



OWNER'S MANUAL

PROBOOST

PROBOOST25
PROBOOST40



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 ProBoost. 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.



It is best to have professional guidance when installing and using the charger. People with physical disabilities, visual impairments and olfactory impairments (including children) should not use this device. Children should be supervised to ensure they do not play with battery chargers.



Do not disassemble or modify the charger, otherwise it may cause a safety accident.



This charger is only suitable for battery types listed in this manual. Do not use it for other purposes.



When charging, select the charging procedure applicable to the auxiliary battery. If the wrong charging procedure is selected, it may cause damage to your auxiliary battery, and even cause safety accidents in serious cases. If you are not sure what kind of charging procedure you should select, consult a professional.



Use the fuses and wires recommended in this manual, otherwise it may damage the product and cause serious safety accidents.



Never smoke or allow a spark or flame in the vicinity of the battery or the engine. This may cause the battery to explode.





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MANUAL PART **037548**
REV 1.0



Designed by BM PRO, one of Australia's leading power solution experts, the BM PRO product range is proudly designed and manufactured in Melbourne, Australia, and represent a high-quality product that will provide years of service.

DISCLAIMER: BM PRO 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.





ABOUT THE PROBOOST

BMPRO's ProBoost is a multi-stage DC-to-DC battery charger that enables the charging of a secondary battery using solar panels and/or a towing vehicle's 12V electrical system.

The ProBoost blends both solar and auxiliary inputs to ensure there is always a consistent charge to your battery.

The ProBoost is available in two models, the **ProBoost25** and the **ProBoost40** to suit your charging needs.

KEY FEATURES

- ☑ Compatible with lead-acid and lithium LiFePO4 batteries
- ☑ 25A (**ProBoost25**) or 40A (**ProBoost40**) solar MPPT regulator
- ☑ Dual input from both solar and vehicle auxiliary
- ☑ High power density design provides efficiency up to 93% (**ProBoost25**) or 95% (**ProBoost40**)
- ☑ Ultra-thin design suitable for limited installation space
- ☑ Excellent performance in harsh environments
- ☑ Resistant to shaking, wet, dusty or muddy environments
- ☑ Smart alternator compatible
- ☑ Overtemperature, overvoltage, undervoltage and reverse polarity protection



DESCRIPTION OF PARTS



Figure 1: The ProBoost

- 1. Battery Selection Button**
Used to select the battery type to be charged.
- 2. Mounting Slots**
Used to mount the ProBoost to a surface with screws.
- 3. Input/Output Leads**
Used to connect the ProBoost to inputs and outputs.

DISPLAY PANEL



Figure 2: ProBoost Display Panel



INSTALLATION

The ProBoost is designed to be installed in a variety of environments, including the chassis rail, engine cabin and driver cabin.

The ProBoost can be installed in any orientation. Installation should take place in a well-ventilated area that allows for continuous airflow around the unit to prevent overheating. Overheating the ProBoost will affect optimal operation.

MOUNTING

Securely mount the ProBoost to any suitably strong flat surface. Install the ProBoost inside your caravan or camper trailer, preferably close to the auxiliary battery.

CABLE SIZE

Table 1 lists recommended cable sizes for the ProBoost if you need to extend the cable length. Cables can be used that are equal to or larger than this size.

Cable	Cable Colour	<5m	<10m
Solar	Green	ProBoost25: 10 AWG ProBoost40: 8 AWG	ProBoost25: 8 AWG ProBoost40: 6 AWG
Alternator	Yellow		
Output	Red		
Ground	Black		
Ignition	Blue	20 AWG	

Table 1: Cable Sizes

It is very important that cables are well connected. The operation of the ProBoost will be its most stable and reliable when there is low conduction impedance.

With cables between 10-8 AWG, it is recommended to use BN8 Butt Splice Connectors.

After completion, heat shrinkable tubing must be used for insulation to prevent short circuits.



Figure 3:
Butt Splice
Connector



WIRING INSTRUCTIONS

To wire the ProBoost:

1. Ensure the vehicle engine is turned off. This will prevent any accidental short circuiting during the installation.

NOTE: Vehicle power down may result in loss of memory data.

2. Ensure the negative pole of the starter battery is disconnected.
3. Connect the **red** output cable to the positive pole of the auxiliary battery.
4. Either connect the **black** ground cable to the negative pole (-) of the auxiliary battery, or connect both auxiliary battery negative (-) terminals and the ProBoost common ground cable to the vehicle chassis ground.
5. Connect the **yellow** alternator cable to the positive (+) pole of start battery.
6. If you have a smart alternator, connect the **blue** ignition cable to the ignition terminal of the vehicle. This is usually found in the vehicle's fuse box. When the vehicle is started, the terminal is powered on. When the car is turned off, the terminal is powered off.

NOTE: If you do not have a smart alternator, leave the blue ignition cable disconnected. Ensure you have insulation protection.

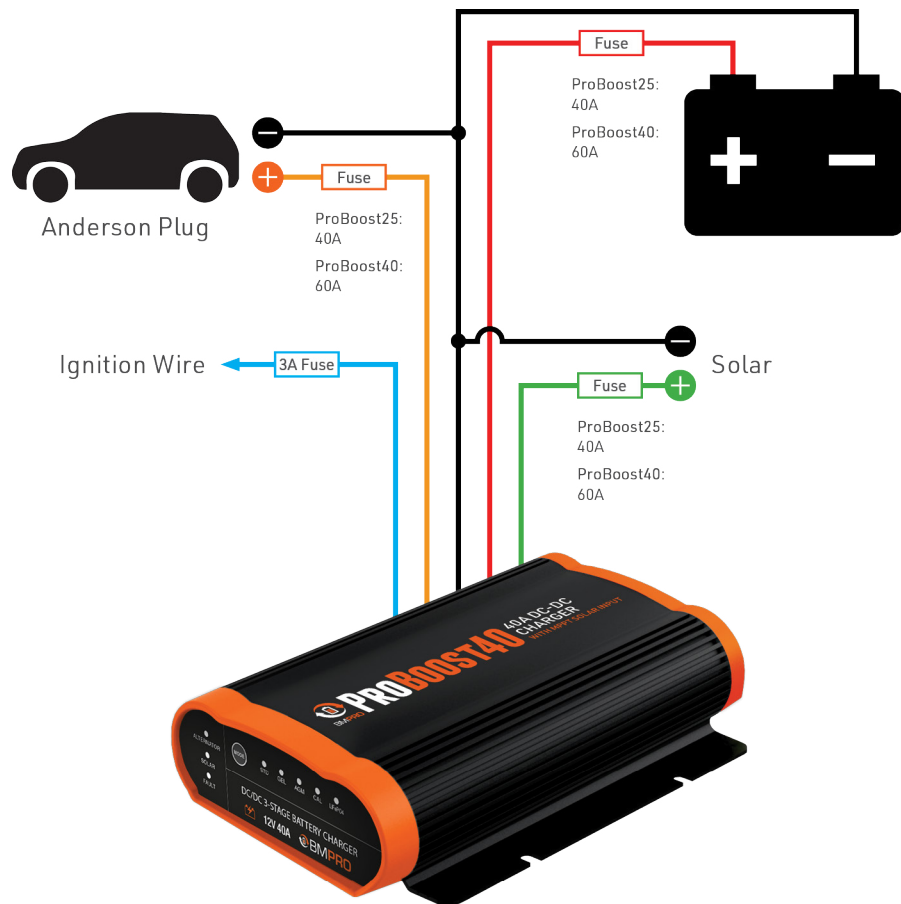
7. If you have solar panels, connect the **green** solar cable to the positive (+) pole of the solar panel. Connect the negative pole of the solar panel to the common ground cable or vehicle chassis ground.

NOTE: If you do not have solar panels, leave the green solar cable disconnected. Ensure you have insulation protection.

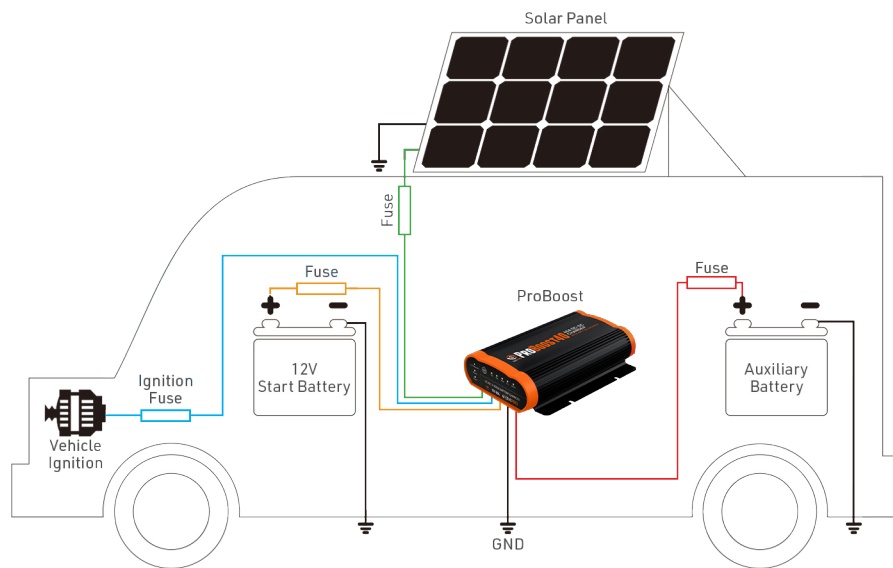
8. Restore the negative connection of the battery.



WIRING DIAGRAM



TYPICAL SET-UP



FUSING

All recommended fuses should be connected in series in circuit.

Bolt down fuses are preferred as they ensure a low resistance connection.

Blade type fuses are not recommended. These fuses can result in a high resistance connection which causes excess heat, which may damage the fuse holder and/or the wiring.

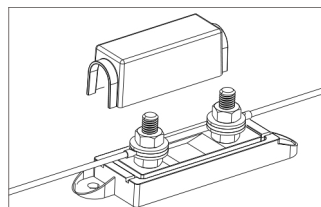


Figure 4: Fusing

Self-resetting circuit breakers are not recommended. These may trip prematurely due to the heat generated by the current flowing through the wires.

Cable	Cable Colour	Fuse Recommendation	
		ProBoost25	ProBoost40
Solar	Green	40A	60A
Alternator	Yellow		
Output	Red		
Ignition	Blue	3A	

Table 2: Recommended Fusing

BATTERY TYPE SELECTION

Once the ProBoost is installed, the correct battery type must be selected for the ProBoost to charge correctly.

On the front of the ProBoost, press the Mode button until the LED is lit for the correct battery.

The supported battery types are:

- ☐ **STD:** standard lead-acid batteries.
- ☐ **GEL:** gel lead-acid batteries.
- ☐ **AGM:** absorbent glass mat lead-acid batteries.
- ☐ **CAL:** calcium lead-acid batteries.
- ☐ **LiFePO4:** lithium iron phosphate batteries.



LED INDICATORS

LED CHARGE INDICATORS

The LEDs on the ProBoost will illuminate to indicate the current charging stage.

The flashing LED indicates the charging source (either alternator or solar).

If both the alternator and solar LEDs are flashing, the charging source is from both the alternator and solar.

LED STATUS KEY	
	SHORT FLASH - 0.5S ON, 0.5S OFF
	LONG FLASH - 1S ON, 2S OFF
	SOLID COLOUR
	NO LIGHT

Charging Stage	Alternator LED / Solar LED	Battery Type LED
Bulk or Absorption		
Float		

Table 3: LED Charge Indicators



LED FAULT INDICATORS

If the ProBoost detects a fault, LEDs will illuminate to indicate the fault.

LED STATUS KEY

-  QUICK FLASH - 0.2S ON, 1.8S OFF
-  NO LIGHT

Fault	Alternator LED	Solar LED	Battery Type LED	Fault LED	Solution
Low voltage detected at alternator input*					Check battery voltage Check if the battery is connected, or if there are broken cable connections at the battery
Low voltage detected at solar input					Check solar voltage
Low voltage detected at alternator or solar input					Check voltage at both alternator and solar panel
Overvoltage detected at output					Check auxiliary battery voltage and cable connections
High voltage detected at alternator output					Check battery voltage
High voltage detected at solar output					Check solar voltage
Overtemperature					Let the unit cool down or find a more ventilated area

Table 4: LED Fault Indicators

*If you have configured the ProBoost to work with lithium batteries, this fault may display while the lithium battery activates. This may display for up to 3 minutes until the lithium battery is activated.





APPENDICES

SPECIFICATIONS

Operating Conditions	ProBoost25	ProBoost40
Input Voltage	9 to 18V	
Solar Input Voltage	10 to 32V	
Maximum Input Current	27A	47A
Input Fuse Rating	40A	60A
Output Current	25A	40A
Output Fuse Rating	40A	60A
Minimum Start Voltage (Lead-Acid)	4V	
Minimum Start Voltage (LiFePO4)	0V	
Standby Current	<15mA	
Battery Type	STD, Gel, AGM, Calcium, LiFePO4	
Operating Temperature	-20°C to 80°C	
IP Rating	IP66	
Dimensions	145mm x 130mm x 43mm	183mm x 130mm x 43mm

Charge Control	STD	Gel	AGM	Calcium	LiFePO4
Charge Type	3-Stage				
Maximum Voltage	14.4V	14.1V	14.7V	15.3V	14.5V
Float Voltage	13.4V	13.5V	13.4V	13.6V	

Operating Mode	Turn On Input	Turn Off Input
12V Standard Alternator	>13.1V	<12.8V
12V Smart Alternator	>12.0V	<11.8V



COMPLIANCE

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.



WARRANTY TERMS AND CONDITIONS (AUSTRALIA)

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. 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. The benefits under this Warranty are in addition to your other rights and remedies under a law in relation to the goods to which this Warranty relates (the Australian Consumer Law).
2. BMPRO 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.

HOW TO PROTECT YOUR RIGHTS UNDER THIS WARRANTY

3. The ProBoost is designed to be installed by a suitably qualified installer. You or your installer should carefully inspect the products before installation for any visible manufacturing defects. We accept no responsibility in addition to our consumer guarantee obligations where a product has been installed incorrectly.
4. 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.
5. 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 4 of this statement.
6. To enquire or make a claim under this warranty, please follow these steps:
 - A. Prior to returning a BMPRO product, please email service@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 3180Please 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.
7. 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.



LIMITED WARRANTY TERMS AND CONDITIONS (USA)

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.

What this Limited Warranty Covers

This warranty covers any defect or malfunction in your BMPRO product. Under this warranty you are entitled to have such goods replaced, repaired or refunded.

What this Limited Warranty Does Not Cover

- 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, unauthorized repair, modification or alteration, natural disaster, corrosive environment, insect or vermin infestation and failure to comply with any additional instructions supplied with the product.
- BMPRO may seek reimbursement of any costs incurred when a product is found to be in proper working order or damaged as a result of any of the warranty exclusions listed above.
- BMPRO will not be liable for any costs, charges or expenses incurred in the process of returning a product to initiate a warranty claim.

How Long the Warranty Lasts

BMPRO warrants products against defects for a period of two years, commencing from the original date of purchase.

Claims Process

Proof of purchase is required before the product can be deemed to be within the warranty period.

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

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

B. Package and send the product to:

**BMPRO WARRANTY DEPARTMENT
UNIT 1 821 E WINDSOR AVE
ELKHART IN 46514**

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.

How State Law Applies

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.







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