ThinkNode M5

LoRaWAN Series Transceiver Device

Powered By ESP32-S3

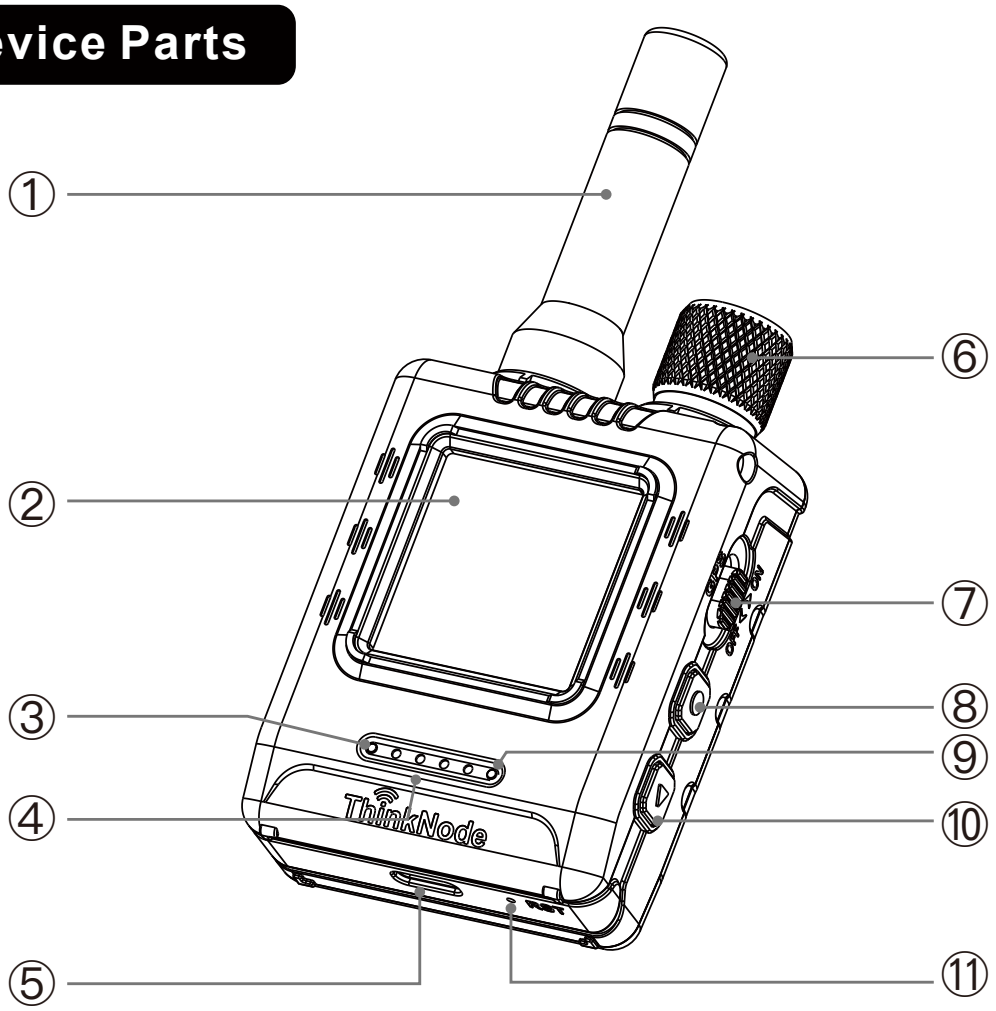
User Manual



FCC ID: 2BDNA-TNMS-ELE

IC: 35795-TNM5

Device Parts



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

LED Status

Product Status LED	Power on / Charging: Red LED flashing
GPS/LoRa Status LED	GPS/LoRa working/data transmission status indication: Blue LED flashing

Button

Rotary Switch	Turn it clockwise to turn on the device and adjust the backlight LED brightness level; Turn it counter-clockwise to turn off the power
GPS Switch	Toggle to enable or disable GPS positioning function
Previous Page Button	Single Click: Switch to the previous page
	Press and hold for 1s: Enter the preset information interface
Next Page Button	Single Click: Switch to the next page
	Press and hold for 1s: Confirm selection
	Press and hold for 5s: Enter sleep mode; press any button to wake up
Reset Button	Click to restart/reboot the device

Package List

- 1x ThinkNode M5 Device
- 1x USB-A to Type-C Cable
- 1x LoRa Rubber Stick Antenna
- 1x User Manual
- 1x Back Clip
- 1x Lanyard
- 4x M2*2 Screw

Main Specifications

Product Name	ThinkNode M5
MCU	ESP32-S3 Module, Xtensa 32-bit LX7 dual-core processor, with a main frequency of up to 240MHz
System Memory	512KB SRAM, 8M PSRAM
Storage	4M Flash, 384KB ROM
LoRa	SX1262 LoRa Transceiver, US 915MHz / EU 868MHz（External antenna）
GNSS	Support(GPS/GLONASS/BeiDou/QZSS)
WiFi	Support 802.11a/b/g/n, 2.4GHz
Bluetooth	Bluetooth Low Energy and Bluetooth 5.0
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 (with light source)
Resolution	200x200px
Display Global Refresh Time	2s
Interface	USB-C, RP-SMA

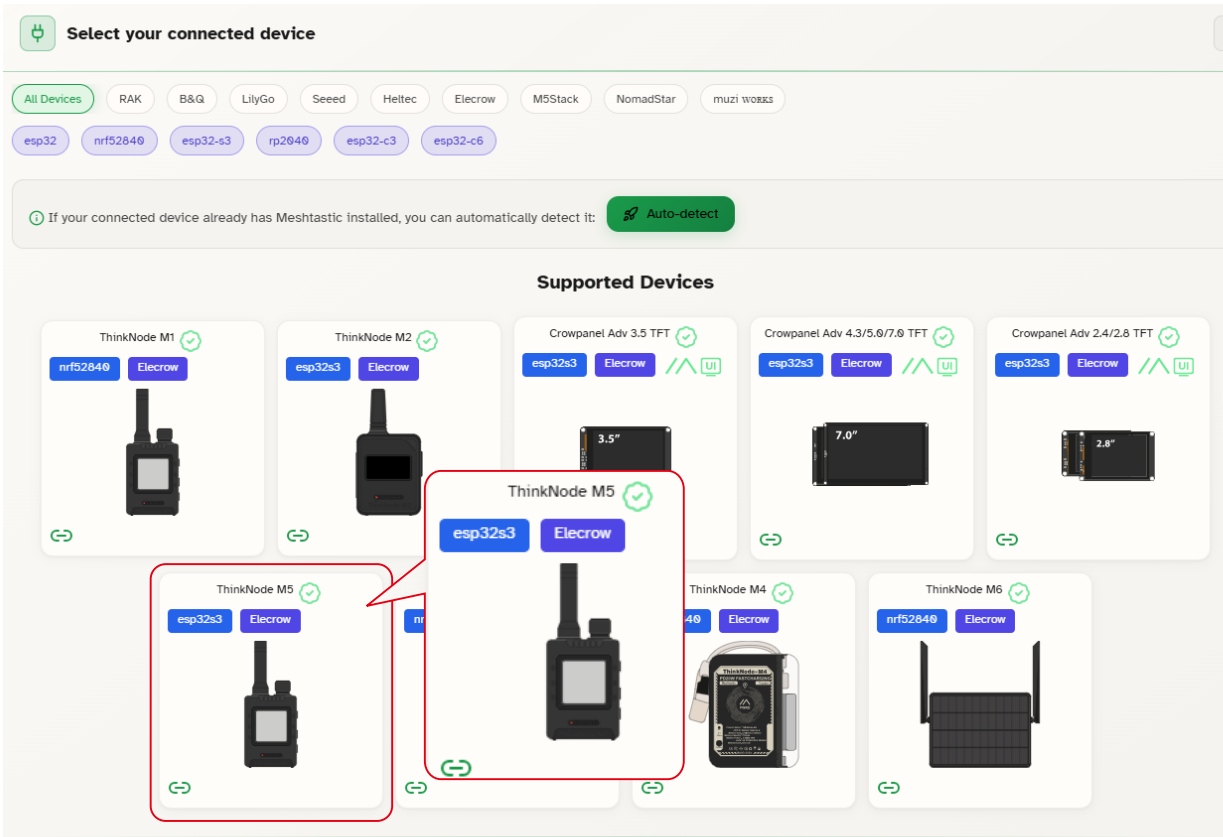
Button	Knob Switch, Function Button, Page Turn Button, GPS Switch, Reset Button
Battery Capacity	1200mAh
Battery life	9.3 h(Max), 3.6 h(Min)
Power Input	5V/1A
Current consumption	340mA(MAX), 34μA(MIN)
Operating Temperature	-10~50℃
Storage Temperature	-20~60℃
Relative humidity	10%-95%, @ 40°C (non-condensing)
Size	82*51.6*26.3mm
Weight	81 g

Firmware flashing

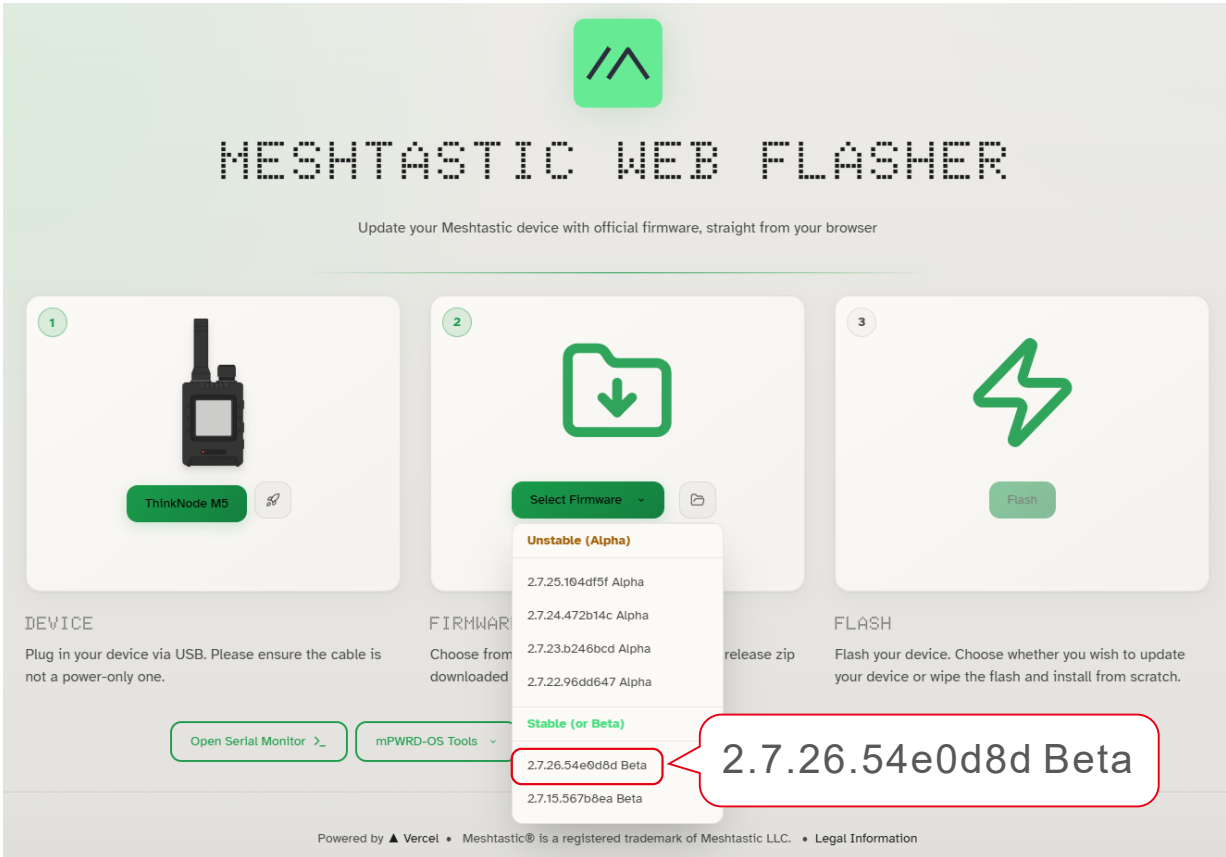
1. Prepare **ThinkNode M5** and the **USB-A to Type-C Cable**.
2. Power on the ThinkNode M5, then connect it to your computer using the cable.
3. Go to https://flasher.meshtastic.org/ and click "**Select Target Device**".



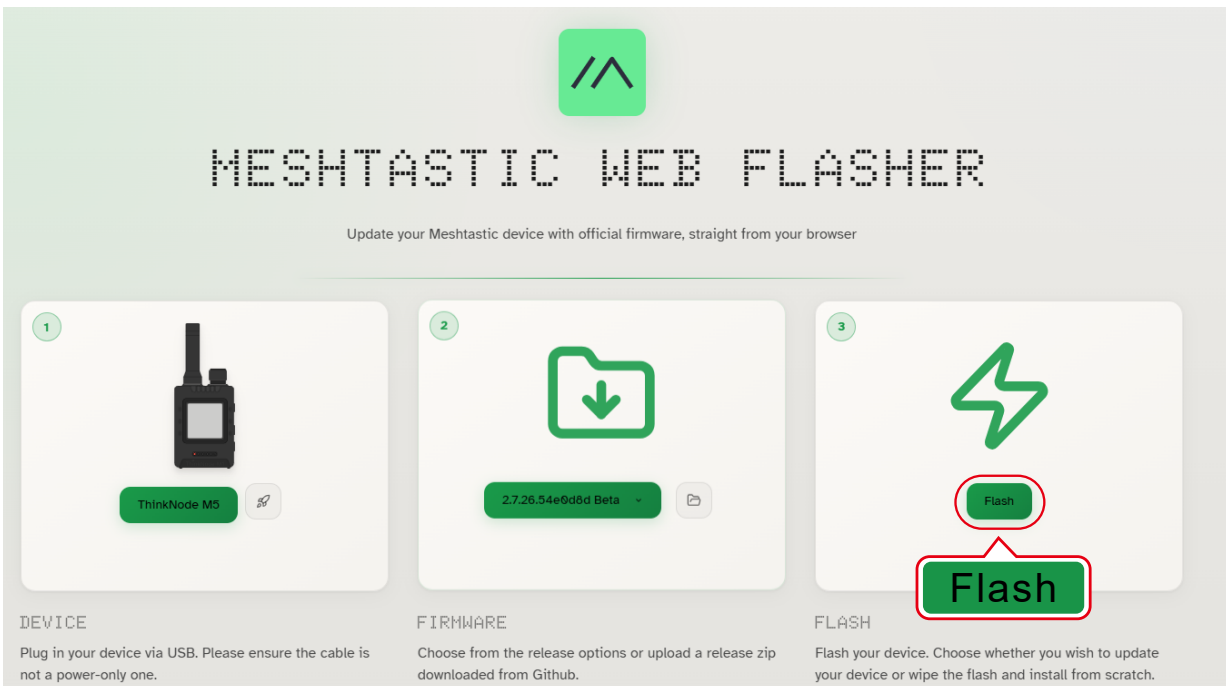
4.Click“**elecrow**”, then click“**ThinkNode M5**”.

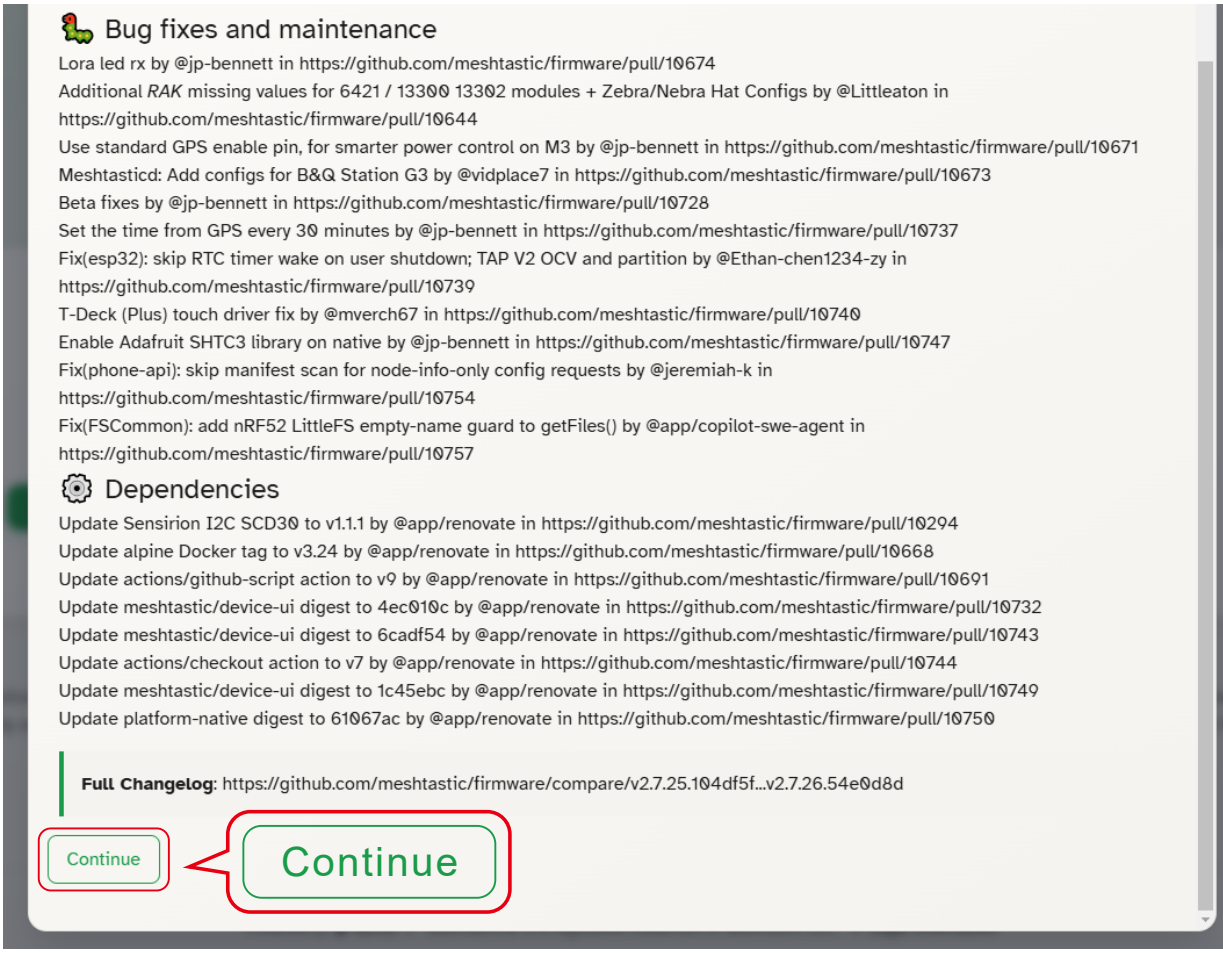


5. Select the latest firmware from the stable version (Illustrated version: 2.7.26.54e0d8d Beta).

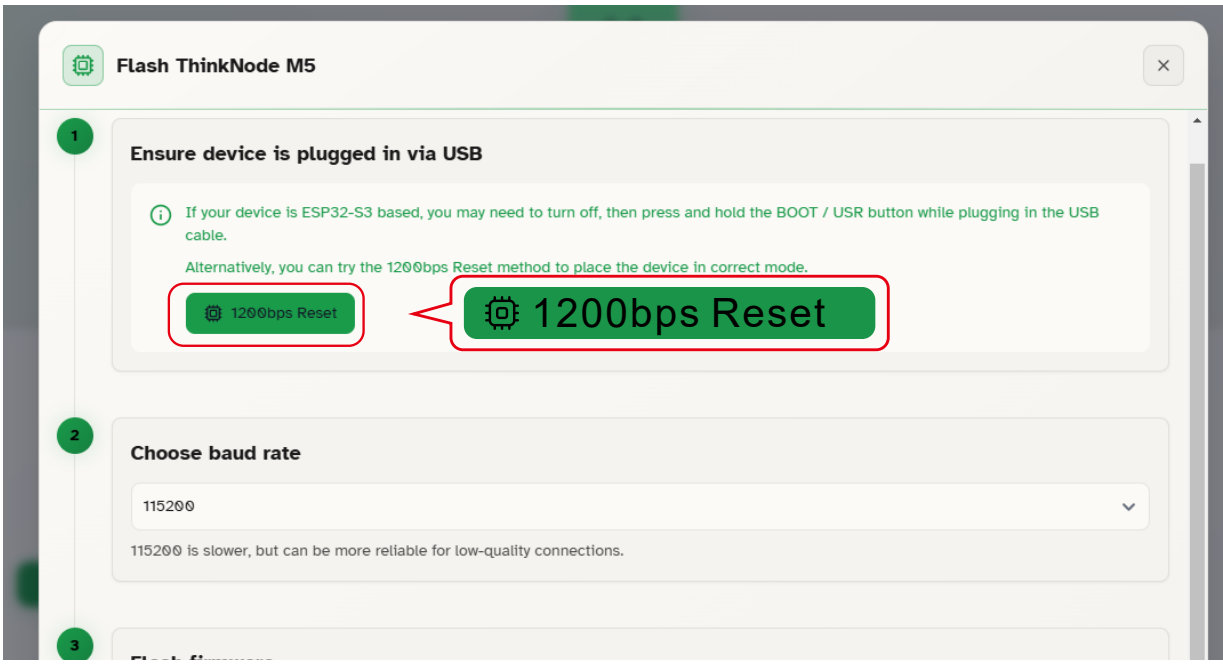


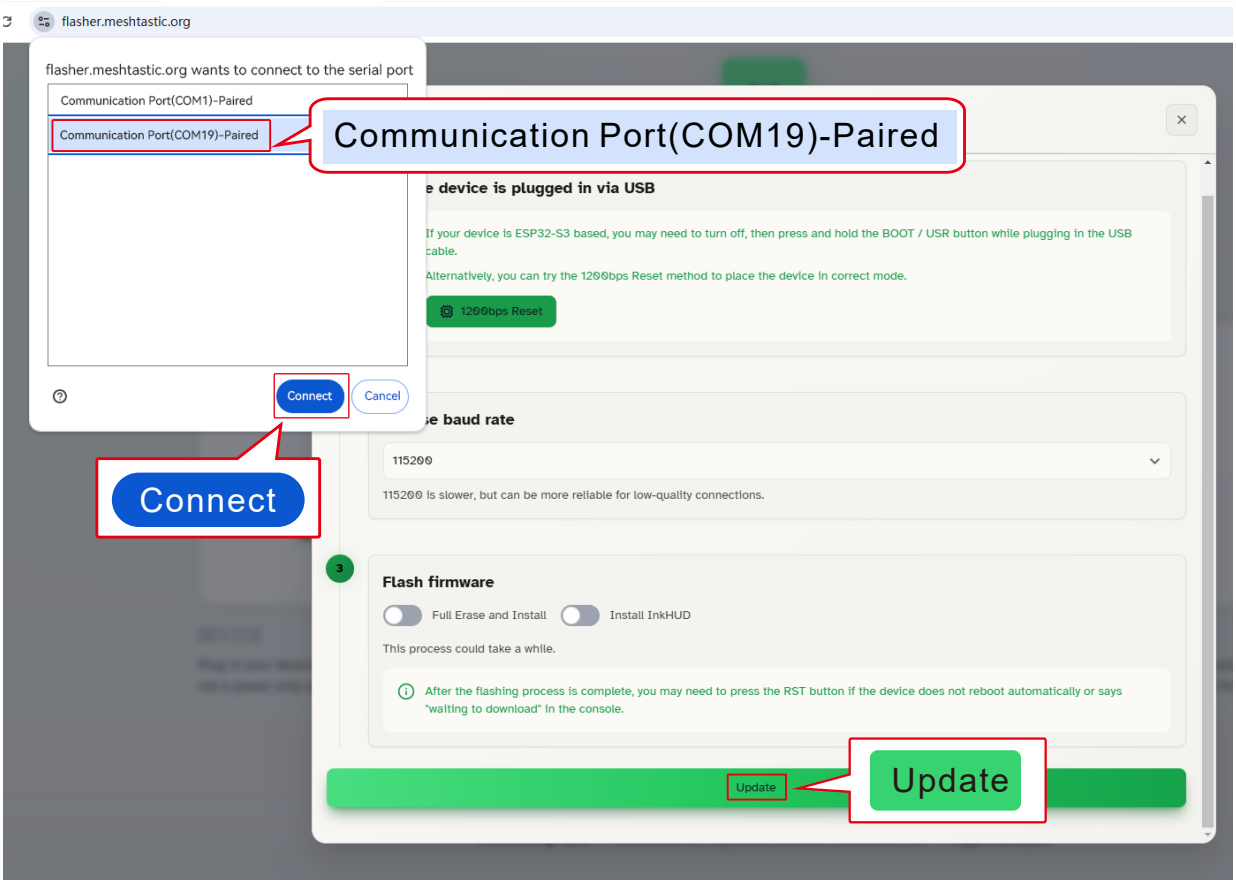
6. Click “**Flash**”, then click “**Continue**”.





7. Click “**1200bps Reset**”, select the serial port, and finally click “**Update**”.





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.

This radio transmitter [IC: 35795-TNM5] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna installation: External antenna

Impedance: 50Ω

Antenna Gain: 1dBi Maximum

FAQ

1. How do I use the Meshtastic App?(Device pairing, parameter settings, chat room)

• Our Wiki will walk you through the detailed steps.

2. Why am I unable to connect to GPS?（Weaker signal indoors）

• Please go to an open outdoor area and turn on the GPS switch. If you still cannot connect after several attempts, please contact us promptly.

3. Why can’t my devices communicate with each other after entering the communication room?

• Please check if the devices are using the same frequency. Communication is only possible when all devices are set to the same frequency.

4. How can I get more information about the M5?

5. Why did my button functions change after flashing a new firmware version?

• Due to continuous upgrades in our firmware, certain features may be adjusted, and we apologize for any inconvenience caused. If you notice discrepancies between the functions and the manual after an update, please scan the QR code in FAQ4 to access the latest version of the manual.

6. How can I get technical support?

• If you have any problem about how to use it, you can connect to techsupport@elecrow.com to get technology support.

FCC Rules

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception,
which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction

IC Caution

English:

This device complies with Innovation, Science and Economic Development Canada

licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

French:

Cet appareil est conforme aux normes RSS exemptées de licence

d’innovation, sciences et développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l' utilisateur de l'appareildoit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

Le matériel a été évalué pour répondre aux exigences générales d’exposition aux radiofréquences. Le dispositif peut être utilisé dans des conditions d ‘exposition portables illimitées.

Social Media

Introduction

Search&positioning test

ThinkNode