




1. General Information - specification

 **ATTENTION: READ FIRST**

1. This document is for quick guidance only. For details, please refer to the Energy Intelligence (EI) Battery Storage Installation & Operations Manual.

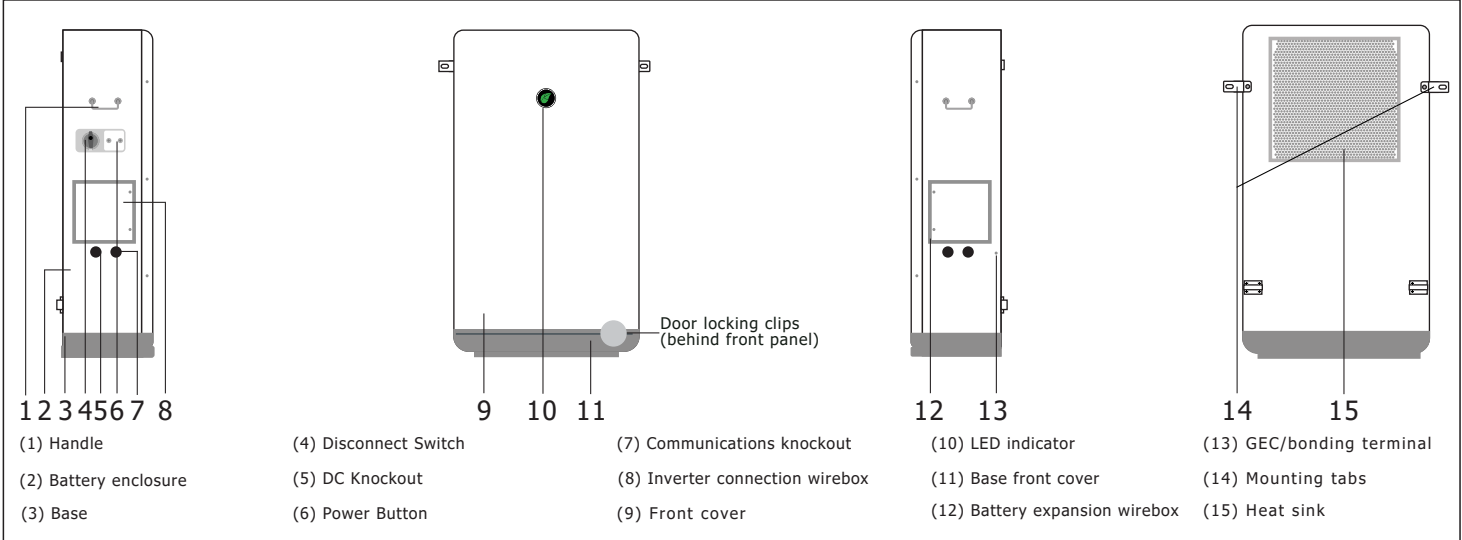
2. Damage caused by failure to follow the contents of the EI Battery Storage Installation & Operations Manual is not covered by the warranty.

3. Before installing the system check that the package contents are intact and complete against the packing list. If any damage is found or any component is missing, contact your dealer.

1.1 Package Contents

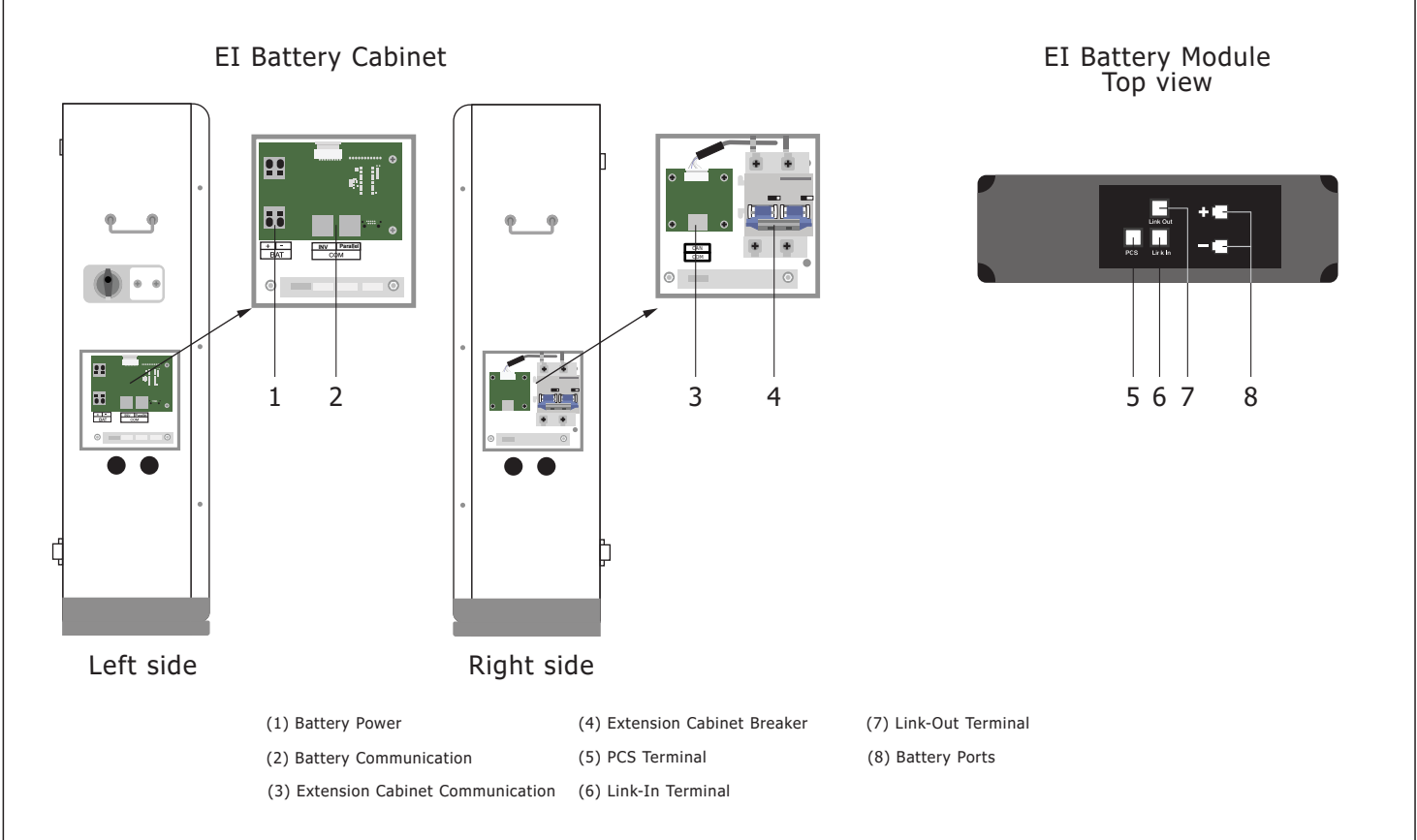
Item	Quantity
Battery Enclosure	1
Quick Start Guide	1
Safety-lock screws	6
Sleeve anchors	2
Wire ferrules	4

1.2 EI battery enclosure overview




2. Installation

2.1 System overview



2.3 Mounting

 **CAUTION** - Ensure 3ft clearance around all sides. Use appropriate hardware for the mounting surface. For personal safety always wear appropriate PPE.

1. Rotate mounting tabs (14) 90° to face outward.

2. Mark holes for drilling. Drill 2" deep holes with an 8mm bit.


3. Insert anchor bolt sleeve. Position the battery enclosure mounting tabs anchor sleeve. Secure with washers and bolts.

1

2

3

2.4 Removing the cover

 **WARNING** – the door has a grounding wire and display cable attached to the interior. Use caution and detach wires before attempting to remove the door.

1. Remove the bottom plate (11) and remove 3 screws from each side, 6 total. Unlatch the 2 front door locks from the bottom.

2. Tilt up and CAREFULLY swing door to the left, using caution to not pull ground or display wires.


3. Unscrew ground conductor and unplug display cable then set door aside.

1

2

3

2.5 Install the battery modules

 **Note** – The battery module's power terminals face the right side of the enclosure. Install top battery before bottom battery packs. Three battery modules per enclosure: 1 on top, 2 on bottom.

1. The battery module serial numbers will be needed for the commissioning. These are labeled on the module and the box they shipped in.

2. Place the battery in the enclosure then slide the brackets inward on each side of the battery and tighten the wingnut to secure.

3. Repeat for batteries 2 and 3.

Top

Front

3. Connecting the Batteries

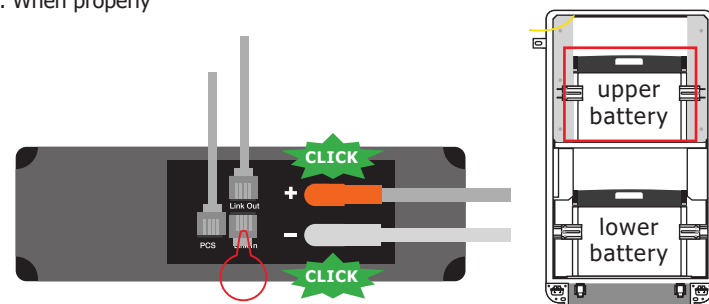
3.1 Wiring the upper battery

CAUTION – Do not reverse positive and negative of the battery input terminal.

Note – The battery conductors and communications cables are labeled and located inside the enclosure. CAREFULLY cut cable ties and connect as shown. When properly installed a click will be heard.

Upper battery connections

1. Locate the cables labeled for the upper battery module.
2. Connect the **PCS** cable to the battery terminal labeled **PCS**.
3. Connect the upper battery **link-out** cable to the battery port labeled **link-out**.
4. Connect the **+ plug** to the red battery terminal labeled **+**.
5. Connect the **- plug** to the black battery terminal labeled **-**.



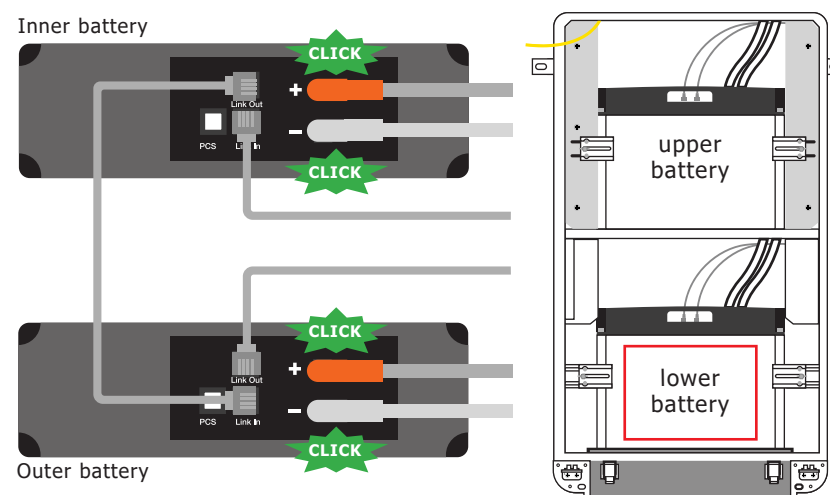
3.2 Wiring the lower batteries

CAUTION – Do not reverse positive and negative of the battery input terminal.

Note – IF INSTALLING ONLY ONE BATTERY ENCLOSURE, A terminating cap is required in the **COM** port in the battery expansion wirebox (12).

Lower battery connections

1. Locate the cables labeled for the lower battery modules.
2. Connect provided **lower inner battery link-out cable** (loose cable) to the lower **inner battery** terminal labeled **link-out**.
3. Connect the opposite end of the **lower inner battery link-out cable** from step 2 to the **link-in terminal** on the lower **outer battery**.
4. Connect the **lower inner battery link-in** cable to the lower **inner battery link-in terminal**.
5. Connect the **lower inner battery + plug** to the lower **inner battery red terminal** labeled **+**.
6. Connect the **lower inner battery - plug** to the lower **inner battery black terminal** labeled **-**.
7. Connect the **lower outer battery + plug** to the lower **outer battery red terminal** labeled **+**.
8. Connect the **lower outer battery - plug** to the lower **outer battery black terminal** labeled **-**.
9. Connect the **outer lower battery link-out** cable to the **link-out terminal** on the lower **outer battery**.
10. Insert terminating cap in the **CAN/COM** terminal in the battery expansion wiring box.



3.3 Battery expansion - Parallel Connection

Note – This section applies to systems with multiple battery enclosures. The battery expansion cables/conductors should not exceed 6ft-7in. If installing only one enclosure, skip this step.

Wiring the battery modules (Battery enclosure 2)

If installing a second EI Battery enclosure complete the **power, Link-In** and **Link-Out** connections as described in the previous section.

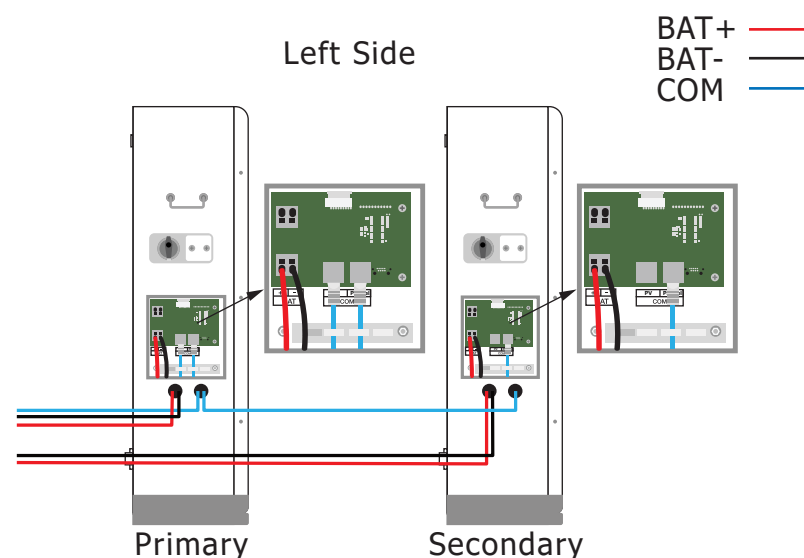
EI Battery enclosure 1

Insert terminating cap in the **Link-in** terminal of battery module 1 (upper module/enclosure 1).

EI Battery enclosure 2

The terminating cap is inserted in the **CAN/COM** terminal in the Battery expansion wire box (12).

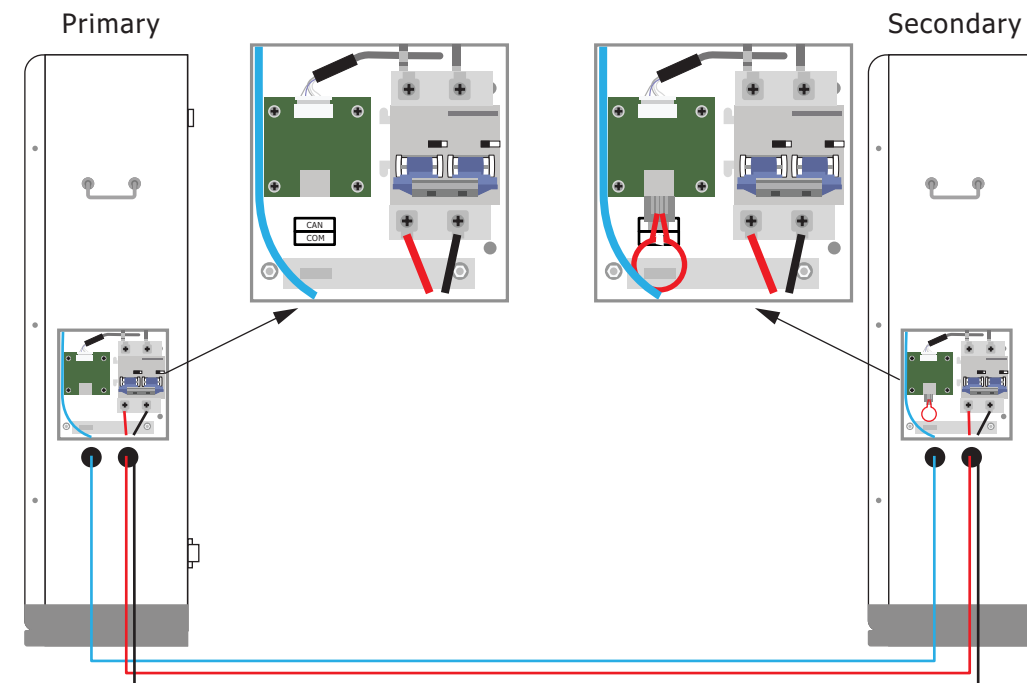
Note – In the next section, Wiring the EI Battery – Battery expansion, a communication cable is routed between the two enclosures. At the second enclosure this cable will terminate at the Link-in terminal of battery module 4 (upper module/enclosure 2).



3.4 Battery expansion - Series Connection

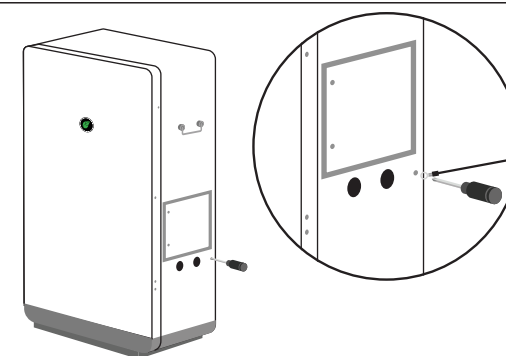
Note – This section applies to systems with multiple battery enclosures. The battery expansion cables/conductors should not exceed 6ft-7in. If installing only one enclosure, skip this step.

1. Using a Philips screwdriver, loosen 2 captive screws on the expansion wirebox (12) on the right side of each enclosure.
2. Install 2 conduits from the right side of enclosure 1 to the right side of enclosure 2 for the DC conductors and communication cable. Use appropriate conduit fittings to provide a water-tight seal.
3. Prepare 2 DC conductors 6AWG and route through the conduit and one CAT5/6 with RJ45 connectors on each end.
4. Connect **BAT-Expansion +** from enclosure 1 to **BAT-Expansion +** of enclosure 2.
5. Connection **BAT-Expansion -** from enclosure 1 to **BAT-Expansion -** of enclosure 2.
6. Connect a communication cable from the **Link Out** port of Battery 3 (enclosure 1) to the **Link In** port of Battery 4 (enclosure 2).
7. Plug terminating cap into the **COM** port of enclosure 2.



3.5 GEC/Bonding terminal

If an external bonding point or grounding electrode conductor is required, these may be connected to right side of the enclosure at the GEC/Bonding terminal. This is not required for the operation of the equipment.



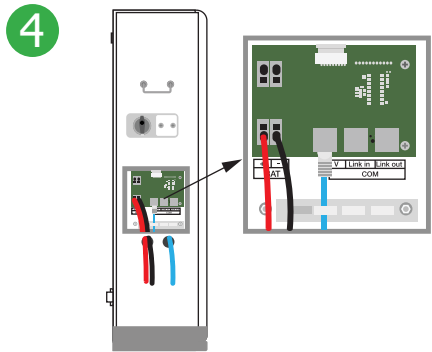
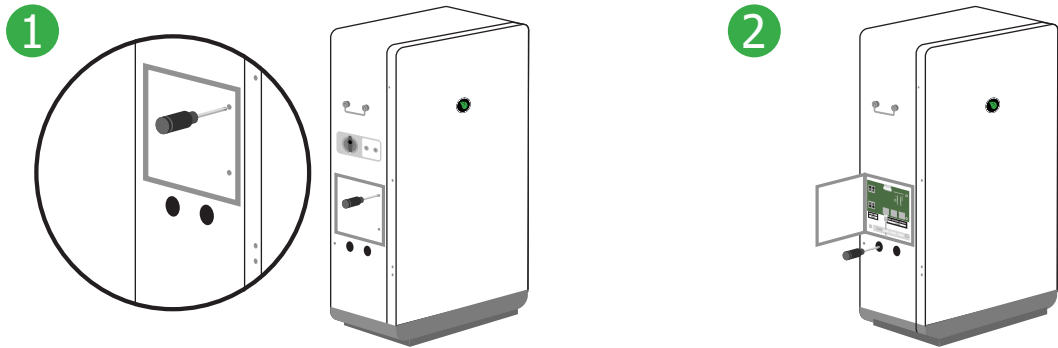
4. Connecting the inverter

CAUTION – Risk of electric shock! Ensure the inverter and battery cabinet are completely powered off when these steps take place. Make sure to connect the battery inverter first and then connect the communications cable to the inverter.

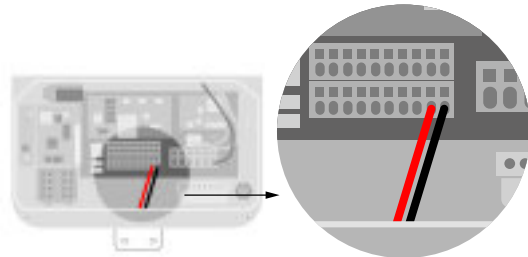
Note – This section corresponds to section 3.7 and 4.2 in the EI Inverter Quick Start Guide. Reference that document by scanning the QR code.



- Loosen the two captive screws on the left side of the battery enclosure's inverter connection wirebox (8).
- Remove the two waterproof knockouts (5), (7) at the bottom of the left side of the enclosure. Connect two conduits from the battery enclosure to the inverter. Use appropriate water-tight fittings.
- Prepare two conductors, 10-8AWG with wire ferrules and route through the conduit.
- Verify the BAT-switch is in the OFF position, and connect the conductors as follows:
 - Insert the battery conductors into the terminals of BAT+ and BAT- (EI Inverter Quick Start Guide 3.7).
 - Insert the RJ45-CAT5/6 communications cable into the INV terminal (EI Inverter Quick Start Guide 4.2).
- Once complete, replace the wirebox covers and the enclosure cover by reversing the steps of section 2.4



Note – The opposite end of the battery conductors are connected in the inverter wirebox as shown.



5. Pre-power checklist

✓	Check Item	Acceptance Criteria
	Communications cable	The communications cable is labeled and properly connected to both the inverter and battery communications terminals.
	Battery power conductors	The battery power conductors are labeled and properly connected to the inverter and battery terminals.
	GEC/bonding	If required , the GEC/bonding conductor is properly connected.
	Expansion wiring	If multiple batteries installed , BAT-Expansion+/BAT-Expansion- conductors and communications cable are properly connected.
	Conduit connections	All conduit attachments are sealed and bonded, when necessary.
	Unused conduit openings	Any unused conduit openings are fitted with waterproof caps (provided) or left unopened.
	Disconnect switches	The BAT-switch and all other switches connecting to the EI Battery are OFF.
	Installation environment	An appropriate installation space had been chosen and the environment is left clean and accessible.

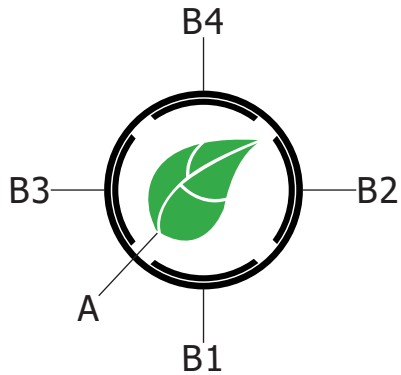
6. Powering on the battery storage system

CAUTION – For personal safety always wear appropriate PPE.

Note – All other components of the EI Battery Storage system, including the energy meter must be installed for the system to operate.

- Turn ON the BAT-switch in the Inverter connections wirebox (8).
- If multiple batteries installed, turn on the BAT-Expansion breaker in the Battery expansion wirebox (12). Otherwise, skip this step.
- Turn on the inverter, while waiting 10 seconds for the inverter to send the wake-up signal observe the LED indicator of the battery enclosure. Confirm the battery system enters the discharge state (center leaf is lit).
- The battery storage system has been successfully started.

7. LED indicators



A: Middle indicator (indicate status)
B: Ring indicator (indicate battery power)

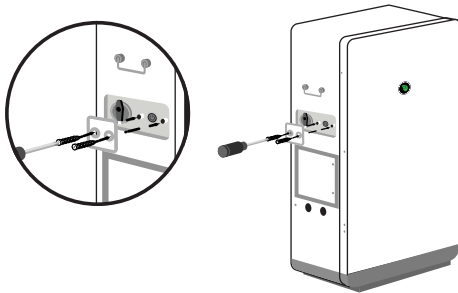
LED lights are displayed as follows in TSB-10/20-US different states:

Number	Status	LED light display
1	Standby state	Center leaf; flashing green (0.5 seconds on and 2 seconds off) indicates the standby state. Ring indicator-refer to Discharge state.
2	Charge state	Center leaf; green light is on. Ring indicator indicates: 1. Power≤25%, LED B1 flashes, LED B2/3/4 are off; 2. Power≤50%, LED B1 is on, LED B2 flashes, LED B3/4 are off; 3. Power≤75%, LED B1/2 are on, LED B3 flashes, LED B4 is off; 4. Power>75%, LED B1/2/3 are on, LED B4 flashes.
3	Discharge state	Center leaf green light is on. Ring indicator indicates: 1. Power≤25%, LED B1 is on, LED B2/3/4 are off; 2. Power≤50%, LED B1/2 are on, LED B3/4 are off; 3. Power≤75%, LED B1/2/3 are on, LED B4 are off; 4. Power>75%, LED B1/2/3/4 are on.
4	Alarm state	Center leaf; green light flashes (0.5 seconds on and 0.5 seconds off, 0.5 seconds on and 2 seconds off). Ring indicator-refer to Discharge state.
5	Fault state	Center leaf; red light flashes (1 second on and 1 second off). Ring indicator-refer to Discharge state.
6	Upgrade state	Center leaf; yellow light flashes(1 second on and 1 second off) indicates the upgrade state. Ring indicator-refer to number 1.
7	Manual forced power on	Center leaf; green light flashing (0.1 seconds on and 0.1 seconds off) . Ring indicator-refer to Discharge state.
8	Manual forced shutdown	Center leaf; red light flashing (0.1 seconds on and 0.1 seconds off). Ring indicator-refer to Discharge state.

8. Forced start/shutdown

To force start or shutdown the EI Battery:

- Using a Philips screwdriver, remove the screws from the cover of the forced start power button (6).
- Press and hold the button for 10 seconds until:
 - OFF: The center leaf changes from green to red and begins flashing quickly (0.1s on/off)
 - ON: The center leaf begins flashing green (0.1s on/off).
- After the forced start/shutdown is successful, reinstall the cover.



9. Your Customer Service Contact

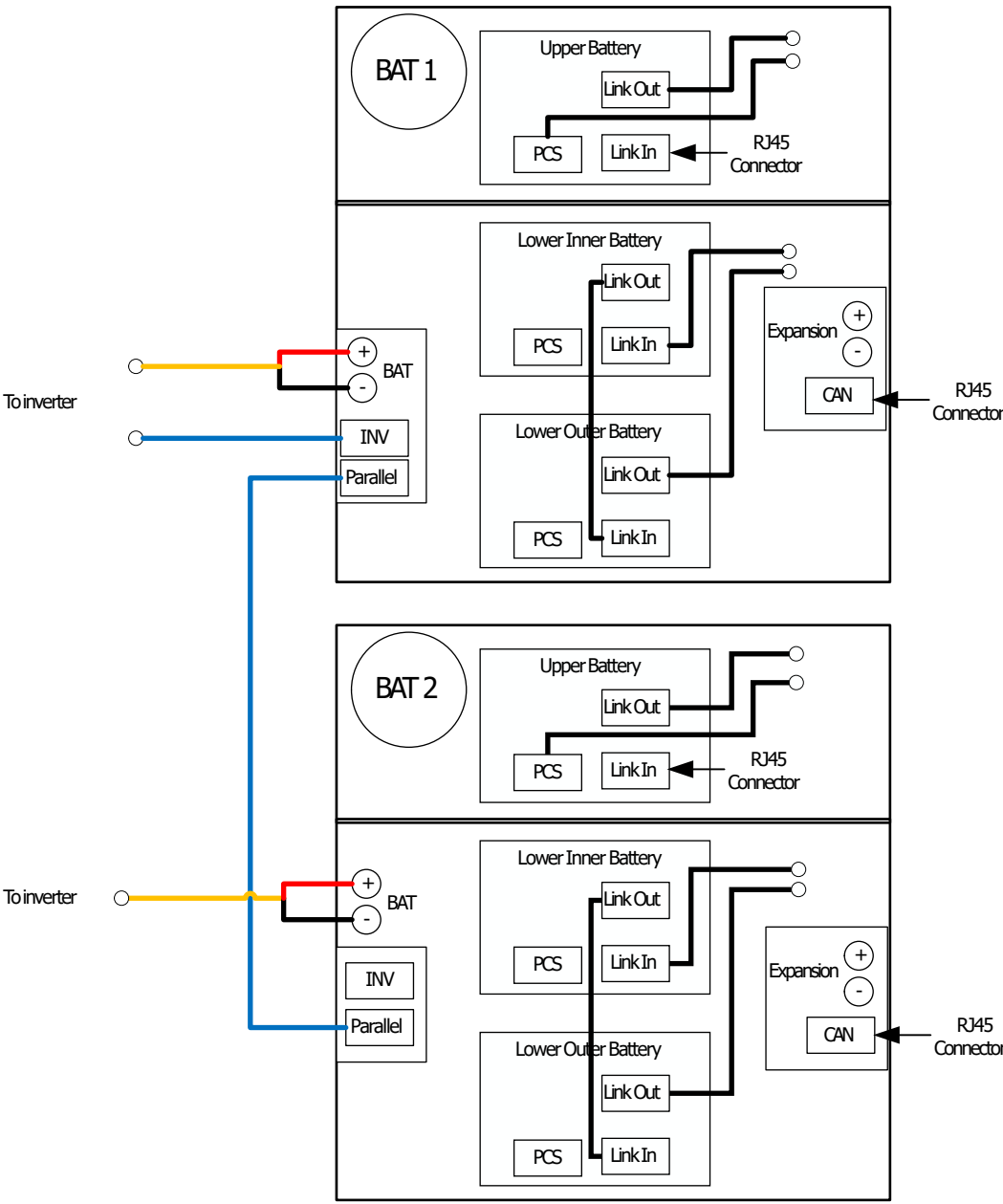
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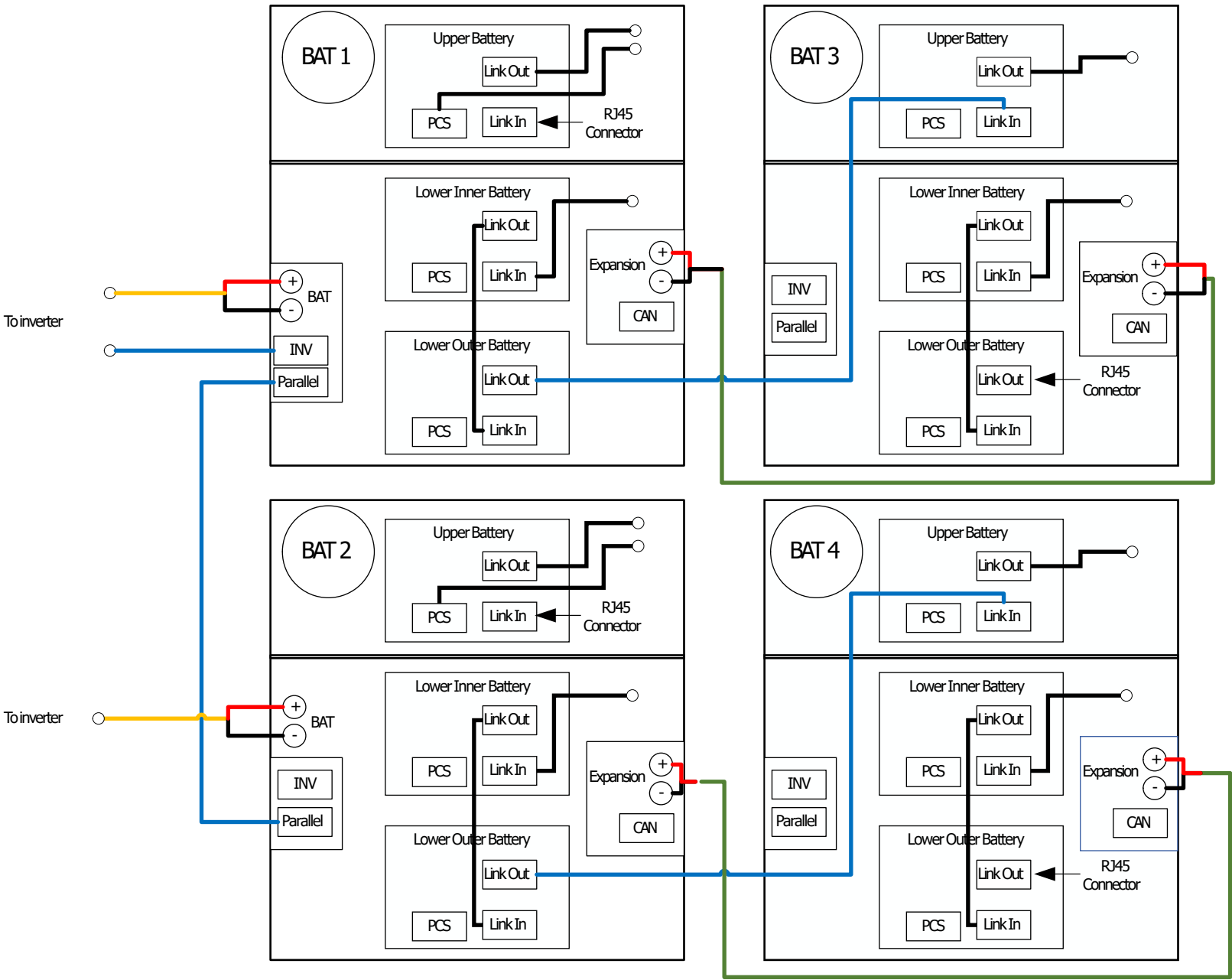
Two Battery Cabinet Wiring



Legend:
Cable included in cabinet:
Black – CAT5 cable

Installer made cables:
Blue – CAT5 cable
Yellow – 8 or 10 AWG cables

Four Battery Cabinet Wiring



Legend:
Cable included in cabinet:
Black – CAT5 cable

Installer made cables:
Blue – CAT5 cable
Yellow – 8 or 10 AWG cables
Green – 6AWG cables

