

# OWNER'S MANUAL



Battery Monitor APP

Congratulations on choosing the Century BM12V Bluetooth battery monitor, a simple to use device designed to monitor your battery's state-of-charge whilst testing your vehicles' charging and cranking systems. Ideal for use both in-vehicle and a range of standalone applications such as Cars, 4x4 & SUVs, Boats, Caravans, Camper Trailers & Powersports machines.

## 1.0 Product Specifications

Average Current	1mA
Input Voltage	6~20V
Operating Temperature	-40°C~90°C
Physical Dimensions	5.5*3.5*1.6cm
Voltage Accuracy (9-16V)	±0.03V
Short-circuit Protection	Built in
Reverse Connection Protection	Built in
Bluetooth Version	4.0
Bluetooth Name	Battery Monitor
App Name	BM12V

## 2.0 Product Safety Specifications

The product case and cable materials are designed to withstand high temperature environments up to 90°C and also feature built in short circuit and reverse polarity protection to protect both the vehicle and the unit in case of reverse polarity connection.

## 3.0 Installation

**Caution:** Avoid disconnecting battery leads from the battery during installation as this may result in the loss of vehicle memory settings!

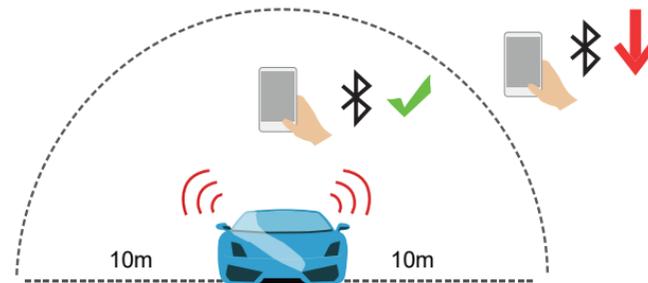
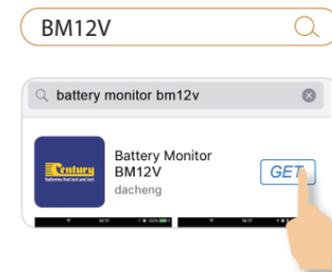


1. Attach Red connector to the Positive (+) battery terminal and the Black connector to the Negative (-) battery terminal.
2. Clean the surface of the battery where the unit is to be affixed. Using the double sided Velcro provided, attach the product to the vehicle battery. It is recommended to attach the unit to the top of the battery to minimise interference with the communication signal.

**After being connected to the battery, the device needs to be connected to a mobile device (phone or Tablet) via a mobile App. The App will then alert the user to the voltage of the battery and fault conditions when the mobile device is within Bluetooth range (minimum 10 meters). It will also record the duration of any engine run time to be able to monitor trip duration.**

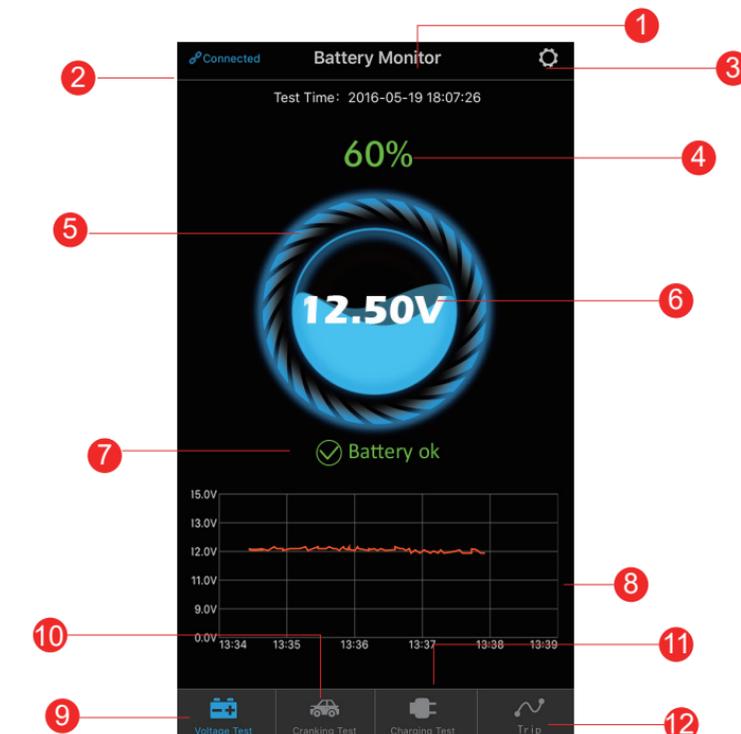
## 4.0 App Installation

1. Search on the App Store or Google Play for the App BM12V and download to your device.



**Note:** Without any interference, your mobile device will be able to communicate with the battery monitor up to a distance of 10 meters. If there are solid objects in the way, this distance may be reduced.

## 4.1 App Interface



- 1 This is the device name, and can be changed to your preference under Device Management in the System Setup menu.
- 2 Displays connection status; Blue writing indicates connection, Red writing indicates disconnection.
- 3 System Setup icon, touch this to enter System Setup menu.
- 4 Shows the state of charge of the battery as a percentage; 100% is fully charged.
- 5 Charge Status Ring; this is a graphic representation of the battery state of charge, and will change as the state of charge changes.
- 6 This is the actual voltage of the battery. For reference the battery is considered Full above 12.7V, OK between 12.7V and 12.4V, and Need To Charge below 12.4V.
- 7 Quick status indication; Green is OK, Orange is Charging, Red is Low Battery.
- 8 Actual battery Voltage Graph. Touch this graph to open the Voltage History graph to see the last 24 hours and previous dates.
- 9 Battery Voltage test icon. This is the default screen and will be the first displayed when the app is opened.
- 10 Cranking System test icon. Starting the vehicle with this selected will perform a starting system test, and report results.
- 11 Charging System test icon. Selecting this while the vehicle is running will test the vehicle charging system (alternator).
- 12 Trip record icon. The unit records the duration of engine run time to keep a record of trip duration. Pressing this button will display recent trip activity.

#### 4.2 App Operation

- Stand within 5 meters of the battery monitor and open the app on your smart device.
- You will need to allow the app to access your location even when not in use. If this is not enabled, the device will not be able to send notification to your mobile device.

Allow "Battery Monitor" to access your location even when you are not using the app?

Allow Access: When close to vehicle, the battery and related system data will be automatically sent to the app with a fault notice if it exists.

Don't Allow Allow



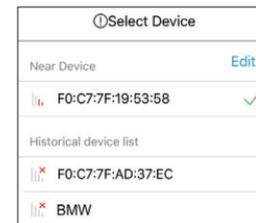
#### "Battery Monitor" Would Like to Send You Notifications

Notifications may include alerts, sounds, and icon badges. These can be configured in Settings.

Don't Allow OK

- You will also need to allow your mobile device to receive notifications. If this is not enabled your device will not be able to receive information and notifications from the battery monitor.

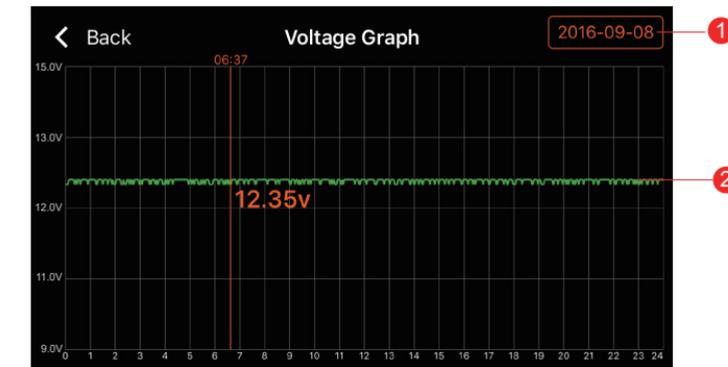
- The app should automatically connect to the battery monitor and the voltage will show on the screen. If this does not happen, check Bluetooth is enabled on your device, then enter the "System Setup" menu, open the "Bluetooth Device" tab and select the Battery monitor. Before you rename the monitor it will show up as something like – F0:C7:7F:19:4D:30. This name can be changed by opening the "Select Device" menu and pressing "Edit".
- Multiple battery monitors can be operated from the one app, so you can have a monitor for each of your batteries.



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#### 4.3 App Interface – Voltage History Graph

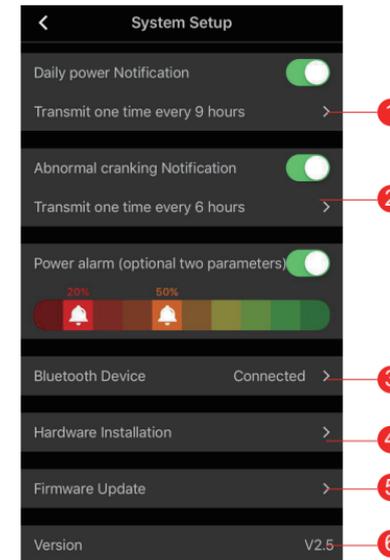
- Date Select: Press this to display a calendar. Press a particular date to see the voltage recorded over that 24 hour period. Dates displayed in Red have voltage abnormalities (below 12.4V) or problems to report.
- After selecting a date, a graph will be displayed. Touching the screen will display the exact voltage and time at that point. Slide your finger across the graph to find precise points.



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#### 4.4 App Interface – System Setup

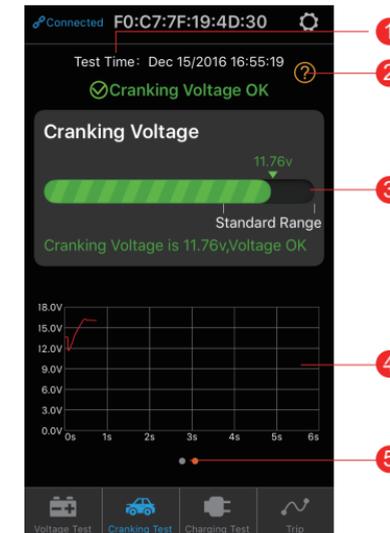
- Change this slider on and off to receive a daily notification of battery condition (when in range). Default is 1 notification each 9 hours (when in range), but this frequency can be set to suit user requirements.
- Change this slider on and off to receive Test Exception notification (when in range). Frequency can be set to suit user requirements.
- Bluetooth Device Setup: displays current connection status. Press this to enter system setup. This is where to search for nearby devices, review other connected devices, or switch between multiple devices connected to different batteries. This is also where the battery monitor can be renamed.
- Installation Instructions – Instructions for device installation are here.
- Hardware Upgrade – Sometimes the software of the battery monitor will be upgraded to improve the user experience or performance of the product. This is done via a firmware upgrade. When required, go to this menu setting and you will be prompted to download the small update.
- Version – Shows the current app version number.



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#### 4.5 App Interface – Cranking Test

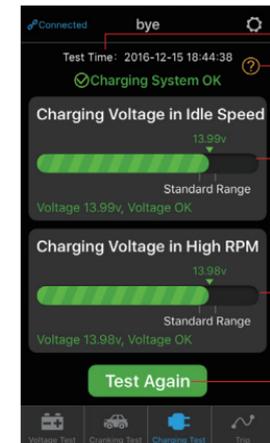
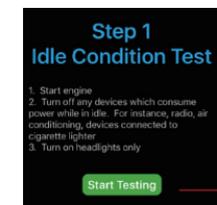
- Test time and date
- Test Result: Displays Cranking Voltage Result. As the engine starts, the device measures the voltage level during the starting process. Usually, if the voltage is 9.6V or greater, the system is ok. If the voltage is below 9.6V it can be an indication of an abnormality such as an ageing or damaged battery, or a starter fault. If the result is not OK, seek further advice from an auto electrician or mechanic.
- Cranking Voltage Values: Bar displays the actual cranking voltage. A green bar indicates good Voltage, a red bar indicates a problem.
- Cranking Voltage Graph: This graph displays cranking voltage over the time taken to start the engine.
- Historic Results: Swipe sideways to view the previous test result (max 2 tests). Orange dot indicates which page you are viewing.



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#### 4.6 App Interface – Charging Test

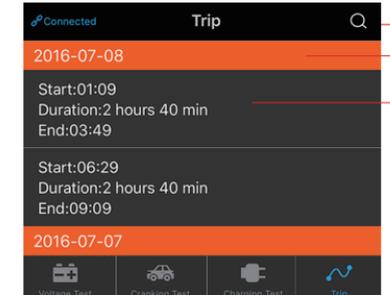
- Start the engine.
- MAKE SURE THE VEHICLE IS IN NEUTRAL GEAR – DO NOT PLACE IN FORWARD OR REVERSE.
- With the engine running, follow on screen instructions to turn off anything in the vehicle that will consume energy as engine idles (lights, air con, radio) then;
- Start Test: press the start test button.
  - High RPM Voltage Test: Increase RPM to 2500/min and hold steady for 5 seconds.
  - Tester description: press the '?' button for a full description of the test, and explanations of possible results.
  - Charging Test finishing time and date
  - Voltage at Idle test result: Green is OK, Red indicates a problem.
  - Voltage at High RPM test result: Green is OK, Red indicates a problem.
  - Test Again: Press this to perform the tests again.



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#### 4.7 App Interface – Trip Record

- History: Press the Magnifying Glass icon to select a date to review.
- Date Bar: Separates dates between trips.
- Shows start time, trip duration and finish time.



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