

BUNKER INDUST FRD-BT

BUNKER INDUST Bluetooth 4.0 Battery Monitor II

Model: FRD-BT

INTRODUCTION

The BUNKER INDUST Bluetooth 4.0 Battery Monitor II is designed to provide real-time monitoring of your 12V automotive battery's health, cranking system, and charging system. This device connects wirelessly via Bluetooth 4.0 to your smartphone (iOS or Android) through a dedicated application, allowing you to receive notifications, review voltage history, and perform diagnostic tests. It is compatible with all 12-volt vehicle batteries, operating within a 6-20V input range.

SAFETY INFORMATION

- Always wear appropriate personal protective equipment, including eye protection, when working with automotive batteries.
- Ensure the vehicle's ignition is off before connecting or disconnecting the battery monitor.
- Connect the red connector to the positive (+) battery pole and the black connector to the negative (-) battery pole. Incorrect polarity can damage the device and vehicle. The device has built-in reverse connection protection.
- Avoid short-circuiting battery terminals. The device includes short-circuit prevention safety switch.
- Keep the device away from excessive heat, open flames, and moisture.
- If you are unsure about any installation steps, consult a qualified automotive technician.

PRODUCT OVERVIEW

The BUNKER INDUST Battery Monitor II is a compact device designed for easy installation and discreet placement. It features two leads for direct connection to your 12V battery terminals and communicates wirelessly with your smartphone via Bluetooth 4.0.



Figure 1: The BUNKER INDUST Bluetooth 4.0 Battery Monitor II device with its positive (red) and negative (black) leads.

Main Features:

- Receive notifications of battery conditions when within Bluetooth range.
- Check starting system and charging system (alternator) performance.
- Log and review voltage history in graph mode for up to 35 days.
- Ultra-low power consumption (average current: 1.5mA) to prevent battery drain.
- Direct connection to battery, no complex coding required.
- Compatible with all 12-volt vehicle batteries (6-20V).
- Provides real-time state of charge, short-circuit, and reverse connection protection.
- Alerts for low charge and abnormal data.
- Option to monitor up to 4 devices simultaneously with the BM3 app (paid).

SPECIFICATIONS

Average Current	1.5mA
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Input Voltage	6-20V
Operating Temperature	-40°C ~ 90°C
Physical Dimensions	5.5 x 3.5 x 1.6 cm
Voltage Accuracy (9-16V)	±0.03V
Bluetooth Version	4.0
Bluetooth Name	Battery Monitor
App Keyword	BM2
Short-circuit Protection	Built-in
Reverse Connection Protection	Built-in

PRODUCT DIMENSION



Cable: 20cm

Figure 2: Physical dimensions of the Battery Monitor II device.

SETUP AND INSTALLATION

Follow these steps to correctly install the battery monitor on your vehicle's 12V battery:

1. **Prepare the Battery:** Ensure the vehicle's ignition is off. For safety, it is recommended to disconnect the negative terminal of the battery first, if possible, before proceeding with other connections.
2. **Connect to Terminals:**
 - Connect the **red connector** of the battery monitor to the **positive (+) battery pole**.
 - Connect the **black connector** of the battery monitor to the **negative (-) battery pole**.

Ensure the connections are firm and secure.
3. **Secure the Device:** Fix the main body of the product using the supplied adhesive or Velcro in a position where the Bluetooth signal will not be blocked. Ensure the surface is clean before pasting. The device should be placed as close to the battery as practical to ensure optimal signal strength.
4. **Reconnect Battery (if disconnected):** If you disconnected the negative terminal in step 1, reconnect it now.

BATTERY MONITOR II

- Fire-proof case and cable
- Compatible with all 12-volt vehicle batteries 6-20V With Bluetooth 4.0



Figure 3: Proper installation of the battery monitor leads to the positive and negative terminals of a car battery.

APP INSTALLATION

The BUNKER INDUST Battery Monitor II requires a companion app to function. The app is available for

both iOS and Android devices.

1. Download the App:

- Scan the QR code provided on the product packaging or in the manual to directly access the app store.
- Alternatively, search for "BM2" (for single battery monitoring) or "BM3" (for multi-battery monitoring, note: BM3 may not be free) in the Apple App Store (for iOS 7.1 and later) or Google Play Store (for Android 4.3 and later).

2. Install and Open: Install the app on your mobile device. Once installed, open the app.

3. Grant Permissions: The app will request permissions to use Bluetooth and access your location (even when not in use) to monitor the battery and send notifications. Grant these permissions for full functionality.



Figure 4: App download options via QR code for BM2 (free) and BM3 (paid, for multiple batteries).

For direct download, visit: <http://bmapp.quicklynks.com>

OPERATING INSTRUCTIONS

Once the app is installed and connected to your battery monitor, you can access various monitoring and

testing features.

1. Real-time Voltage Monitoring:

- Open the "Battery Monitor" app. It will automatically connect to the device if within Bluetooth range (up to 10 meters without significant obstructions).
- The main screen displays the current battery voltage and state of charge (percentage).
- A voltage graph shows real-time and historical voltage data. You can view data for 1 day, 7 days, or 15 days.



Figure 5: Real-time battery monitoring display on the app, showing voltage and charge status.

2. Cranking Test:

This test evaluates the performance of your vehicle's starting system.

1. Navigate to the "Cranking Test" section in the app.
2. Start your vehicle's engine. The device will automatically detect the cranking event and test the system.
3. The app will display the cranking voltage and indicate if it's within the standard range (typically above 9.6V).

ANALYZE

DATA

Starting system to test cranking voltage and time



Figure 6: App display for the cranking test, showing cranking voltage and status.

3. Charging Test:

This test assesses the performance of your vehicle's charging system (alternator).

1. Go to the "Charging Test" section in the app.
2. Follow the on-screen prompts, which typically involve starting the engine, turning off non-essential accessories, and then turning on headlights only for an idle condition test.
3. For the high RPM test, increase the engine RPM to approximately 2500 r/min and hold for 5 seconds.
4. The app will display the charging voltage at idle speed and high RPM, indicating if the charging system is operating correctly.

4. Trip Record:

The app automatically records trip data, including start and end times, and duration, allowing you to review your driving history and how it impacts battery performance.

5. Notifications and Alarms:

- Configure daily power notifications and abnormal cranking notifications in the app's settings.
- Set power alarms for specific battery charge percentages (e.g., 20% and 50%) to receive alerts when the battery level drops.

MAINTENANCE

- Regularly check the connections of the battery monitor to ensure they remain secure and free from corrosion.
- Keep the device clean and free from dirt, dust, and moisture.
- Ensure your mobile device's Bluetooth is enabled and the app is running in the background (if desired) to receive continuous monitoring and notifications.
- Periodically check for firmware updates within the app's settings to ensure optimal performance and access to new features.
- Monitor your battery's health regularly, especially during extreme weather conditions or periods of infrequent vehicle use.

TROUBLESHOOTING

- **No Connection to App:**
 - Ensure Bluetooth is enabled on your mobile device.
 - Verify the battery monitor is correctly connected to the vehicle battery.
 - Check that the mobile device is within the 10-meter Bluetooth range of the monitor.
 - Restart the app or your mobile device.
- **Inaccurate Readings:**
 - Ensure battery terminals and monitor connections are clean and tight.
 - Compare readings with a calibrated multimeter to verify accuracy. If discrepancies persist, contact support.
- **No Notifications:**
 - Check app notification settings on your phone and within the Battery Monitor app to ensure they are enabled.
 - Ensure the app has location access permissions, as this can affect notification delivery.
- **Data Gaps in History:**
 - The device stores data for up to 35 days. If your phone is not within Bluetooth range for extended periods, there may be gaps in the downloaded history.
 - Ensure regular connection to the app to download stored data.

WARRANTY AND SUPPORT

For warranty information, technical support, or further assistance, please refer to the product packaging or contact BUNKER INDUST customer service directly. Keep your purchase receipt for warranty claims.

