BMPRO

OWNER'S MANUAL

CHARGEMONITOR500

TEAMBMPRO.COM

SAFETY PRECAUTIONS

Please read the Safety Precautions before installing or using the ChargeMonitor500. 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.

⚠ WARNING	
⚠	Correct installation is the most critical factor in ensuring the safe use of the device. If every consideration of these instructions has been satisfied, the device 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 chains, watches or rings before handling the battery.
⚠	Batteries are electrically live at all times and must be treated with extreme caution. They can supply high short circuit currents, even if they appear damaged or undamaged.
⚠	Do not drop or shake the product vigorously as this may cause damage to the product. Do not shock the equipment, batteries and charger, as this may cause device or battery failure, fire or explosion.
⚠	Keep the device dry; do not expose it to water. Do not use it where it can fall into water (such as near a pool, pond, bath etc.). Do not let the device, battery or charger come into contact with water vapour or operate it with wet hands. Contact with water will cause the device to short-circuit, corrode or cause electric shock.
⚠	Do not use this product where it is excessively hot, cold, dusty or humid, or where it is exposed to strong magnetic fields or long periods of sunshine. Such exposure may cause device or battery failure, fire or explosion.
⚠	Only use the device with the cable supplied. Use of other accessories not recommended in this manual may cause damage to the unit and will void the warranty.
⚠	Clean the housing of the device lightly with a dry or moist cotton cloth if required. Do not use alcohol, thinners, benzene or any other chemical cleaner.
⚠	This device is a high precision electronic product. It contains no user-serviceable parts inside. Do not try to dismantle, modify or repair it yourself. Disassembly by unauthorised persons will void the warranty.
⚠	Product specifications are subject to change and improve without notice.

BMPRO
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Proudly designed in Melbourne by BMPRO, one of Australia's leading power solution experts. Our range represents high-quality products that will provide years of service.

DISCLAIMER: BMPRO accepts no liability for any loss or damage which may occur from the improper or unsafe use of its products. Warranty is only valid if the unit has not been modified or misused by the customer.

INFORMATION FOR THE USER

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Warning: Any changes or modifications not expressly approved by BMPRO could void the user's authority to operate this equipment.

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ABOUT THE CHARGEMONITOR500

The ChargeMonitor500 is a wired device designed to monitor and display your battery performance using real-time data, allowing you to effectively track your battery's remaining energy through an intuitive display.

Compatible with a variety of standard lead-acid and LiFePO4 lithium batteries, the ChargeMonitor500 can be used to instantly view volts, amps, time remaining, battery temperature, status, state of charge, and health, making it ideal for devices like microwaves, inverters, and hair dryers.

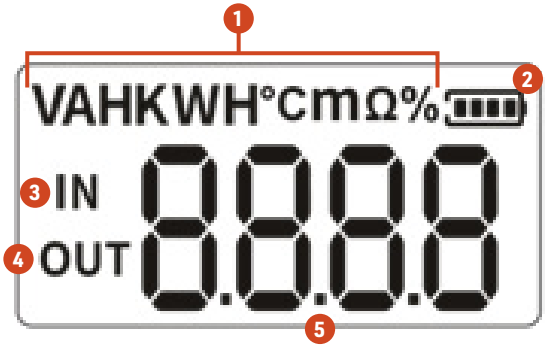
The ChargeMonitor500 will ensure you always have enough power for your high-current devices and keep your adventures on track!

DESCRIPTION OF PARTS

CHARGEMONITOR500

1. LCD Screen
2. Back < Button
   Used to cycle between screens and to configure settings.
3. SET Button
   Used to configure settings.
4. Next > Button
   Used to cycle between screens and to configure settings.

LCD SCREEN

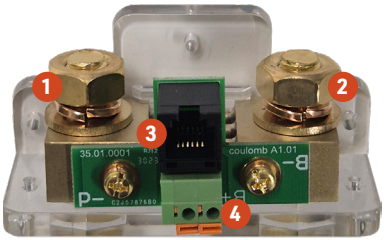


1. Active Measuring Value
2. State of Battery
3. In
   If displayed, the battery is charging.
4. Out
   If displayed, the battery is discharging.
5. Value

Displayed Items

MEASURING VALUES	MEANING
V	Battery voltage
A	Battery current
H	Time remaining in hours
W	Battery power
AH	Ampere-hours
°C	Temperature
%	Capacity percentage

SHUNT



1. **P- Terminal**
   Connects to the load or the charger.
2. **B- Terminal**
   Connects to the negative terminal of the battery.
3. **Shielded Data Cable Connection**
4. **Battery Positive Wire Connection**

WIRING THE CHARGEMONITOR500

⚠ WARNING

Installation of the ChargeMonitor500 should only by carried out by suitably qualified personnel. Failure to install the ChargeMonitor500 correctly could result in bodily harm.

⚠ WARNING

Ensure that all loads connected to the battery are disconnected or turned off before beginning the installation to avoid sparks being generated.

Ensure all battery cable sizes are correct for the maximum load through the shunt.

To wire the ChargeMonitor500 shunt.

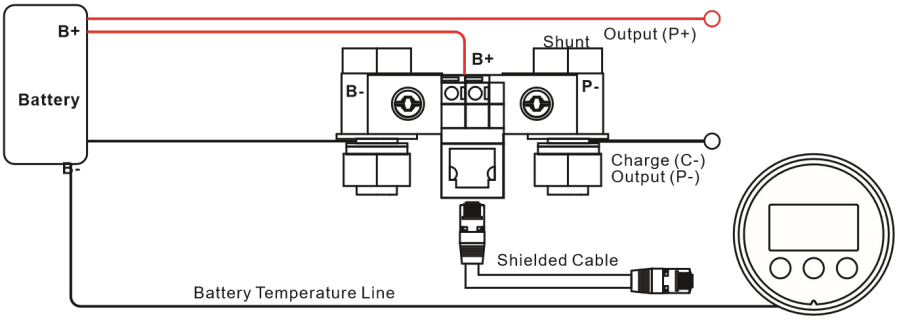
1. Connect the B- terminal of the shunt to the negative terminal of the battery.
2. Connect the P- terminal of the shunt to the load or the charger.
3. Connect the temperature sensor wire and battery positive wire to the positive terminal of the battery.

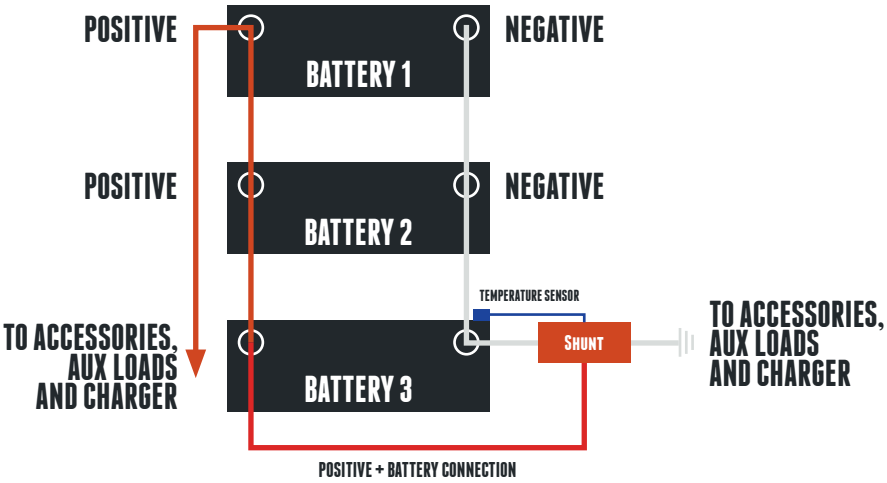
   It is recommended that a 1A fuse should be installed in series with the temperature wire.
4. Connect the loose end of the shielded data cable to the current shunt.

The monitor display cable will already be installed on the display.

5. Connect the battery temperature cable with connector into the back of the monitor display.

WIRING DIAGRAM



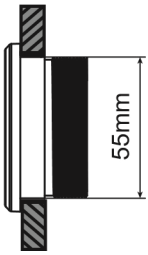


INSTALLING THE CHARGEMONITOR500

INSTALLING THE DISPLAY

To install the display:

1. Cut a 55mm round hole on the installed equipment panel.
2. Place the ChargeMonitor500 into the hole from the front of panel.
3. Tighten the threaded plastic ring at the rear of the monitor.

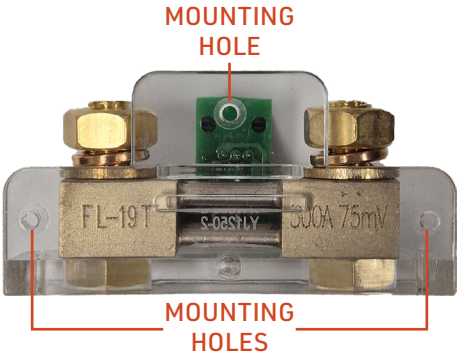


MOUNTING THE SHUNT

Before mounting the shunt, consider the length of the cables when determining a suitable place for the shunt to be positioned.

The shunt must be installed in an area with adequate ventilation and protection from water or dust ingress.

Once a suitable location has been determined, use two appropriately sized screws to secure the shunt to a solid surface. The type of screw required will depend on the surface material you are mounting shunt to.



CONFIGURING THE CHARGEMONITOR500

When using the ChargeMonitor500 with a battery for the first time, the battery capacity and percentage will need to be set.

⚠ WARNING

The ChargeMonitor500 will not set battery capacity and percentage automatically. If these settings are not set, the ChargeMonitor500 will not give accurate readings.

SETTING BATTERY CAPACITY

To set the battery capacity on the ChargeMonitor500:

1. Use the **<** or **>** buttons to cycle to the ampere-hours (AH) screen.
2. Press and hold the **SET** button for 2 seconds to enter Settings mode.

When in Settings mode, the settings value on the screen will flash for 1 second on and 1 second off.

3. Use **<** or **>** to decrease or increase the battery capacity value.

For the most accurate readings, enter the usable capacity of the battery.
The usable capacity of the battery may not be the rated capacity of the battery.

4. Press **SET** to finish and exit.

SETTING PERCENTAGE

When using the ChargeMonitor500 with a new battery for the first time, the displayed state of charge percentage will not be an accurate value of the battery. The ChargeMonitor's capacity percentage will need to be reset.

Either of the following methods can be used to reset the ChargeMonitor500's capacity percentage:

Method 1

1. Fully discharge the battery.
2. Use the **<** or **>** buttons to cycle to the Capacity (%) screen.
3. Press and hold the **SET** button for 2 seconds to enter Settings mode.
4. Use **<** to decrease the battery percentage value to 0%.
5. Press **SET** to confirm and exit.

Method 2

1. Fully charge the battery.
2. Use the **<** or **>** buttons to cycle to the Capacity (%) screen.
3. Press and hold the **SET** button for 2 seconds to enter Settings mode.
4. Use **>** to increase the battery percentage value to 100%.
5. Press **SET** to confirm and exit.

USING THE CHARGEMONITOR500

NAVIGATING THE SCREEN

The ChargeMonitor500's default screen shows the battery voltage.

To switch between screens, press the **<** or **>** buttons.

Switching through screens will show battery voltage (V), battery current (A), power (W), ampere-hours (AH), temperature (°C), and capacity (%).

SLEEP MODE

When input/output current is less than 0.2A, the backlight will turn off after 5 seconds. After 10 seconds, the ChargeMonitor500 will enter sleep mode.

The ChargeMonitor500 will wake from sleep mode if a button is pressed or when input/output current goes above 0.2A.

While in sleep mode, current is not taken into account for state of charge calculations.

TIME REMAINING ESTIMATION

The ChargeMonitor500 displays the estimated time remaining until the battery is discharged at the current discharge rate.

An approximate 20% built-in discharge safety buffer prevents over-discharge and potential damage to the battery.

The maximum time remaining estimation that can be displayed is 299 hours, and the minimum time remaining estimation is 0.2 hours.

If the discharge rate would take longer than 299 hours, the ChargeMonitor will continue to display 299 until the time remaining is lower.

ALARMS

If an over/undervoltage, overcurrent or overtemperature fault occurs, an alarm in the ChargeMonitor500 will sound and a warning indication will appear on the screen.

INDICATION	FAULT
F1	Overvoltage Fault
F2	Undervoltage Fault
F3	Overcurrent Fault
F4	Overtemperature Fault

Press the **SET** button to stop the alarm and return to the normal status.

SPECIFICATIONS

CHARGEMONITOR500	
Supply Voltage Range	8V-100V
Measurable Voltage Range	8V-100V
Measurable Current Range	-500A - 500A
Minimum Current	0.2A
Standby Current	100uA
Compatible Battery Voltage	12V/24V/36V/48V
Maximum Capacity	1200Ah

WARRANTY TERMS AND CONDITIONS

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also 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.

This warranty is provided by BMPRO Pty Ltd (59 646 354 127) ("BMPRO") for its products. Warranty benefits are applied along with any rights and remedies required by Australian State and Federal legislation that cannot be excluded. No part of this warranty excludes, restricts or modifies any State or Federal legislation relating to the supply of goods and services which cannot be excluded, restricted or modified.

WARRANTY

BMPRO warrants that the product will be free from any faults in materials and workmanship beginning from the original date of purchase under standard application, installation, use and service conditions, subject to the exclusions and limitations detailed below. The warranty period of the product is two years.

If, before the warranty period has ended, a fault occurs with the product and BMPRO finds the product is defective in materials or workmanship, BMPRO at its discretion will subject to further rights accorded by the Australian Consumer Law to either:

- Repair the defective product
- Replace the defective product
- Provide a refund to the purchaser for the price paid at purchase for the defective product.

WARRANTY CLAIMS

Refer to your manual before using the product. Most BMPRO products are designed to be installed by a suitably qualified installer. The products should be carefully inspected by you or your installer before installation for any visible manufacturing faults. If a product has been installed incorrectly, BMPRO accepts no responsibility on top of our consumer guarantee obligations.

1. If a fault covered by warranty occurs, the purchaser must either contact the dealer where the product was purchased within 7 days, or BMPRO at the contact details listed.
2. All warranty claims must include: (a) proof of purchase of the product; (b) complete details of the alleged fault; (c) any relevant documentation related to the fault (such as photographs or maintenance records); (d) return material authorisation (RMA) number.
3. The product must be made available to BMPRO or its authorised installer for inspection and testing within 14 days of contacting BMPRO or the dealer.
4. The reasonable cost of delivery and installation of any products or components of products that have been repaired or replaced to the place of purchase notified to BMPRO is covered by the warranty provided by BMPRO, along with the reasonable costs of removal and return of any products determined by BMPRO to be defective.
5. If, on return to BMPRO or on investigation by BMRPO, inspection and testing determines there is no fault in the product, the purchaser must pay BMPRO's reasonable costs of testing and investigating the product, as well as transportation and shipping costs.

REGISTER A WARRANTY OR REPAIR WITH BMPRO

To register a warranty or repair with BMPRO:

1. Lodge a support request via teambmpro.com/technical-support or email customerservice@teambmpro.com
2. If agreed with the BMPRO Product Specialist team, register a warranty claim or repair via teambmpro.com/warranty-claim or email customerservice@teambmpro.com to obtain a Return Material Authorisation (RMA) number.
3. Package and send the product to the BMPRO Warranty Department. The BMPRO Product Specialist team will advise you where to send the product. Please mark RMA details on the outside of the packaging.
4. Ensure your package also includes a copy of the proof of purchase, a complete description of the fault and your contact details including phone number and return address.

EXCLUSIONS

This warranty will not be applicable where: (a) the product has been altered, modified or repaired by someone other than BMPRO, an authorised installer or a qualified auto electrician; (b) the product has not been installed properly by either the user or manufacturer; (c) BMPRO cannot establish a fault in the product after inspection and testing; (d) the product has been used for purposes other than that for which it was designed; (e) the fault in the product has occurred due to a failure by the purchaser to ensure proper use and maintenance of the product according to BMPRO's instructions, recommendations and specifications (including maintenance); (f) the product has been subjected to abnormal conditions, such as environmental, temperature, water, fire, humidity, pressure, stress or similar; (g) the fault has been caused by abuse, misuse, neglect or accident; (h) the fault has been caused by a power surge or other kind of fault in the supply of electricity; (i) unauthorised parts or accessories have been used on or in relation to the product; (j) the appearance of the Product has deteriorated; or (k) the fault is a result of common wear & tear.

LIMITATIONS

No express warranties or representations are made by BMPRO other than what is set out in this warranty. The absolute limit of BMPRO's liability under this express warranty is the repair or replacement of the product or part of the product.

CONTACT

BMPRO's contact details for warranty claims are:

Phone: (03) 9763 0962
Email: **customerservice@teambmpro.com**

Warranty Claim and Product Repair Form:
https://teambmpro.com/warranty-claim/

Registering your BMPRO product is an important step to ensure that you receive all the benefits you are entitled to.

Please complete the online registration form at **https://teambmpro.com/product-registration/** for your new product today.

POWERING YOUR ADVENTURES.

BMPRO
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