of the device, support interruption/wake-up;
- 1.54-inch EPD display screen for real-time viewing of data and device status;
- Built-in 1200mAh lithium battery, it can work continuously for more than 48 hours;
- Low power consumption, the maximum working current is about 85mA (CPU+LoRa transceiver), and the low power consumption is about 5.6μA
- Compatible with the Meshtastic official App. Users can use the App to configure and manage parameters of the M1 device, communicate messages, share maps and locations, monitor network status, record and export data, customize settings, etc.;
- The closed shell with integrated design is compact and portable, easy to carry and durable;
- External LoRa antenna ensures the stability and efficiency of signal transmission;

## Specification

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<b>Main Processor (Nordic nRF52840)</b>	
CPU/SoC	32-bit Arm® Cortex™-M4 CPU at 64 MHz with FPU (Floating Point Unit)

<b>Main Processor (Nordic nRF52840)</b>	
System Memory	256 KB RAM
Storage	3 MB Flash memory (external 2M Flash chip)
Firmware	Meshtastic firmware is fully compatible, and the signal is transmitted in LoRa mode
Display	
Size	1.54 inch-EPD(monochrome ink screen)
Display Materials	E-Ink (Electronic Ink)
Resolution	200*200 or more
Driver Chip	SSD1681 (Via SPI or I2C interface)
Global Fresh Time	2s
Wireless Communication	
Bluetooth	Bluetooth Low Energy and Bluetooth 5 (phone configuration)
LoRa	SX1262 LoRa Transceiver、 US 915MHz / EU 868MHz (External antenna)
Hardware	
Interface	Type-C Interface、 RP-SMA Interface
Function	GPS Location(GPS, GLONASS, BeiDou, QZSS)、 EPD Display、 RTC、 USB2.0、 PMU power management (built-in 1200mAh lithium battery), buzzer, etc.
Button	Knob Switch, Function Button, Toggle Button, GPS Switch, Reset Button

<b>Main Processor (Nordic nRF52840)</b>	
LED Indicator	Power supply, GPS/LoRa indication
Other	
Power Input	5V/1A, supports USB or lithium battery power supply
Power consumption	The maximum working current is about 85mA (CPU+LoRa transceiver), and the low power consumption is about 5.6µA
Operating Temperature	-10~50°C
Storage Temperature	-20~60 °C
Relative humidity	10%-95%, @ 40°C (non-condensing)
Size	82*51.6*26.3mm
Enclosure	ABS Plastic
Net weight	58g (Without Enclosure) 81g (With Enclosure)

If you have any problem about how to use it, you can connect to us at [the bottom-right of bazzar](#) or contact to [techsupport@elecrow.com](mailto:techsupport@elecrow.com) to get technology support.