

Main Processor (Nordic nRF52840)	
CPU/SoC	32-bit Arm® Cortex™-M4 CPU at 64 MHz with FPU (Floating Point Unit)
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
EPD Display(Electronic Paper Display)	
Size	1.54 inch-EPD(monochrome ink screen)
Display Materials	E-Paper (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 Module, US 915MHz/EU 868MHz(External antenna) LoRa Transmit Power: +22dbm
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, Page Turn Button, GPS Switch, Reset Button
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 module), 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
Shell	ABS Plastic
Net weight	81g (With case)

What's the difference between the ThinkNode M1 vs M2 vs M5?

Product Name	ThinkNode M1	ThinkNode M5	ThinkNode M2
Main Processor	Nordic nRF52840	ESP32-S3 Module	
CPU/SoC	32-bit Arm® Cortex™-M4 CPU at 64 MHz with FPU (Floating Point Unit)	Equipped with high-performance Xtensa 32-bit LX7 dual-core processor, with a main frequency of up to 240MHz	
System Memory	256 KB RAM	512KB SRAM, 8MPSRAM	
Storage	3 MB Flash memory (external 2M Flash chip)	4MFlash, 384KB ROM	4MFlash, 384KB ROM
Firmware	Meshtastic firmware is fully compatible, and the signal is transmitted in LoRa mode		
Display Size	1.54 inch-EPD(monochrome ink screen)		1.3 inch
Display Materials	E-Ink (Electronic Ink)		OLED
Display Resolution	200*200 or more		128*64
Display Global Fresh Time	2s		/
Battery Capacity	1200mAh		1000mAh
WiFi	No support	Support 802.11a/b/g/n, 2.4GHz	
Bluetooth	Bluetooth Low Energy and Bluetooth 5.4 (phone configuration)	Bluetooth Low Energy and Bluetooth 5.0	
LoRa	SX1262 LoRa Transceiver, US 915MHz / EU 868MHz (External antenna)		SX1262 LoRa Transceiver, US 915MHz / EU 868MHz
Interface	Type-C Interface, RP SMA Interface		Type-C Interface
Function	GPS Location(GPS, GLONASS, BeiDou, QZSS)、EPD Display、RTC、USB2.0、PMU power management (built-in 1200mAh lithium battery), buzzer, etc.		LCD display, USB2.0, PMU power management, USB to UART, buzzer, buck circuit, etc.
Button	Knob Switch, Function Button, Page Turn Button, GPS Switch, Reset Button		Power button, Function button, Reset button
LED Indicator	Power supply, GPS/LoRa indication		Power indicator, charging indicator
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 5.6HA	The maximum working current is about 340mA (CPU+LoRa transceiver), and the low power consumption is about 34uA	The maximum working power consumption is about 217mA, and the low power consumption is about 136mA (screen off state)
Operating Temperature	-10~50°C		
Storage Temperature	-20~60 °C		
Relative humidity	10%-95%, @ 40°C (non-condensing)		
Size	82*51.6*26.3mm		88.4*46*23mm
Enclosure	ABS Plastic		

Feature

- 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. Designed for fieldwork, hiking, and emergency response, it ensures continuous operation and reliable power during extended outdoor activities.
- Low power consumption, the maximum working current is about 85mA (CPU+LoRa module), 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;

Want to know more about the difference between M1 and M2? Please check out our [blog post](#).

Who Needs This?

Outdoor enthusiasts, emergency responders, rural and remote residents, technology enthusiasts and developers, logistics and transportation companies, community organizations;

Where is it used?

Outdoor adventure/Emergency communications/Community networking/Technology enthusiasts/Fleet management

The ThinkNode M1 supports multiple firmware systems, offering versatile communication solutions.

- Meshtastic Firmware

Pre-installed for long-distance offline communication, this decentralized mesh networking protocol enables secure, off-grid messaging.

You can also flash the Firmware by yourself via the [Official Meshtastic Website](#).

- MeshCore Firmware

An alternative mesh networking stack optimized for long-distance and low-power communications.

To flash MeshCore, use the official MeshCore Flashing Tool:

- [Meshcore Official Flasher Tool](#)
- Select "ThinkNode M1"
- Follow the on-screen instructions to complete the flashing process and start exploring.

These options provide flexibility for various communication needs, whether you need secure offline messaging or optimized long-distance networking.

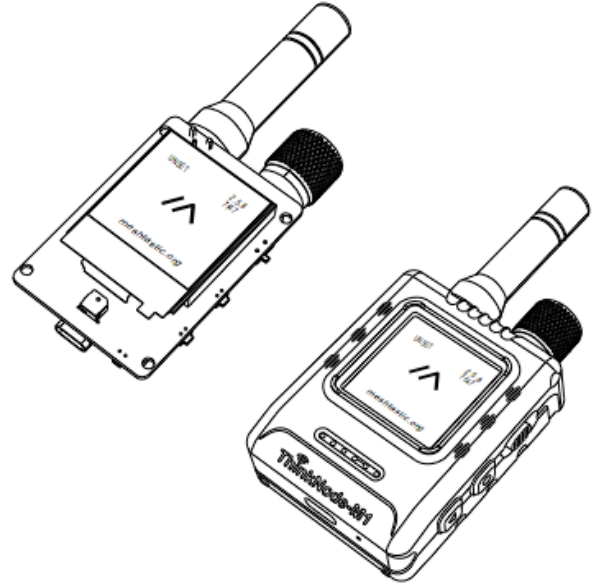
Precautions

- Avoid placing the product in damp or high-temperature areas.
- Do not disassemble, impact, crush, or throw the product into fire; do not use after submersion in water.
- If the product shows physical damage or severe swelling, do not continue to use it.
- Do not use an unsuitable power supply to power the device.

Main Specifications

Product Name	ThinkNode M1
Dimensions	82*51.6*26.3mm (Without antenna)
Weight	81g (With enclosure)
Screen	1.54" EPD
Type-C port	5V/1A
Battery Capacity	1200mAh

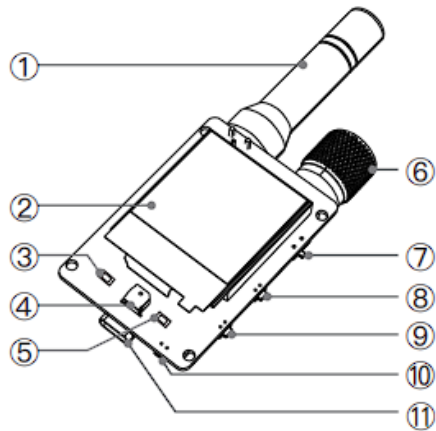
ThinkNode M1



LoRaWAN Series Transceiver Device
Powered By nRF52840

User Manual

Device Parts



- | | |
|------------------------|------------------------|
| 1. LoRa Antenna | 7. GPS Switch |
| 2. 1.54" EPD | 8. Function Button |
| 3. Product Status LED | 9. Page Turn Button |
| 4. Buzzer | 10. Reset Button |
| 5. GPS/LoRa Status LED | 11. Type-C Port: 5V/1A |
| 6. Rotary Switch | |

Quick Guide

- **Rotary Switch:** Turn the power switch clockwise to turn on the device and adjust the backlight LED brightness level; turn it counterclockwise to turn off the power.
- **GPS Switch:** toggle to enable or disable GPS positioning function.
- **Function Button:**
 - Single Click:** Send a temporary ping to the network to report the device's location.
 - Double Click:** Turn the LED backlight on/off.
 - Triple Click:** Trigger an SOS alarm signal (three short, three long, three short), activate the buzzer, and make the indicator light blink.
 - Long Press:** Enter standby power-saving mode; (can be awakened by clicking any function key or pressing the switch key).
- **Page Turn Button:** Switch screen display pages by single click.
- **Reset button:**
 - Click to restart/reboot the device.
 - Connect the Type-C cable and double-click the reset button to enter programming mode.

- **Product Status LED:** a. After the device is turned on normally, the red light stays on steadily.
b. The red light flashes rapidly to indicate charging status, and remains steady when fully charged
c. When the battery level is low, the red light will flash slowly.
- **GPS/LoRa Status LED:** GPS/LoRa working/data transmission status indication, blinking blue.