BM PRO BY SETEC

BATTERY CHECK

USER MANUAL

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SWITCH OFF. POWER UP

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INTRODUCTION

SAFETY PRECAUTIONS

Please read the Safety Precautions carefully prior to installing BatteryCheck. Be sure to observe all precautions without fail.

⚠ CAUTION	Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.
Refer to the installation section before operating. Correct installation is the most critical factor in ensuring safe use of BatteryCheck. If every consideration of these instructions has been satisfied, BatteryCheck will be safe to operate.	
Ensure that cable connections have the correct polarity and are protected against accidental short circuit.	
Do not allow water or other liquids to enter the installation area.	

ABOUT BATTERYCHECK

BatteryCheck is a simple retrofittable device with an internal shunt that connects to a range of standard deep cycle batteries and communicates wirelessly with smart phones. BatteryCheck provides real time battery management data that allows users to effectively monitor remaining battery energy via a simple to use app.

This device is suitable for recreational vehicle and marine deep cycle battery use, up to 80 amps maximum charge or discharge. BatteryCheck is not suitable to be used with engine cranking applications of any type and was not designed for under vehicle bonnet use.

BatteryCheck is connected to a 12 or 24 volt (V) deep cycle lead acid battery and monitors various parameters. The device uses a Bluetooth signal via an app to allow access to these parameters.

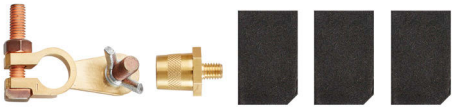
Parameters monitored are:

- Battery Voltage
- Battery Charge/Discharge Current
- Battery Temperature
- Estimated State of Charge (SoC)
- Estimated State of Health (SoH)
- Estimated Discharge Time Remaining

ACCESSORIES

The following accessories are provided with BatteryCheck device:

- 1 x brass battery post
- 1 x brass battery post connector
- Foam base supports



Please note: the connector, post and supports are not required for every application – it simply depends on your battery type.

SECURITY

Each BatteryCheck is assigned a unique serial ID consisting of 11 alphanumeric characters.

A unique Bluetooth PIN is also supplied with your BatteryCheck and cannot be changed. This PIN is located on the back of the device and is used to access BatteryCheck app.

We recommend noting down your unique Bluetooth PIN in a safe place. If for some reason you do lose this number, please send an email to **warranty@teambmpro.com** for further details.

BATTERYCHECK APP

BatteryCheck app is compatible with Apple and Android™ mobile phones.

HARDWARE, MOUNTING AND INSTALLATION

NAME AND FUNCTION OF PARTS

① Negative Battery Terminal/Connection
② New Negative Terminal Connection (connects to load)
③ '+' Positive Flying Lead and Temperature Sensor

MOUNTING

BatteryCheck has a terminal at each end; using these two terminals the device is wired in series with the negative terminal of the battery being monitored. A separate lead provides connection to the positive terminal of the battery to power the unit, measure the battery voltage and to assess the temperature and overall health of the battery.

Please ensure that all loads connected to batteries are disconnected when installing BatteryCheck to avoid battery sparks from occurring during this process.

INSTALLATION

1. Practice standard safety precautions and remove all connections to the battery
2. Connect ① to the battery negative terminal using the connector provided
3. Connect all of the negative loads or connections to ② on BatteryCheck device
4. Connect the positive flying lead ③ to the battery positive terminal

5. Check that BatteryCheck unit light (located in the battery icon logo flashes green indicating correct electrical connection)
6. Visit Bluetooth® settings on your mobile device and ensure that this function is turned on. Consult your phone's documentation regarding Bluetooth configuration if required
7. Download app via Google Play™ or App Store. Simply type 'BM PRO BatteryCheck' into Google Play™ OR 'BatteryCheck' into App Store search field to locate the correct application. Select, install and open

FOR iOS

8. Once BatteryCheck app is installed on your phone, visit the iPhone settings screen. Confirm the Bluetooth link is enabled

9. By clicking the Bluetooth icon inside the Settings menu, a list of devices within range should appear. If more than one device appears, identify your device according to its serial number, then select it. If prompted, enter your unique Bluetooth PIN which can be found on the serial number label on the back of the BatteryCheck

10. Once connection has been established, a pop-up message should appear asking you to approve BatteryCheck app to connect to the device. Click Allow

11. The Set-Up screen will then appear. Simply update the battery configurations according to the battery installed and click Save. Refer to App Set-Up section of this manual

Step 10.

Step 11.

FOR ANDROID™

8. Once BatteryCheck app is installed on your phone, select the icon to start the app. Following the splash screen appearing, the Home screen will appear

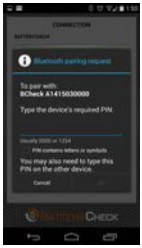
9. Select the Set-Up tab at the top of the app. A pop-up selection should appear, then choose New Connection

10. Select your BatteryCheck device from the list provided. If more than one device appears, identify your device according to its serial number, then click the Connect button. If prompted, enter your unique Bluetooth PIN which can be found on the serial number label on the back of BatteryCheck

11. Once connection has been established, the Settings screen will appear. Update the battery configurations according to the battery installed and click Save. Refer to App Set-Up section of this manual

Step 9.

Step 10(a).



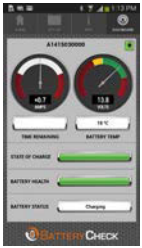
Step 10(b).

Step 11.

FOR iOS AND ANDROID™

12. This should bring you back to the Home screen. If you click the battery icon,the Dashboard tab should appear indicating current (charge or discharge), voltage, state of charge and battery state of health

13. When BatteryCheck has paired with the app, the BatteryCheck unit light will turn blue and the electrical cord icon at the top right of the app will turn green



Step 12.

Step 12.

APP SET-UP

The BatteryCheck app is intended to configure the BatteryCheck device and display current battery information. The Set-Up screen will provide the following settable options:

Label	Description	Default Value
Battery Volts Warning	A number in the range 9.0V to 13.0V. (12V Battery) A number in the range 18.0V to 26.0V. (24V Battery)	10.0V 20.0V
Audible Alarm	Plays an alarm tune if the battery voltage is equal to or less than the warning level above	No
Vibrate Alarm	Vibrates if the battery voltage is equal to or less than the warning level above	No
Visual Alarm	The battery icon on the home screen flashes red if the battery voltage is equal to or less than the warning level above	Yes
BatteryCheck Relay	The alarm contacts on BatteryCheck will close if the battery voltage is equal to or less than the warning level above	No

Please note, warning notifications will only activate when users are in the BatteryCheck app and within Bluetooth range.

BATTERY CAPACITY SET-UP AND WIRING

This refers to the actual capacity of the battery in amp hours. When a new battery is fitted, set this to the nominal battery capacity (as marked on the battery); doing this will assist the software in determining actual capacity.

As BatteryCheck learns the battery capacity, it will automatically update this parameter. Following initial installation, the battery capacity will appear as 50%. Over time, BatteryCheck will be able to read the battery state of charge and health, and present an accurate indication of battery capacity.

Important: Please remember that in order to keep track of battery capacity, BatteryCheck device must measure all current in and out of the battery.

This is achieved by connecting BatteryCheck between the battery negative terminal and all negative connections. This means that all new connections must be wired to the end of BatteryCheck that is not connected to the terminal. Positive connections are simply wired as normal (e.g. to the positive terminal of the battery).

BATTERYCHECK SPECIFICATIONS

Specification	
Voltage Measurement Range	8V to 30V
Voltage Measurement Resolution	100mV (or 0.1V)
Current Measurement Range	±100A
Current Measurement Resolution	100mA (or 0.1A)
Temperature Measurement Range	-20 °C to 70 °C (Battery Terminal)
Temperature Measurement Resolution	1 °C
Monitored Battery Capacity	7Ah to 800Ah
Visual and Audible Alarms	Low Voltage, user settable level Low State of Charge, user settable level
General Specification	
Input Voltage	8V to 30V
Current Consumption	0.1 A peak
Quiescent Current Drain	< 10mA
Operating Temperature	-20 °C to 70 °C
Humidity	Operating ≤ 85% RH non-condensing Non-operating ≤ 95% RH non-condensing
Altitude	Operating: 2000 m Non-operating: 15000 m
MTBF	> 50000 hours at 40 °C
Dimensions	140 mm x 65 mm x 20 mm (Approx.)
Weight	Approx. 1 kg boxed with accessories
Installation	Mounted on battery
IP Rating	IP 65

WARRANTY TERMS AND CONDITIONS

Registering your BM PRO by Setec product is an important step to ensure that you receive all of the benefits you are entitled to. Please visit **https://teambmpro.com/warranty/** to complete the online registration form for your new product today. This registration is for original owners of BM PRO by Setec products only.

1. BM PRO by Setec goods come with guarantees that cannot be excluded under Australian Consumer Law. You are entitled to a replacement or refund for major failure and for compensation for any reasonably foreseeable loss or damage. You are entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

2. Setec, as the manufacturer of BM PRO goods warrants products against defects for a period of two years, commencing from the original date of purchase. Proof of purchase is required before you can make a claim 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. Setec may seek reimbursement for any costs incurred by them when a product is found to be in proper working order or damaged as a result of one or more of the warranty exclusions mentioned in point three of this statement.

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

    a. Prior to returning product, please contact Setec on +61 3 9763 0962 or **warranty@teambmpro.com** to obtain a Return Material Authorisation (RMA) number

    b. Package and send the product directly to: BM PRO by Setec Warranty Department, 19 Henderson Road, Knoxfield, VIC 3180, Australia. 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. Setec 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.

Also available from:
BMPRO BY SETEC

DRIFTER

DRIFTER - COMPREHENSIVE BATTERY AND WATER TANK MANAGEMENT

- > Water and waste tank monitoring including pump on/off switch
- > Battery monitoring - displays remaining time left in battery, volts and amps, charge/discharge status and remaining capacity (state of charge)
- > Large LCD screen
- > Low voltage warning
- > Clock and temperature gauge
- > USB charging port
- > Battery isolating switch

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