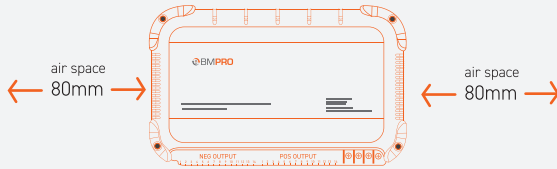


# BATTERYPLUS35-II INSTALL GUIDE

BMPRO's BatteryPlus35-II is a battery management system designed specifically for use in recreational vehicles. The BatteryPlus35-II has universal main power input (110-240V AC), towing vehicle auxiliary and solar panel up to 35A of current to simultaneously power caravan loads and charge the caravan battery. The BatteryPlus35-II is available in a range of models to suit any RV and battery management needs.

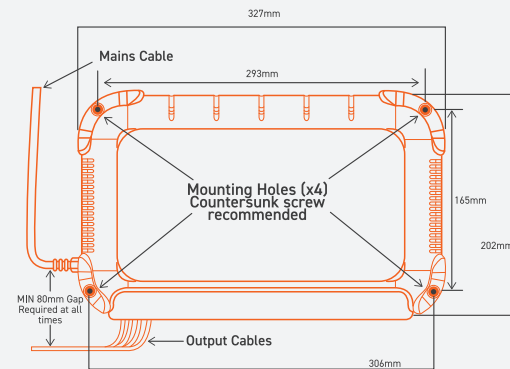
## 1. LOCATION



- Orient the BatteryPlus35-II with the load connection at the either the top or bottom.
- Do not install the BatteryPlus35-II in a compartment where flammable material is stored, such as petrol or LPG.

## 2. MOUNTING

Securely mount the BatteryPlus35-II to a suitably rigid surface.



## 3. VOLTAGE DROP CALCULATION

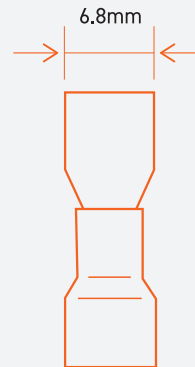
Scan the below QR code to determine the voltage drop of your wires. This will determine what cable size you need.



<https://www.calculator.net/voltage-drop-calculator.html>

## 4. LOAD CONNECTIONS

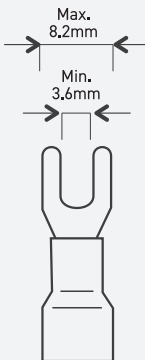
- Up to 14 loads may be connected. Loads are attached using female spade Quick Connects (QC).
- All load negative returns must be connected directly to the BatteryPlus35-II negative terminals only.



## 5. MAIN CHARGE CONNECTION

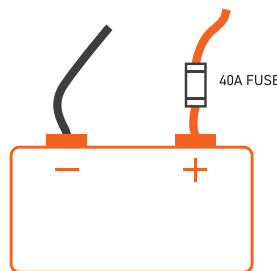
The following inputs / outputs require fork type connections:

AUX+ / BATT+ / BATT- / BRK+



## 6. WIRING THE BATTERY TO THE BATTERYPLUS35-II

Install a 40A fuse as close as possible to the battery's positive terminal.



### Connecting a battery to the BatteryPlus35-II

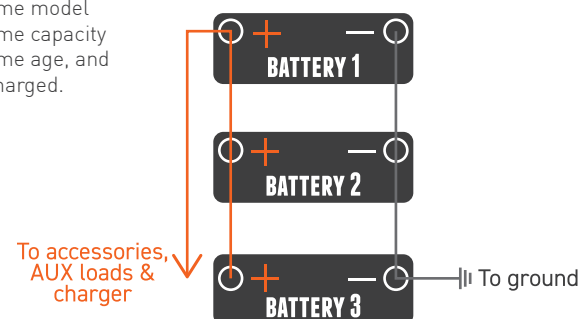
Power off all loads connected to the BatteryPlus35-II. The easiest way is to use Battery Plus35 remote switch (RSW) input located, on the right side of the unit.

1. Turn off and remove all power sources (auxiliary/mains/solar) to the BatteryPlus35-II.
2. Connect the battery's positive (red) terminal to the BatteryPlus35-II BATT+ connection point.
3. Connect the battery's negative (black) terminal to the BatteryPlus35-II BATT- connection point.

### Connecting Multiple Batteries in Parallel

Before connecting multiple batteries in parallel to the BatteryPlus35-II, check that all batteries are:

- the same manufacturer
- the same model
- the same capacity
- the same age, and
- fully charged.



The recommended wiring for connecting multiple batteries in parallel to the BatteryPlus35-II is above. Depending on system requirements, a qualified autoelectrician may wire the batteries differently.

## 7. TERMINAL OUTPUTS & LOAD RATING

In order to use the Odyssey app, lights and pumps must be wired in accordance to the table below.

| TERMINAL OUTPUTS |              | LOAD RATING |
|------------------|--------------|-------------|
| 1                | Tablet/Spare | 15A         |
| 2                | Spare        | 15A         |
| 3-9              | Spare        | 10A         |
| 10               | Light 1      | 10A         |
| 11               | Light 2      | 10A         |
| 12               | Light 3      | 10A         |
| 13               | Pump 1       | 10A         |
| 14               | Pump 2       | 10A         |

## 9. EXPANDING THE SYSTEM

The BatteryPlus35-II system can be expanded by connecting more BMPRO products, such as the OdysseyLink104 and the MiniBoost series.

The OdysseyLink104 is a Bluetooth Node which allows for the connection of battery monitors and Bluetooth sensors.

The MiniBoost series are DC-DC chargers which supplement the BatteryPlus35-II's charging capabilities by drawing power from your vehicle's auxiliary.

## 10. BLUETOOTH CONSIDERATIONS

If an OdysseyLink104 is to be connected to the BatteryPlus35-II, it must be positioned so there is no interference from Bluetooth signals. The Bluetooth within the Odyssey system has been tested and proven to work up to 20 metres in a direct line of sight.

This distance will vary depending upon circumstances and interference such as:

- The wall of a caravan.
- The transmission between the caravan and the tow vehicle.
- Construction methods.
- Placement of the product.
- The Bluetooth receiver of your device (including phones, tablets, smartwatches, etc).
- The environment.

**SAVE THESE INSTRUCTIONS** - This manual contains important instructions for Models Battery-Plus35-II-SR, BatteryPlus35-II-SI, BatteryPlus35-II-HA that shall be followed during the installation and maintenance.

The nominal voltage of the BatteryPlus35-II is 12V. All models of the BatteryPlus35-II series are rated to charge lead acid batteries, and the BatteryPlus35-II-HA is also rated to charge LiFePO4 batteries.

The maximum ambient temperature rating for the BatteryPlus35-II is 50 °C (122 °F).

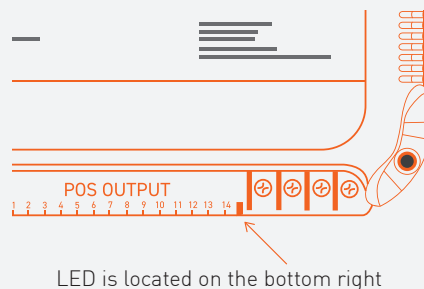
For 0-10A current, use 18 AWG, 90 °C (194 °F) copper wire.

For 10-20A current, use 14 AWG, 90 °C (194 °F) copper wire.

For 20-30A current, use 10 AWG, 90°C (194 °F) copper wire.

Overcurrent protection for the battery circuit is to be provided by the installer or the user, whichever is applicable.

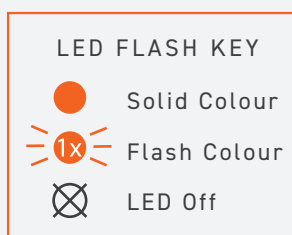
## 8. LED STATUS INDICATOR



The battery charge status is indicated by the multi-coloured LED.

The LEDs are organised into a traffic light system - green shows the battery is fully charged, orange shows the battery is charging, and red shows there is a fault.

Refer to the table for more details.



|  |   |
|--|---|
|  | AC Charging   |
|  | Low Battery Voltage<br>LFP Mode No Battery  |
|  | SI Solar Charging<br>SR & HA Solar or AUX/Solar Charging                              |
|  | Aux Charging<br>SI Solar/Aux Charging   |
|  | Battery OK, AC available  |
|  | Battery OK, no sources available  |
|  | SI Battery Ok, Solar available<br>SR & HA Battery OK, Solar or<br>AUX/Solar available |
|  | Battery Ok, AUX available   |
|  | Fault on One or More Output Loads   |
|  | High Temperature Fault  |
|  | Battery Fault   |
|  | Solar Fault   |
|  | Other Fault   |
|  | Power Off   |

## HAZARDS & WARNINGS

Sparks have the potential to cause an explosion if combustible gases are present. These procedures are designed to minimise the risk of spark generation while connecting or disconnecting the battery. The positive terminal of the battery **MUST NOT** be connected to the chassis.

The auxiliary input is designed for use with 12V DC power sources. The voltage of the DC power source connected to the auxiliary input must not exceed 14.8V.

The auxiliary source (vehicle battery) must be fused with 40A fuse to protect the wiring.

The solar panel negative output (0V) is not a common ground and cannot be grounded if connected to the Power Management System.

Grounding the negative output can result in damage to the Power Management System and batteries.



BP35-II MANUAL



ODYSSEY MANUAL



TREK3 MANUAL