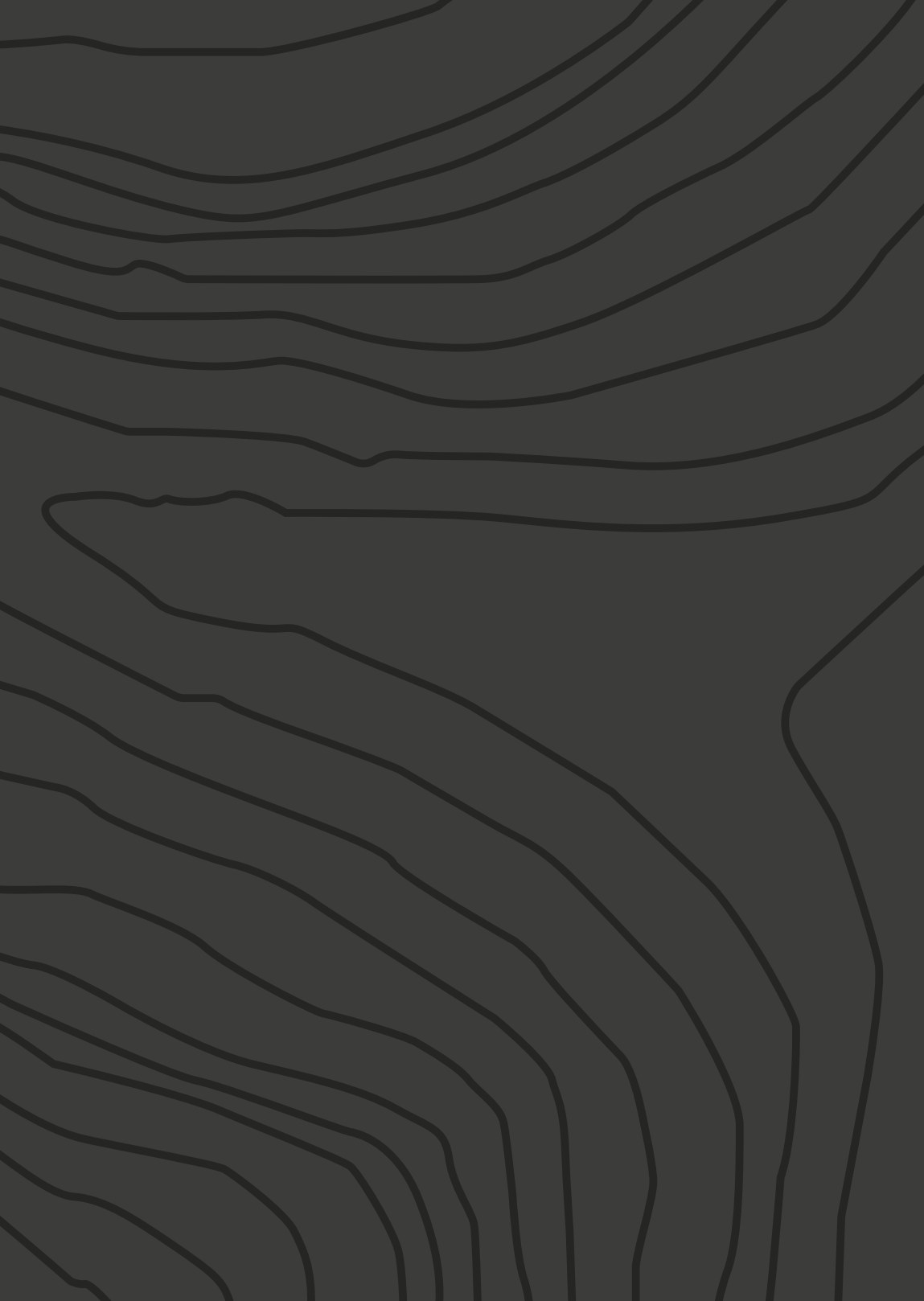
ROAMER
USER MANUAL

Roamer SMART6
LiFePO4 leisure battery

www.roamer.com

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Roamer Batteries

Since founding Roamer in 2020, we have strived to create and deliver exceptional products and service that give you the confidence to venture further. The company has grown exponentially in the last few years but our values and quality-first approach are still as strong as they were on day one.

We're committed to supporting off-grid lifestyles through the quality manufacturing of superior LiFePO4 batteries, customer care and expert support. We are confident that you'll be delighted with the quality and performance of your new Roamer battery but if you have any concerns or questions, please get in touch straight away.

Our commitment is not only to our customers, but also the Vanlife, Motorhome, Liveaboard and DIY solar communities. My wife and I have converted several campervans over the last 14 years, and we and our staff live and breathe this lifestyle.

We love hearing about your adventures after installing a Roamer battery so please don't forget to tag @roamervans in your Facebook, Instagram, Threads and TikTok posts so we can follow along with your journey.

Steve Kennedy
Founder and CEO

Roamer Batteries
Powering your off grid adventures

www.roamer.com

Safety

Please read this user manual and the separate safety guide fully before storing or using your battery.

This contains essential safety information and best practice on how to use your battery. Roamer have taken every precaution to ensure that our batteries are as safe as possible and give you complete peace of mind while using our products. No battery is 100% safe however, and caution should always be taken when handling or operating equipment containing, or connected to, high-capacity energy storage devices.

LiFePO4 batteries should only be installed and operated by a competent person. Please read this manual carefully and pay particular attention to the recommended charge, discharge and temperature limits as these may be different to the Battery Management System (BMS) maximum limits.

The batteries are designed to be serviceable but you should never open the case or attempt to repair the battery yourself, without written approval from Roamer first.

A full safety guide is provided in the box with your battery. If you do not have this, please contact us or download a copy from the knowledge base on our website.

If you have any concerns or questions about safety, please do not hesitate to contact Roamer at support@roamer.com

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Quick start guide

We've put together a summary of the installation process to help you get started straight away

Installation

Your battery should be installed in a location where it cannot be exposed to extreme temperature fluctuations, freezing temperatures, moisture or vibration. If possible, install your battery, inverter and chargers in the same area to keep cable lengths to a minimum. If installed in a vehicle, the battery must be firmly secured. It can be fitted flat, on its side or vertically. The Roamer fixing kit makes this simple in any orientation. If the battery is fitted somewhere awkward, the optional Roamer Remote power button (sold separately) lets you switch it on and off from a more convenient place.

Connecting cables

Roamer SMART6 batteries are fitted with female threaded screw terminals and come supplied with the correct length bolts. Connecting cables should be finished with copper tube lugs. The 172SMART6 is slightly different in that it also has fitted brass battery posts which gives you the option to use either copper tube lugs, or existing clamp connections. Roamer do not recommend using screw-in battery post adapters, as these can create additional resistance and excessive heat under load.

You should avoid connecting more than two cables per battery terminal, if you need multiple cables then you should install busbars and connect one cable to each stud. Ensure all connections are tight, we recommend a torque specification of 16Nm for our M10 sized battery terminal bolts and 12Nm for our M8 sized battery terminals.

Ensure you fit a suitably rated main battery fuse (example Class-T or MRBF). Never connect a SMART6 battery to your system in the powered-on state. Instead, power-off the battery via the switch on the top cover, connect the cables (if not already connected) and then turn on.

Install the Roamer SMART app

SMART6 batteries can be monitored in real time using the free Roamer SMART app for iOS or Android. During installation, make sure that you allow Bluetooth and GPS permissions when prompted or you will not be able to connect (don't worry we do not collect your data).

Please note that the state of charge reading may be inaccurate until the battery has completed a full cycle, this does not affect the operation of the battery and you can continue to charge the battery until the charger completes its cycle.

Charging

For safety reasons your battery will be shipped at a low state of charge so you should charge your battery soon after arrival. Battery chargers should ideally be configured with a LiFePO4 profile. If this is not possible, then choose the charge voltage option which most closely matches the recommendations below. Equalisation mode and temperature compensation should be disabled. Please read the charging section of the user manual carefully and see support.roamer.com for guides.

Recommended Charging Voltages for 12V and [24V] LiFePO4 Batteries

Absorption/Boost – 14.2V [28.4V]
Float – Off or 13.5V [27.0V]
Storage – 13.25V [26.4V]

Storing your battery

If you are not ready to install your battery yet or you will not be using it straight away, we recommend charging the battery to at least 13.0V and then isolating it completely from all external loads and chargers. If you need to keep the battery turned on when not in use and your charger has a storage mode, you should set this to 13.25V. Your battery uses a small amount of power to run the BMS and Bluetooth, so it will slowly lose charge if left switched on. Switching it off with the power button reduces this drain significantly so we recommend powering off if left unattended.

You should also monitor your battery voltage regularly and try to ensure it does not drop below 12.8V, if voltage drops below this then you will need to top up the charge. If voltage drops to 10.0V then it will enter into protection mode and if it is left in storage without charging, permanent cell damage can occur.

What else is in the box?

- 2 x stainless steel bolts with captive washers (M8 or M10 depending on model)
- Battery factory test report
- User manual
- Safety instructions
- Warranty terms and conditions
- Welcome pack and warranty registration

Optional parts (sold separately)

- CAN communication cable
- LIN communication cable
- Battery LINK cable
- Remote power button cable
- Battery fixing kit
- Battery fuses
- Battery terminal covers

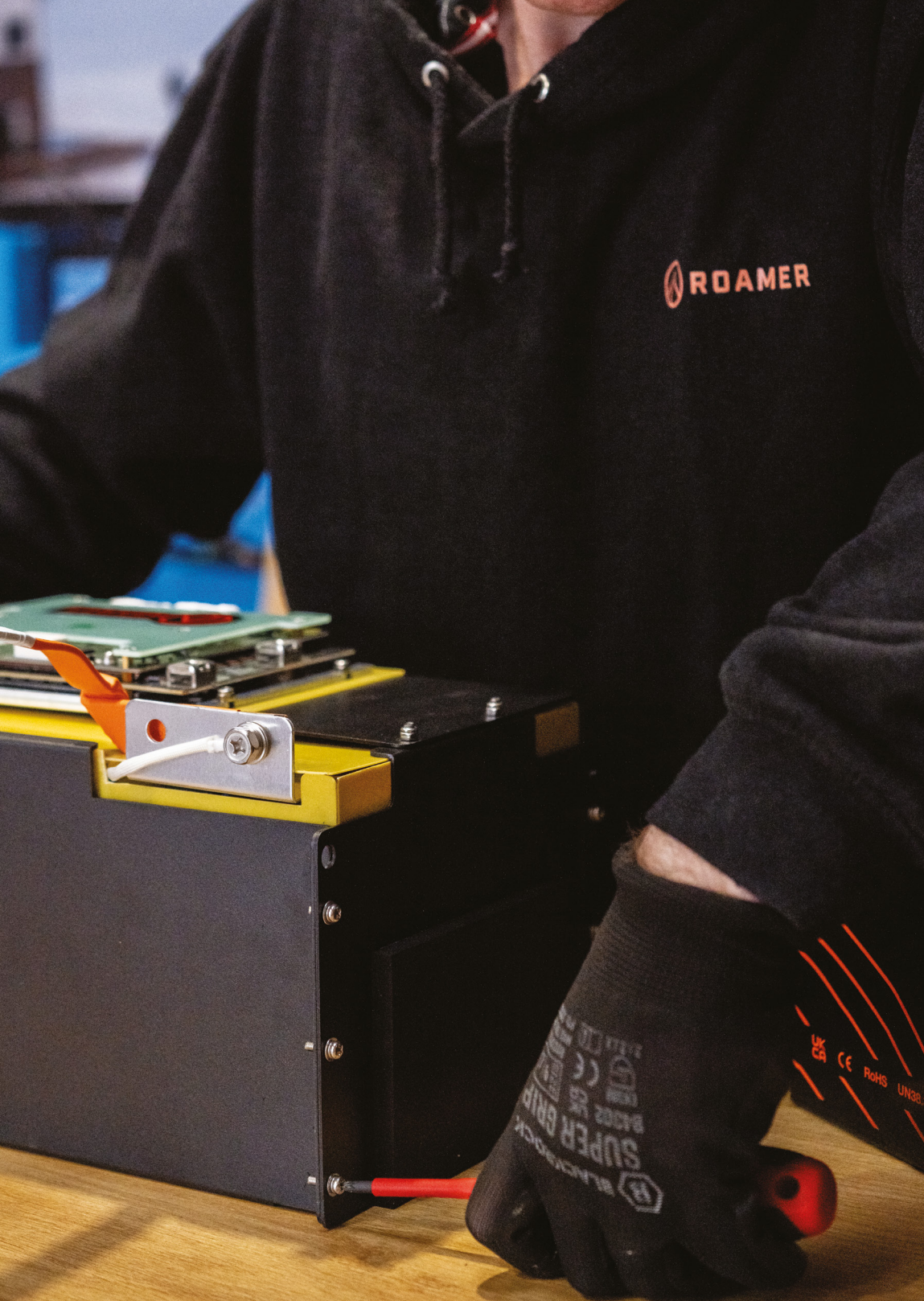
Please retain all documentation for future reference. If any of these parts are missing, please contact us at support@roamer.com to arrange a replacement.

What's inside a Roamer battery?

Roamer only use the highest quality components including matched grade A cells purchased directly from top tier manufacturers. We also provide cell serial numbers for complete transparency and traceability. These are logged by Roamer before shipping and are printed on the factory test sheet. Batteries over 2kWh sold in the EU market will also have a QR code linked to their Battery Passport (from Feb 2027).

Our custom high-power BMS and Roamer SMART app give you complete protection and visibility of what is going on inside your battery, and our integrated active balancer helps keep all cells perfectly in line for a long and healthy life.

Your battery is professionally constructed using precision engineered brackets, CNC-cut epoxy insulation board and high-capacity flexible copper busbars. We take immense pride in the quality and reliability of our batteries, but we also make them fully serviceable in case of problems or if an upgrade becomes available. While the case can be opened for repairs and upgrades, please do not try to do this yourself without speaking to Roamer Technical Support as you will invalidate your warranty.


ROAMER
SUPER GRIP
RoHS

Installation

Your battery can be installed in any orientation, including on its side, but not upside down. If installing in a vehicle, then it is crucial that the battery is securely fixed down so it cannot slide while the vehicle is moving. It must also be accessible so it can be removed or disconnected in an emergency.

You should install the battery in a way that avoids exposing it to extreme hot or cold temperatures and facilitates an even temperature distribution across the whole battery pack. If installing the battery on the floor of a vehicle, you should fit insulation and/or an air gap between it and the floor's surface as this will prevent cold bridging from the metal sub-floor.

Your battery comes supplied with bolts with captive washers. You should ideally terminate your battery cables with copper tube ring terminals. Before connecting cables, check that the battery on/off switch on the top of the battery is turned off and that your main battery isolator is also in the off position. The cable terminal should be placed flat, directly onto the battery terminal. The bolts should be tightened to a torque specification of 16Nm if your battery has M10 bolts or 12Nm if your battery has M8 bolts.

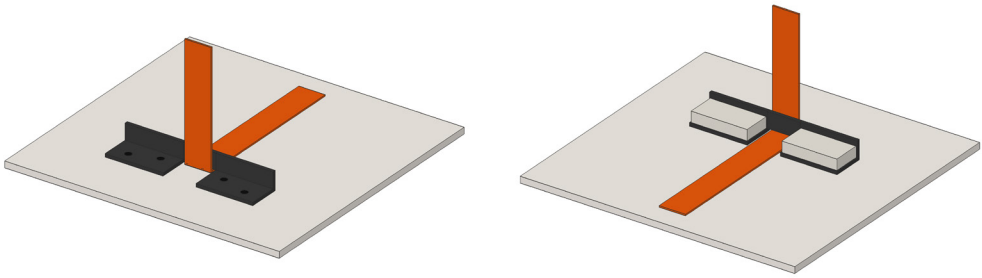
A suitable battery protection fuse (eg Class-T or MRBF) and battery isolation switch should be installed as close as possible to the battery positive terminal. The fuse should be sized appropriately to protect the cable and the equipment being powered.

You should only have a maximum of 2 cables connected to each battery terminal bolt. If you have multiple chargers and other components to connect, then you should use busbars or a distribution system. Too many cable connections on one bolt adds excessive resistance, which under high current flow can become extremely hot.

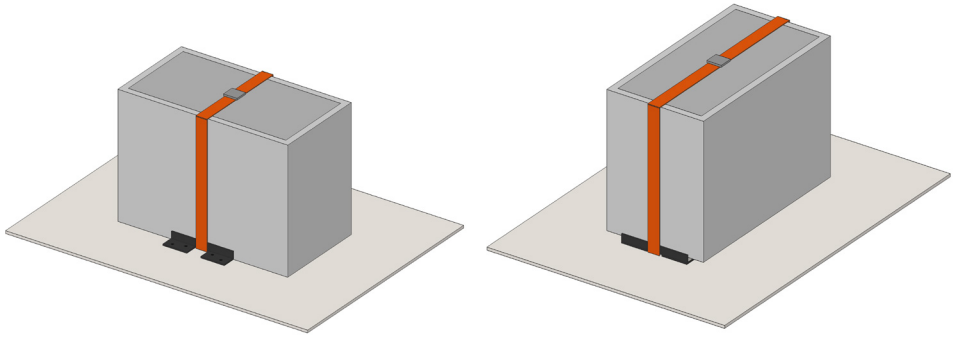
Be very careful not to short-circuit the positive and negative terminals. If there is a risk that terminals could be touched after installation, install terminal covers. Double check the polarity of the battery and any equipment before connecting them. Note that the position of positive and negative terminals varies by SMART model so pay close attention to the markings on the battery.

The Roamer battery fitting kit (BATTFITTINGKIT, sold separately) gives you a simple way to mount your battery flat, on its side or upright. The 172SMART6 has DIN mounts already so you can use a standard DIN kit or the Roamer kit as desired. Each kit contains 2 brackets, a tie-down strap, M5 self tapping screws and foam spacers. The 460SMART6, 680SMART6 and 24-230SMART6 need two kits due to size and weight.

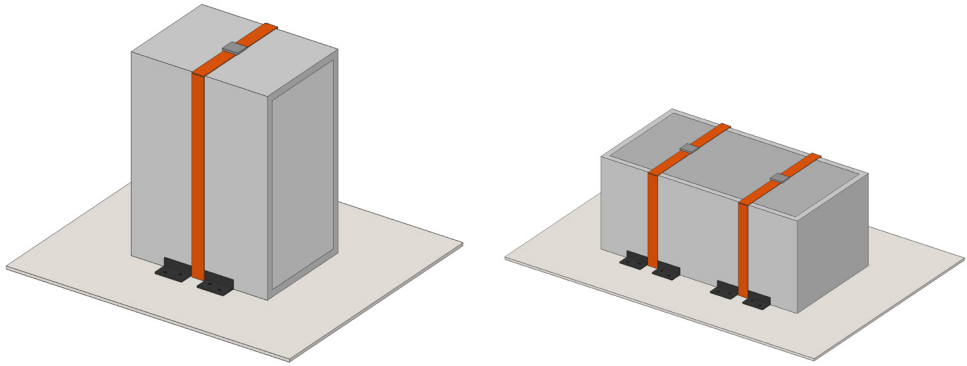
Mounting with the battery fitting kit



Fix the brackets to the floor using self tapping screws or other secure fixing method. Thread the strap through the notch in the bracket. Spacers are provided if needed.



The battery can be fixed widthways or lengthways as needed. The brackets can also face inwards, tucked under the battery, or outwards, depending on space available.



The battery can be mounted on its side or its end (but not upside down). Use spacers if needed (on top of screws on the brackets) and ensure the battery is secure.

The Roamer SMART Bluetooth App

Before you install and use your battery, we recommend downloading the Roamer SMART app, available for iOS and Android devices. When you first open the app, it will immediately search for SMART6 batteries nearby. If your battery doesn't show up, ensure the battery is powered on, and the power button is illuminated orange. To connect your battery, select it from the list, and type in the password when prompted.

The default Bluetooth pairing password for your battery is 1234

You are able to change the Bluetooth pairing password once connected. Simply connect to your battery then press the Bluetooth icon in the top left of the app, to return to the Bluetooth menu. From here, you can press the pencil icon to change the Bluetooth password of the connected battery. The Bluetooth pairing password is secure and cannot be recovered if you forget it. If you change the password make sure it is memorable and written down somewhere safe, such as on the battery case.

Core pages of the app can be accessed from the bottom menu buttons, while other functions can be accessed by pressing the 'three dots' in the top right corner. To go back to the battery scanning page, click the Bluetooth symbol in the top left corner.

The Home page of the app provides an overview of the key information about your battery such as state of charge, current and voltage. The Details page provides more specific data such as cell voltage and temperatures. The Settings and Controls page allows you to control the battery BMS functions and edit the BMS parameters. You will need a password to access the Settings and Controls page.

The default Settings and Controls password for your battery is 638203

This password can also be changed for security. As with the Bluetooth pairing password, if you change this then make sure it is memorable and written down somewhere safe as it cannot be recovered if you forget it.

IMPORTANT - The BMS parameters are configured at the factory to match the battery requirements exactly and should not be changed without speaking to Roamer first. If you want to change any settings on your battery (for example to change charge parameters to match a specific inverter or to install in a hybrid setup) please contact Roamer support at support@roamer.com. All changes will be logged in the BMS memory, unauthorised changes may invalidate the battery warranty.


9:41
ROAMER
40%
Remaining
13.28V
Your battery is running perfectly
Charge on
Discharge on
Balance on
Precharge on
Charging at
140A current
1792W power
16°C
Cell temp
16°C
BMS temp
0.01V
Cell delta
3.32V
Av. cell volt

Data communication ports

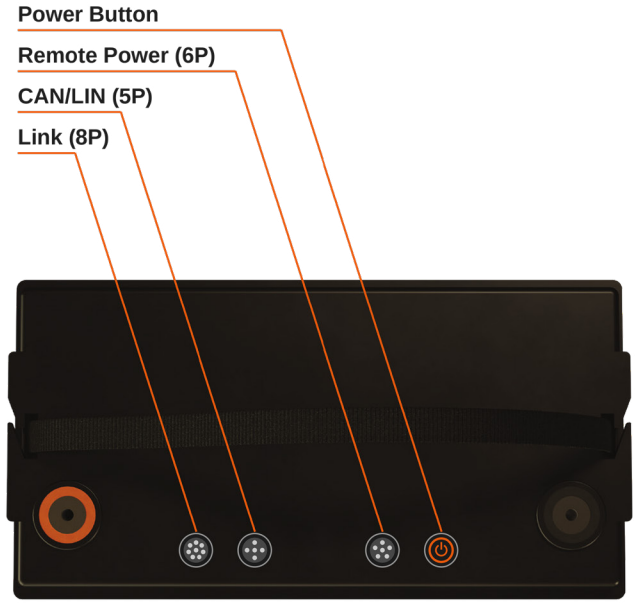
SMART6 batteries have additional data communication ports which allow you to link multiple batteries together and pass internal battery information to a connected inverter or battery monitor/display. These are sealed M12 screw connectors (M8 on 172SMART6) that require specific cables which can be ordered separately from Roamer as needed.

The Link port is an 8-pin RS485 communication port which can be used to connect multiple Roamer batteries together. Two batteries can be connected directly via the **Roamer LINK cable** (supplied separately), additional batteries require a splitter or backbone connection.

The CAN/LIN port is a 5-pin CANbus/LINbus communication port which can be connected directly to an inverter, Multi Function Display or motorhome control system eg Victron Cerbo GX using the **Roamer CAN cable** (supplied separately).

The Remote power button is a 6-pin port that connects to the Remote power button cable, supplied separately by Roamer. This allows you to relocate the power button to a more accessible location.

Roamer can supply the cables you need to connect to these ports but if you need longer cables, it's possible to extend or make up your own cables.



Third party integrations

SMART6 batteries can share live battery data with a wide range of displays, control panels and monitoring systems over CANbus, LINbus or CI-Bus. This lets you see your battery's state of charge, current and voltage on your vehicle or boat's own screen, or online. Supported systems include:

- Victron Energy GX devices, including the Cerbo GX and Ekrano GX
- Sargent EC940 and EC970 control panels
- Truma RV-Core
- BCA Montana
- Garmin Serv+
- Other multi-function displays (MFDs) that use CAN or NMEA 2000

Victron GX devices work straight away using the Roamer CAN cable and the battery's default settings. Other systems may need different CAN protocols, a specific cable, custom settings on the battery, or an optional LIN module fitted inside the battery by Roamer. Please contact Roamer Support with the make and model of your display before connecting, and we will confirm exactly what you need. Set-up guides are also available at support.roamer.com.

Victron GX devices offer an additional feature called DVCC, which allows you to use the BMS to control charging across all connected Victron chargers. If you are using this feature, make sure 'Float charge' is enabled in the BMS settings and DVCC current and voltage limits are set according to the battery specifications.

If using multiple batteries, these need to be addressed correctly in the Roamer app. The 'Master' battery should be addressed as 0, and subsequent batteries as 1,2,3 etc. Some inverters and screens require the first battery to be addressed as 1, check the relevant manual and address accordingly.

Parallel and series connection

Multiple batteries can be wired together in parallel or series to create higher capacity and/or higher voltage battery banks.

Parallel configuration is achieved by connecting the positive terminals of multiple batteries together to create one common positive node and connecting the negative terminals together to create one common negative node. The capacities and maximum current outputs are added together but the voltages are not. For example, two 340SMART6 batteries in parallel will have a total capacity of 680Ah, a peak delivery current of 600A, and a nominal system voltage of 12.8V.

Up to 16 battery modules can be connected in parallel with the SMART6 series. If you want to monitor all batteries on a CAN/LIN based display or control system, these must also be addressed within the Roamer app and Link cables installed for communication between modules. For two linked batteries, a single Link cable is sufficient. For more batteries, you will need to link these via a splitter or backbone.

Series configuration is achieved by connecting the positive terminal of one battery to the negative terminal of another. The negative terminal of the first battery is used as the system negative node, while the positive terminal of the second battery is used as the system positive node.

- Series connection is possible but not recommended with SMART6 (or indeed any LiFePO4) batteries as it can lead to long term imbalances and BMS protections being triggered before the battery bank is fully charged. Roamer sell 24V and 48V batteries if required, natively running at these voltages. If connecting in series, do not exceed 60V in total, and batteries must be the same capacity, age, brand and model.
- All batteries must be fully charged and allowed to settle to within 0.05V of each other before connecting in series or parallel.
- If connecting two batteries in parallel, you should take the positive cable to loads/chargers from battery A and the negative cable from loads/chargers to battery B. This helps to evenly distribute loads across both batteries.
- If connecting more than two batteries in parallel, you should connect each battery to a busbar rather than connecting together directly. If you use this method then it is vital you use connecting cables that are exactly the same length and size.

Discharging

Your Roamer battery can deliver extremely high continuous discharge currents and allows the operation of high-power appliances either directly at DC 12V or 24V, or at mains AC voltages (230V in the UK and mainland Europe) via an inverter. You should ensure that connecting cables and the main battery cables are sized appropriately for the loads, and the correct size and type of protective fuse is used. Please refer to the inverter manual for guidance. Recommended maximum inverter sizes for each Roamer battery model are given in the table below.

	105 SMART6MAX	172 SMART6	230 SEATBASE6	340 SMART6	460 SMART6	680 SMART6	24-230 SMART6
Max BMS discharge current [A]	300	300	300	300	300	300	300
Recommend max discharge current [A]	210	172	230	300	300	300	230
Recommended max inverter power [VA]	2000	2000	2500	3000	3000	3000	5000

Pre-charging your Inverter

Inverters contain large internal capacitors which, when connected to a LiFePO4 battery for the first time can draw a very high inrush current up to 3000A. This surge current can damage a LiFePO4 battery BMS and other connected equipment and is also potentially dangerous. The solution is to pre-charge the capacitors in the inverter. We recommend that any inverter larger than 1500VA should be pre-charged on first connection. This also applies if the battery has been isolated from the inverter for prolonged periods of time.

Pre-charging involves slowing down the inrush current, so the capacitors fill with charge in a steady and controlled way. SMART6 batteries do not have a built-in pre-charge circuit, so this needs to be done externally. Some inverters have their own soft-start or pre-charge function, so check your inverter manual first.

In order to prevent a spark when connecting battery cables, never connect a SMART6 battery to your system in the powered-on state. Instead, power-off the battery via the switch on the top cover, connect the cables (if not already connected) and then turn on your isolator. Only at this point, should the SMART6 battery be powered-on.

Charging

SMART6 batteries will accept a wide range of charge voltages and work with almost all lead-acid and lithium chargers. However, choosing the best chargers for your system and setting them up correctly will help you get the best performance from your batteries and can also extend their useful life.

The ideal charge profile for your battery involves bulk charging at a constant current up to a target voltage of 14.2V and then stopping. The active balancer in your Roamer battery means an absorption or float stage is not required although we recommend a short absorption period (up to 1 hour) if this cannot be disabled.

Most modern multi-stage chargers have bulk, absorption and float stages that can be configured via a Bluetooth app or selector switch. Some brands use different terminology but the functions are the same. They will charge at constant current (bulk) until the battery reaches the target voltage, then hold at this voltage for a set time period (absorption) before finally settling at a maintenance (float) voltage that keeps the battery full. You should choose the voltage profile that most closely matches the recommended settings below.

- Bulk/Absorption/Boost/Target Voltage: 14.2V
- Float/Storage Voltage: Disabled or 13.5/13.25V
- Absorption Time: Disabled or up to 1 hour
- Equalisation: Disabled or set equal to bulk charge voltage, with duration of 0.
- Temperature Compensation: Disabled

Alternator charging

SMART6 batteries can be charged via a split charge relay (VSR) but we recommend upgrading to a DC-DC (Battery to Battery) charger if possible as this will provide a much more consistent and reliable charge.

It is possible to charge a SMART6 battery directly from a secondary alternator (instead of a battery to battery charging system as outlined above). However, this requires a controllable alternator regulator (such as Arco Zeus), an Alternator Protection Device, a Victron Cerbo GX linked via CAN-bus, modifications to BMS settings and a custom control algorithm. Direct alternator charging must be approved by Roamer or you risk voiding your warranty, and no responsibility can be taken for connected equipment.

Low temperature charging

LiFePO4 batteries should not be fast charged at temperatures below 0°C as this can permanently damage the cells. Roamer batteries therefore include a low temperature charge protection function in the BMS which will prevent you charging once the internal battery temperature reaches this point. This protection will remain in place until the temperature rises back above 5°C. Due to the size and bulk of the battery cells, it can take several hours for the internal temperature to match the ambient temperature, and for all cell temperatures to equalise.

We do not recommend applying an external source of direct heat to either the cells or the battery casing. If you need to warm the battery to enable charging, then gently heat the air around the battery, not the battery itself. Applying heat directly to the cells or to the battery case can cause premature ageing of the cells, by warming the outer skin of the cells above the BMS protection threshold, whilst leaving the inner core of the cell at unsafe charging temperatures. This can fool the BMS temperature sensors into allowing a charge current into battery pack before it is ready.

To maintain a long and healthy life for your battery and to minimise safety risks, you should also reduce charge currents according to the battery temperature. Please pay attention to the recommended charge currents given below.

It is possible to use a CAN-bus connected Victron GX Device to automatically control the charge current from Victron chargers, according to temperature. This requires a custom charge algorithm which can be requested from Roamer support.

	105 SMART6MAX	172 SMART6	230 SEATBASE6	340 SMART6	460 SMART6	680 SMART6	24-230 SMART6
BMS charge limit [A]	300	300	300	300	300	300	300
Recommended max charge at 25°C [A]	105	86	115	170	230	300	115
Recommended max charge at 10°C [A]	42	34	46	68	92	136	46
Recommended max charge at 5°C [A]	21	17	23	34	46	68	23

Troubleshooting

Q) I cannot connect to my battery via Bluetooth

A) Please check that the battery is powered on, the power switch should be illuminated orange. Next check you are within around 10m of the battery, and your device has permissions to allow access to Bluetooth. If using an Android device, you will need to provide all security permissions including location (this is to enable the use of Bluetooth Low Energy, Roamer do not collect your data and we do not track your location).

Due to the nature of Bluetooth Low Energy, only one device can be connected at a time. If you have the app open on a different device then it will not appear in the scan results. Make sure you fully close the app on all other devices before trying again.

NOTE: SMART4, SMART5 and SMART6 batteries use a different app compared to the older SMART2 and SMART3 ranges. Make sure you are using the Roamer SMART app. If you still cannot connect, you should try charging your battery. If the battery is completely flat then the Bluetooth may stop working.

Q) My display / MFD doesn't show the battery percentage

A) Ensure you have plugged into the correct CAN/LIN port and for CAN displays, ensure that the CAN Terminator is also fitted. Check the cable is not damaged and that it is tightly screwed into the Roamer battery port, and if needed, remove the cable and reconnect it. You need to align the cable connector correctly, press it down into the port and then secure tightly with the screw cuff.

Q) My remote power button doesn't work

A) The most common reason for this is a damaged, or incorrectly fitted cable. Double check the connection and ensure the cable has not been crushed or cut. The power button on the case should still work, if neither is working correctly then please contact Roamer support.

Q) My battery won't charge / discharge

A) First step is to check the Roamer SMART app. Are there any protection modes active? There are many reasons why the BMS would go into protection mode but the app should provide enough information to be able to rectify the problem.

Q) My battery is in low voltage protection and it won't take a charge

A) Some chargers cannot 'wake up' a LiFePO4 battery that is in low voltage protection because they do not detect a voltage on the output terminals of the charger. Roamer have introduced 'Emergency Mode' for exactly this scenario. Go to settings and unlock using password 638203. You can then enable the emergency mode, which will release the low voltage protection for 30 minutes and allow your charger to work normally. Make sure you put the battery on charge as soon as possible to prevent further discharge from the battery.

Q) State of charge on the Roamer SMART app is incorrect

A) This is common when the battery is brand new, or hasn't been cycled for a while. All you need to do is fully charge the battery to 14.2V or discharge to below 10.8V and the state of charge will calibrate accordingly. State of charge is a calculated value and is for information only - it does not have any effect on the operation of the battery, or protection modes. You can refer to the voltage chart to double check the state of charge if needed.

Q) I cannot resolve my issue.

A) Please get in contact with the Roamer Support Team on support@roamer.com and we will be more than happy to assist. Please provide your battery model, serial number, and order number along with a detailed description of your system and the nature of the fault. Where possible, please also provide screenshots of the home page of your Roamer SMART App, full details page, and the protection state page.

Monitoring state of charge

The Roamer SMART app should accurately track your battery's state of charge, but a second point of reference is helpful for comparison and troubleshooting.

There are subtle differences in the voltages of different batteries so the below parameters are for reference only. The table below shows approximate SoC at different voltages for a single cell, a 12V battery and a 24V battery. With the exception of the first line, all voltages are 'resting' voltages i.e., after the battery has been sat without charging or discharging for 30 minutes.

State of Charge at 25°C	Single Cell LiFePO4 [V]	12V LiFePO4 [V]	24V LiFePO4 [V]
100% (Charging)	3.55	14.20	28.40
100% (Resting)	3.40	13.60	27.20
99%	3.35	13.40	26.80
90%	3.33	13.32	26.64
80%	3.31	13.24	26.48
70%	3.29	13.16	26.32
60%	3.28	13.12	26.24
50%	3.26	13.04	26.08
40%	3.25	13.00	26.00
30%	3.24	12.96	25.92
20%	3.20	12.80	25.60
10%	3.03	12.12	24.24
0%	2.50	10.00	20.00

Note how the voltage at 99% is very different to 100% but there is hardly any difference in voltage between 20% and 80%. Voltage is therefore more useful as a guide when the battery is nearly full, or nearly empty. For example, you can consider any resting voltage of 13.4V or above as being full. You can also consider anything below 12.8V to be very low and if you see this as a resting voltage, you should aim to recharge as soon as possible.


victron energy
charger
mains on
bulk
absorption
float
charger only
off
on
inverter
inverter on
overload
low battery
temperature
current limit
multi control
victron energy
SmartSolar charge controller
MPPT 100 I 30
IP43
15:39
Settings
Battery voltage
Max charge current
Charger enabled
Battery preset
12V
Expert mode
Smart Lithium (LiFePo4)
Charge voltages
30A
Absorption voltage
Float voltage
Equalization voltage
Equalization
Automatic equalization
14.20V
Manual equalization
13.50V
Voltage compensation
Temperature compensation
Battery limits
START NOW
Low temperature cut-off
Disabled
8°C

Storing your battery

If you need to store your battery for an extended period, for example through the winter months, here are a few tips to prolong its life.

- Before putting into storage, you should charge it to between 13.0V and 13.25V (equivalent to 40% to 80% state of charge) and, where possible, fully isolate the battery from any chargers or loads. With SMART6 batteries, you can also press and hold the power button to turn the battery off entirely. If turning the battery off, you should also isolate solar.
- For the longest battery life, try to avoid leaving your battery at a continuous 100% state of charge for extended periods, as this accelerates ageing of the LiFePO4 cells. Isolating the battery during storage is ideal. However, if the battery must stay powered and connected, for example to run a vehicle tracker or alarm then this is perfectly acceptable. In this case, set your charger or solar controller to a storage voltage of around 13.25V rather than holding the battery at full charge.
- Keep it in a dry location with a stable temperature. While cold temperatures are generally ok for storage, you should avoid very warm temperatures (above 40 °C).
- Your battery can self-discharge 5-15% per month if left powered on (smaller batteries lose power quicker), but only 2-3% per month when turned off via the power button, so it's normal to find it in a lower condition than you left it, especially if the cells are slightly out of balance.
- Cells will be damaged if you allow voltage to drop below 2.5V per cell. You should check the battery app regularly and top up the charge if needed.
- Note that the BMS app will not record any self discharge while in storage so you should use voltage as a guide, not the percentage shown on the app. The State of Charge calibration may also need to be reset when using the battery again after a long period of storage.

Disposing of your battery

We hope your battery powers you off-grid for many years, but it will eventually need to retire. Batteries and electrical components must be recycled responsibly, not disposed of in domestic waste. If in doubt, get in touch and we'll be happy to advise.

As a responsible manufacturer we conform with UK Waste Batteries and Accumulators Regulations and the EU Battery Regulation (2023/1542) which means we can help with the disposal and/or recycling process for you.


FRAGILE
THIS WAY UP
ROAMER
UN3480
LITHIUM ION BATTERIES
4G/Y45/S/22
CN/C530156
PI:194

Tech specs

Each table contains detailed technical parameters for our batteries including charging information, operating conditions and more. Do not use the battery outside of the recommended ranges.

	105SMART6 MAX	172SMART6	230SEATBASE6
Battery Specification			
Nominal Voltage [V]	12.8	12.8	12.8
Current Capacity [Ah]	105	172	230
Energy Capacity [Wh]	1344	2202	2944
Cell Chemistry	Lithium Iron Phosphate / LFP / LiFePO4 Prismatic Cells		
Physical Specification			
Length [mm]	260	359	331
Width [mm]	173	178	285
Height [mm]	229	189	182
Weight [kg]	11	17	22
Electrical Specification			
Min/Max Safe Voltage [V]	10.0/14.6		
Recommended Absorption Voltage [V]	14.2		
Recommended Float Voltage [V]	Disabled or 13.5		
Max BMS Discharge Current [A]	300	300	300
Max Recommended Discharge Current [A]	210	172	230
Max Recommended Inverter Power [VA]	2000	2000	2500
Max BMS Charge Current [A]	300	300	300
Recommended Max Charge Current at 25°C [A]	105	86	115
Recommended Max Charge Current at 10°C [A]	42	34	46
Recommended Max Charge Current at 5°C [A]	21	17	23
Operating Specification			
Storage Temperature [°C]	-20 to 40 (recommended 10 to 35 at voltage between 13.0V and 13.25V)		
Charging Temperature [°C]	0 to 55		
Discharge Temperature [°C]	-20 to 55		
Average Cycle Life	7000 cycles @ 80% Depth of Discharge (25°C) 3500 cycles @ 100% Depth of Discharge (25°C) *Averages from cell datasheets - slight variations due to testing methods		

340SMART6	460SMART6	680SMART6	24-230SMART6
12.8	12.8	12.8	25.6
340	460	680	230
4352	5888	8704	5888
Lithium Iron Phosphate / LFP / LiFePO4 Prismatic Cells			
386	522	522	522
206	270	365	270
278	228	228	228
29	38	51	38
10.0/14.6			20.0/29.2
14.2			28.4
Disabled or 13.5			Disabled or 27.0
300	300	300	300
300	300	300	230
3000	3000	3000	5000
300	300	300	300
170	230	300	115
68	92	136	46
34	46	68	23
-20 to 40 (recommended 10 to 35 at voltage between 13.0V and 13.25V)			
0 to 55			
-20 to 55			
7000 cycles @ 80% Depth of Discharge (25°C) 3500 cycles @ 100% Depth of Discharge (25°C) *Averages from cell datasheets - slight variations due to testing methods			

Warranty

The period of warranty is 12 (TWELVE) years from the date of shipment. Faults and manufacturing defects can occur with any electrical device, and we aim to make the process as simple and pain free as possible. Roamer guarantees to give a free repair, replacement, refund or credit in cases where cells or the BMS have defects proven to be due to manufacturing process (instead of misuse, accidental damage, or general wear & tear).

It is important that you contact us as soon as you notice a fault with your battery. We can talk you through a few simple tests that will help identify any issues or even resolve the problem remotely. If we cannot resolve the problem remotely then we will arrange to collect the battery from you and return it to our warehouse for testing. Any shipping fees incurred for approved warranty returns will be covered by Roamer. In the event of a repair that falls outside of the warranty, we can usually still offer a chargeable repair, depending on the scope of work required.

In the event of a proven manufacturing defect or battery failure that meets the warranty terms and conditions, we will usually repair the battery (by replacing an internal component such as a cell or the BMS) or replace the entire battery with an equivalent (or better) product from our current range. Depending on circumstances, we may instead offer a pro-rated amount based on the remaining warranty term in the form of a refund or a credit towards a replacement. Please note that Bluetooth is not essential for battery operation and any issues with Bluetooth (such as no signal or weak signal) are not covered under warranty. Full list of exclusions is provided in the warranty terms and conditions.

If we cannot reproduce the problem or if the defect or failure is found to have been caused by customer abuse or misuse then we will return the battery to you, or if you prefer, we can recycle the battery. Depending on the state of the battery, we may be able to offer a credit towards an upgrade. Any shipping costs incurred because of a rejected warranty claim will be charged to you.

This Limited Warranty is to the original purchaser of the Product and is not transferable to any other person or entity. If you did not purchase from Roamer directly then please contact the place of purchase regarding any warranty claim. Warranty Service is only available for products residing within the UK or Europe. Any warranty claims made from outside the stated regions will require the claimant to return the products at their own expense to a location convenient to Roamer within the UK or Europe. Return shipping is only offered to similar locations within the above stated regions. For full Limited Warranty terms and conditions, refer to the included warranty slip delivered with your battery.


victron energy
lynx distributor
1000
power

Returns & refund policy

We hope you are happy with your purchase. However, if you are not completely satisfied for any reason, you may return it to us for a full refund or an exchange.

Returns

- All return requests must be within 14 days of the purchase date. You have another 14 days to return the item after the initial request.
- Batteries must be in new and unused condition (we will check the case for scratches and the BMS for usage history).
- If you have installed or cycled your battery then we may still be able to accept your return, however we may offer a reduced amount instead of the full refund.

How to return

- Please email customer service support@roamer.com to obtain a Return Merchandise Authorisation (RMA) number.
- Place the item securely in its original packaging and return your battery to the address below. If you are using a courier then it is your responsibility to ensure that they are aware of the relevant Dangerous Goods transport restrictions.
- Please note, you will be responsible for all return shipping charges. Alternatively we can arrange for collection via our Dangerous Goods shipping service (we will charge £50 shipping fee, each way, per battery).

Refunds

- After receiving your return and inspecting the condition of your item, we will process your return or exchange.
- Please allow up to 14 days from the receipt of your item to process your return or exchange.
- We will notify you by email when your return has been processed.

Contact Roamer

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