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› LNEX Bluetooth Battery Monitor BVM02 User Manual

LNEX BVM02

LNEX Bluetooth Battery Monitor BVM02 User Manual

Model: BVM02

Brand: LNEX

1. INTRODUCTION

The LNEX Bluetooth Battery Monitor BVM02 is a wireless automotive battery load tester designed for 12V and 24V battery systems. It provides comprehensive monitoring of battery health, including charging and cranking tests, and features an alarm system to prevent unexpected vehicle breakdowns. This device is compatible with a wide range of vehicles and power systems, such as cars, trucks, RVs, motorcycles, boats, and solar power systems.

Utilizing Bluetooth 5.0 technology, the BVM02 offers faster and more stable data transfer with minimal power consumption, ensuring reliable performance and remote monitoring capabilities via a dedicated smartphone application.



Image: The LNEXT Bluetooth Battery Monitor BVM02, showing its compact design, connection cables, and the accompanying smartphone and smartwatch application interfaces. The app displays battery voltage, capacity, and connection status.

2. PRODUCT FEATURES

- **Bluetooth 5.0 Connectivity:** Ensures faster, more stable data transfer and lower power consumption for remote monitoring.
- **Wide Compatibility:** Supports all 12V/24V batteries, including regular flooded, AGM flat plate, AGM spiral, GEL, and EFB batteries. Suitable for vehicles, forklifts, hybrid cars, SUVs, pickups, boats, RVs, motorcycles, travel trailers, and solar power systems.
- **Comprehensive Battery Testing:** Performs charging system tests (alternator, rectifier, ripple voltage) and cranking system tests (minimum voltage, cranking time) to assess battery and vehicle electrical system health.
- **Remote Monitoring & Alarms:** Monitor battery status remotely via the smartphone app. Set customizable battery level alarms to receive notifications before critical discharge.
- **Safety Protections:** Equipped with short-circuit protection and reverse polarity protection to prevent damage from incorrect operation.
- **Driving Log:** Records driving time and duration, storing up to 30 days of data for analysis.
- **Multi-Device Support:** The application allows monitoring of up to 4 devices simultaneously from one smartphone.

Why Choose US?















Feature	 US 	Other 
Bluetooth	5.0	4.0
Voltage	12V/24V	12V
Voltage Test		
Cranking Test		
Charging Test		
Trip Recording		
Reverse/Overload Protection		
Waterproof Grade	IP65	

Image: A comparison table highlighting the superior features of the LNEX Bluetooth Battery Monitor, including Bluetooth 5.0, 12V/24V voltage support, comprehensive testing capabilities (voltage, cranking, charging, trip recording), reverse/overload protection, and IP65 waterproof grade.

All 12/24V Batteries

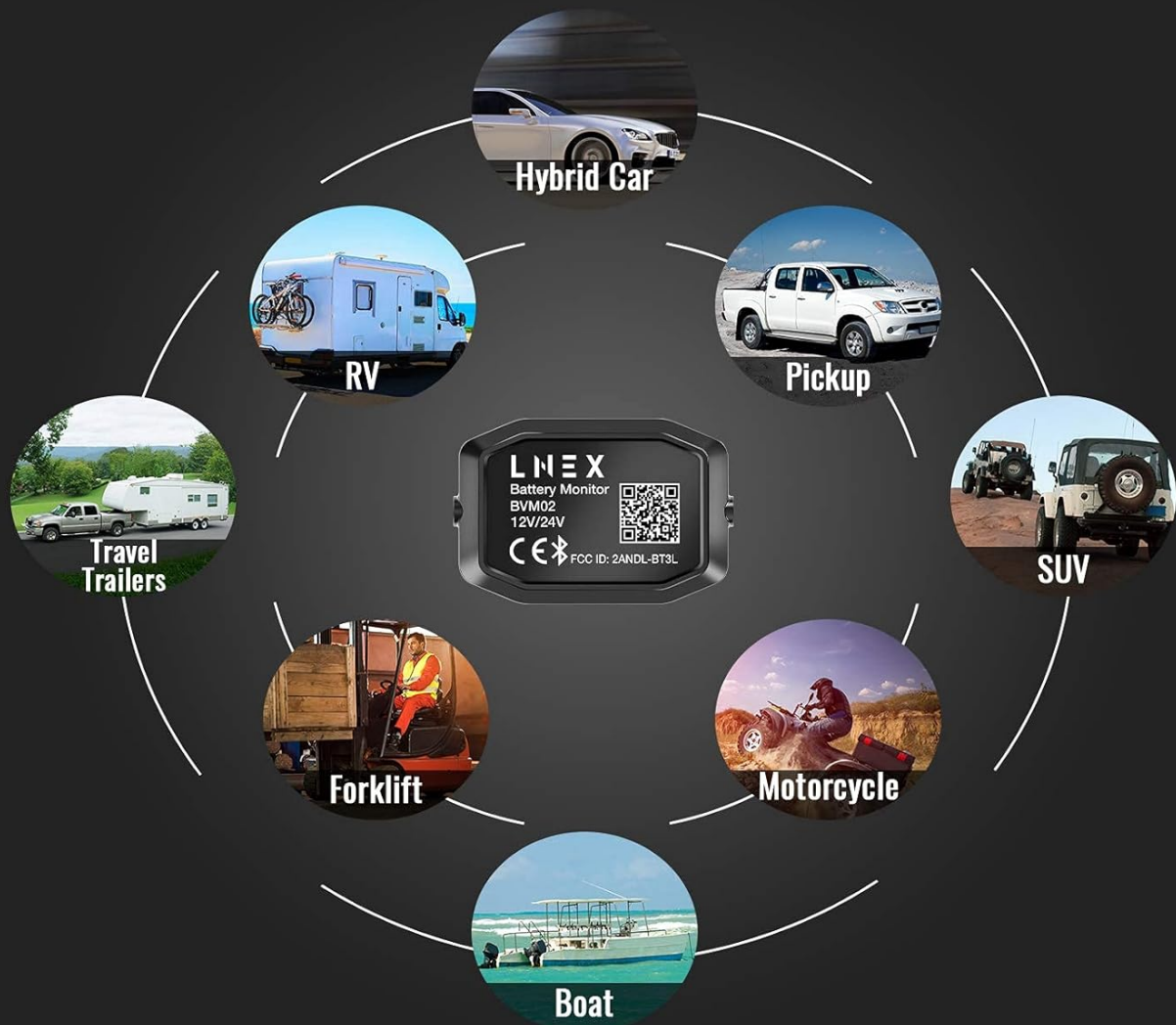


Image: An illustration demonstrating the broad compatibility of the LNEX Bluetooth Battery Monitor with various 12V/24V battery systems, including those found in hybrid cars, RVs, pickups, SUVs, motorcycles, boats, travel trailers, and forklifts.

3. PACKAGE CONTENTS

Please ensure all items are present and in good condition upon opening the package:

- LNEX Bluetooth Battery Monitor (BVM02) unit
- User Manual (this document)
- Double-sided adhesive tape (for mounting)
- Extension cables (for 24V batteries, if applicable)

4. SETUP AND INSTALLATION

4.1 Connecting the Battery Monitor

1. **Prepare the Battery:** Ensure the positive and negative terminals of the battery are clean and free of oil and dust.

2. Connect the Cables:

- Connect the **RED** terminal of the monitor to the **positive (+)** pole of the battery.
- Connect the **BLACK** terminal of the monitor to the **negative (-)** pole of the battery, or a suitable vehicle earth point.

3. **Secure the Device:** Clean the surface where you intend to mount the monitor. Use the provided double-sided adhesive tape to fix the product body securely.

4. **24V Battery Note:** For 24V battery systems, extension cables must be used to connect this device.

4.2 Downloading and Installing the App

The "Battery Sense" app is required to operate the LNEX Bluetooth Battery Monitor. It is available for both iOS and Android devices.

1. **Scan QR Code:** Scan the QR code below or search for "Battery Sense" in your device's app store (App Store for iOS, Google Play for Android).
2. **Install App:** Follow the on-screen instructions to download and install the application.



The image shows the LNEX Battery Monitor BVM02 connected to a vehicle battery. The monitor is a small, rectangular device with a QR code and technical specifications. A red cable is connected to the positive terminal, and a black cable is connected to the negative terminal. A circular inset highlights the fuse in the positive cable. The background shows the engine compartment of a vehicle.

Safe Protection & Abnormal Alarm

***For a 12-volt system, the cranking voltage below 7.5V is abnormal**

***For a 24-volt system, the cranking voltage below 15V is abnormal**

Image: The LNEX Bluetooth Battery Monitor connected to a vehicle battery, highlighting its fuse for safety. The image also displays a QR code for

downloading the "Battery Sense" app, which is essential for device operation.

Relevant Link: <http://www.xparkle.com/qrcode?app=batterysense>

5. OPERATING INSTRUCTIONS

5.1 Initial App Connection

1. **Enable Bluetooth:** Ensure Bluetooth is turned on on your smartphone.
2. **Open App:** Launch the "Battery Sense" application.
3. **Add Device:** Click the "Setting" icon within the app, then click the "+" icon. The app will automatically search for devices within Bluetooth range and connect to your BVM02 monitor.
4. **Default Password:** The default password for connection is **0000**. This can be changed in the app settings. If you forget the password, disconnect and reconnect the Battery Sense device to reset it to 0000.

5.2 App Features and Usage

- **Voltage Monitoring:** View real-time battery voltage and capacity.
- **Cranking Test:** Analyze the starting motor by checking cranking voltage and cranking time. This helps determine if the starting motor is functioning correctly.

Cranking Test

BVM02-0005 | Cranking voltage graph

15.0v
12.0v
9.0v
6.0v
3.0v
0s 1s 2s

10:35
Cranking
Time: 2021.03.15 18:55
OK
7.93v
BVM02-0005 | Cranking voltage graph
15.0v
12.0v
9.0v
6.0v
3.0v
0s 1s 2s 3s
Voltage Cranking Charging Trip

Cranking test helps you analyze the starting motor including cranking voltage and the cranking time to check the starting motor works properly or not.

Image: A smartphone displaying the Cranking Test feature within the Battery Sense app. It shows a real-time graph of cranking voltage over time and indicates the test result (e.g., "OK" with voltage reading).

- **Charging Test:** Test different components of the charging system, including the generator, rectifier, and rectifier diode, to ensure a reliable charging voltage.

Charging Test

BVM02-0D07
14.30v
Charging...
Connected

BVM02-0B0B
12.56v
Capacity 92%
Connected

Step 1
Idle Speed Check
Keep the vehicle at idle speed!
Turn on the headlights!

Start Testing

Test different parts of the charging system, including generator, rectifier, rectifier diode, and so on for a reliable charging volt value.

Image: A smartphone displaying the Charging Test feature within the Battery Sense app. It shows current charging voltage and provides instructions for performing the test, such as keeping the vehicle at idle speed and turning on headlights.

- **Trip Recording:** Keep a log of driving time and duration. The app can store up to 30 days of driving data.
- **Multi-Device Management:** The app supports connecting and monitoring up to 4 devices simultaneously.

Free Switch With One APP

1 phone can add 4 devices



Image: A smartphone screen illustrating the ability of the Battery Sense app to monitor up to four different battery monitors simultaneously, displaying their respective voltages and capacities.

- **Smartwatch Integration:** For Apple Watch users (watchOS 8.5 or above), lift your iWatch to quickly check the battery status.

IN YOUR APPLE WATCH.*

LIFT THE IWATCH TO CHECK THE STATUS OF THE BATTERY.

* WatchOS 8.5 or above

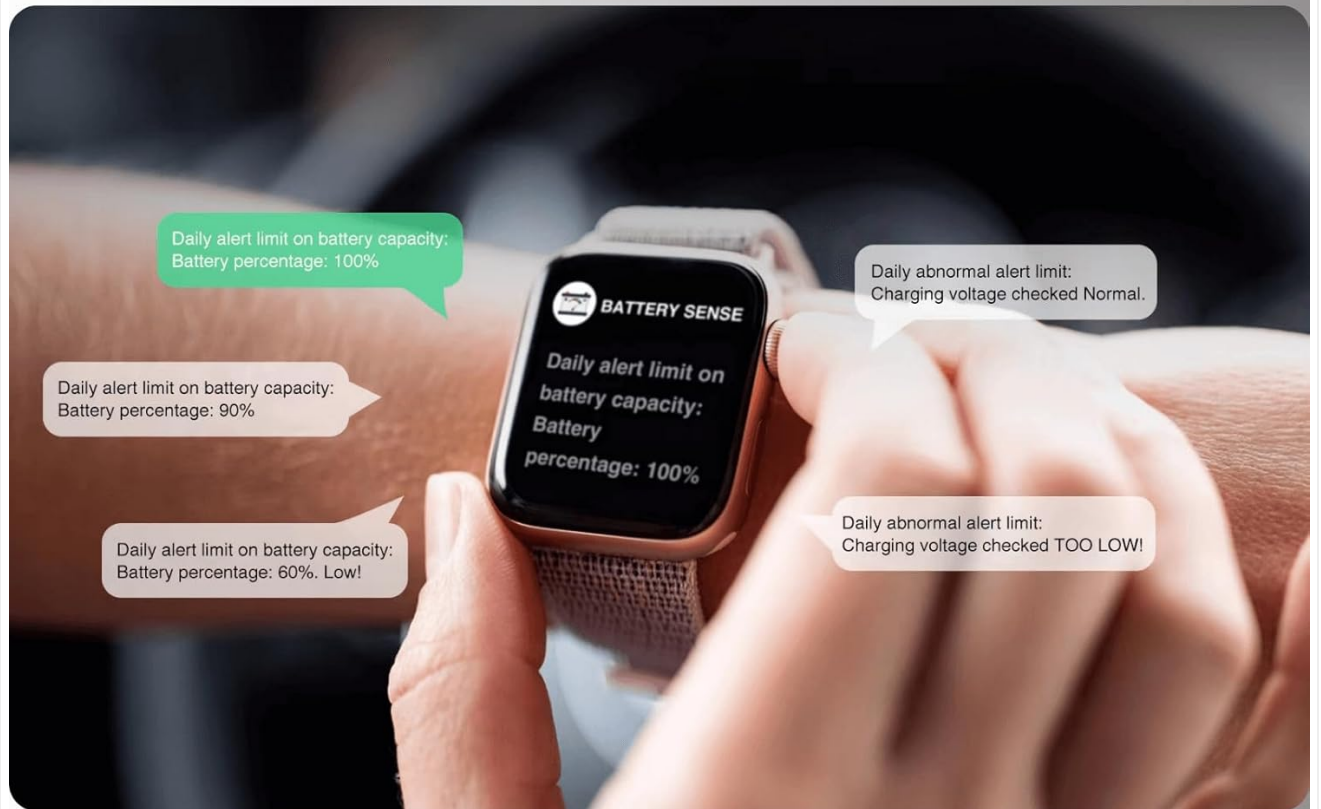


Image: An Apple Watch displaying battery status and alerts from the Battery Sense app, showing notifications for battery percentage and charging voltage status. This feature requires watchOS 8.5 or above.

5.3 Important App Tips

- **Single Device Connection:** One BVM02 device can connect with only one smartphone at a time. To monitor with another smartphone, delete the device from the existing smartphone or disable Bluetooth on the current phone.
- **Location Service Access:** Please allow the app to access Location services, even if you are not actively using the app. This is a requirement for Bluetooth Low Energy (BLE) to function correctly on Android systems and ensures the Smart Sense will automatically notify you of any problems.
- **Notification Access:** Allow the app to access Notifications. Otherwise, you will not receive alert notifications. For Android users, ensure the app is allowed to run in the background.

6. MAINTENANCE

- **Keep Connections Clean:** Periodically check the battery terminals and monitor connections for corrosion or dirt. Clean as necessary to ensure optimal contact.
- **Secure Mounting:** Ensure the monitor remains securely attached to its mounting surface. Reapply adhesive if it becomes loose.

- **Software Updates:** Regularly check for updates to the "Battery Sense" app through your device's app store to ensure you have the latest features and bug fixes.
- **Environmental Protection:** While the device has some water resistance (IP65, as per comparison image), avoid prolonged exposure to extreme moisture or direct water submersion.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device not connecting to app.	Bluetooth is off; App permissions (Location) not granted; Device not powered; Incorrect password.	<ul style="list-style-type: none"> ◦ Ensure Bluetooth is enabled on your smartphone. ◦ Grant Location access to the "Battery Sense" app in your phone's settings. ◦ Verify the monitor is correctly connected to the battery terminals. ◦ If password issues, disconnect and reconnect the monitor to reset password to 0000.
No notifications received.	App notification permissions not granted; App not running in background (Android).	<ul style="list-style-type: none"> ◦ Enable notifications for the "Battery Sense" app in your phone's settings. ◦ For Android, ensure the app is allowed to run in the background.
Inaccurate readings.	Poor connection to battery terminals; Corroded terminals.	<ul style="list-style-type: none"> ◦ Check that the monitor's cables are securely and cleanly connected to the battery terminals. ◦ Clean any corrosion from battery terminals.
Cranking test shows "Abnormal".	Low battery charge; Weak starter motor; Wiring issues.	<ul style="list-style-type: none"> ◦ Charge the battery and re-test. ◦ Consult a professional mechanic to inspect the starter motor and vehicle electrical system. <p><i>Note: For a 12-volt system, cranking voltage below 7.5V is abnormal. For a 24-volt system, cranking voltage below 15V is abnormal.</i></p>

8. SPECIFICATIONS

Attribute	Detail
Model Number	BVM02
Brand	LNEX
Product Dimensions	3.54 x 2.17 x 1.06 inches
Item Weight	1.41 ounces (0.04 Kilograms)
Power Source	Battery Powered
Color	Black
Style	Circuit Testers
Connectivity	Bluetooth 5.0
Compatibility	12V/24V batteries (flooded, AGM flat plate, AGM spiral, GEL, EFB)

9. WARRANTY AND SUPPORT

LNEX is committed to providing high-quality products. While specific warranty details are not provided in this manual, please refer to your purchase documentation or the retailer's policy for warranty information.

For technical support, troubleshooting assistance, or any inquiries regarding your LNEX Bluetooth Battery Monitor, please contact LNEX customer service through the contact information provided on the official LNEX website or through the "Battery Sense" application's support features.

The app provides an option to ask the company a question, which has been noted for prompt replies and helpful assistance.

