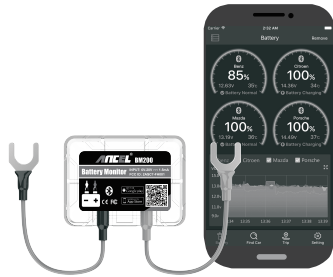


User Manual

Battery Monitor



Please read this manual thoroughly before operation.

INSTRUCTIONS

1. The input voltage range of the device is 【6V~20V】, which is suitable for 12V vehicle (yacht) lead-acid batteries. Too high input voltage will cause equipment damage.
2. In order to obtain accurate battery temperature, please stick the device on the battery case.
3. When installing the app, all permissions to be obtained must be accessed. If the permission fails to be obtained, some functions cannot be realized.
4. Some functions need to allow the app to self-start and run in the background. The app has been optimized for this and will not consume more power.

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※ 【Allow the app to start automatically and run in the background】 needs to be set in the phone. The setting method is described in detail at the end of this manual.

SPECIFICATIONS

1. Product Name: Battery Monitor
2. Bluetooth Version: 4.2
3. Bluetooth Name: BM200
4. Input Voltage: DC 6V ~ 20V
5. Voltage Accuracy (9V~16V): $\pm 0.03V$
6. Average Working Current: 1.5mA
7. Working Temperature: $-40^{\circ}\text{C}\sim 90^{\circ}\text{C}$ ($-40^{\circ}\text{F}\sim 194^{\circ}\text{F}$)
8. Reverse Connection Protection: Built in
9. Short-circuit Protection: Built in
10. Waterproof: IP67
11. Physical Dimensions: (L)55mm x (W)41mm x (H)12.5mm

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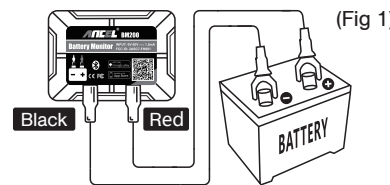
MAIN FUNCTIONS

1. Real-time display battery power, temperature and voltage.
2. Automatically test the starting and charging systems of the vehicle.
3. Send alarm notification if the battery is abnormal.
4. Support multi-device connection, 4 devices can be monitored at the same page.
5. Record the track, cost and driving habits of each trip, can export to Excel file.
6. Record the parking position automatically and provide the CAR FINDER function through navigation.
7. Store historical data in device up to 30 days (voltage, charge percentage and temperature). Save the data every 2 minutes.
8. Save unlimited historical data in the app.

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DEVICE INSTALLATION

1. Firmly attach the Negative connector (Black) to the Negative battery terminal.
 2. Firmly attach the Positive connector (Red) to the Positive battery terminal.
 3. Fix the device to the battery case with the supplied double-sided tape.
- ※ The device must be attached to the battery case, otherwise the accurate battery temperature will not be obtained. Be careful not to choose a ventilated location, which will affect the temperature collection.

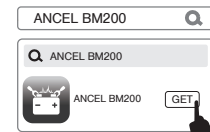


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APP INSTALLATION



(Fig 2)

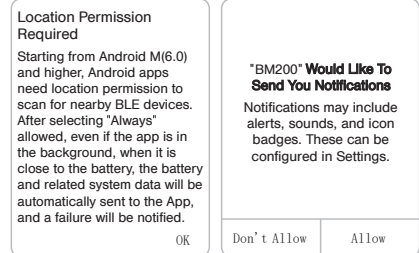


(Fig 3)

1. Scan the QR code of the product and download the app. (Fig 2)
2. For Android phones, go to "Google Play", and for iPhones, go to "App Store". Search for "ANCEL BM200" to download the app. (Fig 3)

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APP INSTALLATION



Android

iOS

(Fig 4)

1. When running the application for the first time, the app will ask for some required permissions, all these are necessary, please select all opened or allowed. (Fig 4)

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※ The Android app obtains the location permission for the Bluetooth scanning function, which is regulated by the Android system. Disabling this permission will cause the device not to be scanned or Bluetooth scanning is slow. In addition, the track function also needs to obtain the location permission.

2. To run the application, it is necessary to register a login account. Android phones support Google, Facebook or Skype quick registration and login, and iPhones support Apple ID, Facebook or Skype quick registration and login.

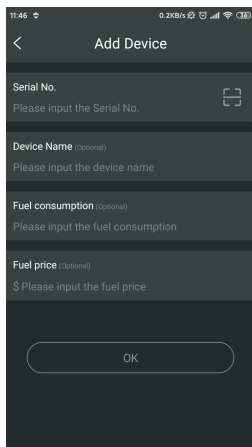
App Download



(BM200)

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3. To add a device, it is necessary to fill in the device serial number, which can be scanned by bar code or manually filled in. The serial number can be found on the package or shell. (Fig 5)



(Fig 5)

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4. The defaulted device name is the serial number, and it can also be modified manually. Fill in the fuel consumption according to the average fuel consumption. (Fig 5)

※ Incorrect fuel consumption or incorrect fuel price will result in inaccurate calculation of fuel costs.

FAQ AND SOLUTION

- Phenomenon 1: Need to enter a PIN code for Bluetooth connection?
- Solution: When Bluetooth switch is turned on, some mobile phones system will automatically list all nearby Bluetooth device name. Please just ignore this PIN code pop-up, this Bluetooth connection no need PIN code. Re-run the app will automatically connect to the device.
- Phenomenon 2: Bluetooth connect fail?

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• Solution: Ensure that the Bluetooth switch of the mobile phone is turned on, and there are no other phones nearby to connect the device. Then try to restart the Bluetooth or restart the mobile phone. In addition, if the phone Bluetooth is connected with too many Bluetooth devices, it may also cause the Bluetooth not to connect properly.

- Phenomenon 3: There is no track or parking position for the trip?
- Solution: 1. Confirm that the GPS switch of the phone is turned on. 2. Confirm that the app has obtained the permission of the location service. 3. Confirm that the app is running and the device is connected. 4. Confirm that the "GPS Track Server" in the Settings of the app is turned on.

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5. Confirm that the app can be started by itself and can run in the background. Detail shows at the end of this manual.

- Phenomenon 4: There is no abnormal alarm notification?
- Solution: Go to the settings of the mobile phone and turn on the application notification permission.

- Phenomenon 5: The display of battery power is inaccurate or no vehicle starting system data?
- Solution: Suitable for 12V lead-acid and LiFePO4 starting batteries of vehicle. If there is no in-vehicle usage scenario, such as no engine start behavior, the power may be inaccurate and there is no start data.

- Phenomenon 6: The vehicle charging system cannot be tested?

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• Solution: The test needs to be performed during engine running. It supports all ordinary alternators, and does not support smart alternators. If the test still does not work, please check with the vehicle manufacturer whether it is a smart alternator.

- Phenomenon 7: The fuel cost statistics are inaccurate?
- Solution: Check whether the fuel consumption per 100KM and the fuel price are correctly filled in.

- Phenomenon 8: The position or trajectory is sometimes correct, sometimes incorrect or not obtained?
- Solution: If the app can't be self-started and run in the background, the location data cannot be obtained. It is necessary to give the

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app the permission to self-start and run in the background, this needs to be operated in the settings of the phone.

1. Samsung mobile phone:

(1) Allow background activity
Settings — Apps — find the BM200 app — Battery — turn on the switch of "Allow background activity".

(2) Allow self-starting

Settings — Device care — Battery — find the BM200 app — turn off the switch of "Put app to sleep".

2. Huawei mobile phone:

Settings — Apps — App launch — find the BM200 app and select "Manage manually" — Enable "Auto-launch", "Secondary launch" and "Run in background" at the same time.

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