

HomeGrid Stack'd Series Installation Guide

1. Safety Precautions

It is very important to read the user manual carefully before installing or using battery. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death. Installing the battery incorrectly can permanently damage battery or rendering it inoperable.



For more information about this product, please visit the official website:
<http://www.homegridenergy.com>



Work on a Li-ion Battery should be carried out by qualified personnel only.

1.1. General warnings



While working on the Li-ion Battery wear protective eyeglasses and clothing.



Any internal lithium ion cell material such as electrolyte or powder on the skin or in the eyes must be flushed with plenty of clean water immediately. Then seek medical assistance. Any material spilled on clothing should be rinsed out with water.



Explosion and fire hazard. Terminals of the Li-ion Battery are always alive; therefore, do not place items or tools on the Li-ion Battery. Avoid short circuits, over discharges and high charge currents. Use insulated tools. Do not wear any metallic items such as watches, bracelets, etc. In case of fire; you must use a type D, foam or CO2 fire extinguisher.



Do not open or dismantle the battery. Electrolyte is very corrosive. In normal working conditions you will not have any contact with the electrolyte. If the battery casing is damaged do not touch the exposed electrolyte or powder because it is corrosive.



Li-ion batteries are heavy. If involved in an traffic accident they can become a projectile! Ensure adequate and secure mounting and always use suitable handling equipment for transportation.



Handle with care because this lithium ion battery is sensitive to mechanical forces shock.



Do not expose bare cables out, all the battery terminals must be disconnected for



Do not place in an area used by children or pets.



Do not use cleaning solvents to clean battery.



Do not expose battery to flammable or harsh chemicals or vapors.



Do not paint any part of battery; include any internal or external components.



Do not drop, deform, impact, or cut with a sharp object.



Do not power wash the battery or get wet. Direct sunlight must be avoided.



Do not use a damaged battery.



Please contact the supplier within 24 hours if there is something abnormal.



Do not place any foreign objects into any part of battery.



The warranty will be void for direct or indirect damage due to items above.

Safety Warning

It is recommended that you wear the following safety gear when dealing with the battery:



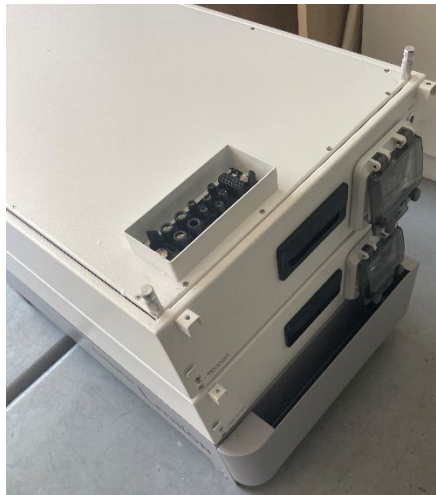
Unpack Equipment

Place Base in correct location



Stack Battery Modules

- Remove black sticker on bottom of battery Module
- Stack battery Module onto Base – then remove both side covers per module
- Repeat with remaining modules



Dial correct addresses on modules (1-8 with 1 being at the top and 8 being at the bottom)

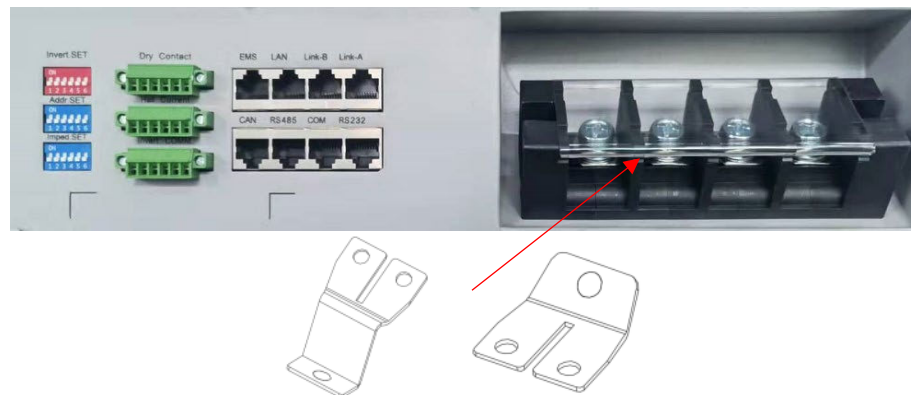


Address Coding	Dial Code Switch Position						Definition
	#1	#2	#3	#4	#5	#6	
1	ON	OFF	OFF	OFF	OFF	OFF	Set to the slave Pack1
2	OFF	ON	OFF	OFF	OFF	OFF	Set to the slave Pack2
3	ON	ON	OFF	OFF	OFF	OFF	Set to the slave Pack 3
4	OFF	OFF	ON	OFF	OFF	OFF	Set to the slave Pack 4
5	ON	OFF	ON	OFF	OFF	OFF	Set to the slave Pack 5
6	OFF	ON	ON	OFF	OFF	OFF	Set to the slave Pack 6
7	ON	ON	ON	OFF	OFF	OFF	Set to the slave Pack 7
8	OFF	OFF	OFF	ON	OFF	OFF	Set to the slave Pack 8

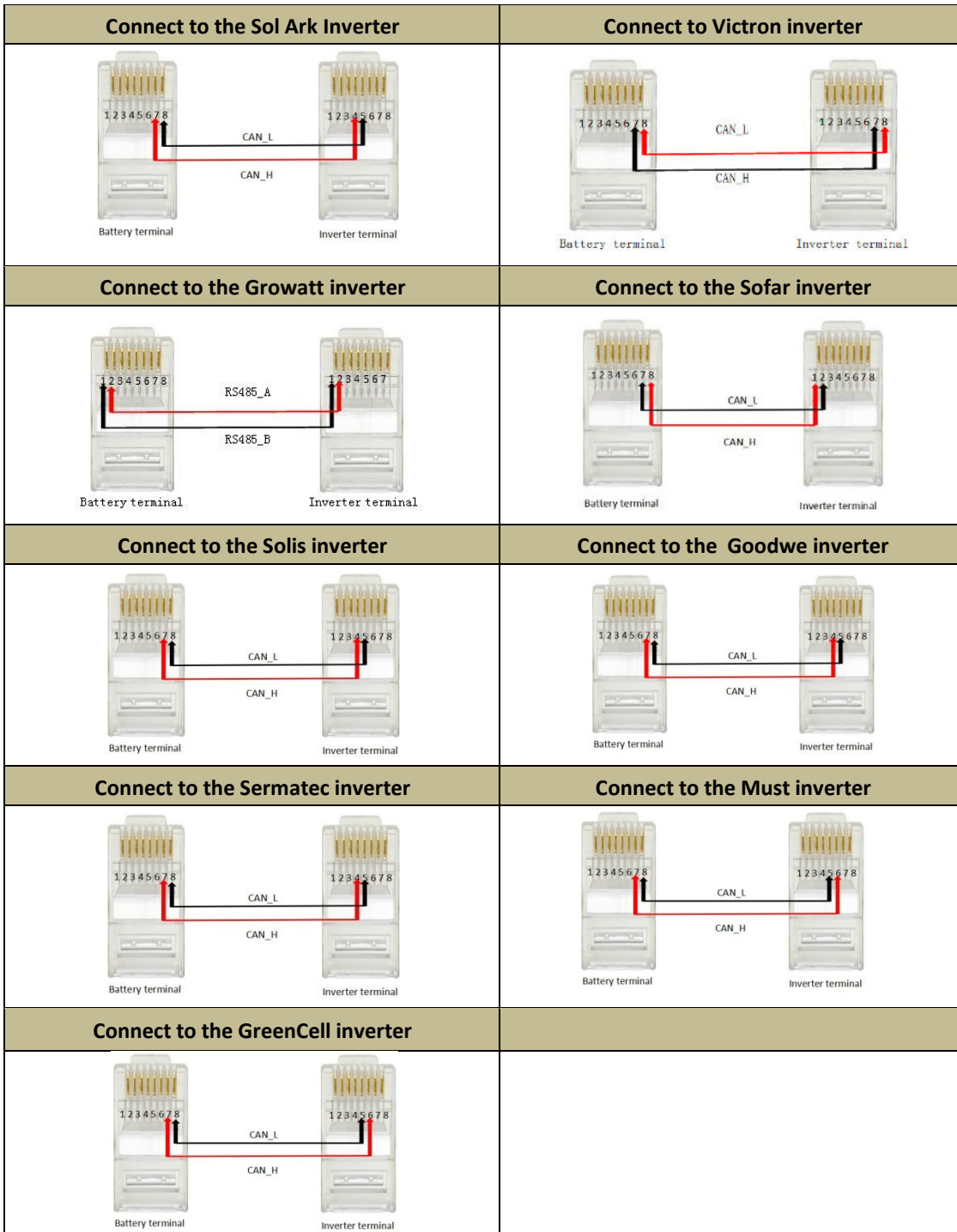
Turn on Modules

Place Controller (main BMS) on top of system

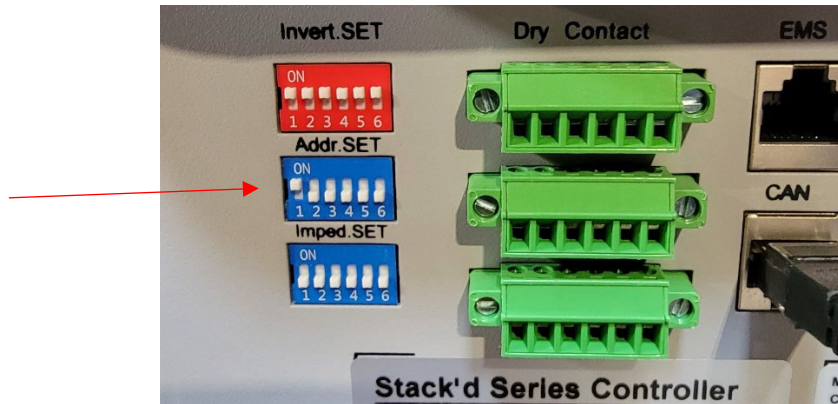
- Make sure Controller is off. Then remove top and side covers from Controller.
- Install included BUS bars onto Controller terminals.



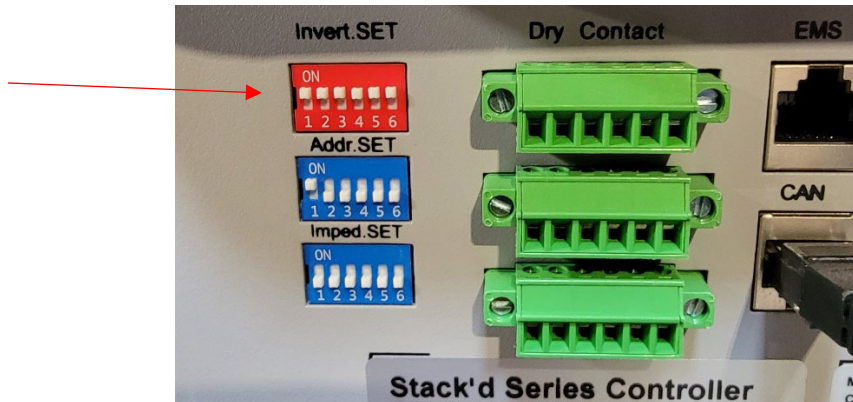
- Connect power cables (4/0) to BUS bars and inverter.
- **Create comm cable for inverter communication then connect to battery and inverter.**
- Correct port (CAN/RS485) should be used on Controller according to inverter. See below:



Set Controller address to "1" (see end of this guide for parallel installation)



Inverter/Module Detection Protocol:



Detect # of modules in system:

- Set all inverter switches on Controller (Main BMS) to "On"
- Power on Controller to detect # modules
- Controller display will then show the # of modules detected
- Power off Controller

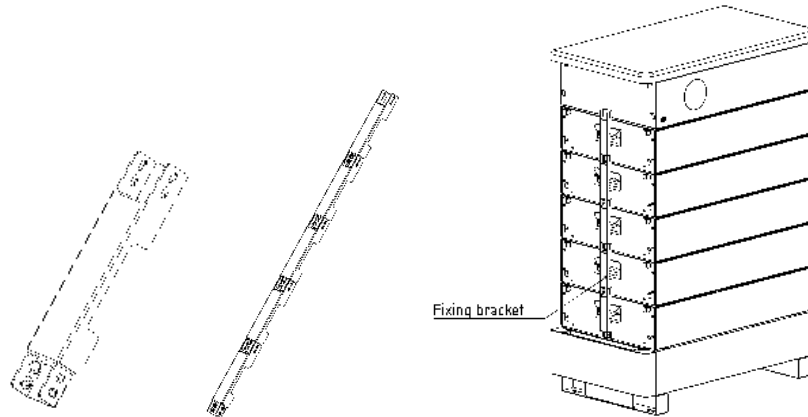


Detect Inverter Protocol:

- Set inverter switches to correct inverter being used (*See chart below*)
- Power on Controller

Address Coding	Inverter Dial Code Switch Position						Definition
	#1	#2	#3	#4	#5	#6	
0	OFF	OFF	OFF	OFF	OFF	OFF	Monitoring Software setting mode
1	ON	OFF	OFF	OFF	OFF	OFF	Parallel Stack (Slave Stack)
2	OFF	ON	OFF	OFF	OFF	OFF	Studer_Xtender
3	ON	ON	OFF	OFF	OFF	OFF	Sofar_LV
4	OFF	OFF	ON	OFF	OFF	OFF	Solis_LV
5	ON	OFF	ON	OFF	OFF	OFF	Goodwe_LV
6	OFF	ON	ON	OFF	OFF	OFF	Victron_color_control
7	ON	ON	ON	OFF	OFF	OFF	SMA_LV
8	OFF	OFF	OFF	ON	OFF	OFF	Sermatec_LV
10	OFF	ON	OFF	ON	OFF	OFF	Growatt_SPF
11	ON	ON	OFF	ON	OFF	OFF	Li_PLUS
12	OFF	OFF	ON	ON	OFF	OFF	Schneider_Gateway
13	ON	OFF	ON	ON	OFF	OFF	SOL-ARK_LV
18	OFF	ON	OFF	OFF	ON	OFF	Growatt_SPH&SPA
27	ON	ON	OFF	ON	ON	OFF	GreenCell
29	ON	OFF	ON	ON	ON	OFF	Must
62	OFF	ON	ON	ON	ON	ON	Find Address: used when more than one system is connected
63	ON	ON	ON	ON	ON	ON	Detect the number of modules in a single Stack

Assemble the fixing brackets for the battery module into a long strip and mount them in the middle of the left-hand side of the system:



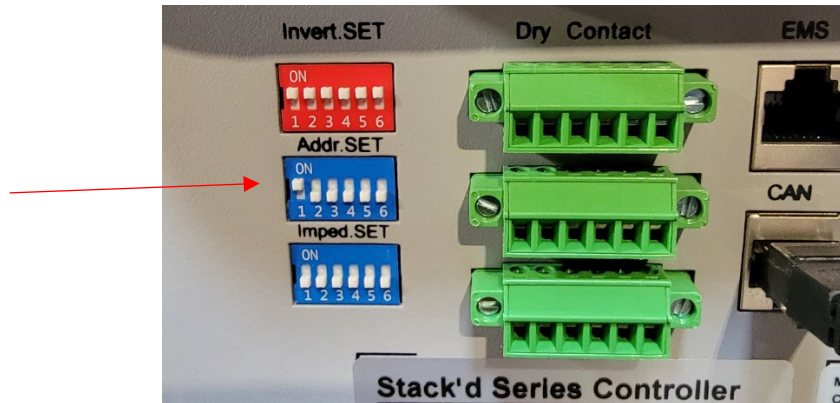
Re-install all covers on Modules and Controller from bottom to top
Complete (See next page for Parallel Installation)

Parallel Installation

Battery outputs/inverters should be connected to a BUS bar that is rated for total system in compliance with NEC. Ensure that the inverter's battery breaker is in OFF position while performing parallel install. All Stacks placed in parallel should be at the same overall capacity (same number of 4.8kWh Modules).

Follow initial install procedure above for each individual Stack

Set Master address to 1, and each successive Slave to 2 ~ 15. Addresses must be set before controllers are turned on for changes to take effect. See below for switch settings:



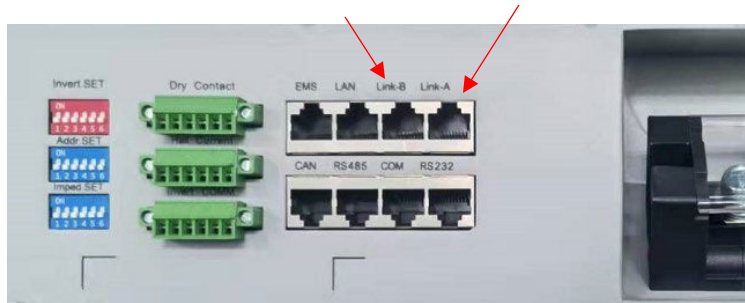
Address Coding	Master Address Dial Code Switch Position						Definition
	#1	#2	#3	#4	#5	#6	
1	ON	OFF	OFF	OFF	NG	NG	The host computer can monitor the operation of other systems by setting the main package
2	OFF	ON	OFF	OFF	NG	NG	Set to Pack2
3	ON	ON	OFF	OFF	NG	NG	Set to Pack3
4	OFF	OFF	ON	OFF	NG	NG	Set to Pack4
5	ON	OFF	ON	OFF	NG	NG	Set to Pack 5
6	OFF	ON	ON	OFF	NG	NG	Set to Pack 6
7	ON	ON	ON	OFF	NG	NG	Set to Pack 7
8	OFF	OFF	OFF	ON	NG	NG	Set to Pack 8
9	ON	OFF	OFF	ON	NG	NG	Set to Pack 9
10	OFF	ON	OFF	ON	NG	NG	Set to Pack10
11	ON	ON	OFF	ON	NG	NG	Set to Pack 11
12	OFF	OFF	ON	ON	NG	NG	Set to Pack 12

13	ON	OFF	ON	ON	NG	NG	Set to Pack13
14	OFF	ON	ON	ON	NG	NG	Set to Pack 14
15	ON	ON	ON	ON	NG	NG	Set to Pack 15

Connect communications cables

Use standard CAT5/Ethernet cable to connect system communications in parallel.

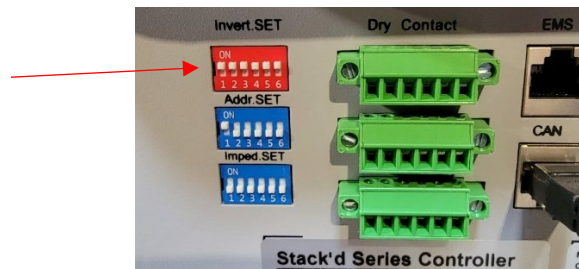
Link-A port on Master to Link-B on Slave 1, Link-A port on Slave 1 to Link-B on Slave 2, etc.



Set all Inverter switches on Slave Stacks to the following setting:

1	ON	OFF	OFF	OFF	OFF	OFF	Parallel Stack (Slave Stack)
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Once master and slaves are connected, and once the master is connected (via communications) to inverter, power on all slaves. Set master inverter switch to detect # of systems in parallel:



62	OFF	ON	ON	ON	ON	ON	Find Address: used when more than one system is connected
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Turn on Master Controller to detect total # of Stack'd systems. Master Controller will then display the # of systems in parallel. Once detected, turn Master off, change inverter switches on Master to match inverter of choice, and power back on.

With all battery systems on and connected to BUS bars/inverter, flip inverter's battery breaker to ON position.

Complete