

THE POWER OF

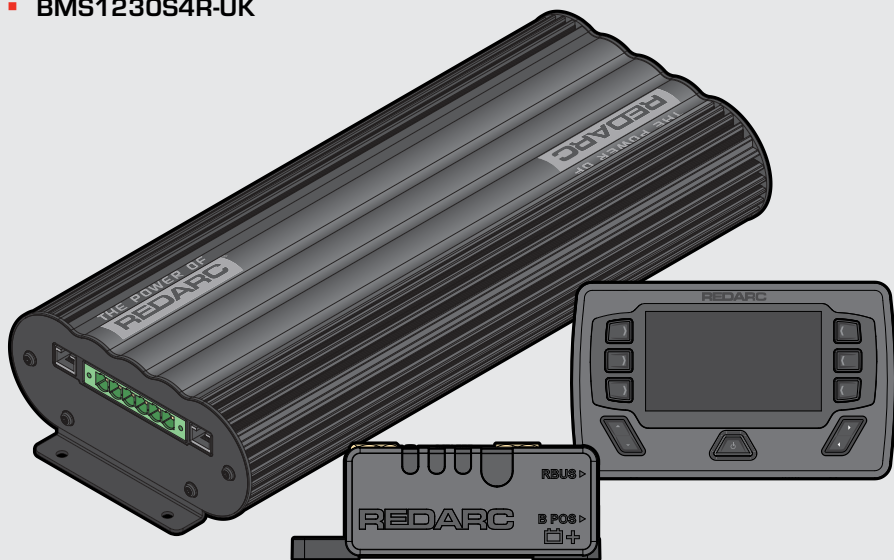
REDARC®

The Manager30

12V 30A Battery Management System
with Smart Battery Monitoring

MODELS:

- BMS1230S4R-AU
- BMS1230S4R-NA
- BMS1230S4R-EU
- BMS1230S4R-UK

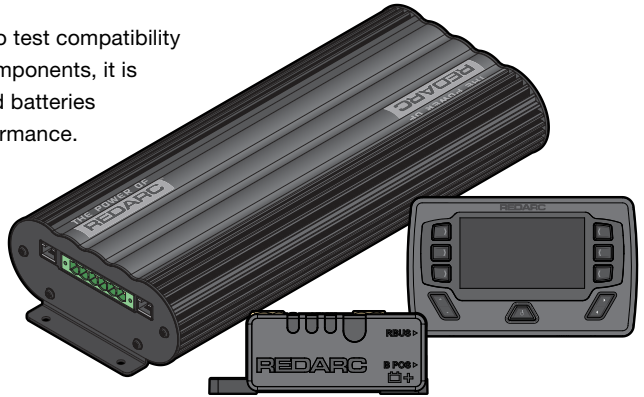


THE MANAGER 30

The Manager30 Battery Management System is designed to achieve the best charge for an auxiliary battery using any combination of AC, alternator and solar inputs. The system allows for centralised monitoring of your setup in 4x4s, caravans, camper trailers, motor-homes, work vehicles, and trucks.

The Manager30 features the RedVision® Display with smartphone monitoring and the Smart Battery Monitor to provide optimal management of your auxiliary battery.

While REDARC makes every effort to test compatibility with commonly available system components, it is recommend using REDARC branded batteries and solar products for optimal performance.



**GET THE FREE
CONFIGURATOR APP**



Configure the settings of your Manager30 using your smartphone via Bluetooth®.



**GET THE FREE
REDVISION® APP**



Monitor your RedVision® System using your smartphone via Bluetooth®.

The Configurator App and the RedVision® App and their interactions with the Manager30 have not been tested on all smartphone models. Visit the application pages within each App store to view compatibility details.

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IMPORTANT SAFETY INSTRUCTIONS

INSTRUCTIONS PERTAINING TO RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

SAVE THESE INSTRUCTIONS

This manual contains important safety instructions for the Manager30 that should be followed during installation, operation and maintenance of the Unit.

Do not operate the system unless you have read and understood this manual. REDARC recommends that the Manager30 referenced in this manual be installed by a suitably qualified person.

Disclaimer: REDARC accepts no liability for any injury, loss or property damage which may occur from the improper or unsafe installation or use of its products.

SAFETY MESSAGE CONVENTIONS

Safety messages in this manual contain a signal word that indicates the level of the hazard, as follows:

⚠ WARNING: Indicates a potentially hazardous situation which could result in death or serious injury to the operator or to bystanders.

⚠ CAUTION: Indicates a potentially hazardous situation which may result in moderate or minor injury to the operator or to bystanders.

NOTICE: Indicates a situation that may cause equipment damage.

IMPORTANT SAFETY INSTRUCTIONS:

⚠ WARNING

RISK OF EXPLOSIVE GASES: Working in vicinity of a lead-acid battery is dangerous. Lead-acid batteries generate explosive gases during normal operation. For this reason, it is of utmost importance that you follow the instructions when installing and using the Battery Charger.

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

⚠ CAUTION

THIS APPLIANCE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN UNDER 8 YEARS OLD) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING THE USE OF THE APPLIANCE IN A SAFE WAY BY A PERSON RESPONSIBLE FOR THEIR SAFETY AND THEY UNDERSTAND THE HAZARDS INVOLVED.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE. CLEANING AND USER MAINTENANCE SHALL NOT BE MADE BY CHILDREN WITHOUT SUPERVISION.

1. DO NOT install the Manager30 in the engine bay, this Product is not designed to operate in engine bay environments.
2. Do NOT alter or disassemble the Battery Charger under any circumstances. All services or repairs must be returned to REDARC for repair. Incorrect handling or reassembly may result in a risk of electrical shock or fire and may void the unit warranty.
3. Use of an attachment not recommended or sold by REDARC may result in a risk of fire, electric shock, or injury to persons.
4. **GROUNDING AND AC POWER CORD CONNECTION INSTRUCTIONS** — The Charger shall be grounded to reduce the risk of electric shock. The Charger is equipped with an electric cord having an equipmentgrounding conductor and a grounded plug. The plug is to be plugged into an AC mains outlet that is properly installed and grounded in accordance with all local codes and ordinances.
5. **DANGER** — Do not alter AC cord or plug provided — where it does not fit outlet, have proper outlet installed by a qualified electrician. Improper connection increases the risk of an electric shock.
6. Cable and fuse sizes are specified by various codes and standards which depend on the type of vehicle the Manager30 is installed into. Selecting the wrong cable or fuse size could result in harm to the installer or user and/or damage to the Manager30 or other equipment installed in the system. The installer is responsible for ensuring that the correct cable and fuse sizes are used when installing the Manager. The fuse should be UL Listed / UL Recognized.
7. Make sure the settings at the Battery Setup menu on the Display are correct for the type of auxiliary battery under charge. Charging a battery with the wrong profile may cause the Manager30 to indicate a fault or give misleading results and cause injury to persons, damage to the Manager, the battery and/or property. Noticeable oscillations between Boost and Absorption stages are a possible indication of the wrong choice of battery type. Check and adjust battery type. If you are unsure of the battery type or settings to use, set to the Gel setting.
8. Only use the Manager30 for charging Standard Automotive Lead Acid, Lead Crystal, Calcium Content, Gel, Absorbent Glass Mat (AGM), Sealed Lead Acid (SLA), Deep Cycle or Lithium Iron Phosphate type 12V batteries with battery pack size of 40 – 800Ah.
9. DO NOT attempt to charge non-rechargeable batteries with the Manager.
10. The auxiliary battery must be placed in a well-ventilated area when charging vented batteries.
11. Be extra cautious so as to reduce the risk of dropping a metal tool onto a battery. Doing so might cause the battery to spark or short-circuit the battery or other electrical parts that may cause an explosion.
12. When using the Battery Charger to charge a Lithium Iron Phosphate (LiFePO₄) battery, only use batteries that feature an inbuilt battery management system which includes cell balancing, under and over voltage protection.
13. If an undersized Battery Negative cable is used, frequent device over temperature faults may occur.

14. Wiring must be installed in protected areas away from heat sources and sharp objects. Cables must not be routed over or through moving parts of the vehicle. Additional protection such as conduit may be required, especially if routing cables through the engine bay.

A SPARK NEAR THE BATTERY MAY CAUSE THE BATTERY TO EXPLODE. TO REDUCE THE RISK OF A SPARK NEAR A BATTERY WHEN CONNECTING THE BATTERY INSTALLED IN A VEHICLE TO THE BATTERY CHARGER, ALWAYS DO THE FOLLOWING:

- Always wire the Output Connector before connecting it to the Battery Charger. During connection of the Unit, the Battery Output (positive) must be connected first, followed by Ground (chassis) terminal. The chassis connection should be made away from the battery and fuel lines. DC Input (positive) should be connected last. Once all connections are wired to the Output Connector, plug the Connector into the Main Unit.
 - When disconnecting the Battery Charger, remove AC Connector first, followed by the R-Bus (CAN) connection then the Output Connector from the Main Unit.
15. Do not use solvents, alcohol or domestic cleaning products to clean the Main Unit, Battery Monitor and Display.
16. Do not allow the devices to come into contact with corrosives.
17. Do not pressure wash the Main Unit, Battery Monitor and Display.

PERSONAL SAFETY PRECAUTIONS: To assist with the safe operation and use of the Manager30:

- a. Consider having someone close by to come to your aid when you are installing the Manager30.
- b. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
- c. Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.
- d. If battery acid contacts your skin or clothing, remove the affected clothing and wash the affected area of your skin immediately with soap and water. If battery acid enters your eye, immediately flood the eye with running cold water for at least 10 minutes and seek medical assistance immediately.
- e. To improve user safety, it is recommended to control the Manager30 and monitor the charging process using the Display away from the vicinity of the battery being charged.
- f. **HOT SURFACE:** High amperage loads connected to the Battery Monitor can cause the terminal/metal components to become extremely hot. To avoid burns, do not touch the hot parts without suitable personal protective equipment.



NOTE:

- If a valid source is available, the BMS will charge the auxiliary battery automatically.
- If the Manager30 is set to Storage Mode, it will automatically switch to Touring Mode once it senses an increase in input voltage from the start battery input.
- The "Auto" trigger setting automatically detects if the start battery is 12 V or 24 V and operates within the 12 / 24 V parameters.
- The Load Disconnect feature automatically disconnects non-essential loads when the battery starts to get flat.

NOTICE

1. The Manager30 is intended to recharge batteries. The battery that is connected to this product is only suitable if it complies with the given battery standard for that battery type and is provided with a battery management system that will monitor and control the electrical and thermal health of the battery during charging. When installing this converter/inverter, the battery is to be verified as in compliance with the applicable battery standard.
2. For correct operation, the start battery input to the Main Unit must be connected to the vehicle start battery and not directly to either an alternator or generator output.
3. DO NOT connect computers or IT equipment to the R-Bus (CAN) inputs on the Manager. Damage may occur.
4. It is recommended to leave the Display and Battery Monitor connected to the Main Unit at all times.
5. The Main Unit, Battery Monitor and Display must be mounted using suitable screw mounts. Failure to adequately mount the devices, such as using adhesives will result in unreliable operation of the Manager30.
6. When using the Manager30 in Storage Mode, it is recommended to have a valid charging source to maintain the battery at a healthy state of charge. If no charging source is present during extended storage periods it could lead to the battery being overly discharged and potentially cause damage to the battery or any loads connected.
7. A partially shaded solar panel (or a solar panel experiencing low-light conditions such as at dawn or dusk) may appear as an active source with minimal current being delivered from the solar panel. This is a normal situation, as a shaded solar panel will deliver a normal voltage with a very small amount of current. The battery may still be charged from other active sources.
8. Modification of the 'Advanced Settings' menu items affect the way the Manager30 responds to charging situations. Modification of these settings may result in the Manager30 not functioning at 100% of its capacity. These settings should only be modified if absolutely necessary and when the effects of the changes are fully understood.
9. It is the installer's responsibility to ensure their installation complies with any applicable legal and regulatory requirements. Within Australia and New Zealand, installers may wish to consult AS/NZS 3001 as one potentially relevant standard.
10. Keep the Manager30 away from major heat sources, high voltages, and avoid exposure to direct sunlight for long periods of time.
11. Do not fit the Battery Sense Lead between the auxiliary battery and lugs carrying high currents.
12. Do not bottom-out the thread when fastening Terminal Bolts on the Battery Monitor into the terminal, this may cause a poor electrical connection.

DISPOSAL:

- Proper disposal of batteries is required. Refer to your local codes for disposal of batteries.

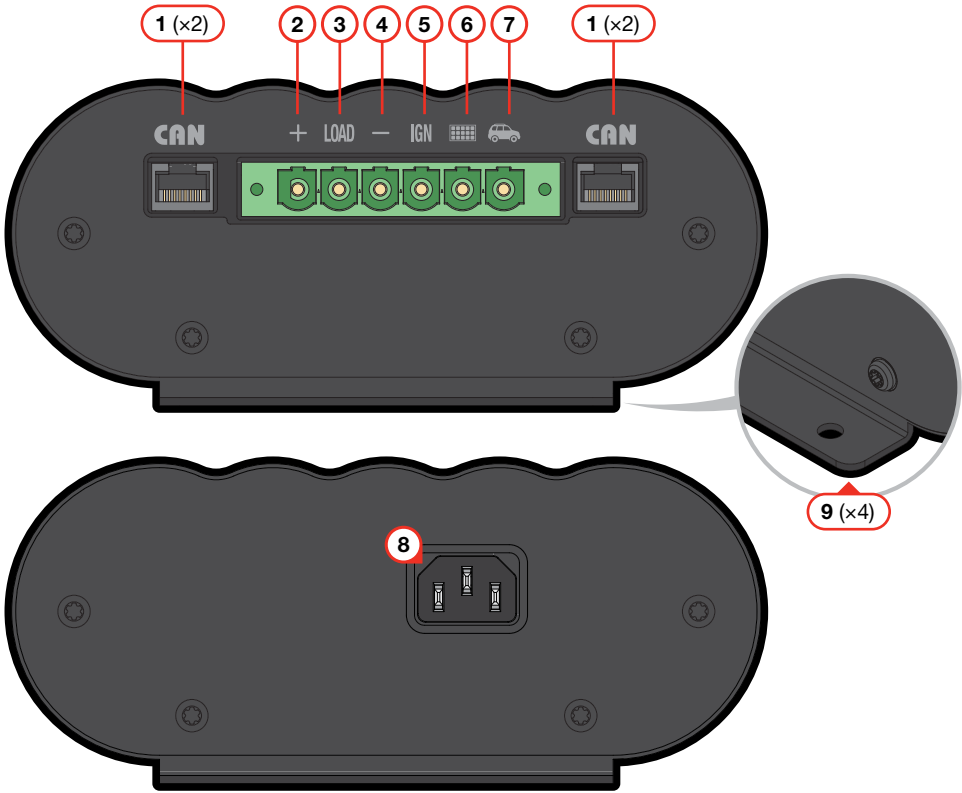
MANAGER 30 OVERVIEW

KIT CONTENTS



Ref.	Part Description	Qty.
1	Main Unit	1
2	Battery Monitor	1
3	Display	1
4	DC Connector	1
5	M10 × 20mm Alternative Terminal Bolt	1
6	R-Bus Terminating Resistor	1
7	R-Bus Cable, 2 m (6'7")	2
8	Battery Sense Lead, 1 m (3'3")	1
9	Mains Cable	1

PARTS OF THE MAIN UNIT



1. R-Bus (CAN) Interface Inputs

Connects to the Display and Battery Monitor's R-Bus (CAN) inputs (page 25).

2. Auxiliary Battery

Connects to the auxiliary battery positive (+) terminal (page 17).

3. Load Disconnect (optional)

Can be connected to the SBI12-BLD or a relay to limit discharging of the auxiliary battery through the connected loads (page 18).

4. Common Ground

Connects to common ground (page 18).

5. Vehicle Ignition

Connects to an ignition signal for vehicles with smart alternators (page 20).

6. Solar

Connects to solar panel/s positive (+) wire (page 21).

7. Start Battery

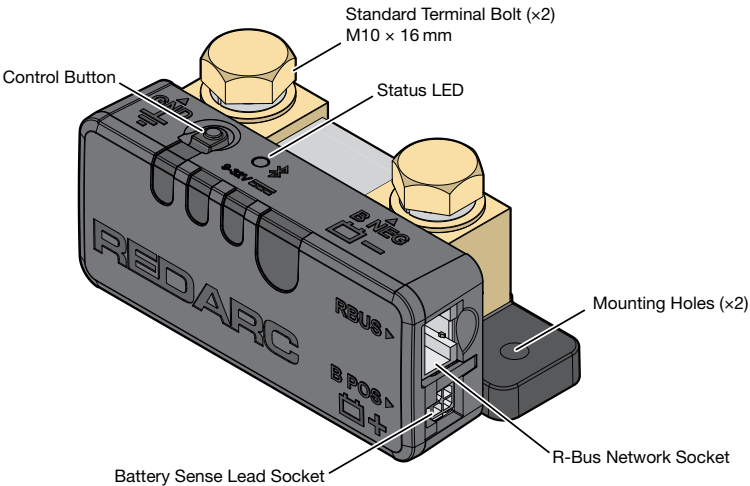
Connects to the start battery positive (+) terminal (page 24).

8. AC Mains Socket

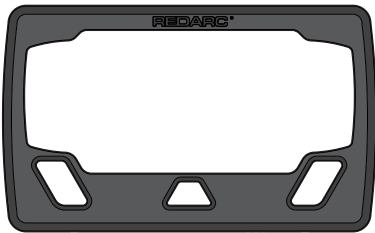
Allows AC Mains charging (page 26).

9. Mounting Points (x4)

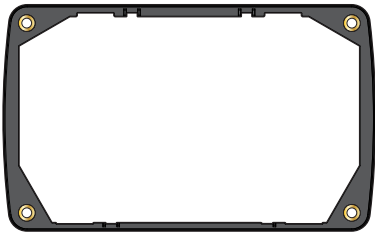
PARTS OF THE BATTERY MONITOR



PARTS OF THE DISPLAY



Bezel

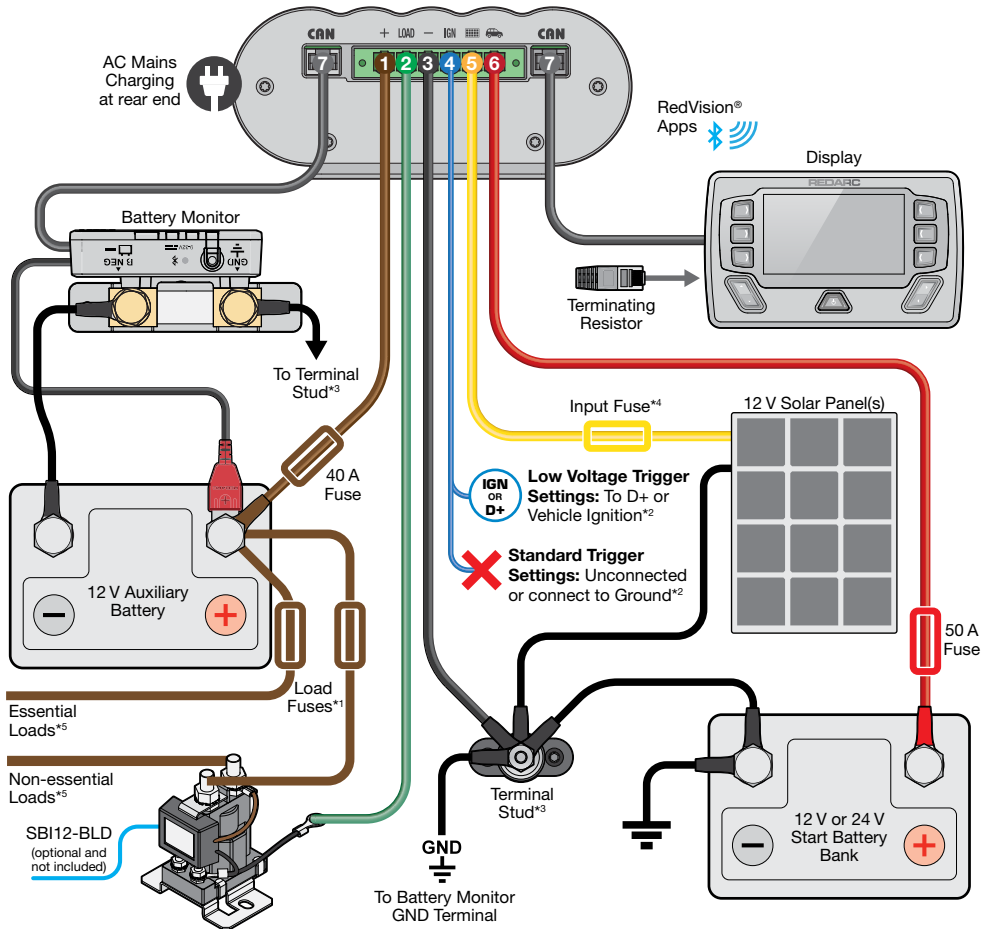


Spacer

The screen shown on the Display is an example only. The layout and appearance of the screen may vary depending on the Display software version and the devices on your system.

TYPICAL MANAGER30 SETUP

NOTICE: For correct operation, the Manager30 must be connected to the vehicle start battery and not to the alternator or generator output. The Battery Monitor must be the only connection made to the auxiliary battery negative (-) terminal and all loads must connect to the common ground. Ensure the common ground bus bar (if used) is also connected to the vehicle ground (or chassis) using a cable rated to take the highest current.



This wiring diagram shows a common/typical system configuration. If unsure, contact REDARC Technical Support for advice on your individual system requirements.

*¹ These fuses must be suitably rated for the cable gauge used. REDARC recommends the use of MIDI type fuses see [page 11](#).

*² If used, connect the **Vehicle Ignition** to D+ or ignition switched fuse in one of the vehicle's fuse boxes, located in either the engine compartment or vehicle cabin, see [page 20](#).

*³ All components in your setup must share a common electrical ground point for correct system operation. This can be achieved by connecting all grounds to a terminal stud.

*⁴ To determine if a input fuse is required for **Solar** refer to [page 21](#).

*⁵ The Manager30 features the load disconnect function which automatically disconnects non-essential loads when the battery reaches a predetermined value, such as a Voltage or State of Charge (SoC). This prevents excessive discharge of the auxiliary battery, ensuring that essential loads, like a refrigerator, can continue running for a longer period while managing available input power.

SYSTEM PLANNING

⚠ CAUTION:

- Cable sizes are specified by various codes and standards which depend on the type of vehicle the battery is installed in. Selecting the wrong cable size could result in harm to the installer or user and/or damage the Manager30 or other equipment installed in the system. If undersized cables are used, charging performance will be compromised and damage (including fire) may be caused by overheating cables.
- Wiring must be installed in protected areas away from heat sources and sharp objects. Cables must not be routed over or through moving parts of the vehicle. Additional protection such as conduit may be required, especially if routing cables through the engine bay and exposed areas.

CONSIDERATIONS PRIOR TO INSTALLATION

COMMON GROUND REQUIREMENTS

The Main Unit, Battery Monitor and all other components in your setup must share a common electrical ground point for correct system operation. This can be achieved by connecting all grounds to a terminal stud or by a good quality connection to the vehicle chassis (if appropriate).

USING A TERMINAL STUD OR BUSBAR

Consider the location of the stud or busbar, ensuring it's mounted in a central location to avoid excessive cable lengths. The common ground stud or busbar must be capable of carrying all current loads — see [page 11](#) and [page 12](#) for further information.

USING VEHICLE CHASSIS

Good quality electrical connections to a chassis can only be achieved if the connection is free of paint, protected against corrosion, and has a suitable fastener. The common ground must have a robust electrical connection to the battery earthing point.

MAIN UNIT REQUIREMENTS

COMMON GROUND CABLE

The **Common Ground** cable should be no longer than 2 m (6'7") and must be sized to conduct the full rated capacity of the Manager30 (30A).

AUXILIARY BATTERY CABLE

- The **Auxiliary Battery** cable must be no longer than 2 m (6'7") in length and must be sized to conduct the full rated capacity of the Manager30 (30 A).
- The **Auxiliary Battery** cable must be fitted with 40 A fuse protect cabling.

START BATTERY CABLE

- The **Start Battery** cable must be sized to conduct the maximum vehicle input current (40A).
- The **Start Battery** cable must be fitted with 50 A fuse protect cabling.

SOLAR CABLE

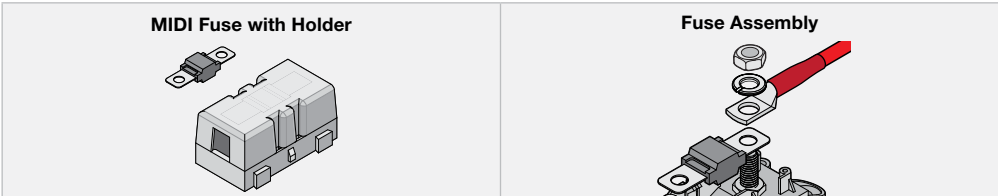
The **Solar** cable must be sized to conduct the short circuit current of your solar panel/s, regardless if it is below or greater than the Manager's maximum solar input current (40A). For information on connecting multiple solar panels in your installation, refer to '[Connecting Multiple Solar Panels](#)' (page 22).

CABLE AND FUSE SIZING TABLE

Maximum Current	MIDI Fuse Rating (REDARC Fuse Kit)	One-way Length		Cross Sectional Area mm²	Cable Gauge (AWG/B&S)
30 A	40 A (FK40)	0 – 2 m	0 – 6'7"	6	8
		2 – 5 m	6'7" – 16'5"	7.7	8
		5 – 12 m	16'5" – 39'4"	13.5	6
40 A	50 A (FK50)	0 – 5 m	0 – 16'5"	13.5	6
		5 – 12 m	16'5" – 39'4"	20.2	4

FUSE SELECTION

Fuses must be mounted within 150 mm (6") of the battery's positive (+) terminal — the REDARC **KIT19** battery-to-fuse cable is recommended for the **Auxiliary** and **Start Battery** cable connections.



BATTERY MONITOR REQUIREMENTS

CABLE REQUIREMENTS

⚠ CAUTION: If undersized cables are used, overheating of cables could cause damage (including fire) and charging performance will likely be compromised.

Appropriate cables are required for the **Battery Negative** (B NEG ) and **Ground** (GND ) terminals on the Battery Monitor. These cables are used to connect the Battery Monitor to the auxiliary battery and to the common ground.

The **Battery Negative** (B NEG ) cable should be no longer than 1 m (3'3") to minimise the voltage drop between the Battery Monitor and auxiliary battery. Refer to the table below to determine a suitable cable gauge for this connection based on the current in your system.

NOTE: Your auxiliary battery's negative connection is made via the **Battery Negative** (B NEG ) terminal on the Battery Monitor.

IMPORTANT: The following table should be used as a reference only, considerations when selecting an appropriate cable for your installation include:

- Cable length
- Peak current draw
- Time spent at high current
- Environment ambient temperature

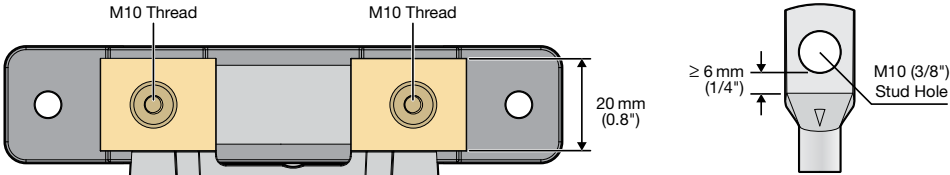
System Current	100 A	200 A	300 A	400 A	500 A
Maximum Cable Length	1 m (3'3")				
Recommended Cable Cross Section	35 mm ²	70 mm ²	95 mm ²	120 mm ²	150 mm ²
Closest Equivalent AWG/BAE/B&S	2	3/0	4/0	250 kcmil	300 kcmil

LUG REQUIREMENTS

The **Battery Negative** (B NEG ) and **Ground** (GND ) terminals on the Battery Monitor have M10 screw threads. Select lugs for a 10 mm (3/8") stud and a cable barrel that suits the required cable gauge.

The **Ground** (GND ) terminal is capable of connecting multiple loads, for important lug requirements and instructions see [page 19](#).

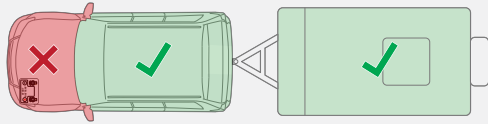
NOTE: If installing the lugs to the Battery Monitor terminals facing downwards, select a lug with a tongue that is long enough to cover the shunt surface. This is to ensure that there is no interference between the ramped section of the lug and the shunt. See [page 28](#) for more information.



INSTALLATION — MOUNTING

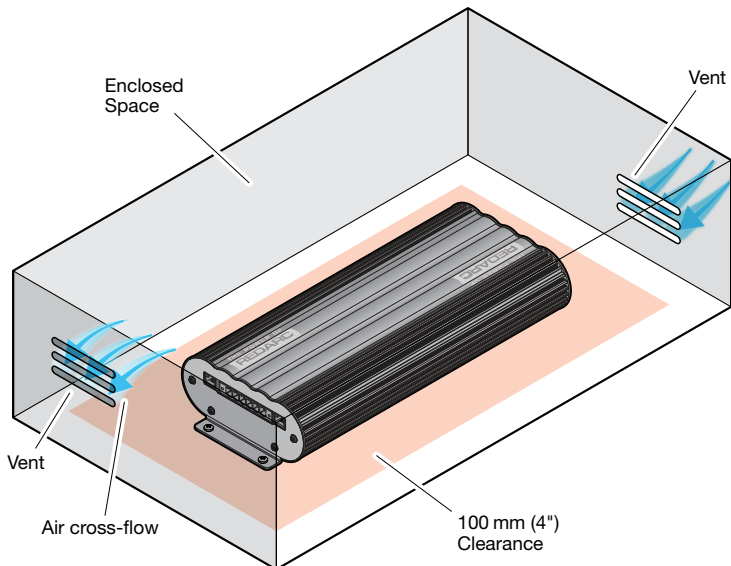
GENERAL MOUNTING REQUIREMENTS

NOTICE: DO NOT install the Main Unit, Battery Monitor or Display in the engine bay. These parts are not rated to engine bay environment conditions.



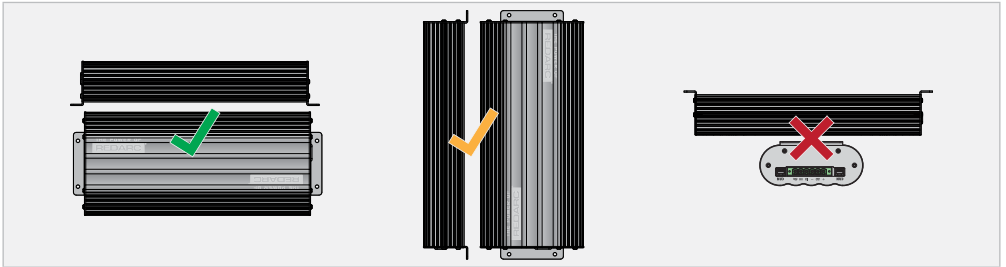
The Main Unit, Battery Monitor and Display are only rated for indoor installations in any liveable areas of the vehicle or caravan/camper trailers.

- **DISTANCE** — Avoid using excessive cable lengths by first testing that all cables will comfortably reach each component correctly in your setup.
- **PROTECTED** — Mount in a location that is dry, clean and is not prone to high humidity. Liquid or condensation entering into the Main Unit, Battery Monitor and Display may cause irreparable damage.
- **FIXED** — Mount the system to fixed surfaces that have adequate strength to support it when all connections and wiring are in-place. **DO NOT** mount on any moveable parts.
- **FLAT** — The mounting surface must be flat and safe to drill through — check reverse side before drilling.
- **FASTENER TYPE** — Ensure the selected fasteners are suitable for the mounting surface. **DO NOT** mount using adhesives, adhesive tape or cable ties.
- **AIRFLOW** — If installing the Main Unit, Battery Monitor and Display in an enclosed space, two vents should ideally be positioned at opposite ends of the enclosure for cross-flow of air as demonstrated below.



MOUNTING THE MAIN UNIT

- Leave at least 100 mm (4") of clearance on all sides and above the Main Unit.
- The Main Unit should be mounted horizontally or vertically. DO NOT mount the Main Unit upside down.



MOUNTING HARDWARE

When mounting the Main Unit, all four Mounting Points must be used. REDARC recommends using four M6 (7/32") bolts/screws with washers.

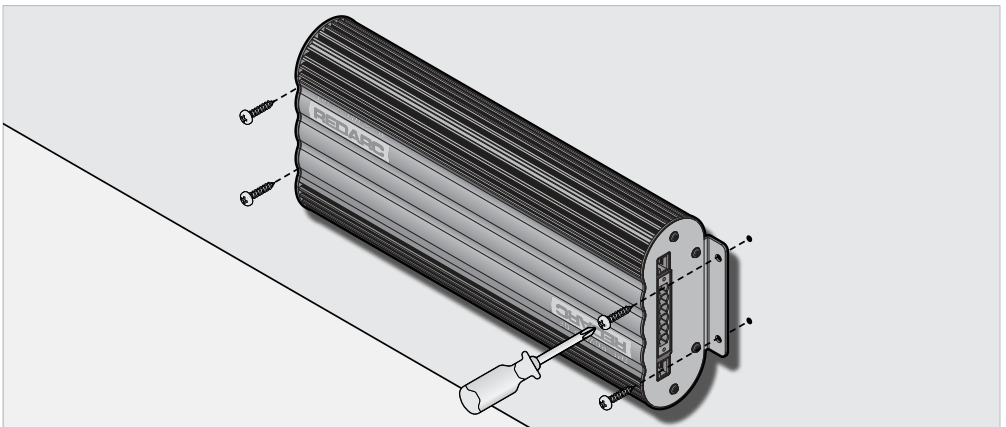
Ensure there is clearance-fit through the mounting surface and the Mounting Points on the Main Unit.

MOUNTING STEPS

⚠ WARNING: Use suitable Personal Protective Equipment (PPE) when operating power tools.



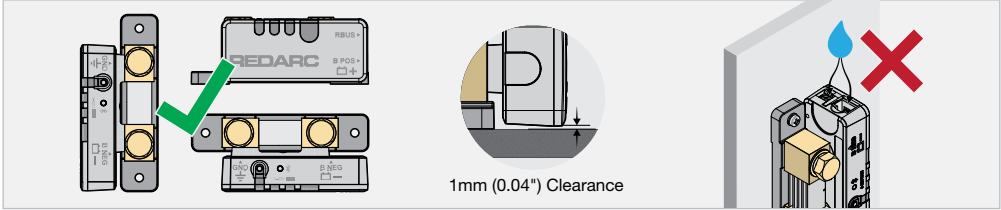
1. Confirm clearances around the Main Unit are adequate.
2. If clearance/pilot holes need to be drilled, place the Main Unit in its final position and mark the centre of each Mounting Point.
3. Remove the Main Unit and drill the holes. Deburr the drilled holes and remove any swarf. Touch up any bare metal surfaces that have been exposed with a rust inhibitor.
4. Fasten the Main Unit in place with appropriate fasteners, applying a washer in between the fastener and the Mounting Point. The Main Unit should be held firmly against the mounting surface.



MOUNTING THE BATTERY MONITOR

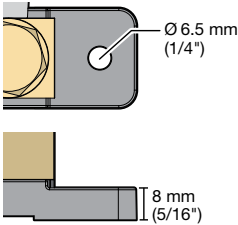
⚠ HOT SURFACE: High amperage loads connected to the Battery Monitor can cause the terminal/metal components to become extremely hot. For this reason, the installer is responsible to **leave at least 30 mm (1.2") of clearance on all sides and above the Battery Monitor** to allow for air-flow.

- The Battery Monitor can be mounted in any orientation except with the RBUS and B POS ( +) sockets facing upwards, to prevent condensation/liquids from running into the Battery Monitor.
- Ensure the main housing of the Battery Monitor is clear from any protrusions (1 mm (0.04") clearance).



MOUNTING HARDWARE

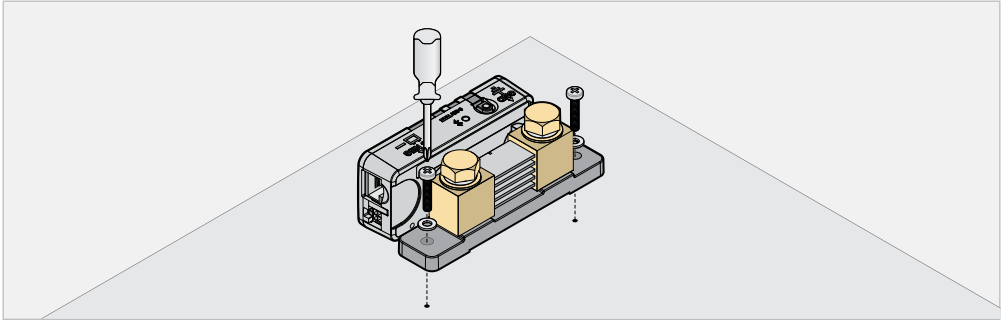
When mounting the Battery Monitor, both Mounting Points must be used. REDARC recommend using two M6 (1/4") to M4 (#8) fasteners with washers. Ensure there is clearance-fit through the mounting surface and the Mounting Points on the Battery Monitor.



MOUNTING STEPS

⚠ WARNING: Use suitable Personal Protective Equipment (PPE) when operating power tools.  

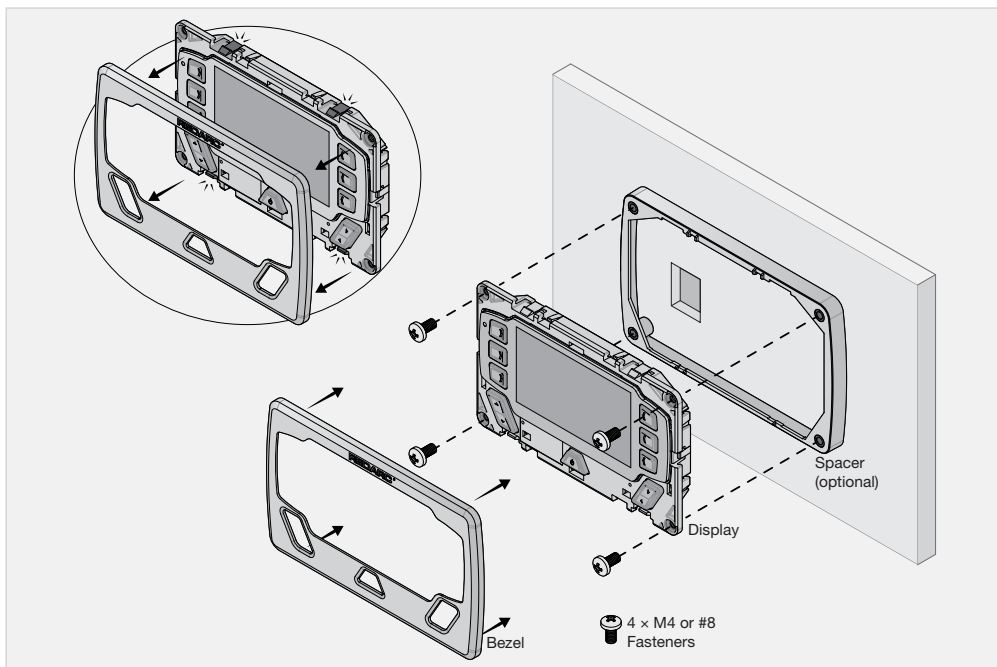
1. Confirm clearances around the Battery Monitor are adequate.
2. If clearance/pilot holes need to be drilled, place the Battery Monitor in its final position and mark the centre of each Mounting Point.
3. Remove the Battery Monitor and drill the holes. Deburr the drilled holes and remove any swarf. Touch up any bare metal surfaces that have been exposed with a rust inhibitor.
4. Fasten the Battery Monitor in place, applying a washer in between the fastener and Mounting Point.



MOUNTING THE DISPLAY

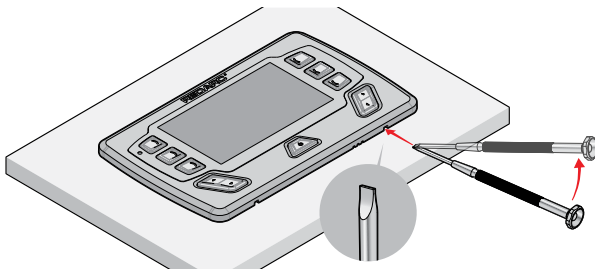
⚠ CAUTION: Ensure that the Display is not mounted in vehicle head-impact zones. Doing so may result in injury to the driver and/or passenger in the event of an accident. Ensure the Display is not mounted where it may distract the driver of the vehicle. Distracting the driver may result in an accident.

- Mount in an orientation and location where the Display is accessible to use and is protected from harsh environments.
- The spacer may be required when the depth of the mounting surface is too shallow to accommodate for the R-Bus Interface cable or the material is difficult to cut.
- To mount the Display, remove the bezel by gently lifting the four tabs located at the back of the Display. Use four suitable M4 (#8) fasteners to mount the Display using all four mounting points, then clip the bezel back to its original location.



REMOVING THE BEZEL

When necessary, the Bezel of the Display can be removed by lifting up the two tabs at the bottom and two at the top of the Display using a suitable flat head tool.



INSTALLATION – WIRING

⚠ WARNING: Do not make any cable and wiring connections when the vehicle ignition is on or the AC Power is connected, as there is a risk of personal injury, damage to the vehicle and auxiliary battery.

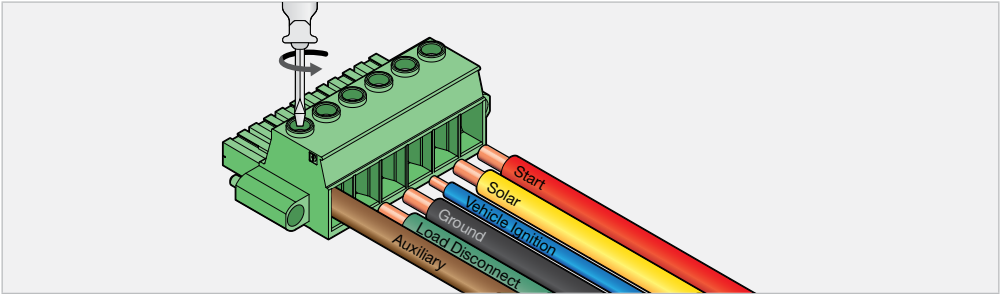
⚠ CAUTION:

- Damage to cabling can cause failure of the Manager30 and vehicle electrical systems. Ensure cabling is clear of sharp edges or moving parts, and have enough slack to allow for flexing. REDARC recommend using cable ties and conduit or split tubing to manage cabling.
- Ensure the correct cable and lug size is used to suit the application. Selecting the wrong cable and lug size could result in harm to the installer or user and/or damage to the auxiliary battery or other equipment installed in the system. The installer is responsible for ensuring that the correct cable sizes are used when installing the Manager.

CONNECTIONS TO DC CONNECTOR

Strip all required cables back 12 – 14 mm (1/2") and insert each cable into its correct terminal slot. Then, secure using a flat head driver. Torque to 1.8 N·m (1.3 lbf·ft).

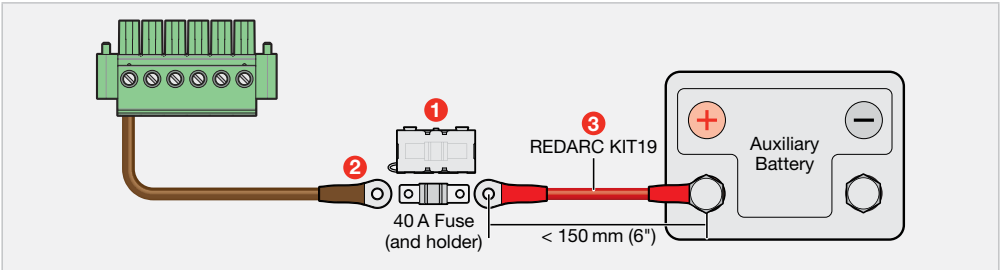
IMPORTANT: All cable connections made to the DC Connector must be installed into the correct terminal. Do not connect other cables to unused terminals.



AUXILIARY BATTERY CABLE CONNECTION

Ensure there are no connections to the negative (–) terminal of your auxiliary battery before making any connections.

1. Mount a MIDI fuse close to the auxiliary battery (no more than 150 mm (6") in cable length).
2. Connect the **Auxiliary Battery** cable from the Main Unit to one end of the fuse, ensuring that the cable length is no more than 2 m (6'7").
3. Connect a cable to the other end of the fuse and to the positive (+) terminal of the auxiliary battery.



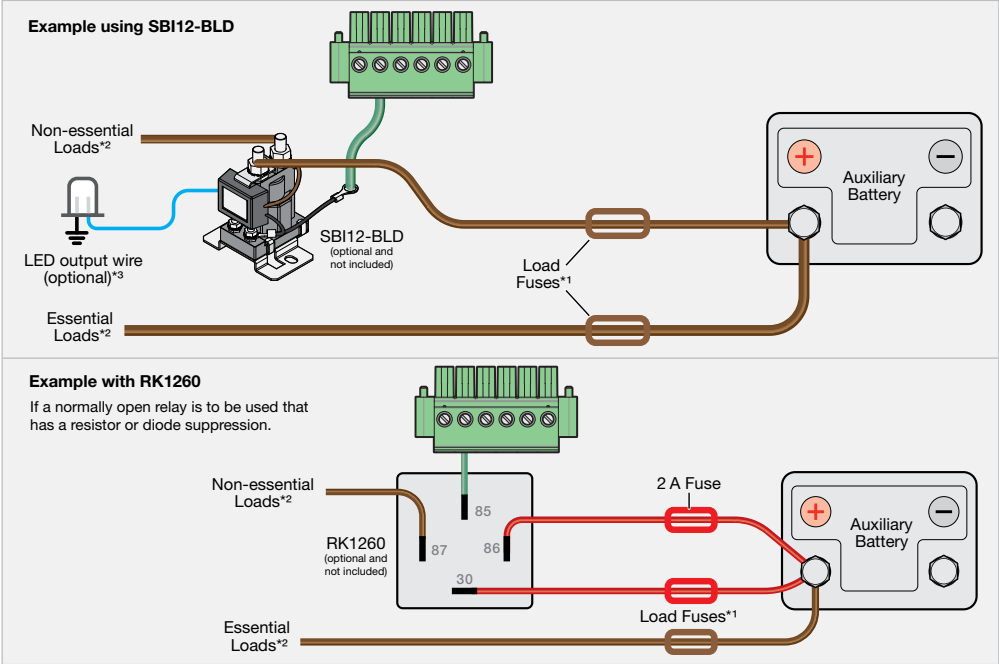
LOAD DISCONNECT (OPTIONAL)

The **Load Disconnect** (optional) controls the power from your auxiliary battery to the non-essential loads. This enables the Manager30 to automatically protect the auxiliary battery from excessive discharge and removes the need for the user to monitor. It is an active low pull down meaning a ground is provided when non essential loads are to be powered and high resistance otherwise

The connected hardware should be 12 V, with a maximum coil current of 1 A, with a resistor or diode suppression. Ensure the relay is rated to the total current of the non-essential loads.

The Load Disconnect feature must be configured via the App or Display in the 'Load Disconnect' screen, see '[Load Disconnect Screen](#)' (page 31).

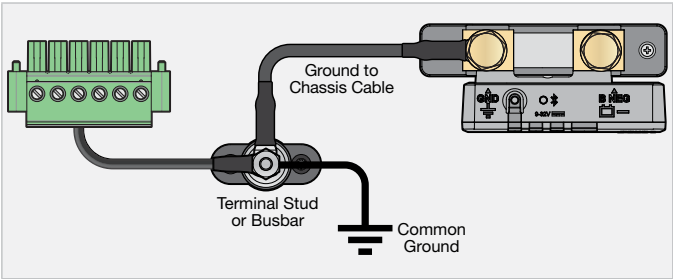
The REDARC SBI12-BLD is recommended for this application.



- *1 The size of these fuses must be selected based on the rated current of the loads connected to the auxiliary battery. The fuse should be rated slightly high than the rated current, REDARC recommend using MIDI type fuses.
- *2 Essential loads are loads that may need to be left on until the battery is flat (i.e. a fridge). Non-essential loads are those switched off when the battery reaches a programmed set point.
- *3 The LED output is optional and is to indicate whether the SBI12-BLD is on/off.

COMMON GROUND CABLE CONNECTION

The **Common Ground** cable must be connected to a ground point that forms a common ground with all components in your system. This can be achieved by connecting all grounds to a terminal stud or by a good quality connection to the vehicle chassis (if appropriate).



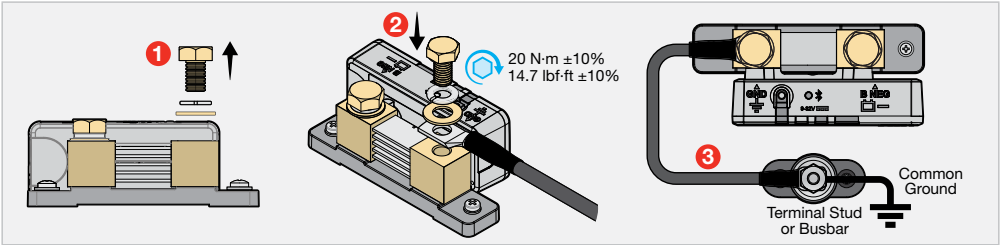
BATTERY MONITOR TERMINAL CONNECTIONS

NOTICE:

- Apply the correct torque to the Terminal Bolts on the Battery Monitor. Over-torquing bolts may damage the terminals.
- DO NOT bottom-out the thread when fastening Terminal Bolts into the terminal, this may cause a poor electrical connection. See [page 28](#) for correct lug fitment.

GROUND (GND) CABLE CONNECTION

1. Remove the M10 Bolt and washers from the **Ground** (GND $\perp$) terminal.
2. Align the lug stud hole with the terminal and fasten using the flat washer, spring washer and bolt. Torque to 20 N·m (14.7 lbf·ft).
3. Connect the **Ground** cable to a point that forms a common ground with all components in your setup. This can be achieved by connecting all grounds to a terminal stud or by a good quality connection to the vehicle chassis (if appropriate).



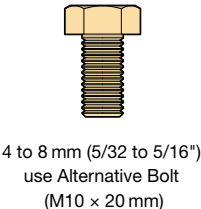
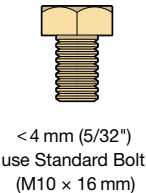
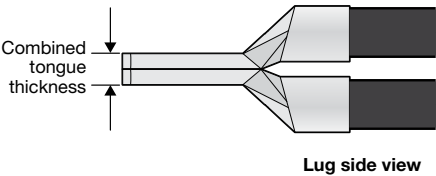
Connecting Multiple Loads

⚠ CAUTION: Do not use the Battery Monitor outside the recommendations below. Exceeding the recommendations could damage the Battery Monitor and/or other equipment installed in the system. The installer is responsible for ensuring the correct bolt size and Ground cable size is used.

The Battery Monitor is capable of connecting multiple circuits to the **Ground** (GND $\perp$) terminal. Depending on your system setup, you may need to use the supplied Alternative Terminal Bolt (M10 × 20mm). Refer to the table below to determine if this bolt is required. The lugs belonging to circuits with the highest currents should be closest to the Battery Monitor terminal.

Bolt Size (supplied)	Combined Thickness of Lug Tongues	
	Minimum	Maximum
Standard M10 × 16mm	–	4 mm (5/32")
Alternative M10 × 20mm	4 mm (5/32")	8 mm (5/16")

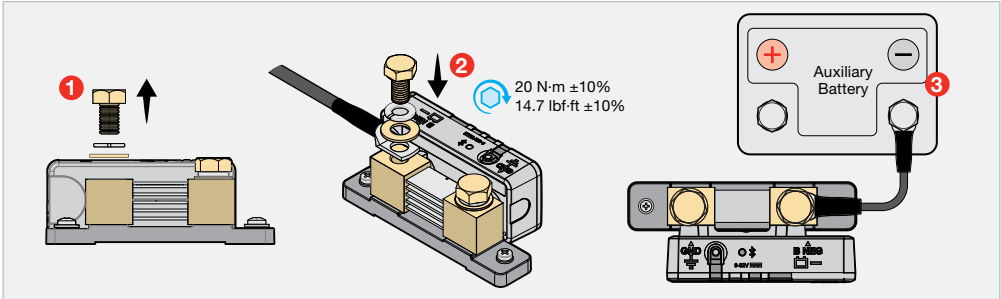
Lug thickness for Ground (GND $\perp$) Terminal



BATTERY NEGATIVE (B NEG) CABLE CONNECTION

- 1. Remove the M10 Bolt and washers from the **Battery Negative** (B NEG ) terminal.
- 2. Align the lug stud hole with the terminal and fasten using the flat washer, spring washer and bolt.
Torque to 20 N·m (14.7 lbf·ft).
- 3. Connect the **Battery Negative** cable to the auxiliary battery negative (–) terminal using appropriate fasteners.

NOTE: The Battery Negative cable should not exceed 1 m (3'3") to minimise voltage drop between the Battery Monitor and auxiliary battery.

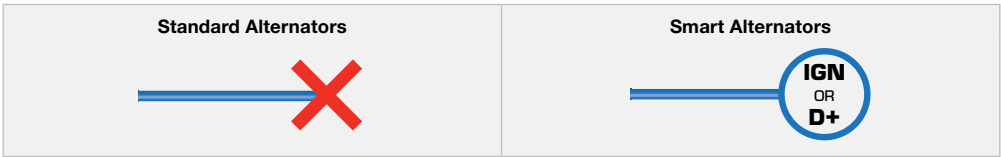


VEHICLE IGNITION CABLE CONNECTION

The **Vehicle Ignition** cable is used to enable charging from the start battery input with the ignition. This feature allows vehicles with variable-voltage alternators to trigger the DC Input (start battery). The correct DC Input Setting must be selected for your system via the Display in the '**BMS Settings**' ([page 31](#)).

Depending on your vehicle's alternator type, connect the **Vehicle Ignition** cable:

- **Fixed-voltage alternator (standard alternator)** — Do not connect.
- **Variable-voltage alternator (smart alternator)** — Connect to a point that is live only when the ignition is turned on.
- **Idle-stop vehicles (smart alternator)** — Connect to D+ or engine-running signal.



SOLAR PANEL/S CABLE CONNECTION

⚠ CAUTION: During the installation process, ensure that the panels are covered with an opaque material to prevent their terminals from becoming live whilst they are being connected.

IMPORTANT: DO NOT connect solar panels that have inbuilt regulators or use a supplementary external regulator. The Manager30 has an inbuilt regulator that may not function correctly if regulated solar panels are connected.

Refer to the installation examples in this section for different ways you can connect solar panels. It's important to meet the different requirements for each type of setup.

- 'Connecting a Single Solar Panel' (page 22)
- 'Connecting 1 to 2 Solar Panels in Parallel' (page 22)
- 'Connecting more than 2 Solar Panels in Parallel' (page 23)

GREEN POWER PRIORITY

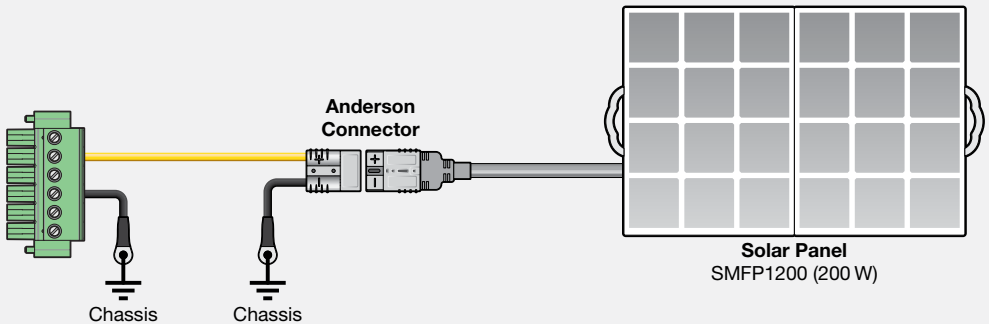
The Manager30 is designed to charge from multiple sources simultaneously to charge the auxiliary battery. If the Solar input is available the maximum available solar power will be used before topping up the output charging current from another source if available.

Charging source priority is given in the following order:

1. Solar
2. AC Mains Power
3. DC Vehicle Power (via the vehicle's alternator)

CONNECTING A SINGLE SOLAR PANEL

Basic Single Panel Example



CONNECTING MULTIPLE SOLAR PANELS

The Manager30 can draw power from multiple solar panels in large solar arrays, which can be configured in parallel connections. For correct operation and best performance of the system, choose the solar panel specification and configuration to ensure that:

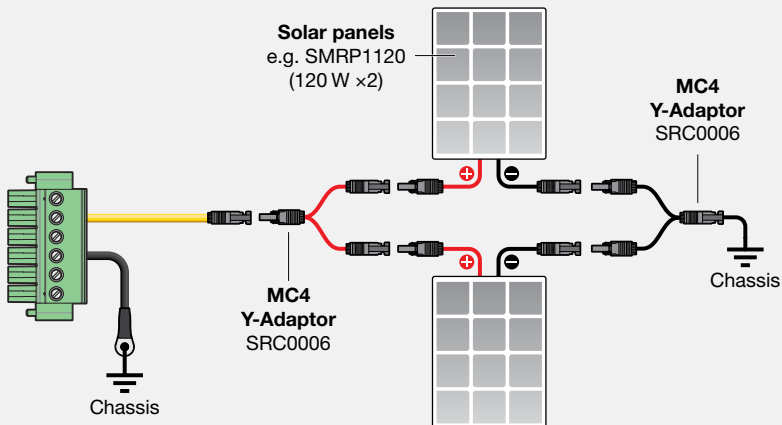
- The open circuit voltage of the array is below the maximum solar input voltage rating (32 V) of the Manager30 at minimum ambient temperature.
- The total rated power is below the maximum array size rating (600 W) of the Manager30.
- All solar panels are the same.
- All solar panels are pointing in the same direction.

Connecting 1 to 2 Solar Panels in Parallel

When connecting 1 or 2 solar panels in parallel, it is important the solar connection meets the following requirements:

- The solar panel ground is connected to a common ground point (i.e. vehicle chassis).
- The Solar cable gauge is capable of carrying the combined short circuit capacity of the panel(s).

2 Solar Panels in Parallel Example

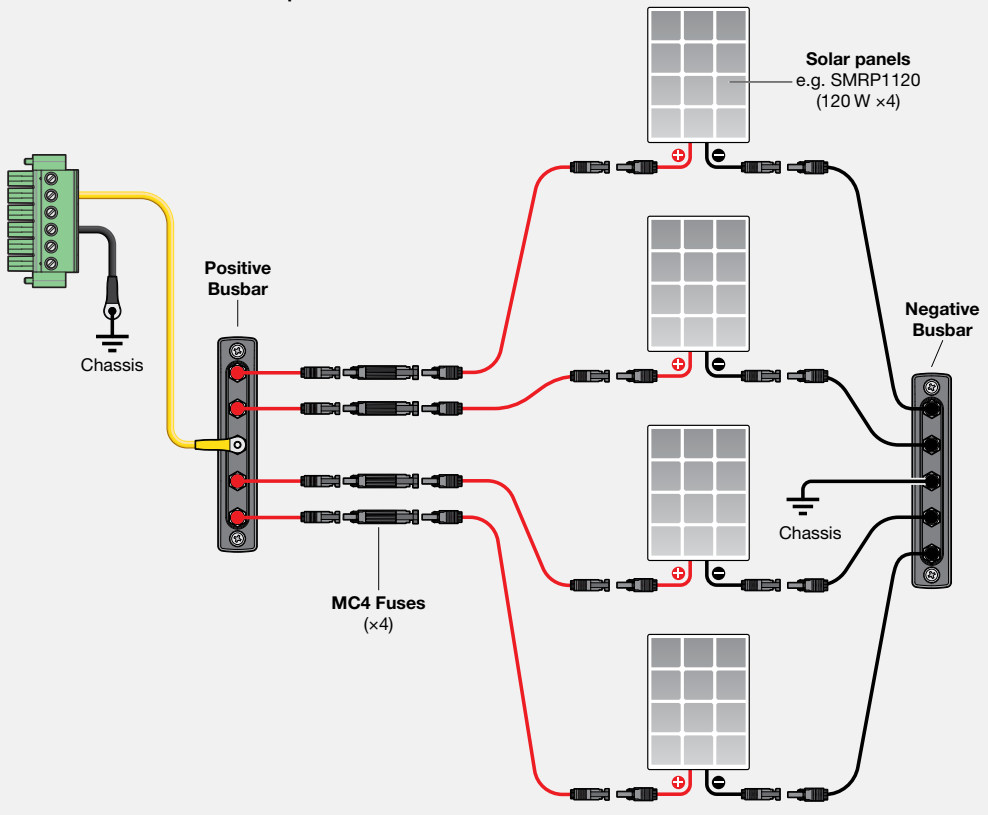


Connecting more than 2 Solar Panels in Parallel

When connecting more than 2 solar panels in parallel, it is important the solar connection meets requirements on [page 22](#) and the following:

- The solar panel ground is connected to a common ground point (i.e. common ground busbar connected to vehicle chassis).
- Solar combiners, a positive busbar or fuse box is used to connect all panels in an array.
- Fuses are installed to protect against overcurrent faults and are appropriately sized for the panel's maximum short circuit current capacity. Each fuse rating must be no more than $1.5 \times$ the short circuit current capacity of the panel it is protecting.
- The solar cable gauge to the Main Unit is capable of carrying the combined short circuit capacity of the solar panel array, regardless of the maximum solar current rating of the Main Unit.
- Busbars and fuse holders must be suitable for the environmental conditions of their mounting locations.

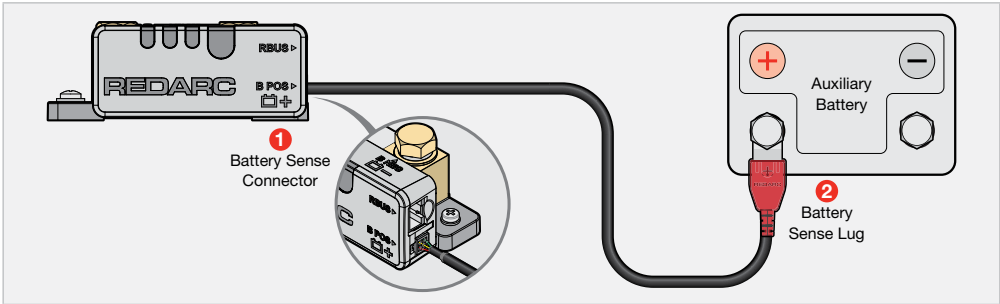
4 Solar Panels in Parallel Example



BATTERY SENSE LEAD CONNECTION

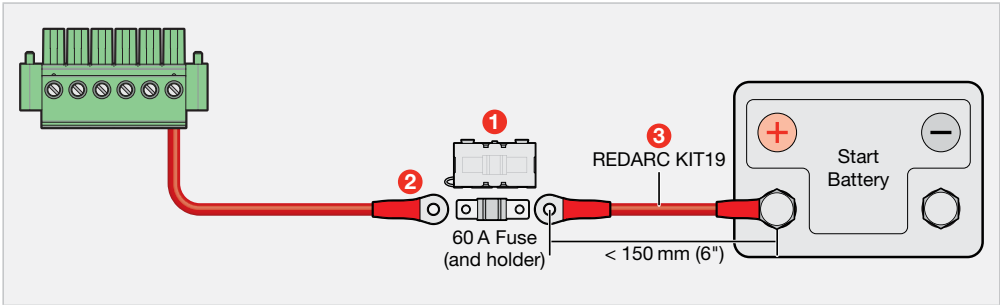
NOTICE: Do not fit the Battery Sense Lead between the auxiliary battery and lugs carrying high currents. Connect the lugs carrying high-currents to the auxiliary battery first, then add the Battery Sense Lug on top (last).

- 1. Insert the Battery Sense Connector to the **B POS** (⚡ +) socket on the Battery Monitor.
- 2. Connect the Battery Sense Lug to the auxiliary battery positive (+) terminal using appropriate fasteners to secure.



START BATTERY CABLE CONNECTION

- 1. Mount a MIDI fuse close to the start battery (no more than 150 mm (6") in cable length).
- 2. Connect the **Start Battery** cable from the Main Unit to one end of the fuse.
- 3. Connect a suitably sized cable to the other end of the fuse then to the positive (+) terminal of the start battery.

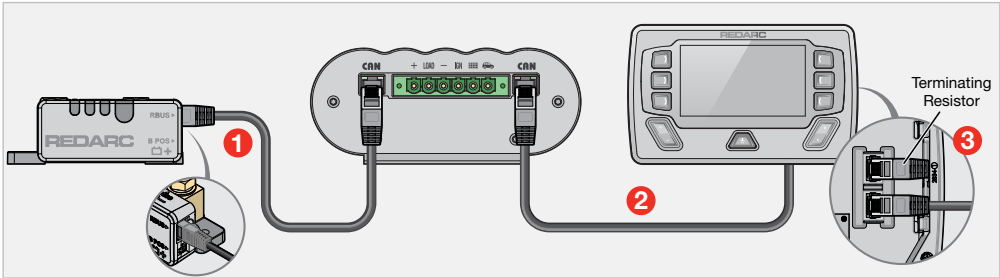


R-BUS CABLE CONNECTIONS

NOTICE: Do not connect computers or IT equipment to R-Bus (CAN) sockets. This may damage internal components in the Battery Monitor and Display.

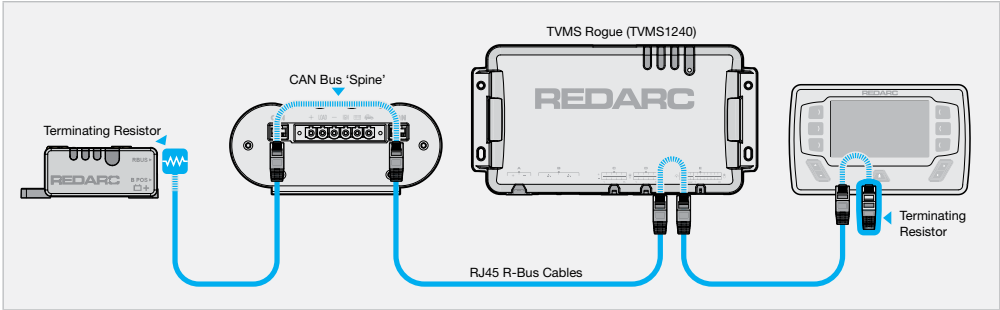
1. Using one of the supplied R-Bus cables, connect one end of the cable to the RBUS socket on the Battery Monitor. Then, connect the other end of the cable to either of the R-Bus (CAN) sockets on the Main Unit.
2. Connect one end of the other supplied R-Bus cable into the RBUS socket located at the back of the Display. Then, connect the other end of the cable to either of the R-Bus (CAN) sockets on the Main Unit.
3. Insert the supplied Terminating Resistor into the other RBUS socket at the back of the Display. This will complete the R-Bus daisy-chain — see below 'About Terminating Resistors'.

NOTE: Leave a minimum of 100 mm (4") of clearance around all R-Bus (CAN)/RBUS sockets to allow for routing of the R-Bus cables.



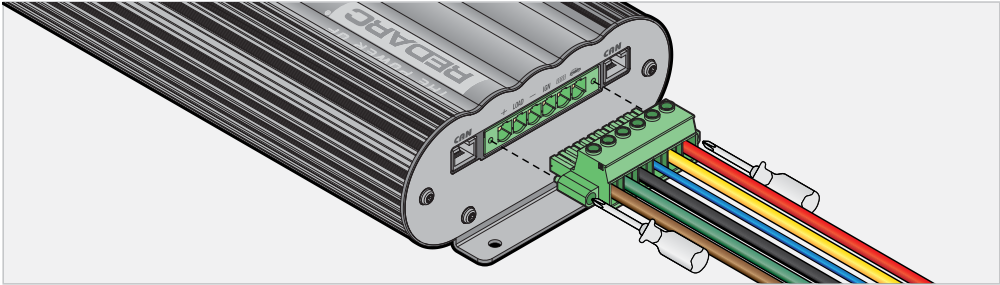
ABOUT TERMINATING RESISTORS

The R-Bus system connects devices in a continuous daisy-chain network. Terminating Resistors must be present at each end of the daisy-chain to complete the R-Bus system. The Battery Monitor has its own built in terminating resistor.



MOUNTING DC CONNECTOR

Once all cable connections are made, align the DC Connector to the Main Unit and secure the two integrated fasteners using a screwdriver, torque to 0.5 N·m (0.37 lbf·ft).



AC MAINS CHARGING

⚠ WARNING:

- **GROUNDING AND AC POWER CORD CONNECTION INSTRUCTIONS** — The charger shall be grounded to reduce the risk of electric shock. The charger is supplied with an electric cord having an equipment-grounding conductor and a grounded plug. The plug is to be plugged into a mains outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- **DANGER** — Do not alter the AC cord or plug provided — If it does not fit in the AC mains outlet, have a proper outlet installed by a qualified electrician. Improper connection increases the risk of an electric shock. If the supply cord is damaged, it must be replaced by the genuine REDARC part or assembly available from the manufacturer or service agent.
- To reduce risk of damage to power cords, do not operate the product with the AC Mains Cable coiled as the cord may overheat.
- When finished using AC mains, disconnect the power.
- Do not use the Manager30 AC input if the cord is damaged. The use of a non-genuine or damaged AC input cord may result in a risk of fire, electric shock, or injury to persons. If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or service agent. The AC Power connection must be connected to an earthed socket outlet.

⚠ **CAUTION:** The connection to the mains supply shall be in accordance with the national wiring rules.

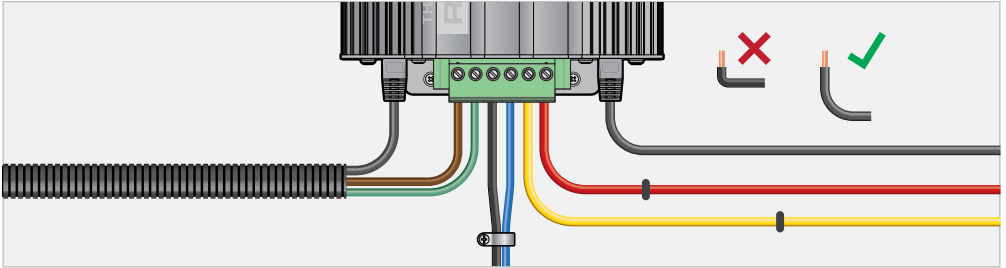
- REDARC recommends the AC supply cord (supplied with the Manager30) be plugged directly into a suitable AC mains outlet without use of an extension lead.
- Ensure that the supplied AC Mains Cable is not coiled and is secured in place when using to charge.
- Ensure the AC Mains Cable is not damaged or degraded.
- Use only on AC inputs within specifications (see 'Main Unit Specifications' (page 34)).

STRAIN-RELIEF AND CABLE MANAGEMENT

⚠ CAUTION: Wiring must be installed in protected areas away from heat sources, sharp objects and parts of the vehicle that move during operation or maintenance. Additional protection such as conduit may be required, especially if routing cables through the engine bay or exposed locations.

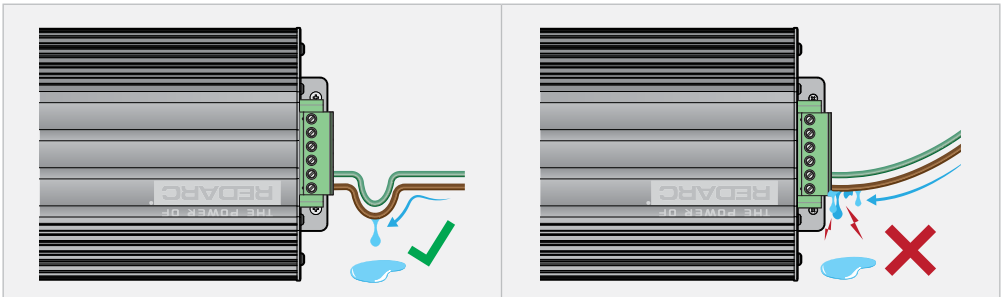
PROTECT AND SECURE THE CABLES

- Allow for strain-relief of cables. Ensure cables are not pulled or stretched tightly. This can cause damage or allow the terminating fasteners to become loose and affect the performance of the Main Unit.
- To avoid connections becoming loose, secure all cables to a fixed point close to the Main Unit, Battery Monitor and Display (ideally within 200 mm (8")). Cable ties, cable clips and P-clips are recommended.
- Flexible conduit can be used to manage and protect bundled cables.



PREVENTING WATER ENTRY

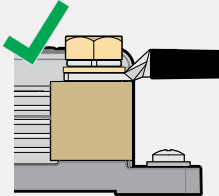
Ensure that cables are routed with drip loops where required, this is to prevent moisture from running down the cables into the Main Unit, Battery Monitor and Display.



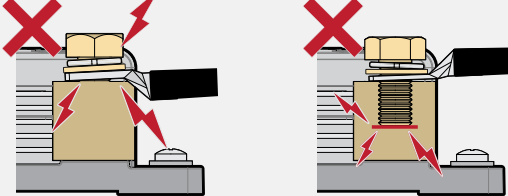
BATTERY MONITOR CABLE MANAGEMENT

IMPORTANT: Ensure lugs are fastened firmly against the top face of the terminal. Loose lugs will have a bad electrical connection, causing inaccurate readings from the Battery Monitor, and can result in damage to the wiring and Battery Monitor.

Good Connection



Loose Connection

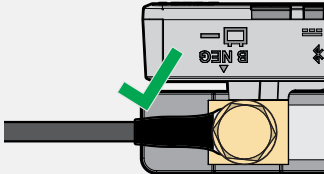


Lug tongue facing downwards and is not long enough to fasten flush to the shunt.

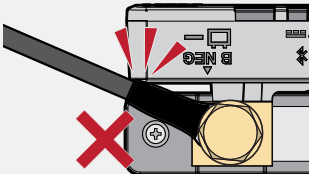
Do not use the longer Alternative Terminal Bolt if it is too long and causes a loose connection.

Hold the Ground and Battery Negative cables when torquing to avoid the cables touching the Battery Monitor Housing, this will prevent potential damage to the Battery Monitor.

Cable away from the Battery Monitor Housing



Cable touching Battery Monitor Housing



DISPLAY USER GUIDE



REDVISION DISPLAY USER GUIDE

For RedVision system / Display operation instructions, refer to the supplied RedVision Display User Guide.

Scan the QR code to download the RedVision Display User Guide.

CONFIGURING VIA THE DISPLAY

1. After connection and starting up, press the  Soft Key on the Display to proceed.
2. In the **Battery Settings** screen, use the Left/Right Buttons ( / ) and Up/Down Buttons ( / ) to configure your battery settings:

***Chemistry** — Set the chemistry of your auxiliary battery.

***Capacity (Ah)** — Configure the capacity of your auxiliary battery.

***Max Current (A)** — Set the maximum charge current going into the connected auxiliary battery.

SoC Alarm (%) — Set the State of Charge Alarm. When your auxiliary battery state of charge goes below this configured value, the Display will alert you.

Voltage Alarm (V) — Set the Voltage Alarm. When your auxiliary battery voltage goes below this configured value, the Display will alert you.

Once completed, press the  Soft Key, to confirm the battery settings.

3. In the **Date and Time** screen use the Up/Down Buttons ( / ) and Left/Right Buttons ( / ) to set the date and time. Once complete, press the  Soft Key.

*Refer to the manufacturer's specifications of your auxiliary battery when configuring.

CALIBRATING

When the battery is first connected, the system will start a calibration process to determine the State of Charge (SoC) of the battery. This will continue until the battery is fully charged. REDARC recommends connecting the Main Unit to AC Mains to fully charge the auxiliary battery before applying heavy loads.

SYSTEM SETTINGS SCREEN

System Settings Screen allows for modification of the current operating mode as well as providing information on the system and previous fault history.



SYSTEM MODE

The **System Mode** setting lets you set the Manager30 to operate in **Touring** or **Storage Mode**.

Touring Mode

Use when 'on the road' for correct operation. In this mode the Manager30 will monitor the auxiliary battery and detect certain faults, including short circuit, over current and over voltage.

Storage Mode

Use for medium to long term storage of the system. In this mode the charger will keep your auxiliary battery at the optimum long-term level and conduct periodic maintenance on the auxiliary battery including battery tests, desulphation, and equalisation depending on your configured battery type.

When in **Storage Mode**, it is recommended to have a valid charging source to maintain the battery at a healthy state of charge — this is achievable by using AC Mains or solar. Alternatively, disconnect all loads from your auxiliary battery and check on your system periodically.

NOTE: If the Manager30 is set to **Storage Mode**, it will automatically switch to **Touring Mode** once it senses an increase in input voltage from the start battery input.

BMS INFORMATION SCREEN

The BMS Information screen provides information on charge stage, current flow, Stage of Charge (SoC), solar input and battery status.



MANAGER INPUTS

Displays live voltage and where the charging source is coming from, solar, alternator or AC.



STATE OF CHARGE LOGS

Using the Left/Right Buttons the screen shows the SoC over the last 24 hours and the maximum and minimum SoC per day over a 30 day period.



SOLAR POWER INPUT LOG

Using the Left/Right Buttons the screen shows the Solar Power generated per day over a 7 day period.

CHARGER SETTINGS SCREEN

The Charger Settings screen enables modification of the Main Unit's operation and function.



LOAD DISCONNECT

If a load disconnect relay is used, it must first be configured (see 'Load Disconnect Screen' (page 31)).



BATTERY INFORMATION

Displays and allows for alteration of the auxiliary battery's type and size as well as the SoC and voltage thresholds.



BMS SETTINGS

The **BMS Settings** is used to configure the **DC Input Trigger** of your setup.

DC Input Trigger

Sets the vehicle start battery input turn on/off voltage:

- **Auto** — automatically detects if the start battery is 12V or 24V and operates within the 12/24V parameters explained below. Suitable for most vehicle alternators.
- **12V** — for a 12V vehicle system and prevents the Main Unit from going into 24V mode.
- **24V** — for a 24V vehicle system and prevents the Main Unit from going into 12V mode.
- **Ignition** — for non-standard systems between 9V and 32V.
- **Always On** — for systems utilising a dual battery isolator or other non-standard systems between 9V and 32V.

Vehicle Input Trigger Setting		Vehicle Ignition Cable Connected	Alternator Type	Start Charging when ABOVE	Stop Charging when BELOW
Auto	12V	Ignored	Standard	12.9V	12.7V
	24V	Ignored	Standard	25.8V	25.4V
Ignition		Yes	Smart*1	12.0V	11.9V
Always On		Ignored	Non-standard Systems	8.0V	6.0V

*1 If your vehicle doesn't have a 'Standard' alternator the **Vehicle Ignition** cable connection is required for the start battery to safely charge.

LOAD DISCONNECT SCREEN



The Load Disconnect feature drives a relay to automatically disconnect non-essential loads when the battery reaches a preset value, such as a voltage or State of Charge (SoC). This prevents excessive discharge of the auxiliary battery, ensuring that essential loads like a refrigerator can continue running for a longer period while managing available power for non-essential loads.

Set the Trigger Type

Set the disconnect type. If you have the load disconnect installed (see [page 18](#)) REDARC recommend setting the **Trigger Type** to **SoC**, this refers to the Battery Percentage seen on the home screen of the Display and RedVision App.

- **SoC** — uses the State of Charge information from the Battery Monitor to disconnect/connect non-essential loads based on the configured threshold percentage.
- **Voltage** — uses the battery voltage information from the Battery Monitor to disconnect/connect non-essential loads based on the configured threshold voltage.
- **Always On** — overrides the Load Disconnect feature. This will keep the SBI12-BLD or relay on all the time.
- **Always Off** — overrides the Load Disconnect feature. This will keep the SBI12-BLD or relay off all the time.

Set the Turn ON/OFF Thresholds

Depending on the Trigger Type selected, configure when the non-essential loads will turn off and turn back on.

SYSTEM CONFIGURATION

Once the Manager30 installation is complete, it can be configured using the RedVision Configurator App which connects to the system via the RedVision Display. The App defines the behaviours of each device in your installation, this is important to make sure the system operates correctly and safely.



THE CONFIGURATOR APP

A range of REDARC products including Manager30 are compatible with the RedVision Configurator App (iOS and Android). Multiple RedVision compatible products can be paired via Bluetooth® to your smartphone simultaneously.



GET THE REDVISION CONFIGURATOR APP

Download the free REDARC RedVision Configurator App to Configure the settings of your Manager30 using your smartphone via Bluetooth®.

The RedVision Configurator App and its interactions with the Manager30 have not been tested on all smartphone models. Visit the application pages within your App store to view compatibility details.



SYSTEM TESTING

System testing is an important step to confirm the end-user experience of the configured system. Identifying and correcting errors is important before the system is operational and on the road.

1. Download and install the RedVision App.
2. Open the App and check that each connected device appears and functions as intended. This can be confirmed via the RedVision Display, however also testing the install using the RedVision App is strongly recommended.
3. Make sure the device labels and icons are easy to understand.



GET THE REDVISION USER APP

Download the free REDARC RedVision User App to Configure the settings of your Manager30 using your smartphone via Bluetooth®.

The RedVision User App and its interactions with the Manager30 have not been tested on all smartphone models. Visit the application pages within your App store to view compatibility details.

CARE AND MAINTENANCE

- Periodically check that all connections are firm, and all cables are adequately managed. Parts of the system may have moved from repeated vibration, particularly if the vehicle has been travelling on uneven/corrugated roads.
- Look for signs of damage or wear along the cables especially parts of the cable around connections, through glands, or against surfaces — replace if damaged.
- Do not use solvents, alcohol or domestic cleaning products to clean the Main Unit, Battery Monitor and Display. If sand, grit, or dirt accumulate on the devices, wipe it clean with a slightly damp cloth.
- Do not allow the devices to come into contact with corrosive substances.
- Do not pressure wash the Main Unit, Battery Monitor and Display.
- Throughout the life of the product, be cautious when conducting any work near the Manager30 that could create swarf or cable trimming. For the duration of the work, cover the system and take any precautions necessary to prevent swarf, cable trimmings and other materials entering the Main Unit.

TROUBLESHOOTING

FAULTS

The Display and the RedVision® App on your smartphone indicate when there is a Fault in your system.

COMMUNICATION FAULT

In the event of the Display failing to connect to your smartphone, complete the following steps — all steps may not be required to resolve the problem.

To resolve, complete the following steps before directly contacting REDARC or your local REDARC Distributor.

1. Check all R-Bus cables to make sure they are securely connected to the correct interfaces on the Main Unit, Display and Battery Monitor and are free of damage.
2. Confirm that terminating resistors are fitted at each end of the R-Bus 'daisy-chain' (note that the Battery Monitor has an inbuilt terminating resistor). See '[About Terminating Resistors](#)' (page 25) for further information.
3. Make sure the smartphone is within 5 m (16'5") of the RedVision® Display.
4. Check Bluetooth® and Location Services is enabled on your device.
5. In the RedVision® App, click the **Menu Icon** to navigate to the list of devices, locate your Display and delete it.
6. In your smartphone's Bluetooth® settings, remove the Display from your Bluetooth devices list.
7. Unplug all R-Bus Cables from the Display and then reconnect them again.
8. Switch off and re-start your smartphone.

Delete all Pairings on the Display.

1. On the RedVision® Display, use the Left/Right Buttons (◀/▶) to navigate to the **Display Settings** screen.
2. Press the Bluetooth® Soft Key  to enter into the **Bluetooth® Pairing Advertising** screen.
3. Press the Delete Soft Key  then press the  Soft Key to confirm that you want to clear all paired devices.

FURTHER ASSISTANCE

For further assistance, scan the QR code or visit the Resources page of the REDARC website to access common frequently asked questions (FAQs) and troubleshooting tips for the Manager30.

www.redarcelectronics.com/au/resources



Alternatively, contact REDARC Tech Support or your local REDARC Distributor.

REDARC Tech Support: +61 1300 REDARC (733 272)

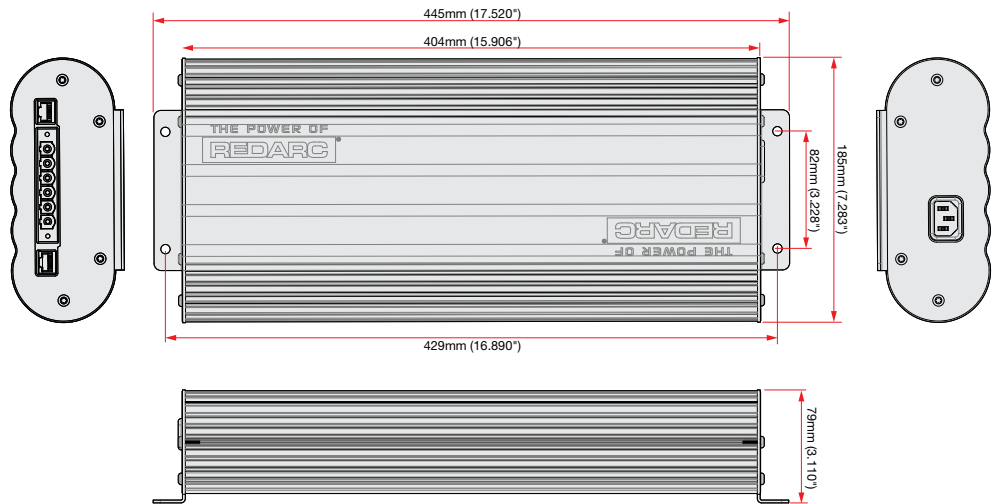
SPECIFICATIONS

Specifications are subject to change without notice.

MAIN UNIT SPECIFICATIONS

GENERAL SPECIFICATIONS

Weight	3.35 kg (7.4 lbs)
Dimensions	445 × 185 × 79 mm (17.5" × 7.3" × 3.1")



ELECTRICAL SPECIFICATIONS

Nominal Current Rating	30 A
Operating Temperature	-40°C to 60°C (-40°F to 140°F)

Start Battery Input

Input Voltage Range	9 to 32VDC $\overline{\text{---}}$
Power Rating	520 W

Solar Input

Input Voltage Range	9 to 32VDC $\overline{\text{---}}$
Turn ON (open circuit voltage)	9.5V
Power Rating	520 W
Maximum Array Size	600 W

AC Mains Input	BMS1230S4R-AU / EU / UK	BMS1230S4R-NA
Input Voltage Range (nominal)	220–240 VAC 50 Hz	110–120 VAC 50 Hz to 60 Hz
Power Rating	560 W	
Connection	IEC Mains Plug	

Output

Total Battery Capacity	40 to 800 Ah
Output Battery Volts (Nominal)	12 V
Output Current (Nominal)	0–32 A
Maximum Current on Load Disconnect Cable	1 A
Memory Save on Battery Disconnect	Yes

OUTPUT PROTECTION

Short Circuit Protection	Yes
Surge Protection	Yes
Reverse Polarity Protection	Yes
Overload Protection	Yes

MAX VOLTS @ BATTERY TERMINALS (25°C/77°F NOMINAL)

	Storage Mode	Touring Mode	Float
Gel Setting	14.4 V	14.4 V	13.5 V
AGM Setting	14.4 V	14.4 V	13.5 V
Calcium Setting	16.0 V	15.2 V	13.5 V
Standard Acid Lead Setting	15.5 V	14.8 V	13.5 V
Lithium Setting	14.5 V	14.5 V	13.6 V

BATTERY THERMAL SPECIFICATIONS

Sealed Lead Acid (SLA), AGM, or Calcium Charging Temperature	–25°C to 60°C (–13°F to 140°F) (when Vop > 10.5 V)
SLA, AGM, Gel, Calcium or LiFePO ₄ Charging Temperature	0°C to 60°C (32°F to 140°F)
Over Temperature Shutdown	Yes

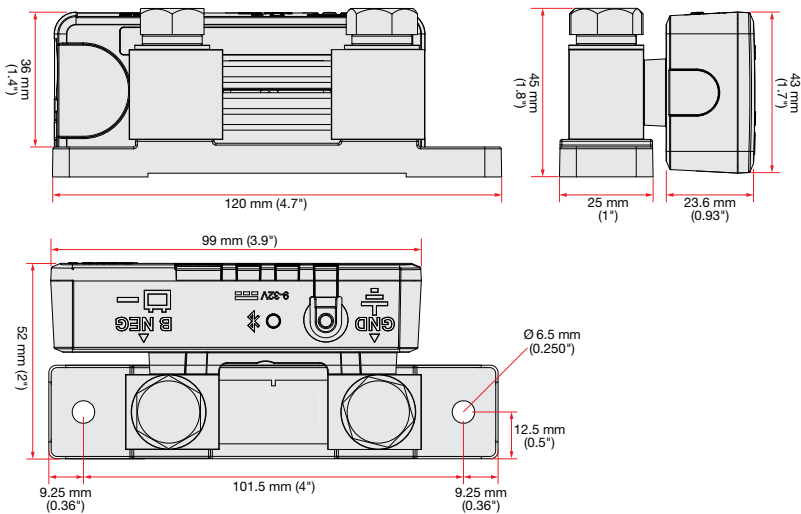
TEMPERATURE COMPENSATION

SLA/AGM/Gel/Calcium Setting	+30 mV/°C < 25°C < –30 mV/°C (+16.7 mV/°F < 77°F < –16.7 mV/°F)
LiFePO ₄ Setting	40°C < 0.5%/°C < 60°C (–40°F < 0.28%/°F < 140°F)
Over Temperature Shutdown	Yes

BATTERY MONITOR SPECIFICATIONS

GENERAL SPECIFICATIONS

Weight	355 g (12.5 oz)
Dimensions	120 × 52 × 45 mm (4.7" × 2" × 1.8")



ELECTRICAL SPECIFICATIONS

Operating Voltage Range	9–32 VDC ---
Unit Operating Temperature	–20°C to 60°C (–4°F to 140°F)
Power Mode/Device Mode	
Standby	2.4 mA – 3 mA
Normal	12 mA – 18 mA

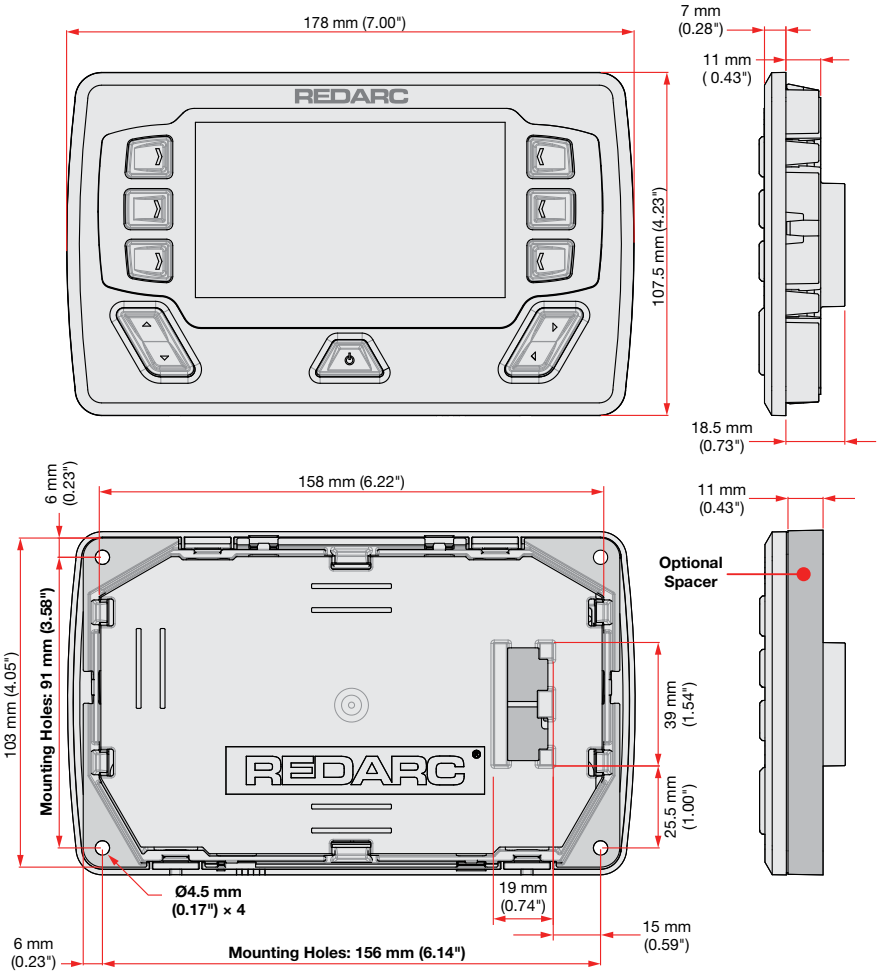
OPERATION SPECIFICATIONS

Current Measurement Range	± 500 A
Battery Temperature Measurement Range	–40°C to 100°C (–40°F to 212°F)
Battery Type	Standard Lead Acid, Calcium, Gel, AGM, or LiFePO ₄ type only

Voltages Specified are ± 100 mV.

DISPLAY SPECIFICATIONS

Weight	300 g (10.6 oz)
Dimensions	178 × 107.5 × 18.5 mm (7" × 4.2" × 0.7")
Operating Temperature	−20°C to 75°C (−4°F to 167°F)



COMPLIANCE

BMS1230S4R-AU / BMS1230S4R-EU / BMS1230S4R-UK

Main Unit Safety	IEC + AS/NZS + EN 60335.2.29
Compliance Marks	    

BMS1230S4R-NA

FCC ID	
Battery Monitor	2BAH6-SU601
Display	XPYNINAB1
IC ID	
Battery Monitor	30290-SU601
Display	8595A-NINAB1
Main Unit Safety	UL 458, CAN/CSA C22.2 No. 107.1-16
Compliance Marks	 

CAN ICES-003 (B) / NMB-003 (B)

Internal Transmission Notice

1. **WARNING:** Any changes or modifications not expressively approved by the grantee could void the user's authority to operate this equipment.
2. **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
3. This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS (s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) L'appareil ne doit pas produire de brouillage.

(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillard est susceptible d'en compromettre le fonctionnement
4. This equipment complies with the FCC and ISED Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and all persons during normal operation.

Cet équipement est conforme aux limites d'exposition aux rayonnements de la FCC et ISED Canada établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et toutes les personnes pendant le fonctionnement normal.

Regulatory and compliance information can also be accessed via the RedVision Display by pressing the Power Button, followed by the Compliances Softkey.

WARRANTY

LIMITED WARRANTY

For full warranty terms and conditions, visit the Warranty page of the REDARC website:
www.redarcelectronics.com/warranty

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IMPORTER CONTACT INFORMATION

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Europe: OZPARTS PL sp. z o.o. ul. Słowackiego 32/5 87-100, Torun, Poland

For written request please email power@redarcelectronics.eu

CHECKING THE PRODUCT SERIAL NUMBER

The Product Serial Number is located on the and on the product packaging.

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