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FNIRSI FNB38

FNIRSI FNB38 USB Tester Instruction Manual

Brand: FNIRSI | Model: FNB38

1. Introduction

The FNIRSI FNB38 is a versatile USB tester designed for comprehensive analysis of power delivery systems. It accurately measures battery capacity, power supply parameters, and identifies supported fast charging protocols. Additionally, it can assess voltage drop across power cables. This device features a full array of connectors including USB-A, USB-C, and MicroUSB, along with a dedicated MicroUSB-HID port for external power and software updates. This manual provides detailed instructions for its setup, operation, and maintenance.

2. Safety Information

- Do not disassemble or modify the device. Unauthorized modifications may lead to malfunction or damage.
- Avoid exposing the device to extreme temperatures, direct sunlight, or high humidity.
- Keep the device away from water and other liquids.
- Use the device within its specified voltage and current ranges to prevent damage to the tester or connected devices.
- Handle the device with care to avoid physical impact.

3. Package Contents

Please verify that all items listed below are included in your package:

- FNIRSI FNB38 USB Tester — 1 pc.
- Case with QR code — 1 pc.

4. Product Overview

The FNIRSI FNB38 USB Tester features a compact design with multiple input/output ports and a clear display for easy readings.

4.1. Components and Interfaces

The device is equipped with various ports for comprehensive testing:

- **USB-A Input:** Standard USB-A male connector for connecting to power sources.
- **USB-C Input/Output:** Versatile Type-C ports for both input and output connections.

- **MicroUSB Input:** Standard MicroUSB port for input connections.
- **MicroUSB-HID:** Dedicated MicroUSB port for external power and software updates.
- **TFT Display:** A 1.44-inch color display that swivels 360° for optimal viewing.
- **Control Buttons:** Buttons for navigation and function selection.



Figure 1: Front view of the FNIRSI FNB38 USB Tester, showing the main display and the integrated USB-A male connector on the left side. The device is black with gold accents around the screen and 'FNB38 USB Meter' text.



Figure 2: Side view of the FNIRSI FNB38 USB Tester, highlighting the various input/output ports. From left to right, these include two USB-C ports and one MicroUSB port, all clearly labeled for connectivity.



Figure 3: Back view of the FNIRSI FNB38 USB Tester, displaying the 'FNIRSI' brand logo prominently. The 'HID USB' port, used for external power and software updates, is visible on the left side.



Figure 4: Another side view of the FNIRSI FNB38 USB Tester, showing the three control buttons on the left and the MicroUSB-

HID port on the right. These buttons are used for navigating the device's menus and selecting functions.

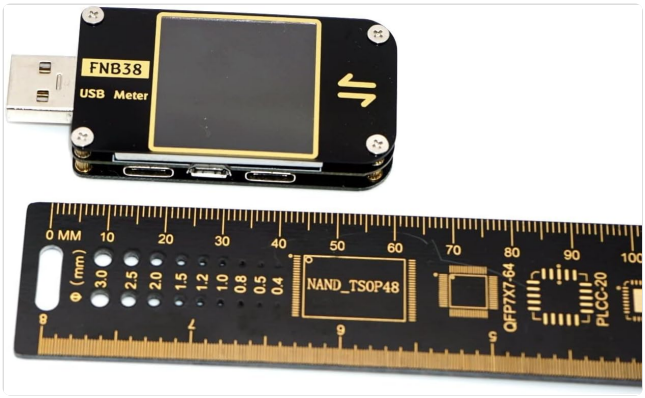


Figure 5: Top-down view of the FNIRSI FNB38 USB Tester, positioned next to a ruler to illustrate its compact dimensions. This view provides a clear perspective of the device's overall size.

5. Setup

To begin using your FNIRSI FNB38 USB Tester, follow these simple steps:

1. **Connect to Power Source:** Plug the USB-A, USB-C, or MicroUSB input of the FNB38 tester into a power source (e.g., wall charger, power bank, computer USB port). The device's display should power on.
2. **Connect Device Under Test:** Connect the device you wish to test (e.g., mobile phone, U disk, data cable) to the corresponding output port on the FNB38 tester (USB-C or USB-A).
3. **Observe Readings:** The display will immediately show real-time measurements such as voltage, current, and power.

6. Operating Instructions

The FNIRSI FNB38 offers various measurement and testing functions accessible via its intuitive interface.

6.1. Basic Measurement

Upon connection, the tester automatically displays key parameters:

- **Voltage (V):** Measures the electrical potential difference.
- **Current (A):** Measures the flow of electrical charge.
- **Power (W):** Calculates the instantaneous power consumption (Voltage x Current).
- **Capacity (mAh):** Accumulates the total charge transferred over time.
- **Energy (Wh):** Accumulates the total energy consumed over time.
- **Cable Internal Resistance (Ω):** Measures the resistance of the connected cable.
- **Temperature (°C):** Displays the temperature from the built-in thermal sensor.

6.2. Protocol Testing

The FNB38 supports various modern charging protocols. Navigate through the menu using the control buttons to initiate protocol detection:

- **Supported Protocols:** QC2.0, QC3.0, Huawei FCP/SCP, Samsung AFC, Power Delivery (PD).
- The tester can trigger these protocols to verify compatibility and performance of chargers and devices.

6.3. Data Storage

The device includes 5 memory cells for storing measured capacity and energy data. Refer to the on-screen menu for instructions on saving and recalling data.

7. Maintenance

Proper maintenance ensures the longevity and accuracy of your FNIRSI FNB38 USB Tester.

7.1. Cleaning

- Wipe the device with a soft, dry cloth.
- Do not use abrasive cleaners or solvents, as they may damage the casing or display.

7.2. Storage

- Store the device in a cool, dry place when not in use.
- Keep it in its protective case to prevent scratches and damage.

7.3. Software Updates

The FNB38 supports software updates via its MicroUSB-HID port. Check the official FNIRSI website for the latest firmware and update instructions to ensure optimal performance and access to new features.

8. Troubleshooting

If you encounter issues with your FNIRSI FNB38, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
Device does not power on.	No power input or insufficient power.	Ensure the tester is properly connected to a working power source (4-24V). Try a different USB port or charger.
Readings are unstable or incorrect.	Loose connection, faulty cable, or device under test issue.	Check all connections. Try a different USB cable. Ensure the device under test is functioning correctly.
Display is blank or frozen.	Software glitch or power issue.	Disconnect and reconnect the tester. If the issue persists, check for available firmware updates.
Cannot trigger fast charging protocols.	Charger/device not compatible or incorrect settings.	Ensure both the charger and the device under test support the desired protocol. Verify tester settings.

9. Technical Specifications

Detailed specifications for the FNIRSI FNB38 USB Tester:

Parameter	Specification
Input Voltage Range	4 - 24 V (Resolution: 0.1 mV; Accuracy: ± (0.2% + 2))
D+/D- Voltage	0 - 3.3 V
Input Current Range	0 - 5 A (Resolution: 0.1 mA; Accuracy: ± (0.5% + 2))
Input Power Range	0 - 120 W (Resolution: 0.1 mW; Accuracy: ± (0.5% + 2))

Parameter	Specification
Capacity Range	0 - 99999 mAh (Resolution: 0.0001 mAh)
Energy Used Range	0 - 9999.99 Wh (Resolution: 0.00001 Wh)
Cable Internal Resistance Range	1 - 9999.9 Ω (Resolution: 0.0001 Ω)
Built-in Thermal Sensor	Yes (Temperature measurement accuracy: ±1°C)
Equipment Runtime Range	0 - 999 h 59 m 59 s (Resolution: 1 s)
Measurement Rate	0.5 times/s
Trigger Protocols	QC2.0, QC3.0, Huawei FCP/SCP/Samsung AFC, Power Delivery PD
Data Storage	5 memory cells for capacity and energy
Display	TFT 1.44", swivel 360°
Operating Temperature Range	-10 ~ 40°C
Working Humidity Range	10 - 80 %
Working Pressure Range	80 - 106 kPa
Interfaces	USB Type-A, USB Type-C, Micro USB
Dimensions	69 × 30 × 9.5 mm
Weight	35 g
Manufacturer	FNIRSI
Part Number	FNB38
UPC	764560091846
Date First Available	Dec 11 2020

10. Warranty and Support

While specific warranty details are not provided in this manual, FNIRSI products typically come with a manufacturer's warranty. Please retain your proof of purchase for any warranty claims.

10.1. Customer Support

For technical support, troubleshooting assistance, or warranty inquiries, please contact FNIRSI customer service through their official website or the retailer from whom you purchased the product. Ensure you have your product model number (FNB38) and purchase details ready when contacting support.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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