

FOGSTAR IP65 RATED MODULAR BATTERY

INSTALLATION GUIDE 2026

www.fogstar.co.uk





32.2kWh 51.2V

Modular 314Ah LiFePO₄ BATTERY

INSTALLATION GUIDE

1 Unpack and check parts

Carefully unpack the battery system and check that all parts are present before beginning installation.

The control panel and base will arrive together in one crate and will be screwed together. Before installation, the control panel will need to be unscrewed and separated from the base. The individual 16.1kWh battery modules will arrive separately. The cables will be packed in the same crate as the control panel and base.

Check that the battery modules, control panel, base, power cables and communication cables are all present and undamaged. Do not begin installation if any parts are missing, damaged, or appear to have been mishandled during delivery.

If you experience any issues, please contact us:

✉ customerservice@fogstar.co.uk

☎ 01527 757980



2 Assemble the battery stack

2.1 Position the base

Place the base on a level, stable, non-flammable surface, such as concrete. Ensure there is at least 30cm of clearance around the battery for ventilation, cable access and servicing. Once positioned, lock or level the base using the wheel/levelling mechanism.

2.2 Stack the battery modules

Carefully place each 16.1kWh battery module onto the base one at a time. Due to the weight of the modules (**123kg**), this should not be attempted alone. Ensure each module is seated correctly and aligned properly before placing the next module on top.

As each module is stacked, secure it using the supplied metal joining plates before continuing to the next module.

2.3 Remove the side access panels

Unscrew and remove the side access panels to expose the battery connection ports. Keep the screws and panels safe, as they will need to be refitted after installation.

2.4 Confirm the system is switched off

Before connecting any cables, make sure the main breaker is switched OFF and all battery modules are switched OFF using their power buttons. Do not connect communication or power cables while the system is live.

2.5 Remove the terminal covers

The battery terminals are fitted with Amphenol terminal covers protected by screw-on rubber caps. Remove the caps only when ready to connect the cables and keep them safe for future use.

3 Connect the communication cables

Before installing the power cables, connect the communication cables between the control panel and battery modules. It is recommended to install the communication cables first, as the larger power cables can make access to the communication ports more difficult once installed.

For the 32.2kWh system (2 modular stacks), the supplied communication cables are:



Starting from the control panel, connect the far-left RS485 port to the CAN/RS485 port on the top battery module.

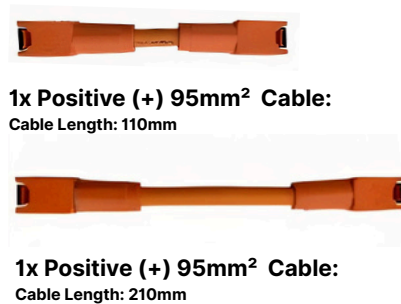
Then connect the RS4852 port on the top battery module to the RS4851 port on the battery module below.

Ensure all communication connectors are fully inserted and secure before continuing. Follow the wiring diagram carefully during installation.

4 Prepare the power cables

The supplied power cables are thick 95mm² cables and are not very flexible, so it is recommended to gently pre-shape the cables before installation to help align them with the terminals more easily. **Do not sharply bend, kink, or force the cables, as this may damage the cable or connectors.**

For the 32.2kWh system (2 modular stacks), the supplied power cables are:



5 Connect the power cables

Before connecting the power cables, remove the rubber terminal caps from the required terminals only. Keep the caps safe for future use or protection of unused terminals.

5.1 Connect the main negative cable

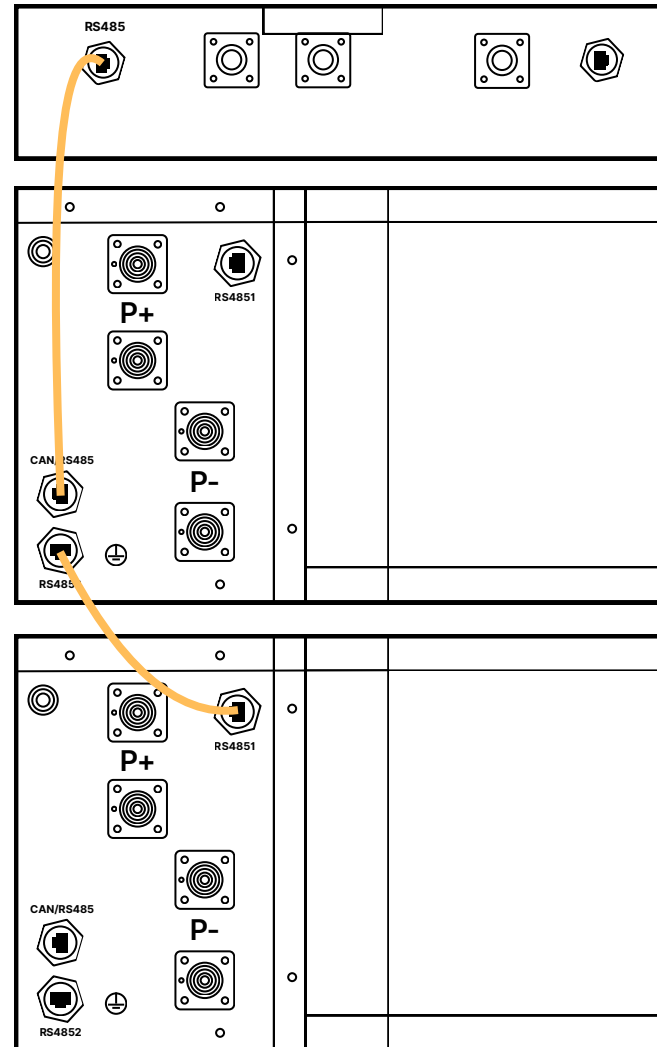
Connect the 505mm Negative 95mm² cable from the control panel **B-** terminal to the very bottom battery module **P-** terminal.

5.2 Connect the battery-to-battery negative cable

Connect the 110mm Negative 95mm² cable from the top battery module **P-** terminal to the battery module below **P-** terminal.

5.3 Connect the main positive cable

Connect the 210mm Positive 95mm² cable from the control panel **B+** terminal to the top battery module **P+** terminal.



5.4 Connect the battery-to-battery positive cable

Connect the 110mm Positive 95mm² cable from the top battery module **P+** terminal to the battery module below **P+** terminal.

Ensure all power cable connections are fully inserted, secure, and correctly matched **positive-to-positive** (+ to +) and **negative-to-negative** (- to -).

Follow the wiring diagram below for the correct power cable layout and routing.

6 Connect the inverter

Before powering on the battery system, the inverter must be connected to the control panel using the supplied inverter power and communication cables.

For the 32.2kWh system (2 modular stacks), the supplied inverter cables are:



1x Positive (+) 95mm² Cable:
Cable Length: 1500mm



1x Negative (-) 95mm² Cable:
Cable Length: 1500mm



1x communication Cable:
Cable Length: 1500mm

Please note: The supplied inverter cables may not be suitable for every inverter model or installation configuration. Always verify inverter terminal type, cable sizing requirements, current ratings, fuse protection, and communication compatibility prior to installation. Due to the high power capability of this battery system, additional or upgraded cabling may be required depending on inverter specification, installation distance, and system design. Installation should only be carried out by a suitably qualified installer familiar with high-current battery systems.

6.1 Connect the inverter negative cable

Connect the 1500mm Negative (-) inverter cable from the inverter negative terminal to the control panel inverter negative terminal.

6.2 Connect the inverter positive cable

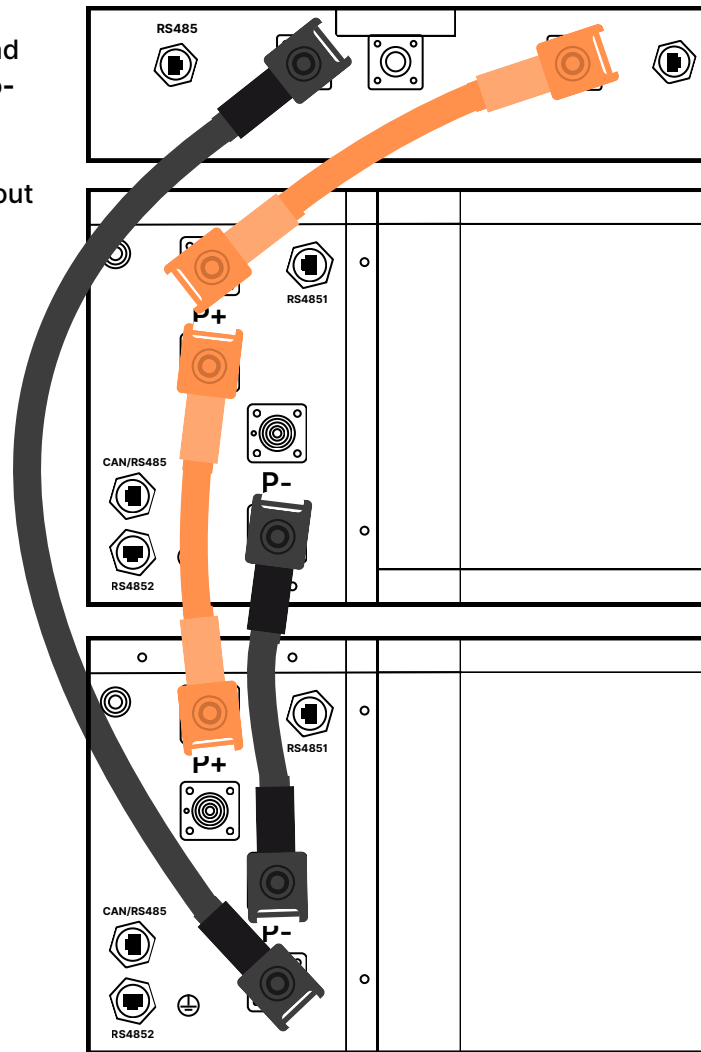
Connect the 1500mm Positive (+) inverter cable from the inverter positive terminal to the control panel inverter positive terminal.

6.3 Connect the inverter communication cable

Connect the 1500mm communication cable between the inverter communication port and the control panel communication port.

6.4 Configure the inverter communication protocol

The 48V Module battery is compatible with a wide range of low-voltage inverters, including but not limited to LuxPower, Sunsynk, Victron and more. Refer to your inverter manufacturer's setup instructions for the correct battery communication settings and protocol selection.



7 Power on the system

7.1 Switch on the breaker

Once all communication and power cable connections have been checked, switch the main breaker to the ON position. This helps prevent inverter inrush current during startup.

7.2 Power on the battery modules

Switch on each battery module using the power buttons.

Check that the LED indicators and control panel display power on correctly.

7.3 Refit the side access panels

Once the system has powered on successfully and all checks have been completed, refit the side access panels using the original screws.

Ensure no cables are trapped or pinched before tightening the panels fully.

8 Packing list



1x Positive (+) 95mm² Cable:
Cable Length: 110mm



1x Negative (-) 95mm² Cable:
Cable Length: 110mm



1x Positive (+) 95mm² Cable:
Cable Length: 110mm



1x Positive (+) 95mm² Cable:
Cable Length: 210mm



1x Negative (-) 95mm² Cable:
Cable Length: 505mm



**1x communication
Inverter Cable:**
Cable Length: 1500mm



**1x Positive (+) 95mm²
Inverter Cable:**
Cable Length: 1500mm



**1x Negative (-) 95mm²
Inverter Cable:**
Cable Length: 1500mm



1x RS232 Cable:
Cable Length: 1500mm

32.2kWh



48.3kWh 51.2V

Modular 314Ah LiFePO₄ BATTERY

INSTALLATION GUIDE

1 Unpack and check parts

Carefully unpack the battery system and check that all parts are present before beginning installation.

The control panel and base will arrive together in one crate and will be screwed together. Before installation, the control panel will need to be unscrewed and separated from the base. The individual 16.1kWh battery modules will arrive separately. The cables will be packed in the same crate as the control panel and base.

Check that the battery modules, control panel, base, power cables and communication cables are all present and undamaged. Do not begin installation if any parts are missing, damaged, or appear to have been mishandled during delivery.

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2 Assemble the battery stack

2.1 Position the base

Place the base on a level, stable, non-flammable surface, such as concrete. Ensure there is at least 30cm of clearance around the battery for ventilation, cable access and servicing. Once positioned, lock or level the base using the wheel/levelling mechanism.

2.2 Stack the battery modules

Carefully place each 16.1kWh battery module onto the base one at a time. Due to the weight of the modules (**123kg**), this should not be attempted alone. Ensure each module is seated correctly and aligned properly before placing the next module on top.

As each module is stacked, secure it using the supplied metal joining plates before continuing to the next module.

2.3 Remove the side access panels

Unscrew and remove the side access panels to expose the battery connection ports. Keep the screws and panels safe, as they will need to be refitted after installation.

2.4 Confirm the system is switched off

Before connecting any cables, make sure the main breaker is switched OFF and all battery modules are switched OFF using their power buttons. Do not connect communication or power cables while the system is live.

2.5 Remove the terminal covers

The battery terminals are fitted with Amphenol terminal covers protected by screw-on rubber caps. Remove the caps only when ready to connect the cables and keep them safe for future use.

3 Connect the communication cables

Before installing the power cables, connect the communication cables between the control panel and battery modules. It is recommended to install the communication cables first, as the larger power cables can make access to the communication ports more difficult once installed.

For the 48.3kWh system (3 modular stacks), the supplied communication cables are:



2x Positive (+) 95mm²

Cable:

Cable Length: 110mm

Starting from the control panel, connect the far-left RS485 port to the CAN/RS485 port on the top battery module.

Then connect the RS4852 port on the top battery module to the RS4851 port on the battery module below.

Ensure all communication connectors are fully inserted and secure before continuing. Follow the wiring diagram carefully during installation.

4 Prepare the power cables

The supplied power cables are thick 95mm² cables and are not very flexible, so it is recommended to gently pre-shape the cables before installation to help align them with the terminals more easily. **Do not sharply bend, kink, or force the cables, as this may damage the cable or connectors.**

For the 48.3kWh system (3 modular stacks), the supplied power cables are:



2x Positive (+) 95mm² Cable:

Cable Length: 110mm



1x Positive (+) 95mm² Cable:

Cable Length: 210mm



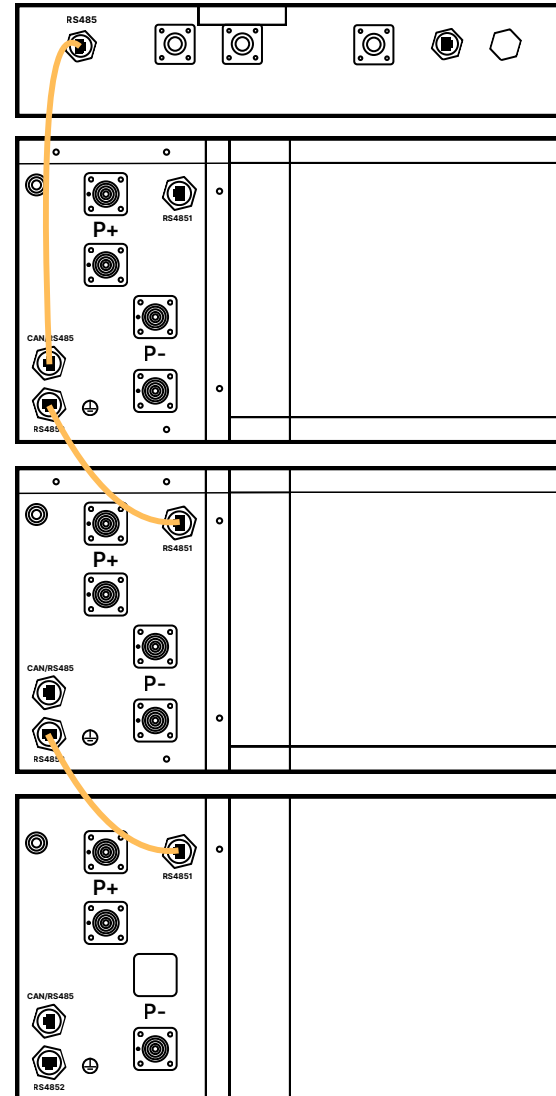
2x Negative (-) 95mm² Cable:

Cable Length: 110mm



1x Negative (-) 95mm² Cable:

Cable Length: 505mm



5 Connect the power cables

Before connecting the power cables, remove the rubber terminal caps from the required terminals only. Keep the caps safe for future use or protection of unused terminals.

5.1 Connect the main negative cable

Connect the 505mm Negative 95mm² cable from the control panel **B-** terminal to the very bottom battery module **P-** terminal.

5.2 Connect the battery-to-battery negative cable

Connect the 110mm Negative 95mm² cable from the top battery module **P-** terminal to the battery module below **P-** terminal.

5.3 Connect the main positive cable

Connect the 210mm Positive 95mm² cable from the control panel **B+** terminal to the top battery module **P+** terminal.

5.4 Connect the battery-to-battery positive cable

Connect the 110mm Positive 95mm² cable from the top battery module **P+** terminal to the battery module below **P+** terminal.

Ensure all power cable connections are fully inserted, secure, and correctly matched **positive-to-positive** (+ to +) and **negative-to-negative** (- to -).

Follow the wiring diagram below for the correct power cable layout and routing.

6 Connect the inverter

Before powering on the battery system, the inverter must be connected to the control panel using the supplied inverter power and communication cables.

For the 48.3kWh system (3 modular stacks), the supplied inverter cables are:



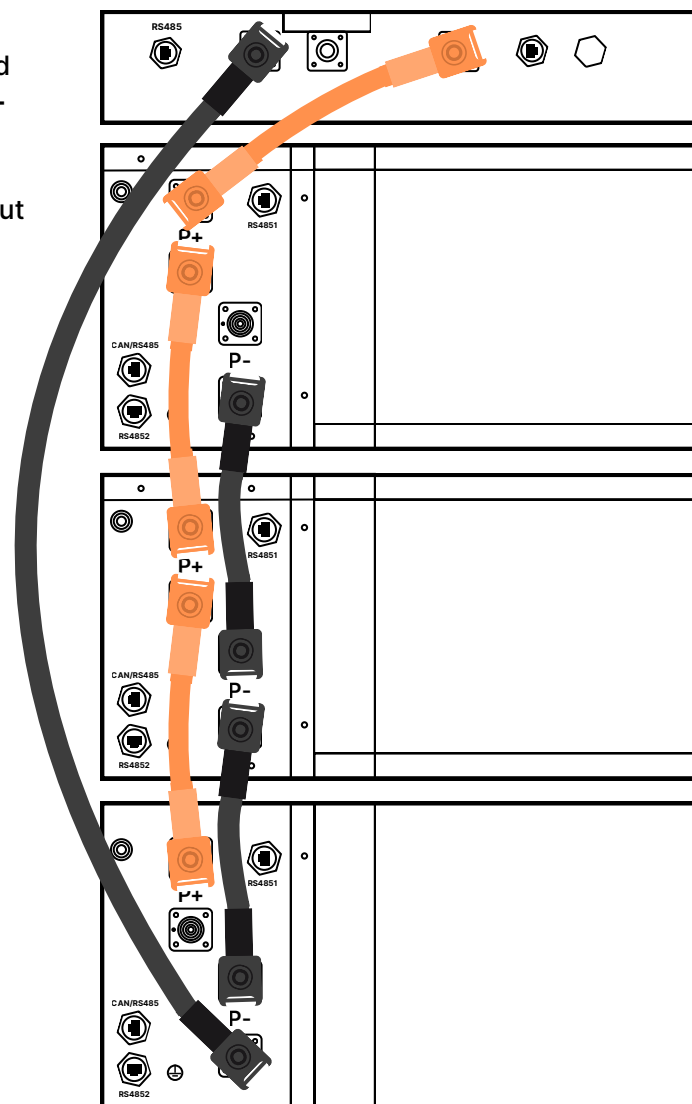
1x Positive (+) 95mm² Cable:
Cable Length: 1500mm



1x Negative (-) 95mm² Cable:
Cable Length: 1500mm



1x communication Cable:
Cable Length: 1500mm



Please note: The supplied inverter cables may not be suitable for every inverter model or installation configuration. Always verify inverter terminal type, cable sizing requirements, current ratings, fuse protection, and communication compatibility prior to installation. Due to the high power capability of this battery system, additional or upgraded cabling may be required depending on inverter specification, installation distance, and system design. Installation should only be carried out by a suitably qualified installer familiar with high-current battery systems.

6.1 Connect the inverter negative cable

Connect the 1500mm Negative (-) inverter cable from the inverter negative terminal to the control panel inverter negative terminal.

6.2 Connect the inverter positive cable

Connect the 1500mm Positive (+) inverter cable from the inverter positive terminal to the control panel inverter positive terminal.

6.3 Connect the inverter communication cable

Connect the 1500mm communication cable between the inverter communication port and the control panel communication port.

6.4 Configure the inverter communication protocol

The 48V Module battery is compatible with a wide range of low-voltage inverters, including but not limited to LuxPower, Sunsynk, Victron and more. Refer to your inverter manufacturer's setup instructions for the correct battery communication settings and protocol selection.

7 Power on the system

7.1 Switch on the breaker

Once all communication and power cable connections have been checked, switch the main breaker to the ON position. This helps prevent inverter inrush current during startup.

7.2 Power on the battery modules

Switch on each battery module using the power buttons.

Check that the LED indicators and control panel display power on correctly.

7.3 Refit the side access panels

Once the system has powered on successfully and all checks have been completed, refit the side access panels using the original screws.

Ensure no cables are trapped or pinched before tightening the panels fully.

8 Packing list



2x Positive (+) 95mm² Cable:
Cable Length: 110mm



2x Negative (-) 95mm² Cable:
Cable Length: 110mm



2x Positive (+) 95mm² Cable:
Cable Length: 110mm



1x Positive (+) 95mm² Cable:
Cable Length: 210mm



1x Negative (-) 95mm² Cable:
Cable Length: 505mm



**1x communication
Inverter Cable:**
Cable Length: 1500mm



**1x Positive (+) 95mm²
Inverter Cable:**
Cable Length: 1500mm



**1x Negative (-) 95mm²
Inverter Cable:**
Cable Length: 1500mm



1x RS232 Cable:
Cable Length: 1500mm

48.3kWh



64.4kWh 51.2V

Modular 314Ah LiFePO₄ BATTERY

INSTALLATION GUIDE

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Carefully unpack the battery system and check that all parts are present before beginning installation.

The control panel and base will arrive together in one crate and will be screwed together. Before installation, the control panel will need to be unscrewed and separated from the base. The individual 16.1kWh battery modules will arrive separately. The cables will be packed in the same crate as the control panel and base.

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2 Assemble the battery stack

2.1 Position the base

Place the base on a level, stable, non-flammable surface, such as concrete. Ensure there is at least 30cm of clearance around the battery for ventilation, cable access and servicing. Once positioned, lock or level the base using the wheel/levelling mechanism.

2.2 Stack the battery modules

Carefully place each 16.1kWh battery module onto the base one at a time. Due to the weight of the modules (**123kg**), this should not be attempted alone. Ensure each module is seated correctly and aligned properly before placing the next module on top.

As each module is stacked, secure it using the supplied metal joining plates before continuing to the next module.

2.3 Remove the side access panels

Unscrew and remove the side access panels to expose the battery connection ports. Keep the screws and panels safe, as they will need to be refitted after installation.

2.4 Confirm the system is switched off

Before connecting any cables, make sure the main breaker is switched OFF and all battery modules are switched OFF using their power buttons. Do not connect communication or power cables while the system is live.

2.5 Remove the terminal covers

The battery terminals are fitted with Amphenol terminal covers protected by screw-on rubber caps. Remove the caps only when ready to connect the cables and keep them safe for future use.

3 Connect the communication cables

Before installing the power cables, connect the communication cables between the control panel and battery modules. It is recommended to install the communication cables first, as the larger power cables can make access to the communication ports more difficult once installed.

For the 64.4kWh system (4 modular stacks), the supplied communication cables are:



3x Positive (+) 95mm² Cable:
Cable Length: 110mm

Starting from the control panel, connect the far-left RS485 port to the CAN/RS485 port on the top battery module.

Then connect the RS4852 port on the top battery module to the RS4851 port on the battery module below.

Ensure all communication connectors are fully inserted and secure before continuing. Follow the wiring diagram carefully during installation.

4 Prepare the power cables

The supplied power cables are thick 95mm² cables and are not very flexible, so it is recommended to gently pre-shape the cables before installation to help align them with the terminals more easily. **Do not sharply bend, kink, or force the cables, as this may damage the cable or connectors.**

For the 64.4kWh system (4 modular stacks), the supplied power cables are:



3x Positive (+) 95mm² Cable:
Cable Length: 110mm



1x Positive (+) 95mm² Cable:
Cable Length: 210mm



3x Negative (-) 95mm² Cable:
Cable Length: 110mm



1x Negative (-) 95mm² Cable:
Cable Length: 505mm

5 Connect the power cables

Before connecting the power cables, remove the rubber terminal caps from the required terminals only. Keep the caps safe for future use or protection of unused terminals.

5.1 Connect the main negative cable

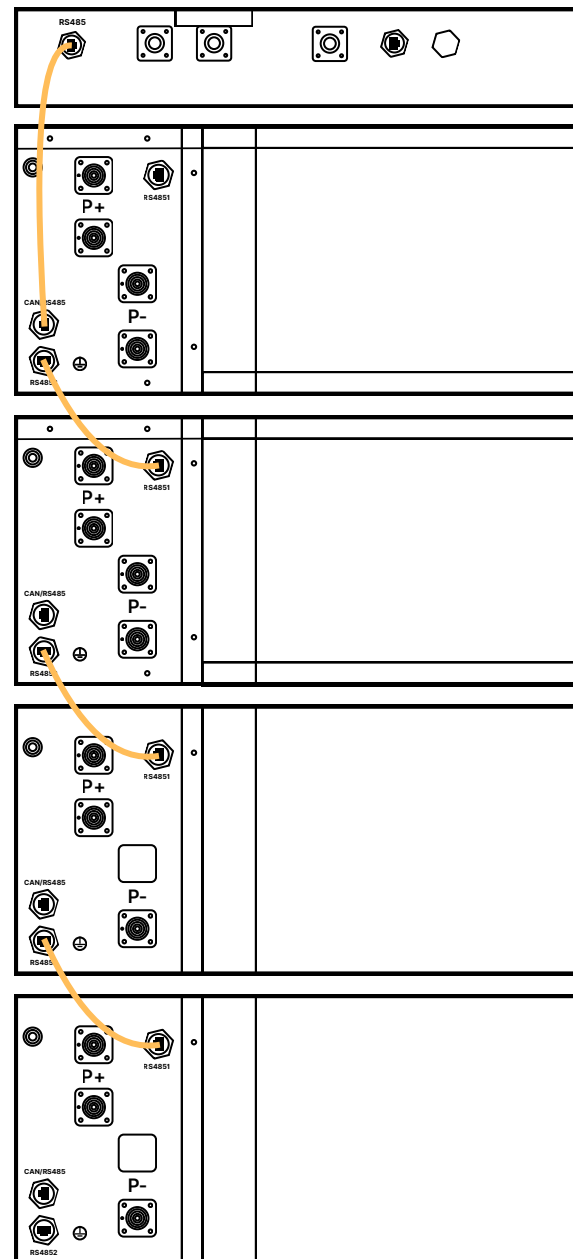
Connect the 505mm Negative 95mm² cable from the control panel **B-** terminal to the very bottom battery module **P-** terminal.

5.2 Connect the battery-to-battery negative cable

Connect the 110mm Negative 95mm² cable from the top battery module **P-** terminal to the battery module below **P-** terminal.

5.3 Connect the main positive cable

Connect the 210mm Positive 95mm² cable from the control panel **B+** terminal to the top battery module **P+** terminal.



5.4 Connect the battery-to-battery positive cable

Connect the 110mm Positive 95mm² cable from the top battery module **P+** terminal to the battery module below **P+** terminal.

Ensure all power cable connections are fully inserted, secure, and correctly matched **positive-to-positive** (+ to +) and **negative-to-negative** (- to -).

Follow the wiring diagram below for the correct power cable layout and routing.

6 Connect the inverter

Before powering on the battery system, the inverter must be connected to the control panel using the supplied inverter power and communication cables.

For the 64.4kWh system (4 modular stacks), the supplied inverter cables are:



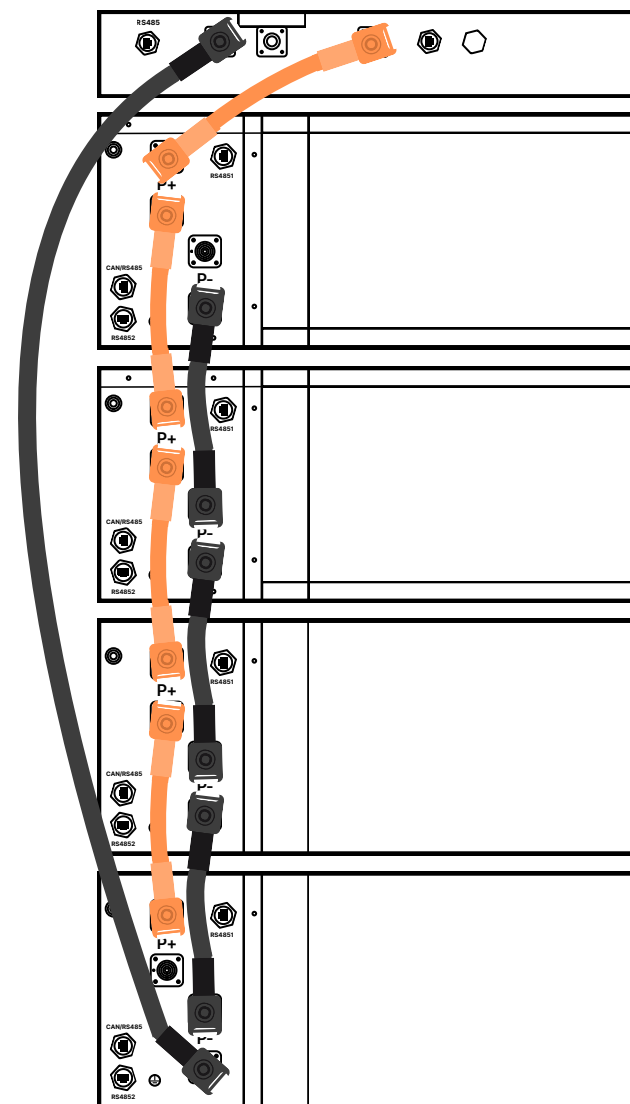
1x Positive (+) 95mm² Cable:
Cable Length: 1500mm



1x Negative (-) 95mm² Cable:
Cable Length: 1500mm



1x communication Cable:
Cable Length: 1500mm



Please note: The supplied inverter cables may not be suitable for every inverter model or installation configuration. Always verify inverter terminal type, cable sizing requirements, current ratings, fuse protection, and communication compatibility prior to installation. Due to the high power capability of this battery system, additional or upgraded cabling may be required depending on inverter specification, installation distance, and system design. Installation should only be carried out by a suitably qualified installer familiar with high-current battery systems.

6.1 Connect the inverter negative cable

Connect the 1500mm Negative (-) inverter cable from the inverter negative terminal to the control panel inverter negative terminal.

6.2 Connect the inverter positive cable

Connect the 1500mm Positive (+) inverter cable from the inverter positive terminal to the control panel inverter positive terminal.

6.3 Connect the inverter communication cable

Connect the 1500mm communication cable between the inverter communication port and the control panel communication port.

6.4 Configure the inverter communication protocol

The 48V Module battery is compatible with a wide range of low-voltage inverters, including but not limited to LuxPower, Sunsynk, Victron and more. Refer to your inverter manufacturer's setup instructions for the correct battery communication settings and protocol selection.

7 Power on the system

7.1 Switch on the breaker

Once all communication and power cable connections have been checked, switch the main breaker to the ON position. This helps prevent inverter inrush current during startup.

7.2 Power on the battery modules

Switch on each battery module using the power buttons.

Check that the LED indicators and control panel display power on correctly.

7.3 Refit the side access panels

Once the system has powered on successfully and all checks have been completed, refit the side access panels using the original screws.

Ensure no cables are trapped or pinched before tightening the panels fully.

8 Packing list



3x Positive (+) 95mm² Cable:
Cable Length: 110mm



3x Negative (-) 95mm² Cable:
Cable Length: 110mm



1x Positive (+) 95mm² Cable:
Cable Length: 110mm



1x Positive (+) 95mm² Cable:
Cable Length: 210mm



1x Negative (-) 95mm² Cable:
Cable Length: 505mm



**1x communication
Inverter Cable:**
Cable Length: 1500mm



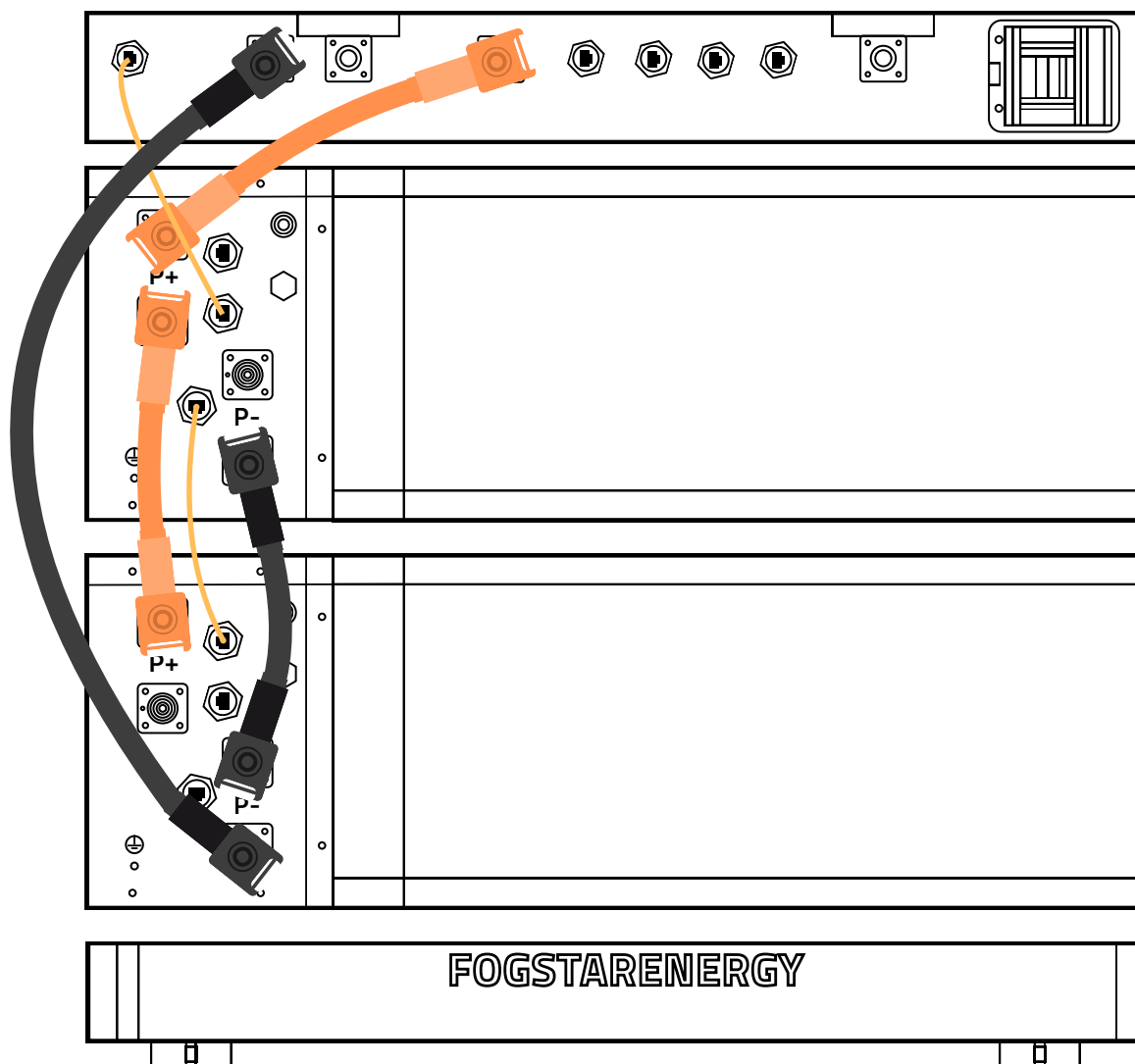
**1x Positive (+) 95mm²
Inverter Cable:**
Cable Length: 1500mm



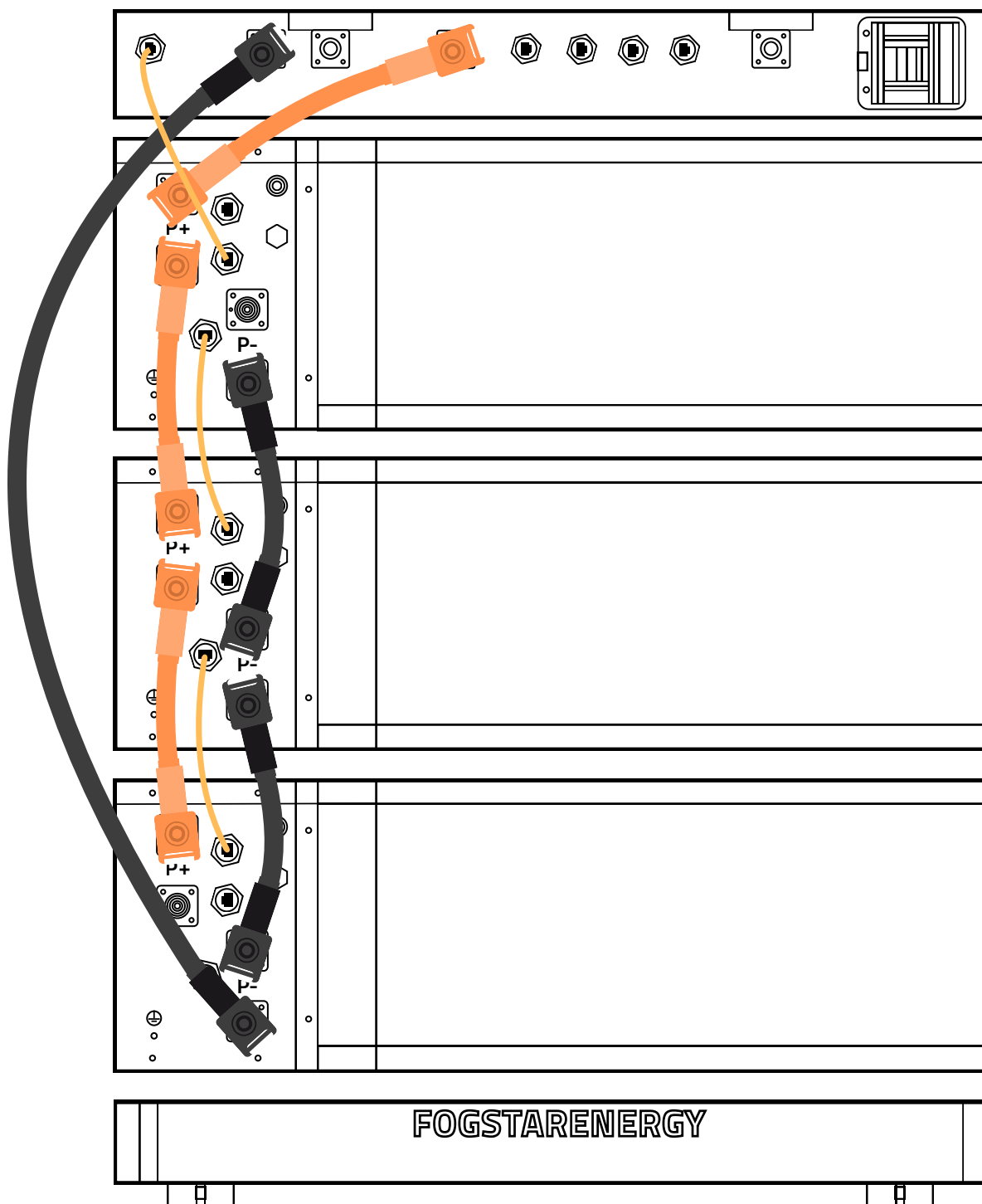
**1x Negative (-) 95mm²
Inverter Cable:**
Cable Length: 1500mm



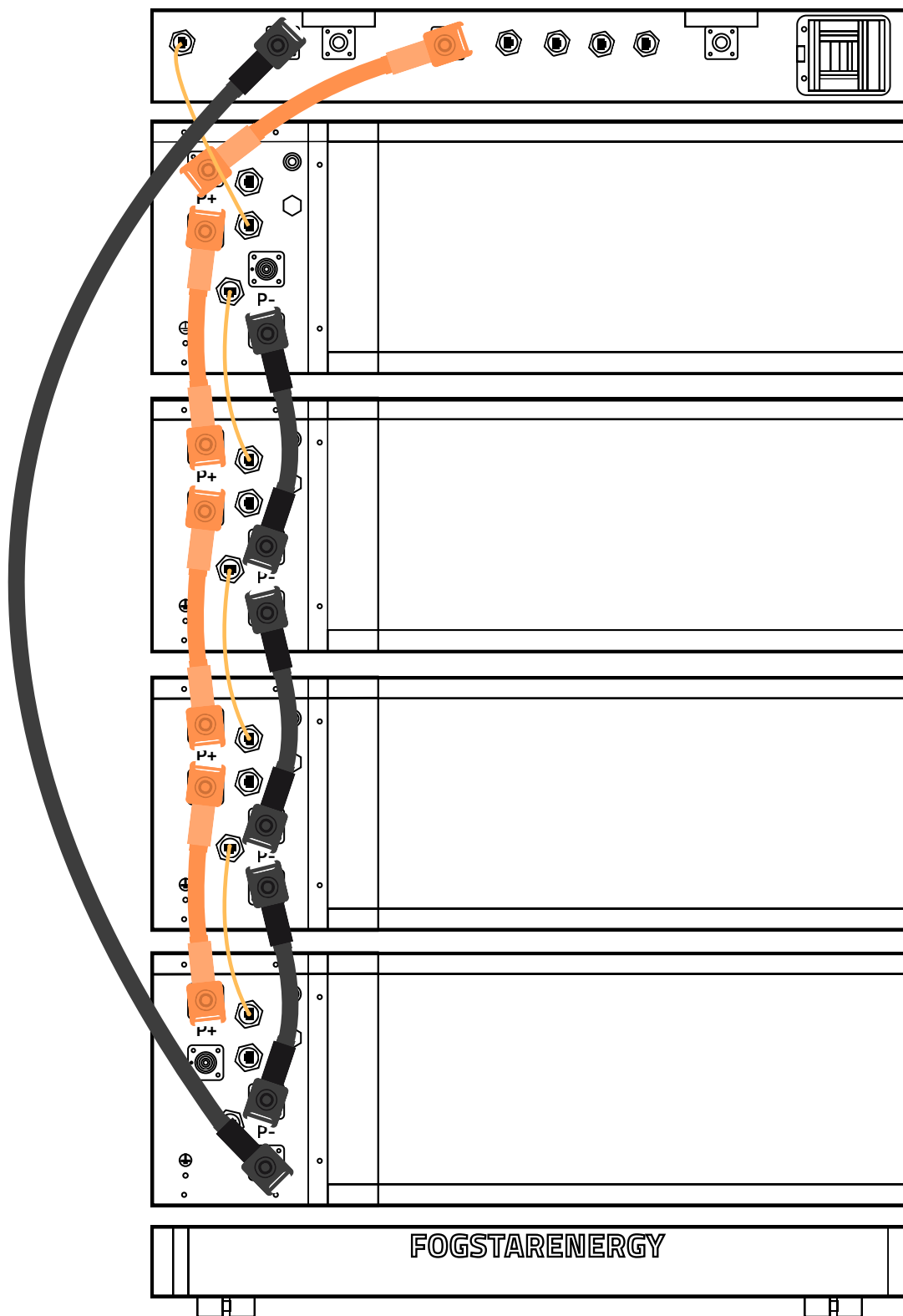
1x RS232 Cable:
Cable Length: 1500mm



32.2kWh



48.3kWh



64.4kWh