



OWNER'S MANUAL

BATTERYCHECK SERIES

MODELS

BATTERYCHECK100
BATTERYCHECKPRO



TEAMBMPRO.COM



BM PRO

POWERING YOUR ADVENTURES

With over 50 years' experience in power solutions combined with manufacturing and design facilities in Melbourne, Australia, BM PRO are the leading experts in RV power and control management.

Inspired by the great outdoors, we have created a range of rugged, smart and reliable products to power your adventures.

Our range of battery, power and RV management and control systems gives you peace of mind when you are on the road, so that you can relax in even the most far flung destinations, knowing you have control over your power needs.

To learn more about the BM PRO range of products, please visit our website **teambmpro.com**



SAFETY PRECAUTIONS

Please read the Safety Precautions before installing or using the BatteryCheck. Be sure to observe all precautions without fail. Failure to observe these instructions properly may result in personal damage or personal injury which, depending on the circumstances, may be serious and cause loss of life.



Correct installation is the most critical factor in ensuring the safe use of the BatteryCheck. If every consideration of these instructions has been satisfied, the BatteryCheck will be safe to operate.



Metal conducts electricity. Take care not to drop or touch metal objects onto the battery terminals. If contact is made, this may cause short circuits or lead to serious personal injury. Take care and remove unwanted metal objects from the vicinity of the battery. Remove any personal metal adornment such as chain, watch or ring before handling the battery.



Do not allow water or other liquids to enter the installation area.



Before using this product, check that cable connections to the battery are of correct polarity and protected against accidental short circuit.



Ensure that the caravan's battery and the BatteryCheck are disconnected before using any welding equipment on your caravan. Welding may cause a surge of current through the chassis which could damage your battery and the BatteryCheck.



The BatteryCheck is a high precision electronic product. It contains no user-serviceable parts inside. Do not try to dismantle, modify or repair it yourself. Disassembly, service or repair by an unauthorised person will void the warranty.



Product specifications are subject to change and improve without notice.






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ABOUT THE BATTERYCHECK

The BMPRO BatteryCheck is a 12V battery monitor that allows you to check the status of your secondary battery via your smartphone with the BMPRO BatteryCheck100+PRO app.

The BatteryCheck monitors a range of battery parameters via the app using built-in Bluetooth technology. Parameters monitored include:

-  Battery voltage.
-  Battery charge/discharge current.
-  Estimated discharge time remaining.
-  Battery temperature.
-  Estimated State of Charge.

The BatteryCheck is designed for use with recreational vehicle secondary batteries or similar deep cycle battery applications.

There are two available models in the BatteryCheck series: the BatteryCheck 100 and the BatteryCheckPRO. The BatteryCheck100 can be retrofitted to standard lead acid batteries and the BatteryCheckPRO is compatible with standard lead acid and LiFePO4 batteries.

Both BatteryCheck models can monitor batteries with different capacities of up to 800Ah. The BatteryCheck100 monitors up to 80A and the BatteryCheckPRO monitors up to 240A, with continuous charging or a discharging current.

Engine battery cranking applications of any type are not suitable for the BatteryCheck, and it is not designed for under vehicle bonnet use.

BatteryCheck Serial Number

Each BatteryCheck is assigned a unique 11-character alphanumeric serial number. The serial number is located on the back of the device.

Security PIN

Each BatteryCheck is assigned a unique 6-digit PIN that cannot be changed. The PIN is located on the back of the device and is required to connect your BatteryCheck to the app.

We recommend noting down your unique PIN in a safe place.

BMPRO BatteryCheck100+PRO app

The BMPRO BatteryCheck100+PRO app is compatible with iOS 10 or greater and Android 4.4 or greater.

DESCRIPTION OF PARTS



FIGURE 1: The BatteryCheck

1. NEGATIVE BATTERY TERMINAL/CONNECTION

2. NEW NEGATIVE TERMINAL CONNECTION

Connects to the load.

3. '+' POSITIVE FLYING LEAD AND TEMPERATURE SENSOR

The BatteryCheck has a terminal at each end.

Using these two terminals, the BatteryCheck is bolted in series with the negative terminal of the battery to be monitored.

The positive flying lead with the red '+' symbol connects to the battery's positive terminal. This lead powers the BatteryCheck and enables the battery voltage and temperature to be measured.

INSTALLATION AND USAGE

INSTALLING THE BATTERYCHECK TO THE BATTERY

WARNING

To avoid sparking, practice standard safety precautions.

Disconnect all loads from the battery before installing the BatteryCheck.

1. Before you start, write down the 6-digit PIN found on the back of the BatteryCheck.
2. Connect **1** to the battery negative terminal using a suitable length M8 bolt to secure the BatteryCheck. Use the bolts provided for your convenience or any standard M8 bolt of the desired length.
3. Connect all negative connections to **2** on the BatteryCheck.
4. Connect the positive flying lead **3** to the battery positive terminal, along with all positive connections.
5. The BatteryCheck should now be powered and the status light **4** on top of the BatteryCheck should be flashing slowly.



FIGURE 2: BatteryCheck installation

LIGHT INDICATIONS

The operational status of the BatteryCheck is indicated by the LED light located on top of the device.

LIGHT FLASHING	DESCRIPTION
Green every 5 seconds	Working normally
Blue every 5 seconds	Working normally. However, when initially connecting to power, will flash for approximately 30 seconds while updating settings parameters.
Red every second	Battery measurement(s) out of range: <ul style="list-style-type: none">• Voltage below 8V or above 16V, or• Current greater than $\pm 100\text{A}$ (BatteryCheck100), or• Current greater than $\pm 300\text{A}$ (BatteryCheckPRO), or• Battery temperature sensor reads $\leq -20^{\circ}\text{C}$ or $\geq 70^{\circ}\text{C}$

TABLE 1: BatteryCheck operational status

CONNECTING TO THE BMPRO BATTERYCHECK100+PRO APP

1. Install the BMPRO BatteryCheck100+PRO app via the Google Play or the Apple App Store. Search for "BMPRO" or use the QR codes below.



2. Open the app and press the menu button in the top left corner.
3. Select the "Add Battery" function.
4. Choose your BatteryCheck by its serial number.
5. At the "Add Battery" screen, enter the battery parameter information required.
6. Press "Save" on the top right.

- 7. You will now be in the Dashboard where you can monitor the battery's state of charge, voltage, current, temperature, time remaining and the battery's state of health.
- 8. When prompted, enter the 6-digit PIN noted before installing the BatteryCheck to the battery.
- 9. Your BatteryCheck is now ready to use.

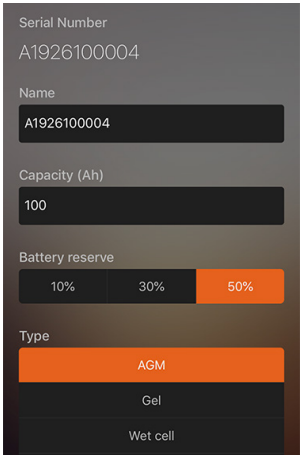


FIGURE 3: Setting up battery parameters

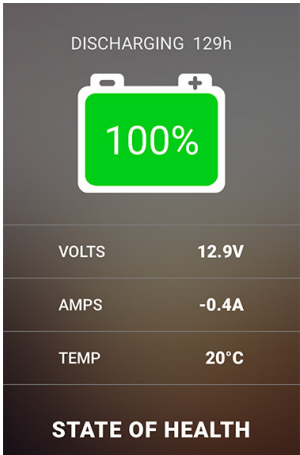


FIGURE 4: The Dashboard

CHANGING BATTERY SETTINGS

While using BatteryCheck, you may want to change Battery Reserve.

The Battery Reserve is how much battery you want to keep for emergency use (figure 3). At the reserve point, measure time to 0 and this will be the State of Charge shown. Time remaining will also be zero and remain zero while the State of Charge continues to decline, showing how much of the reserve has been consumed.

BATTERY STATE OF HEALTH

The BMPRO BatteryCheck100+PRO app will provide a State of Health estimate for the battery being monitored by the BatteryCheck. After installation, the initial State of Health will be set to 100% and will update over time as the BatteryCheck learns your battery.

The State of Health estimate depends on the battery capacity entered in ampere hours (Ah), from when you first added the battery to the app or change battery parameters. The battery capacity can usually be found marked on the battery. If you cannot determine the battery’s capacity, please contact your battery supplier or the battery’s manufacturer for this information.

The battery’s State of Health indicates the battery’s ability to deliver the nominal battery capacity entered at set-up.

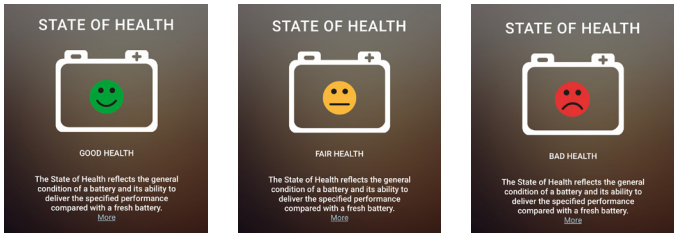
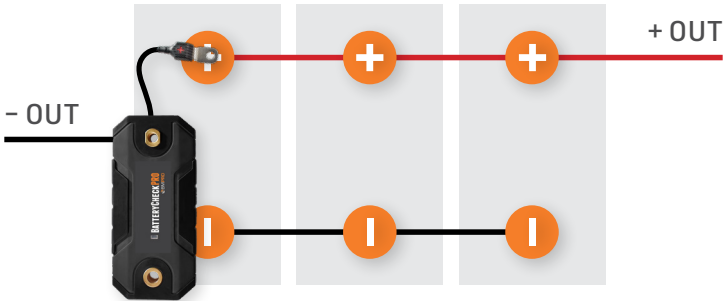


FIGURE 5: Battery State of Health

Important Wiring Information

To accurately estimate the battery’s State of Health, the BatteryCheck must measure all current in and out of the battery. To achieve this, connect your battery’s negative terminal to the BatteryCheck negative terminal and connect all your battery’s input and output loads to the BatteryCheck new negative terminal. Positive connections are simply wired as normal, i.e. to the positive terminal of the battery.



VOLTAGE WARNINGS

If the battery voltage drops too low or raises too high, the BMPRO BatteryCheck100+PRO app will show a warning icon.

The warning icon will diplay if your battery drops below or rises above the following voltages:

BATTERY TYPE	LOW BATTERY WARNING THRESHOLD	HIGH BATTERY WARNING THRESHOLD
AGM	12V	14.7V
Gel	12V	14.7V
Wet	12V	15V
Calcium	12V	15V
LiFePO4	13.2V	15V

CLEANING

Use a dry or moist cotton cloth to lightly remove any dust or dirt from the BatteryCheck. Do not use alcohol, thinners, benzene or any other chemical cleaner as these products may degrade the housing surface. Do not immerse the BatteryCheck in water.

FAQS AND TROUBLESHOOTING

Need more help troubleshooting your BatteryCheck?

Contact our customer service team online at teambmpro.com/technical-support

What do I do if my app shows the battery is disconnected?

Check if Bluetooth on your phone is turned on. Toggle Bluetooth off and on to reconnect to the BatteryCheck.

Can I use BatteryCheck on the battery bank with batteries installed in parallel?

Yes, but ensure that all negative connections on the batteries go through the BatteryCheck. The BatteryCheck will monitor and report on the whole system as one energy source. The BatteryCheck cannot monitor individual batteries in the bank.

Can BatteryCheck be used in a marine application?

Only if the battery area is free from water and salt. The BatteryCheck has IP rating of 54 which means it is protected from dust and splashing water.

Can I fit BatteryCheck in the engine bay of my dual battery setup?

No, the BatteryCheck is not designed for under bonnet use. However, it can be setup in a ute tray application in a sealed battery box.

I have a secondary battery inside the cabin of my ute. Can I use BatteryCheck in this setup?

Yes, you can use the BatteryCheck inside the cabin as it will not be subjected to overheating.

SPECIFICATIONS

SPECIFICATION	BATTERYCHECK100	BATTERYCHECKPRO
Voltage Measurement Range	8 to 16V	
Voltage Measurement Resolution	<20mV	
Current Measurement Range	± 100A	± 300A
Continuous Current Rating	± 80A	± 240A
Current Measurement Resolution	<20mA	<150mA
Temperature Measurement Range	-20 to 70°C	
Temperature Measurement Resolution	1°C	
Monitored Battery Capacity	7 to 800Ah	
GENERAL SPECIFICATIONS		
Input Voltage	8 to 16V	
Current Consumption	10 mA peak	
Operating Temperature	-20 to 70°C	
Humidity	Operating: ≤ 85% RH non-condensing Non-Operating: ≤ 95% RH non-condensing	
Dimensions	140x65x20mm	
Weight	Approx. 520g	
Installation	Mounted on battery	
IP Rating	IP 54	

WARRANTY TERMS AND CONDITIONS

Registering your BMPRO product is an important step to ensure that you receive all the benefits you are entitled to. Please visit teambmp.com to complete the online registration form for your new product today.

1. BMPRO goods come with guarantees that cannot be excluded under Australian Consumer Law. For major failures with the service, you are entitled:

- to cancel your service contract with us; and
- to a refund for the unused portion, or to compensation for its reduced value.

You are also entitled to choose a refund or replacement for major failures with goods. If a failure with the goods or a service does not amount to a major failure, you are entitled to have the failure rectified in a reasonable time. If this is not done you are entitled to a refund for the goods and to cancel the contract for the service and obtain a refund of any unused portion. You are also entitled to be compensated for any other reasonably foreseeable loss or damage from a failure in the goods or service.

2. BMPRO warrants products against defects for a period of one year, commencing from the original date of purchase. Proof of purchase is required before you can make a claim under this warranty.

HOW TO PROTECT YOUR RIGHTS UNDER THIS WARRANTY:

3. This warranty does not extend to product failures or defects caused by, or associated with, but not limited to: failure to install or maintain correctly, unsuitable physical or operating environment, accident, acts of God, hazard, misuse, unauthorised repair, modification or alteration, natural disaster, corrosive environment, insect or vermin infestation and failure to comply with any additional instructions supplied with the product.

4. BMPRO may seek reimbursement of any costs incurred by BMPRO when a product is found to be in proper working order or damaged as a result of any of the warranty exclusions mentioned in point

5. To enquire or make a claim under this warranty, please follow these steps:

a) Prior to returning a BMPRO product, please email customerservice@teambmp.com to obtain a Return Material Authorisation (RMA) number

b) Package and send the product to:

**BMPRO Warranty Department
19 Henderson Road
Knoxfield, VIC 3180**

Please mark RMA details on the outside of the packaging

c) Please ensure the package also includes: a copy of the proof of purchase, a detailed description of the fault and your contact details including phone number and return address.

6. BMPRO will not be liable for any costs, charges or expenses incurred in the process of returning a product in order to initiate a warranty claim.

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