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› [Meshnology](#) /

› Meshnology Heltec V3 Case for ESP32 LoRa Development Board Instruction Manual

Meshnology V3

Meshnology Heltec V3 Case for ESP32 LoRa Development Board Instruction Manual

Model: V3 | Brand: Meshnology

1. INTRODUCTION

This manual provides detailed instructions for the assembly, operation, and maintenance of your Meshnology Heltec V3 Case for ESP32 LoRa Development Boards. This case is designed to protect your development board while providing access to essential ports and features for Meshtastic and LoRaWAN IoT applications.

2. PACKAGE CONTENTS

Verify that all components are present in your package:

- Heltec V3 Case (Red) - 1 Pcs
- Mounting Screws
- Antenna Connector (if included with case variant)
- Battery (if included with case variant)
- ESP32 LoRa V3 Development Board (if included with case variant)

Package



Image: Package contents including the red case, screws, and other small parts for assembly.

3. SETUP AND ASSEMBLY

Follow these steps to assemble your Heltec V3 Case with the ESP32 LoRa Development Board and battery.

3.1. Prepare the Antenna

If your antenna requires assembly, ensure the spiral part is securely screwed into the antenna port on the case. Connect the antenna cable to the appropriate connector on the ESP32 LoRa V3 board. Always ensure the antenna is properly connected to the board before applying power to prevent damage.

Your browser does not support the video tag.

Video: This video demonstrates the installation of the antenna and the ESP32 LoRa V3 board into the N32 case. It shows how to connect the antenna cable to the board and secure the board within the case.

3.2. Install the Development Board

1. Carefully place the ESP32 LoRa V3 development board into the designated slot within one half of the case. Ensure

that the board aligns with the cutouts for the display, buttons, and charging port.

2. Secure the development board using the provided screws.

Custom-Fit Design for ESP32 LoRa V3 Board

Applicable battery size up to

6.5cm*3.5cm



NOTE: Product contains case only

Image: An internal view of the red case, illustrating the precise fit for the ESP32 LoRa V3 board and battery.

3.3. Install the Battery

1. Connect the battery to the battery connector on the ESP32 LoRa V3 board.
2. Place the battery into the designated compartment within the case. Ensure the battery fits snugly and does not obstruct any components. Some variants may include EVA foam or double-sided tape to secure the battery and prevent movement.

Your browser does not support the video tag.

Video: This video demonstrates the assembly of an ESP32 LoRa V3 board with a 3000mAh battery and an N35 case, showing the steps for connecting the battery and securing it.

3.4. Close the Case

1. Align the two halves of the case and carefully close them. Ensure no wires are pinched.
2. Secure the case halves using the remaining screws.





Image: The fully assembled red Heltec V3 case with the antenna connected, ready for use.

4. OPERATING INSTRUCTIONS

Once assembled, your Heltec V3 Case with the ESP32 LoRa Development Board is ready for operation. This device is commonly used with Meshtastic firmware for off-grid communication.

4.1. Initial Firmware Setup (Meshtastic)

To utilize the Meshtastic network, you will need to flash the appropriate firmware onto your ESP32 LoRa V3 board. This is typically done via a web flasher tool using a Chrome browser.

1. **Connect Antenna First:** Always ensure your antenna is properly connected to the board before applying power to prevent damage.
2. **Access Web Flasher:** Open a Chrome browser and navigate to the official Meshtastic web flasher (e.g., client.meshtastic.org).
3. **Connect Device:** Plug your ESP32 LoRa V3 board into your computer using a USB-C cable. In the web flasher, select "New Connection" and choose the serial port corresponding to your device.
4. **Flash Firmware:** Follow the on-screen instructions to select and flash the Meshtastic firmware. You may need to press the BOOT/RST button on the board during the process.

4.2. Connecting to a Mobile Device

After flashing the firmware, you can connect your Meshtastic device to a mobile phone via Bluetooth for easier interaction.

1. **Install Meshtastic App:** Download and install the Meshtastic app from your mobile device's app store (Android/iOS).
2. **Pair Device:** Open the Meshtastic app, enable Bluetooth on your phone, and follow the app's instructions to pair with your ESP32 LoRa V3 device. The device will typically appear with a name like "Meshtastic_XXXX".
3. **Communicate:** Once paired, you can send and receive messages, view node information, and configure settings directly from the mobile app.

USB Type-C Charging Port



NOTE: Product contains case only

Image: The red case with a USB Type-C cable connected, indicating the charging port location.

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Heltec V3 Case and the enclosed development board.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the case. Avoid abrasive cleaners or solvents that could damage the material.
- **Environmental Protection:** While the case offers protection, avoid exposing the device to extreme temperatures, direct sunlight for prolonged periods, or excessive moisture.
- **Antenna Care:** Ensure the antenna is not bent or damaged. A damaged antenna can significantly reduce signal range and performance.
- **Firmware Updates:** Regularly check for and install the latest Meshtastic firmware updates to benefit from new features, bug fixes, and performance improvements.

6. TROUBLESHOOTING

This section addresses common issues you might encounter.

Issue	Possible Cause	Solution
Antenna not fitting securely.	Tight fit or minor manufacturing variance.	Ensure the antenna's spiral part is fully threaded. Some users have reported needing to slightly adjust the opening or omit washers for a better fit.
USB-C cable not fitting.	Some USB-C connectors are wider than the case opening.	Try a different USB-C cable with a narrower connector housing.
Device not powering on/flashing.	Incorrect antenna connection, faulty cable, or incorrect flashing procedure.	Verify the antenna is connected before powering. Try a different USB-C cable. Ensure you are following the Meshtastic flashing instructions precisely, including pressing the BOOT/RST button if required.
Battery not fitting.	Battery dimensions exceed case capacity.	Ensure your battery's dimensions are within the specified limits (e.g., 6.5cm x 3.5cm or 41.35*24.99*10.15mm for N32 version).

7. SPECIFICATIONS

Key specifications for the Meshnology Heltec V3 Case (N32 Version, Red):

- **Brand:** Meshnology
- **Model Name:** V3 (N32 Version)
- **Color:** Red
- **Item Weight:** Approximately 1.06 ounces
- **Package Dimensions:** Approximately 5.59 x 3.62 x 0.91 inches
- **Compatibility:** Designed for Heltec V3 ESP32 LoRa Development Boards
- **Battery Accommodation:** Supports batteries up to approximately 41.35 x 24.99 x 10.15 mm (for N32 version) or 6.5cm x 3.5cm (general guidance).
- **Features:** Precise cutouts for antenna port, charging slot, display area, and buttons.

Precise Cutouts for Easy Access

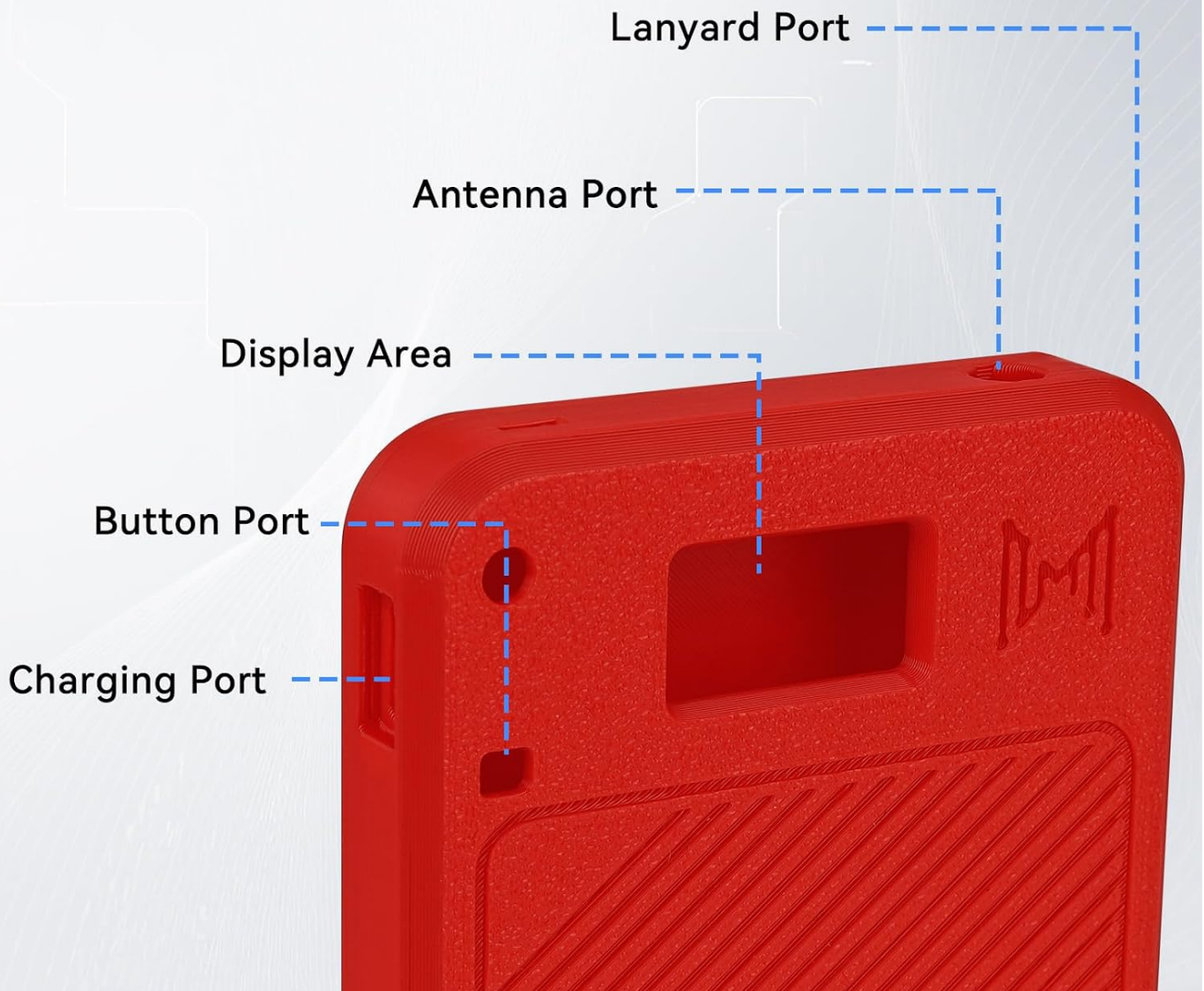


Image: Detailed view of the case cutouts for various ports and features.

Compact & Lightweight

Perfect Fit for Portable Use



Image: Dimensions of the Heltec V3 case, illustrating its compact and lightweight design.

8. WARRANTY AND SUPPORT

Specific warranty information for this product is not provided in the available data. For support or further inquiries, please refer to the Meshnology official website or contact their customer service directly.