



5.12kWh 51.2V

100Ah RACK LIFEPO4 BATTERY

TECHNICAL MANUAL

VERSION 1



Need installation guidance?

Scan the QR code to watch our Rack Battery installation videos on YouTube.

5.12kWh



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SAFETY

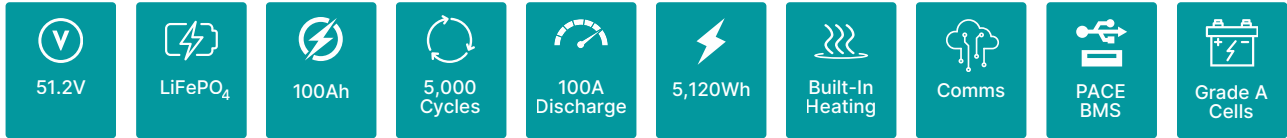


Never work on these batteries while powered or connected to the grid. Install only in suitable, safe environments by a qualified person, following all electrical codes. Ensure correct grounding, polarity, programming, cabling, and torque. Use only with compatible 51.2V systems. Never in series or with other chemistries. Keep away from heat, hazards, pets, and children. If there are any electrical smells or excessive heat, switch OFF the breaker and contact the emergency services. Clean only with a dry cloth, do not use any liquids, spray cleaners, aerosols or any type of solvents.

- Wear proper safety gear such as gloves and eye protection
- These batteries are HEAVY (45kg) - always get help to lift them
- Do NOT lift or move these batteries whilst in the Fogstar Rack Cabinets - they are likely to topple
- Ground your cabinets before you insert your rack battery
- Do not reverse polarity
- Do not connect with any batteries in series
- Ensure the system is properly grounded
- Always use insulated tools
- Do not work on the battery while it is switched on or while the grid is energised.
- Do not connect battery to solar wiring directly
- Make sure all fasteners are properly torqued
- Ensure your chargers/inverters are appropriately programmed
- Use only on 48v nominal systems, do not connect with other batteries
- Ensure the installation follows applicable local, national and all legal electric stipulations
- Make sure proper cable sizes and overcurrent protection are utilised
- Ensure the system is installed in a location suitable for electronics
- Keep the battery within safe operational temperatures
- Do not put the battery in a hazardous, hot or flammable environment
- Install your equipment in a location where children and pets are not present
- Do not paint, or spray paint the battery
- If there are any electrical smells or excessive heat, switch OFF the breaker and contact the emergency services.



SPECIFICATIONS

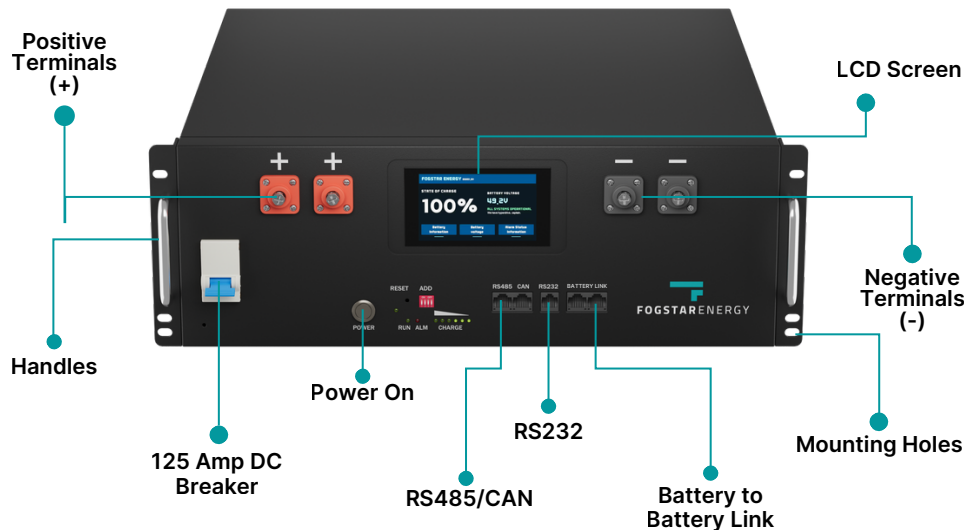


Specifications	
Rated Voltage (V)	51.2V
Maximum Charge (V)	57.6V
BMS	PACE 100A
Nominal Capacity (Ah)	100Ah
Minimum Capacity (Ah)	100Ah
Maximum Charge Current (A)	100A
Total Wh	5,120
Maximum Discharge	100A
Discharge Cut-off Voltage	43.2V
Discharge Temperature	-20°C to 60°C
Charging Temperature	0°C to 45°C (Automatic internal heating enables charging in ambient temperatures down to -20°C.)
Storage Temperature	1 Month: -20°C ~ 60°C 3 Months: -10°C ~ 40°C 1 Year: -5°C ~ 20°C
Relative Humidity	45% ~ 85%
Cell Configuration	16S1P
Cycle Life	5,000 @ 95% DOD
Communication Ports	CAN, RS485, RS232
Design Life	15 years
Weight	45.2kg
Preloaded Inverter Protocols	Compatible with multiple LV inverters, including but not limited to LuxPower, Sunsynk, Victron and more.





SPECIFICATIONS



Safety Precautions



Never work on these batteries while powered or connected to the grid. Install only in suitable, safe environments by a qualified person, following all electrical codes. Ensure correct grounding, polarity, programming, cabling, and torque. Use only with compatible 51.2V systems. Never in series or with other chemistries. Keep away from heat, hazards, pets, and children. If overheating or burning smells occur, trip the breaker and call emergency services. Clean only with a dry cloth.

Battery Warranty

The Fogstar Energy 5.12kWh Rack battery comes with a 10-year warranty covering BMS failure, cell failure, temperature sensors, charging/discharging faults, and internal corrosion. Excludes misuse, tampering, incompatible systems, or accidental damage.

To submit a claim, contact Fogstar Customer Support:

customerservice@fogstar.co.uk

01527 757980

Please include your proof of purchase and a clear description of the issue.

Parallel Connectivity

Up to 32 units can be connected in parallel (31 for Victron). These batteries **cannot** be connected in series.

Charging Parameters

Bulk: 57.6V

Float: 55.2V

Low DC cut off: 43.2V

Battery Connections

We supply 35mm² twin cables in both positive and negative. Each cable has a single M8 ring lug at one end, splitting into two M6 ring lugs at the other. These are intended as battery-to-battery links and are only required when connecting multiple rack batteries in parallel. For correct installation, always connect all negative conductors before attaching the positive.

Also included: an RS232-to-USB cable and a battery-to-battery communication cable (RS485-to-RS485), ensuring straightforward system integration.

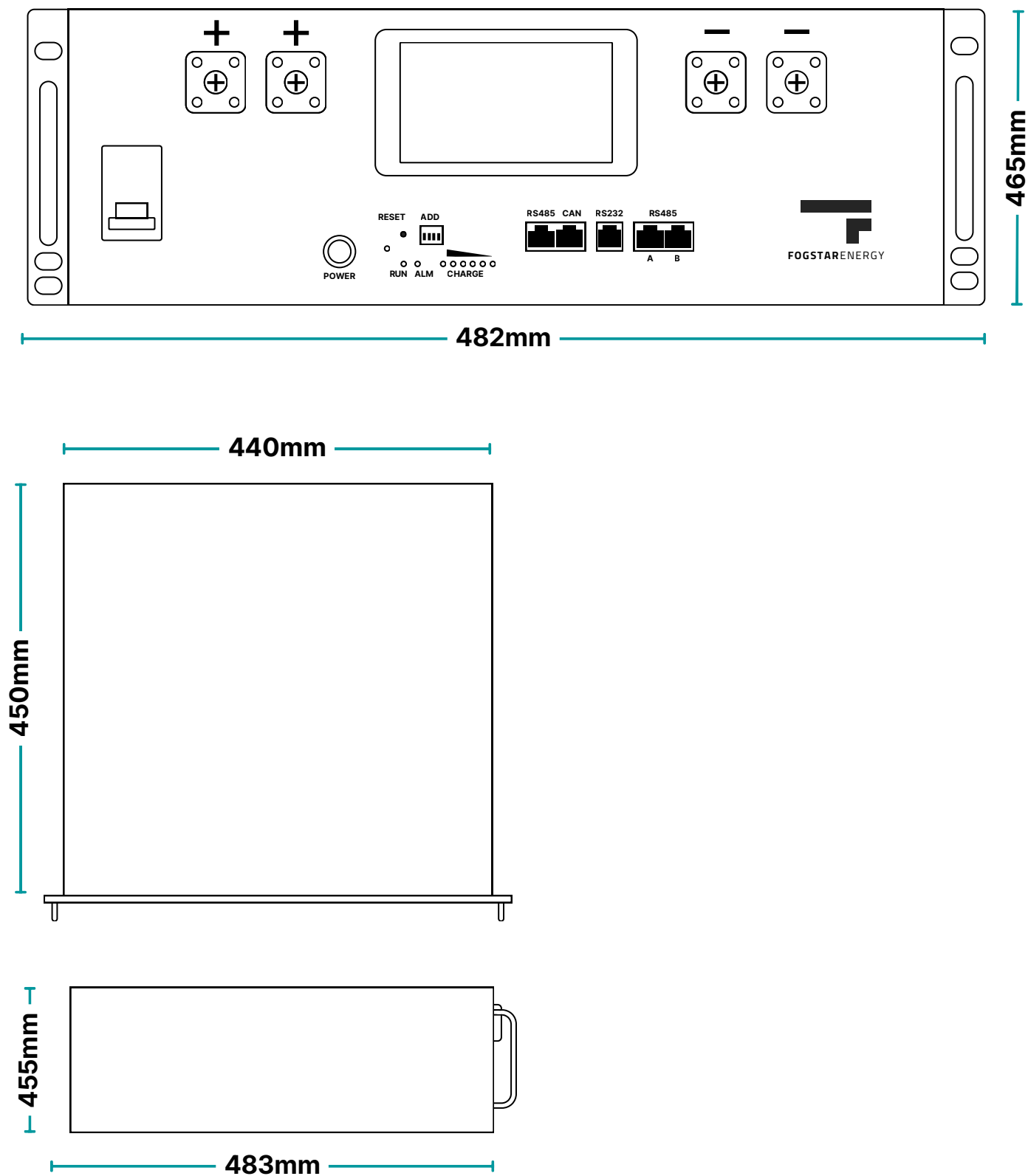
Updating the Inverter Protocol

The PACE Battery Management System (BMS) seamlessly integrates with a wide range of popular inverters, containing pre-loaded protocols for, but not limited to, LuxPower, Sunsynk, Victron and more. Changing the inverter protocol doesn't involve any complex software downloads; you can change it simply by navigating the LCD Touchscreen.

Battery Heating

The integrated heating system activates below 5 °C, enabling safe charging at 0 °C and reliable operation in ambient temperatures down to -20 °C.

DIMENSIONS





CLASSIC UI

Updating the Inverter Protocol via the Touchscreen

You can update your Inverter protocol via the Touchscreen on the battery, this negates the need for downloading the Pbms Tools BMS Software.

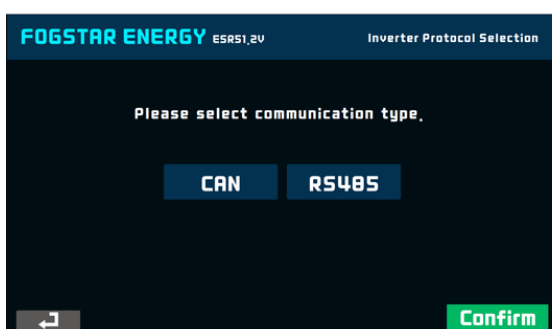
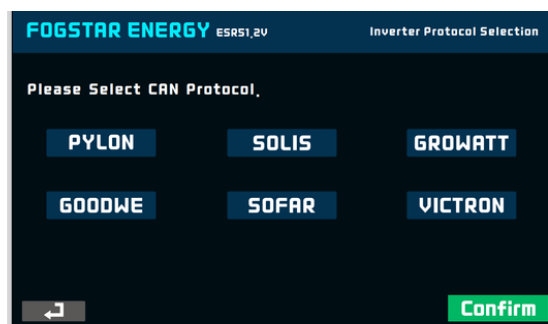
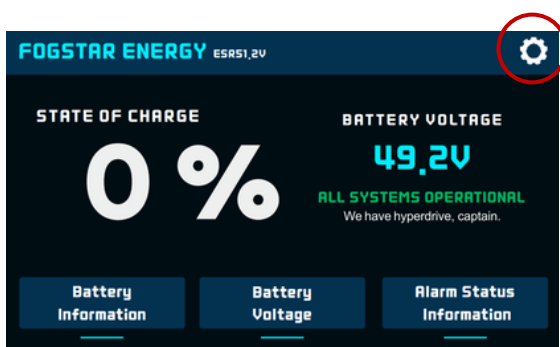
1. Hit the 'Settings' button in the top right hand corner
2. Select CAN or RS485 communication type
3. Select the correct protocol
4. Click 'Confirm' and use the back arrow to navigate back to the main screen.

All of our units are configured to CAN > Pylon when shipped - in most instances, you won't even need to change the protocol.

Connecting battery to PC and using the Pbms Tools software

For this, you will require a USB to RS232 cable - if you need one sent out, please get in touch with a member of our team. This requires a Windows PC (this process has been tested on Windows 7 and above).

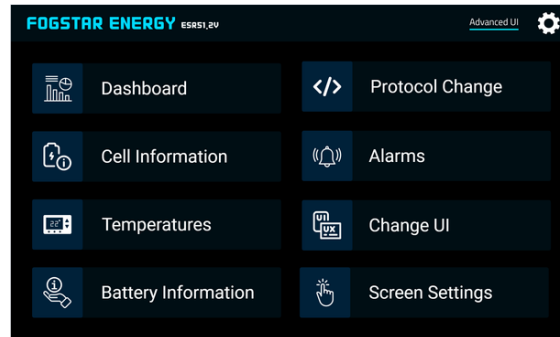
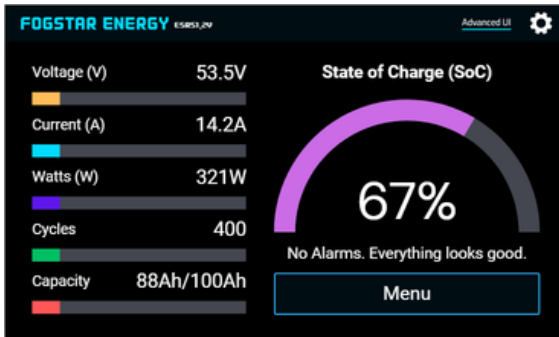
1. On the initial connection to the USB port, Windows will automatically download drivers for the USB to RS232.
2. Download the PBMS BMS monitoring program from our Knowledge Hub.
3. You may be asked to install or update Microsoft .Net Framework, please proceed with this.
4. Open the PBMS Monitoring Tool.



Changing the inverter protocol via the screen.



ADVANCED UI



Advanced UI Overview

The Advanced UI provides detailed, real-time information about the battery system. It is intended for users who require more in-depth data than the Classic UI.

Dashboard

Shows key operating data including voltage, current, power, State of Charge (SoC), cycle count, and remaining capacity.

Cell Information

Shows individual cell voltages, along with the highest and lowest cell values, voltage differential, and cell balancing status. This screen is used to monitor cell consistency and balance.

Temperatures

Shows cell, BMS, and environmental temperature readings. BMS temperature may change during charging and discharging.

Battery Information

Provides system configuration and status details such as communication protocols, number of connected batteries, battery position, design and actual capacity, MOS status, and current limiting state.

Alarms

Displays active warnings or faults. If none are present, the screen confirms normal operation.

Protocol Change

Allows selection of the CAN or RS485 BMS communication protocol.



INSTALLATION

Installation Location

The Fogstar Energy XYZ is **not IP-rated** and is intended for installation in clean, dry, indoor environments only. The Product must be protected from water, moisture, condensation, excessive humidity, dust and other environmental contaminants at all times.

To maximise service life and performance, install the Product in a well-ventilated location, protected from prolonged direct sunlight, excessive heat and adverse environmental conditions. Suitable installation locations include purpose-built battery rooms, plant rooms, utility rooms or other dry technical spaces. Where multiple batteries are installed, adequate spacing and ventilation should be provided to allow unrestricted airflow around each unit.

The Product must not be installed:

- Outdoors or in exposed environments.
- In locations where water ingress, flooding or standing water may occur.
- In rooms intended for sleeping.
- Within escape routes, stairways, corridors or other means of escape.
- In lofts, roof spaces or other confined spaces with inadequate ventilation.
- Adjacent to stored flammable materials or fuel storage.
- Near sources of excessive heat, naked flames or other ignition sources.
- In environments containing corrosive chemicals, salt spray or excessive airborne contamination.
- In prolonged direct sunlight or locations where excessive solar heat may occur.

When installed within a domestic dwelling, the installation should be designed and carried out in accordance with applicable national regulations and recognised industry guidance, including PAS 63100 and BS 7671 where applicable. Particular consideration should be given to installation location, ventilation, fire detection, accessibility for maintenance and protection against mechanical damage.

Environmental Conditions

The Product should not be exposed to prolonged direct sunlight or excessive ambient temperatures. Elevated temperatures may increase the internal temperature of the battery and cause the Battery Management System (BMS) to temporarily limit or suspend charging and/or discharging as a protective measure. This is a normal protective function and operation will automatically resume once the battery temperature returns to an acceptable operating range.



INSTALLATION

Delivery and Handling

Your Fogstar Energy Rack Battery will arrive securely packaged and should be handled with care during installation.

Each battery weighs approximately 45.2kg. We recommend that lifting and installation are carried out by at least two people.

Inspect the battery upon arrival and verify that there is no visible damage to the enclosure, terminals, touchscreen or accessories. If damage is identified, do not install or operate the battery.

Single Battery Installation

A single Fogstar Energy Rack Battery can be installed within a suitable rack system or mounted using the optional Fogstar Energy 5.12kWh Wall Mount Bracket.

When using the Fogstar Wall Mount Bracket:

- Ensure the mounting surface is capable of supporting the combined weight of the battery and bracket.
- Secure the bracket using suitable fixings appropriate for the wall construction.
- Carefully position the battery onto the bracket.
- Secure the battery using the supplied mounting hardware.
- Verify all fixings are fully tightened Before powering the system.

For a single battery installation, connect the battery directly to the inverter using the supplied power and communication cables.

Before powering the system, configure the ADD DIP switches as the **Master Battery**. Refer to Page 14 for the DIP switch configuration table.

Once configured, connect the CAN or RS485 communication cable and continue with inverter setup.



INSTALLATION

The Fogstar Energy 5.12kWh Rack Battery is not IP-rated and is intended for installation in clean, dry, indoor environments only. The Product must be protected from water, moisture, condensation, excessive humidity, dust and other environmental contaminants at all times.

To maximise service life and performance, install the Product in a well-ventilated location, protected from prolonged direct sunlight, excessive heat and adverse environmental conditions. Suitable installation locations include purpose-built battery rooms, plant rooms, utility rooms or other dry technical spaces. Where multiple batteries are installed, adequate spacing and ventilation should be provided to allow unrestricted airflow around each unit.

The Rack must not be installed:

- Outdoors or in exposed environments, unless installed within a compatible protective enclosure, such as the Fogstar Energy IP56 Outdoor Battery Cabinet.
- In locations where water ingress, flooding or standing water may occur.
- In rooms intended for sleeping.
- Within escape routes, stairways, corridors or other means of escape.
- In lofts, roof spaces or other confined spaces with inadequate ventilation.
- Adjacent to stored flammable materials or fuel storage.
- Near sources of excessive heat, naked flames or other ignition sources.
- In environments containing corrosive chemicals, salt spray or excessive airborne contamination.

When installed within a domestic dwelling, the installation should be designed and carried out in accordance with applicable national regulations and recognised industry guidance, including PAS 63100:2024 and BS 7671 where applicable. Particular consideration should be given to installation location, ventilation, fire detection, accessibility for maintenance and protection against mechanical damage.

The Product should be mounted in a Fogstar Energy rack mount, cabinet or compatible enclosure designed to safely support its weight and provide adequate ventilation. The installation surface and supporting structure must be capable of supporting the combined weight of all installed equipment.

Environmental Conditions

The Product should not be exposed to prolonged direct sunlight or excessive ambient temperatures. Elevated temperatures may increase the internal temperature of the battery and cause the Battery Management System (BMS) to temporarily limit or suspend charging and/or discharging as a protective measure. This is a normal protective function and operation will automatically resume once the battery temperature returns to an acceptable operating range.



INSTALLATION

Multiple Battery Installation

When installing multiple batteries, ensure all batteries are securely mounted and adequately supported.

Verify that all batteries are the same model and specification before connecting them together. Ensure each battery is switched OFF and the DC breaker is in the OFF position before proceeding.

Configuring DIP Switch Addresses

Each battery within the system must be assigned a unique DIP switch address using the ADD DIP switches located on the front of the battery.

The first battery in the system should be configured as the Master Battery, with all additional batteries configured using the next available DIP switch addresses in sequence.

Refer to Page 14 for the complete DIP switch address configuration table.

Connecting Battery Communication Cables

Once the DIP switch addresses have been configured, connect the batteries together using the supplied battery-to-battery communication cables.

- Connect **Port A** on the first battery to **Port B** on the second battery.
- Connect **Port A** on the second battery to **Port B** on the third battery.
- Continue this pattern for all additional batteries.

The Master Battery should have a single communication cable connected and must be connected directly to the inverter using the appropriate CAN or RS485 communication cable. The final battery in the chain should also have a single communication cable connected, while all intermediate batteries should have communication cables connected to both communication ports.

Connecting the Inverter

Connect the battery positive and negative power cables, along with the CAN or RS485 communication cable, in accordance with your inverter manufacturer's installation instructions.

The communication port used may vary depending on the inverter manufacturer and selected protocol.

Before powering the system, ensure all cable terminations are secure and correctly tightened, torqued to 6Nm. Once all power and communication cables have been connected, continue with inverter protocol selection.



INSTALLATION

Selecting the Inverter Communication Protocol

Fogstar Energy Rack Batteries include pre-loaded communication protocols for a wide range of compatible inverter manufacturers.

The communication protocol can be selected directly through the integrated touchscreen display.

To change the inverter protocol:

- Select the Settings icon from the main screen.
- Select Protocol Change.
- Choose either CAN BMS Protocol or RS485 Protocol.
- Select the inverter manufacturer from the available protocol list.
- Confirm the selection and return to the main screen.

Once the correct protocol has been selected and all wiring has been verified, the battery DC breaker may be switched ON and normal commissioning can begin.

PC Connection and Advanced Configuration

The battery can also be connected to a Windows PC using the supplied RS232-to-USB communication cable.

This allows access to advanced battery diagnostics and configuration functions where required.

For normal inverter installations, protocol selection via the touchscreen is recommended and does not require additional software.



INSTALLATION



What's Included?

- 1 × Positive 35mm² Battery Linking Cable (M8 to Twin M6)
- 1 × Negative 35mm² Battery Linking Cable (M8 to Twin M6)
- 1 × RS232-to-USB Communication Cable
- 1 × RS485-to-RS485 Battery Communication Cable

Note: The supplied 35mm² positive and negative cables are intended for battery-to-battery connections when installing multiple rack batteries in parallel. For correct installation, always connect all negative conductors before connecting the positive conductors.



Positive 35mm² Battery Linking Cable (M8 to Twin M6)



Negative 35mm² Battery Linking Cable (M8 to Twin M6)



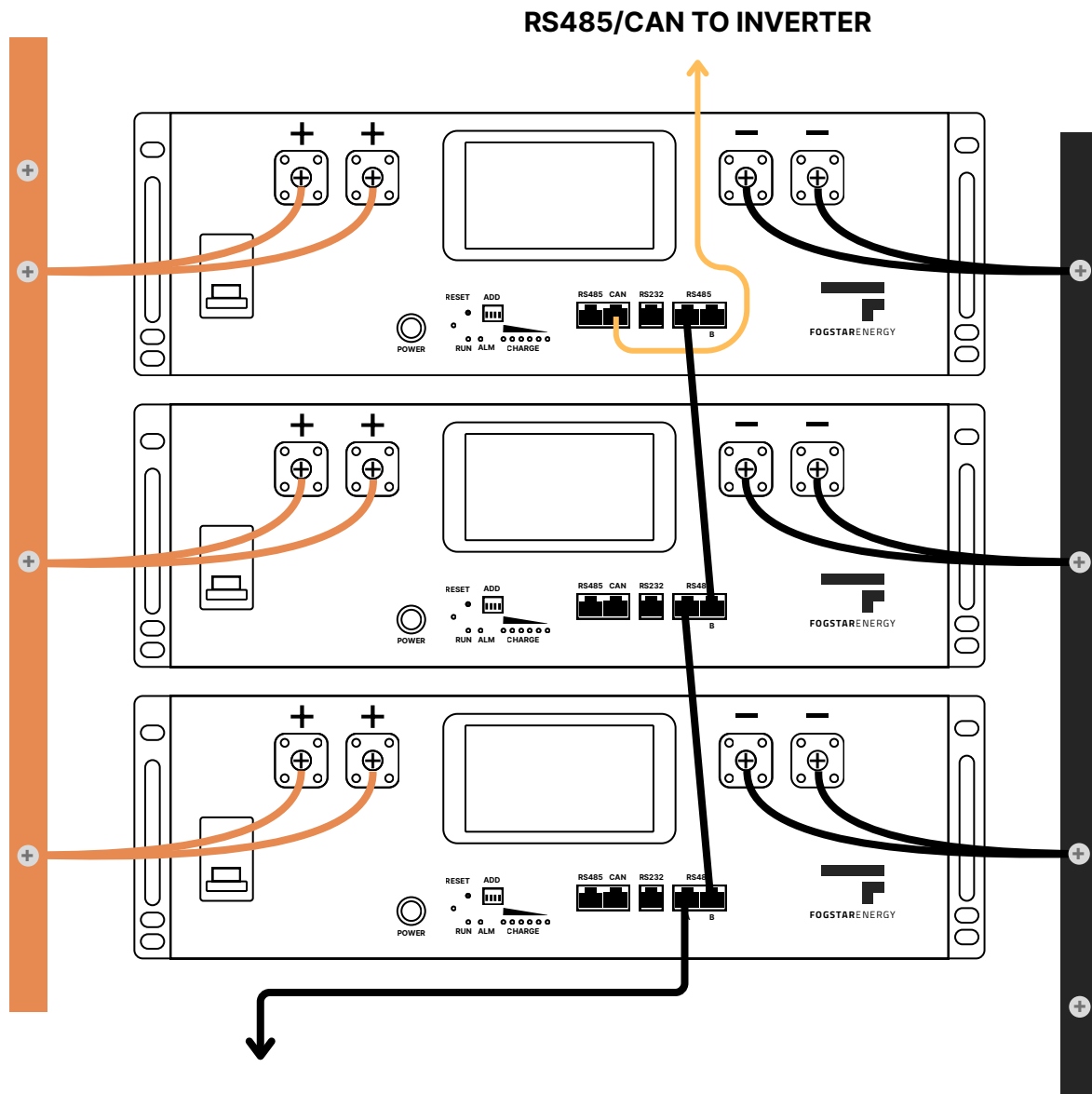
RS232-to-USB Communication Cable



RS485-to-RS485 Battery



INSTALLATION



BATTERY LINKING



A

B

Battery Linking (A → B)

Connect Port A on one battery to Port B on the next battery using the supplied RS485 communication cable. Continue this sequence throughout the battery bank.

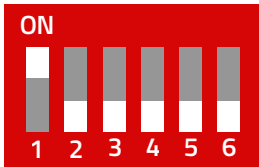
MASTER

2

3

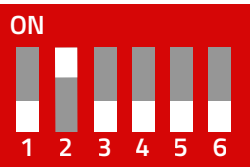
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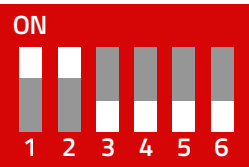
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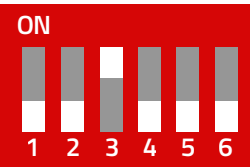
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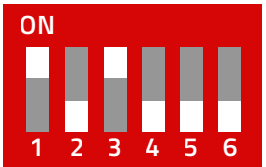
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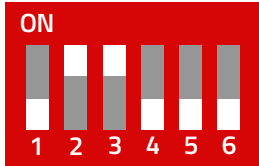
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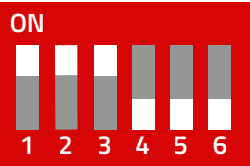
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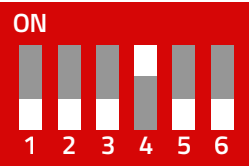
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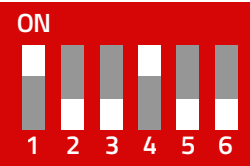
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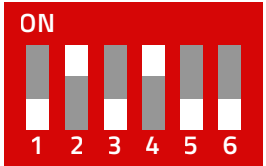
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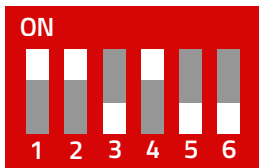
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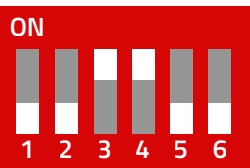
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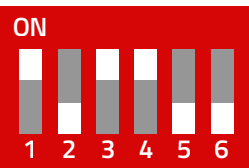
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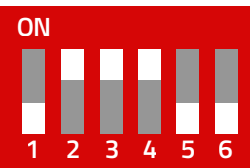
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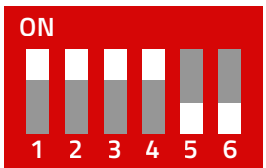
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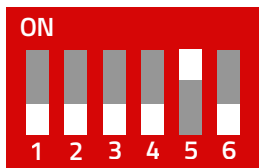
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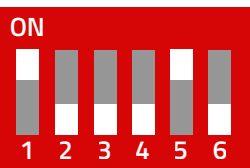
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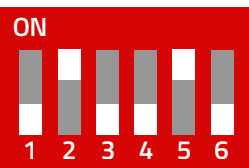
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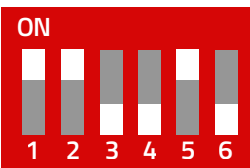
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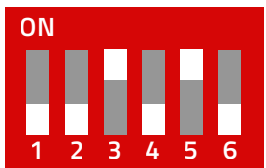
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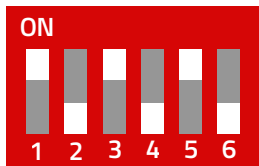
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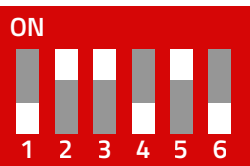
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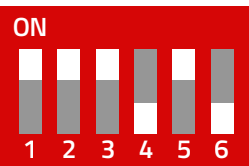
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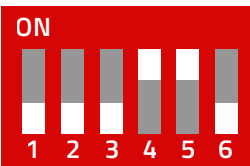
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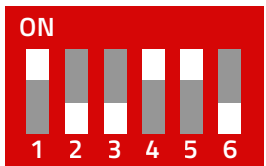
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28



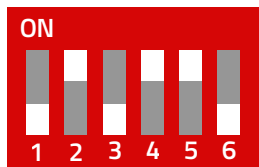
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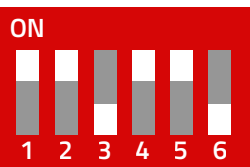
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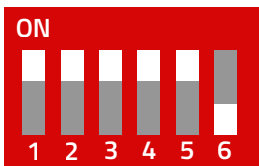
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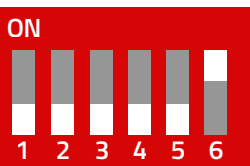


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4=ON 5=ON 6=OFF

32



1=ON 2=ON 3=ON
4=ON 5=ON 6=OFF



1=OFF 2=OFF 3=OFF
4=OFF 5=OFF 6=ON

DIP SWITCHES

Please note: Victron Protocol only currently supports 31 batteries in parallel. Workarounds are possible, please contact us for more information.



STORAGE CABINETS

Fogstar Energy Storage Cabinets provide a secure, organised and scalable installation platform for Fogstar Energy 5.12kWh Rack Batteries.

Designed in the UK and manufactured using high-quality materials, each cabinet is engineered to simplify installation, improve cable management and deliver a clean, professional energy storage solution.

Unlike traditional rack battery installations that rely on multiple battery-to-battery power connections, Fogstar Energy Storage Cabinets utilise integrated nickel-plated copper busbars to provide balanced current distribution across all connected batteries.

Available cabinet options include:

- 3 Rack Glass Cabinet (15.36kWh)
- 6 Rack Glass Cabinet (30.72kWh)
- 8 Rack IP56 Outdoor Cabinet (40.96kWh)

Multiple cabinets can be connected together, supporting up to 32 Fogstar Energy Rack Batteries (31 when used with Victron systems).

Key Features

Integrated Copper Busbars

Heavy-duty nickel-plated copper busbars simplify battery connections while promoting balanced current distribution throughout the system.

Tempered Glass Front Panel

The 3 Rack and 6 Rack Cabinets feature a tempered glass front door, providing a premium finish while allowing quick visual inspection of installed batteries.

Cable Access Points

Integrated cable access points at both the top and bottom of the cabinet allow for clean, organised routing of power and communication cables.

Lockable Cabinet Design

A secure lockable front door helps protect installed batteries and system components from unauthorised access while allowing convenient access for inspection, maintenance and servicing.



3 Rack Cabinet (15kWh)



6 Rack Cabinet (30kWh)



IP-Rated 8 Rack Cabinet (40.96kWh)



STORAGE CABINETS

Vented Construction

Vented front panels promote airflow around installed batteries, helping to support efficient operation and long-term reliability.

Weatherproof Outdoor Option

The IP56 Outdoor Cabinet is manufactured from durable carbonised steel and engineered for year-round outdoor installations.

3 RACK CABINET

Designed to accommodate up to 3 (three) Fogstar Energy 5.12kWh Rack Batteries, providing up to 15.36kWh of energy storage capacity.

Dimensions: 600 × 650 × 800mm

FEATURES



Tempered Glass Front Panel

The cabinets feature a tempered glass front panel at the front of the units, providing a clear view of your system while maintaining a clean, modern and professional finish.



Cable access

The cabinets incorporate two, circular cut-out cable access points in both the bottom and top of the units. These allow for a neat and tidy cabling system.



Nickel Plated Busbar

Thick nickel plated copper busbars enable users to connect our batteries in parallel with ease.



Lockable Cabinet Design

A secure lockable front door helps protect installed batteries and system components from unauthorised access while allowing convenient access for inspection, maintenance and servicing.





6 RACK CABINET

Designed to accommodate up to 6 (six) Fogstar Energy 5.12kWh Rack Batteries, providing up to 30.72kWh of energy storage capacity.

Dimensions: 600 × 650 × 1250mm

FEATURES



**Tempered
Glass Front
Panel**

The cabinets feature a tempered glass front panel at the front of the units, providing a clear view of your system while maintaining a clean, modern and professional finish.



**Cable
access**

The cabinets incorporate two, circular cut-out cable access points in both the bottom and top of the units. These allow for a neat and tidy cabling system.



**Nickel
Plated Busbar**

Thick nickel plated copper busbars enable users to connect our batteries in parallel with ease.



**Lockable
Cabinet
Design**

A secure lockable front door helps protect installed batteries and system components from unauthorised access while allowing convenient access for inspection, maintenance and servicing.





3 & 6 RACK CABINETS

Installation Location

The Fogstar Energy Server Rack Battery Glass Cabinet 15kWh and 30kWh Capacity are **not IP65-rated** and is intended for installation in clean, dry, indoor environments only. The Product must be protected from water, moisture, condensation, excessive humidity, dust and other environmental contaminants at all times.

To maximise service life and performance, install the Product in a well-ventilated location, protected from prolonged direct sunlight, excessive heat and adverse environmental conditions. Suitable installation locations include purpose-built battery rooms, plant rooms, utility rooms or other dry technical spaces. Where multiple batteries are installed, adequate spacing and ventilation should be provided to allow unrestricted airflow around each unit.

The Product must **not** be installed:

- Outdoors or in exposed environments.
- In locations where water ingress, flooding or standing water may occur.
- In rooms intended for sleeping.
- Within escape routes, stairways, corridors or other means of escape.
- In lofts, roof spaces or other confined spaces with inadequate ventilation.
- Adjacent to stored flammable materials or fuel storage.
- Near sources of excessive heat, naked flames or other ignition sources.
- In environments containing corrosive chemicals, salt spray or excessive airborne contamination.
- In prolonged direct sunlight or locations where excessive solar heat may occur.

When installed within a domestic dwelling, the installation should be designed and carried out in accordance with applicable national regulations and recognised industry guidance, including PAS 63100 and BS 7671 where applicable. Particular consideration should be given to installation location, ventilation, fire detection, accessibility for maintenance and protection against mechanical damage.

Environmental Conditions

The Product should not be exposed to prolonged direct sunlight or excessive ambient temperatures. Elevated temperatures may increase the internal temperature of the battery and cause the Battery Management System (BMS) to temporarily limit or suspend charging and/or discharging as a protective measure. This is a normal protective function and operation will automatically resume once the battery temperature returns to an acceptable operating range.



IP56 OUTDOOR CABINET

Designed to accommodate up to 8 (eight) Fogstar Energy 5.12kWh Rack Batteries, providing up to 40.96kWh of energy storage capacity.

Dimensions: 1650 × 600 × 595mm

FEATURES

IP56 Weatherproof Protection

Designed for year-round outdoor installations, the IP56-rated enclosure provides protection against dust ingress and water exposure, helping to safeguard your energy storage system in demanding environments.

Carbonised Steel Construction

Manufactured from durable carbonised steel, the cabinet is engineered for long-term outdoor use and provides exceptional strength, durability and corrosion resistance.

Integrated Copper Busbars

Heavy-duty nickel-plated copper busbars allow for straightforward battery connections while promoting balanced current distribution across the battery bank.

Sloped Roof Design

The angled roof helps rainwater run off efficiently, preventing standing water and improving long-term weather resistance.

Bug-Proof Ventilation

Integrated bug-proof grating allows airflow through the cabinet while helping prevent insects and pests from entering the enclosure.

Lockable Cabinet Design

A robust lockable door helps protect installed batteries and system components from unauthorised access while maintaining easy access for servicing and maintenance.

Scalable Energy Storage

Each cabinet can house up to eight Fogstar Energy Rack Batteries and can be incorporated into larger systems supporting up to 32 batteries in parallel (31 with Victron systems), allowing energy storage capacity to grow alongside your requirements.





IP56 OUTDOOR CABINET

Placement and Environmental Requirements

For safe installation, reliable operation and maximum service life, the following installation requirements should be observed:

- Install the battery on a level, non-flammable surface, such as concrete.
- Do not install the battery on combustible building materials.
- Maintain an operating ambient temperature between -20°C and 60°C.
- Allow a minimum clearance of 300mm around the battery to ensure adequate ventilation and service access.
- Avoid locations with excessive dust, vibration or poor ventilation.

Although the battery is IP-rated for outdoor installation, it should be installed in a sheltered location wherever possible. Suitable locations include beneath an overhang, canopy, purpose-built enclosure or other protective structure that shields the battery from prolonged direct sunlight, heavy rainfall, snow and other extreme environmental conditions while maintaining adequate airflow.

Do not install the battery where it may be exposed to standing water, flooding or conditions that could result in prolonged water ingress.

Prolonged exposure to direct sunlight, particularly during periods of high ambient temperature, can significantly increase the battery's internal operating temperature. If safe operating limits are exceeded.



CABINET INSTALLATION

Delivery and Handling

Your cabinet will arrive securely packaged and should be inspected before installation.

Before installing any batteries, move the empty cabinet into its final position.

Ensure the cabinet is installed on a flat, stable surface capable of supporting the combined weight of the cabinet, batteries and associated equipment.

We recommend that cabinet installation and battery loading are carried out by at least two people.

Positioning the Cabinet

Position the cabinet in a suitable location with adequate clearance for ventilation, servicing and cable routing.

Where adjustable levelling feet are fitted, ensure the cabinet is level and stable before proceeding.

For indoor installations, avoid areas exposed to excessive moisture or heat sources.

For IP-rated outdoor cabinets, follow the installation guidance supplied with the enclosure.

Accessing the Cabinet

To open the cabinet, press the release button located within the handle assembly. This will allow the handle to extend and the cabinet door to be opened.

Each cabinet is supplied with two sets of keys. These are typically located inside the cabinet during shipment and should be removed and stored safely.

Where children, pets or unauthorised persons may have access to the installation area, we recommend keeping the cabinet locked whenever possible.



CABINET INSTALLATION

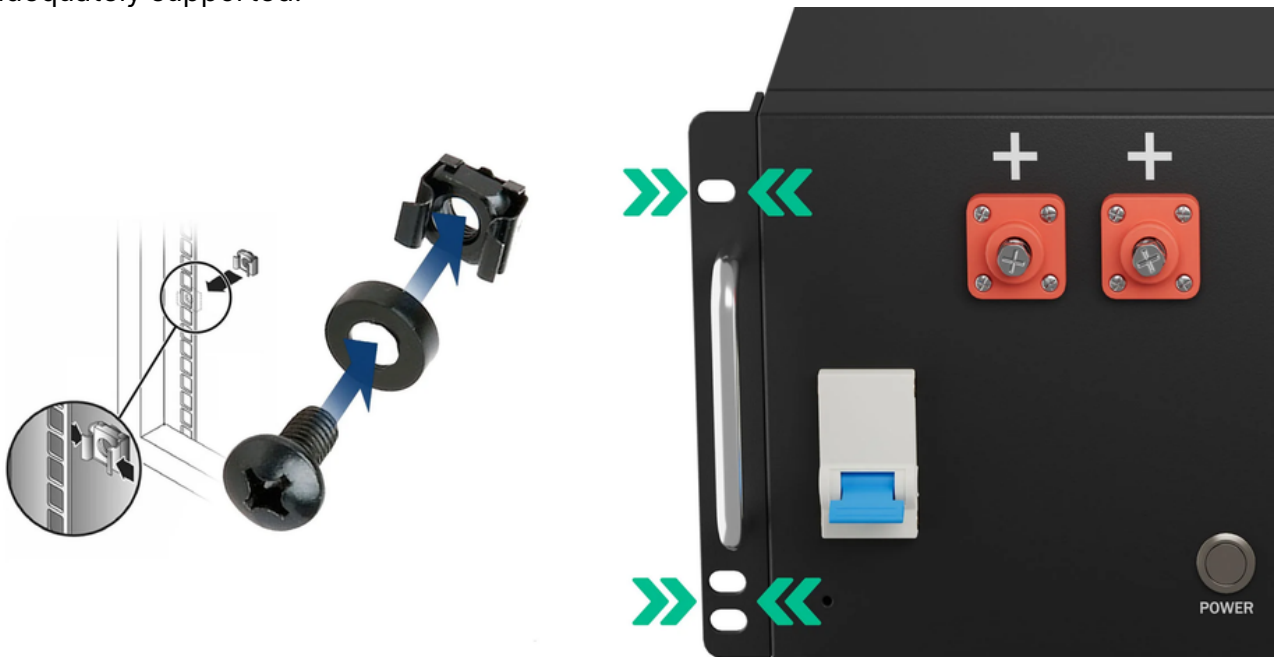
Installing Batteries into the Cabinet

Carefully slide each battery into the desired rack position.

Using the supplied M6 mounting bolts and washers, secure each battery to the cabinet mounting rails.

Install and secure each battery before proceeding to the next position.

Before making any electrical connections, verify that all batteries are correctly mounted, aligned and adequately supported.



Connecting the Cabinet Busbars

Fogstar Energy Storage Cabinets utilise integrated nickel-plated copper busbars to simplify battery connections and promote balanced current distribution across the battery bank.

Each supplied battery cable set consists of a positive and negative 35mm² cable. Each cable features a single M8 ring terminal at one end for connection to the cabinet busbar, and twin M6 ring terminals at the other end for connection to the battery terminals. Torque each cable to 11Nm.

Connect all negative battery cables first.

Attach the twin M6 terminals to the battery negative terminals and the M8 terminal to the cabinet negative busbar.



CABINET INSTALLATION

Once all negative connections have been completed, repeat the process for the positive battery cables, connecting them to the positive battery terminals and positive cabinet busbar.

Verify that all cable terminations are secure before proceeding.

We recommend leaving one connection point available on each busbar for the inverter battery cables. The inverter positive cable should be connected to the uppermost M8 connection point on the positive busbar, while the inverter negative cable should be connected to the lowermost M8 connection point on the negative busbar.

Connecting the Inverter Cables

Connect the inverter negative cable to the cabinet negative busbar and the inverter positive cable to the cabinet positive busbar.

The inverter cable connection points should utilise the spare busbar positions left available during battery installation.

Inverter cable sizing, protection devices and installation requirements will vary depending on the inverter manufacturer, cable length and overall system design.

Always refer to the inverter manufacturer's installation documentation and local electrical regulations before making any electrical connections. If you require assistance locating a qualified installer, please visit the **Fogstar Installer Locator** on our website to find an installer in your area.

Final Checks

- Verify all batteries are securely mounted.
- Verify all M6 battery terminal connections are secure.
- Verify all M8 busbar connections are secure.
- Verify all communication cables are connected correctly.
- Verify all power cable connections are correctly tightened.
- Verify all cabinet doors and panels are secured.



Need an Installer?

Scan the QR code below to access the Fogstar Installer Locator and find a qualified installer in your area.



WARRANTY

The Fogstar Energy 5.12kWh Rack battery comes with a 10-year warranty, covering BMS failure, cell failure, temperature sensors, charging/discharging faults, and internal corrosion. Excludes misuse, tampering, incompatible systems, or accidental damage.

Please see the Fogstar Energy 5.12kWh Rack Warranty Booklet for further warranty information.

Reporting an Issue

Should you encounter a problem with your Fogstar unit it is important you contact our Customer Services team first and foremost. This gives us an opportunity to help you resolve the issue before any problems arise. By coming directly to us, before posting on forums or groups, we can help you resolve any issues or concerns quickly and efficiently.

Please send any images or screenshots, along with a description of your issue to customerservice@fogstar.co.uk.

If your issue is urgent and you need to talk with a member of the tech team immediately, please call 01527 757980.



FAQ'S

Can I connect my Rack Battery to other brands of battery?

No. Fogstar Energy Rack Batteries should only be connected to other Fogstar Energy Rack Batteries of the same model and specification. Mixing different battery brands or models is not supported and may result in communication, performance or safety issues.

How many Rack Batteries can I connect together?

Fogstar Energy Rack Batteries support up to 32 batteries connected in parallel, providing up to 163.84kWh of total storage capacity. When used with Victron systems, the maximum supported configuration is 31 batteries.

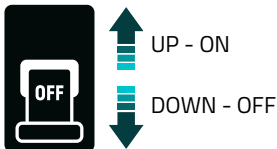
Do all Rack Batteries need communication cables?

Yes. When connecting multiple batteries together, each battery must be linked using the supplied RS485 battery-to-battery communication cables to enable correct system communication and monitoring.

How do I switch the battery ON or OFF?

The battery power button controls the battery electronics, while the integrated DC breaker provides electrical isolation.

- Breaker UP = **ON**
- Breaker DOWN = **OFF**



Always follow the installation and commissioning procedure outlined in the user manual when energising or isolating the battery.

What cabinet options are available?

Fogstar Energy Storage Cabinets are designed specifically for use with Fogstar Energy Rack Batteries and provide a clean, secure and scalable installation platform.

Available options include:

- 3-Battery Glass Cabinet (15.36kWh)
- 6-Battery Glass Cabinet (30.72kWh)
- 8-Battery IP-Rated Cabinet (40.96kWh)

All cabinet systems are fully compatible with Fogstar Energy 5.12kWh Rack Batteries and support scalable installations of up to 32 batteries in parallel (31 with Victron systems).

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