Compatible with





Tigo EI Residential Solar Solution US Installation Manual (w/ATS 200A)



Visit the Tigo Energy <u>Help Center</u> for comprehensive videos, articles, and other resources for all Tigo products.

Disclaimer of Warranties and Limitation of Liability

The information, recommendations, descriptions, and safety disclosures in this document are based on Tigo Energy, Inc.'s ("Tigo") experience and judgment and may not cover all contingencies. If further information is required, consult a Tigo representative. Sale of the product shown in this document is subject to the terms and conditions outlined in Tigo's Limited Warranty, Terms and Conditions, and any other contractual agreements between Tigo and the purchaser.

THERE ARE NO UNDERSTANDINGS, AGREEMENTS, WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, OTHER THAN THOSE SPECIFICALLY SET OUT IN ANY EXISTING CONTRACT BETWEEN THE PARTIES. ANY SUCH CONTRACT STATES THE ENTIRE OBLIGATION OF TIGO. THE CONTENTS OF THIS DOCUMENT SHALL NOT BECOME PART OF, OR MODIFY ANY CONTRACT BETWEEN, THE PARTIES.

In no event will Tigo be responsible to the purchaser or user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental, exemplary, reliance or consequential damage or loss whatsoever, including but not limited to injury to persons, damage or loss of use of property, equipment or power systems, loss of profit, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information, recommendations and descriptions contained herein. The information contained in this document is subject to change in Tigo's sole discretion and without notice.

Document Version History

Version	Date	Changes
1.0	20231531	Initial release



Contents

Overview	1
This Manual	2
Safety	2
Pre-Installation	4
Location	4
Component Layout	4
Component Dimensions	4
Wiring Overview	5
Inverter Power Connections	5
ATS Power Connections	5
Battery Power Connections	6
The EI Inverter	7
Box Contents	7
Enclosure Overview	7
MAC ID	7
DC Disconnect and Enclosure Knockouts	8
Status Indicators	8
Mounting	9
Communications Connections	10
Power Connections	14
Grounding Points	14
Wiring	15
E-Stop Switch for Rapid Shutdown	19
The EI Automatic Transfer Switch (ATS)	21
Box Contents	21
Enclosure Overview	22
Mounting	23
Wiring	24
Load Connections	25
Grid Connections	26
Inverter Connections	
Generator Connections (TSI-200-US-G only)	29

Tígo

Service Disconnect Lock
Manual Bypass Switch
Reverse the Bypass Procedure
Status Indicators
The EI Battery
Box Contents
Enclosure Overview
Place and Prepare
Connect to the Inverter
Add Batteries41
Status Indicators
Forced Start/Shutdown46
TAP and TS4 MLPE47
Install the Tigo Access Point (TAP)47
Install TS4 MLPE
Commissioning
Check Connections
Power On the System
Run the Tigo Energy Intelligence App53
Set System Info53
Select Equipment
Configure Layout
Configure Communication62
Set Up System Access62
Reference
Error Codes
Inverter Warning Codes63
Inverter Fault Codes
System Fault Codes
Decommissioning
Maintenance
Specifications
Warranty

Tígo

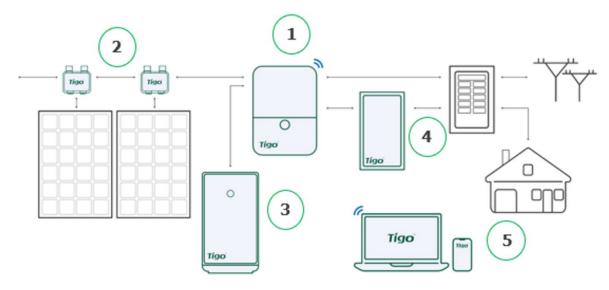
Customer Support	.67
Appendix A – UL 1741 PCS CRD Section 208 Information	.68
Integrations	.68
Time of Use	.69
Self-Consumption	.70
Backup	.70
Zero Export	.71
Appendix B – Configuring HECO Requirements	.72



Overview

The Tigo EI Residential Solar Solution optimizes home energy consumption based on rate plans and today's energy needs. It's built with the following components:

- 1. **EI Inverter** A 7.6kW or 11.4kW hybrid inverter may be installed grid-tied only or as part of an energy storage system (ESS) when paired with up to four Tigo EI batteries.
- TS4 MLPE Tigo's PV module-level power electronic (MLPE) components optimize solar module performance and provide module-level monitoring and rapid shutdown. A Tigo Access Point (TAP) with a wired connection to the inverter communicates with TS4 components wirelessly.
- 3. **EI Battery** Up to four lithium-iron-phosphate (LFP) EI batteries are designed for use specifically with the EI solution.
- EI Automatic Transfer Switch (ATS) The ATS senses grid loss and safely switches from grid + solar/battery power to solar/battery power only. It also supports adding a generator to the solution.
- 5. The **Tigo Energy Intelligence** platform and mobile app enables easy system commissioning and provides comprehensive ongoing visibility into system and module performance.





This Manual

This manual provides instructions for installing the following components of a complete Tigo EI Residential Solution:

- EI Inverter
- EI ATS 200A
- EI Battery
- TS4 MLPE



If using an ATS 50A, refer to the *EI Residential Solar Solution US Installation Manual* (*w/ATS 50A*) on the tigoenergy.com <u>Downloads</u> page.

Safety

The EI system must be installed and maintained only by qualified personnel in accordance with applicable electrical codes.



The inverter DC disconnect switch must be OFF for five minutes before opening the inverter cover.



The ATS 200A service disconnect breaker must be OFF for five minutes before opening the ATS cover.



Failure to follow instructions herein may cause equipment damage not covered by the warranty.

In addition:

- Components must operate within the technical specifications listed in their <u>data sheets</u>.
- Use only copper conductors rated 75°C or higher. Do not use fine-stranded conductors.
- Unused conduit openings must be properly sealed and connected conduit must use appropriate fittings. Tigo EI product enclosures are rated IP65.
- Always wear appropriate PPE and use insulated tools.
- This product could expose the user to chemicals known to the State of California to cause cancer. For more information refer to <u>www.P65Warnings.ca.gov</u>.
- The inverter has no isolation transformer and it must be installed with an ungrounded PV array in accordance with NEC 690.35 and 690.43.



These symbols appear on Tigo enclosures:



Risk of electrical shock.



Risk of burns.



Check the operating instructions.



Caution, the inverter may retain high voltage for up to five minutes after disconnection.



Avoid tampering.



Observe caution.



Grounding connection.



Pre-Installation

Location

EI enclosures are NEMA 4/IP65 rated for indoor and outdoor exposure. To optimize performance and extend service, locate the enclosures:

- In a well-ventilated, easily accessible location.
- On a flat surface against a solid wall with $\leq 15^{\circ}$ tilt.
- Sheltered from direct sunlight and excessive moisture. The ambient temperature is ideally below 50°C.
- Away from antennas or other sources of electromechanical interference.
- Above potential flooding.

Component Layout

Follow these guidelines when planning how to mount components:

Inverter

- As close as possible to the main service panel to minimize AC voltage drop.
- At least 3m/36in above the ground.
- With a minimum 300mm (12in) clearance around the top and sides.

E-Stop rapid shutdown switch

- Adjacent the inverter and service entrance.
- Clearly visible and accessible to first responders and maintenance workers.

ATS

- Adjacent the inverter and service entrance.
- With a minimum 300mm (12in) clearance around all sides.

Battery

- On level ground.
- With a minimum 914mm (36in) side and top clearance from other system enclosures/objects.

Component Dimensions

Plan on accommodating the following approximate dimensions (width/height/depth):

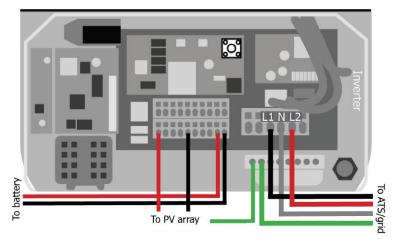
Component	Width/Height/Depth	Weight
Inverter 7.6kW	400 x 570 x 170mm (15.75 x 22 x 6.7in)	14.6kg (32.3lbs)
Inverter 11.4kW	400 x 640 x 190mm (15.75 x 25.2 x 7.5in)	20.5kg (45.2lbs)
ATS 200A	450 x 550 x 180mm (17.7 x 21.7 x 7.1in)	29.7kg (65.5lbs)
Battery	650 x 1160 x 320mm (25.6 x 45.7 x 12.6in)	140kg (308.6lbs)



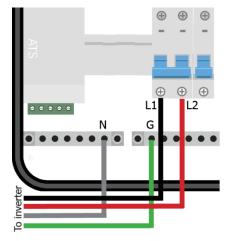
Wiring Overview

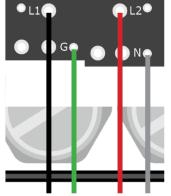
The EI system can operate on 208 or 240V_{AC} at 60Hz. For detailed wiring instructions, refer to the following <u>EI Inverter</u>, <u>EI ATS</u>, <u>TAP and TS4 MLPE</u>, and <u>EI Battery</u> sections.

Inverter Power Connections

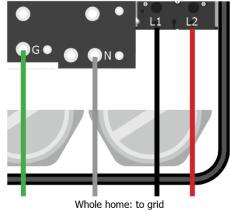


ATS Power Connections

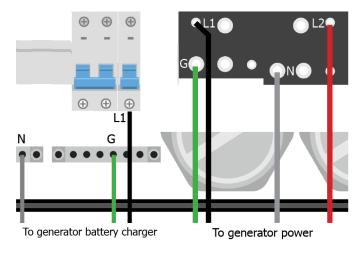




Whole home: to main panel Partial home: to essential loads panel

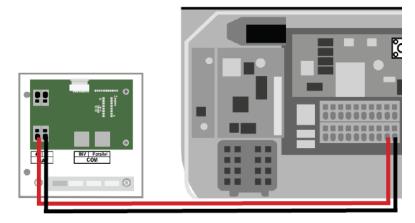


Partial home: to main panel





Battery Power Connections





The EI Inverter

This section includes:

- Box Contents
- Enclosure Overview
- Mounting
- Communications Connections
- Power Connections
- Rapid Shutdown E-Stop Switch

For detailed specifications, download the EI Inverter data sheet from the tigoenergy.com <u>Downloads</u> page.

Box Contents

The EI Inverter box includes:

- EI Inverter
- Quick Start Guide
- Mounting bracket
- Tigo Access Point (TAP)
- Rapid Shutdown label
- E-Stop rapid shutdown switch
- DC wire ferrules (3.8kW: 12, 7.6kW:16, 11.4kW:20)
- AC wire ferrules (5)
- 2-pin plug for 12V ATS communications connection (not included with all models)
- 3-pin plug for RS-485 ATS communications connection
- 6-pin plug for ATS communications connection (installed on the EI ATS)
- Grounding ring terminal
- Hex-head self-tapping screws (inverter mounting, 5)
- Philips-head screw (E-Stop mounting, 4)
- White wall anchors (inverter, 5)
- Green wall anchors (E-Stop, 4)
- WiFi antenna
- Cellular antenna (only with cell-enabled models)
- .875in OD knockout for 1/2in plug with nut
- 1.375" OD knockout for 1in plug (2)
- 1.375" OD knockout for 1in plug with nut (2)

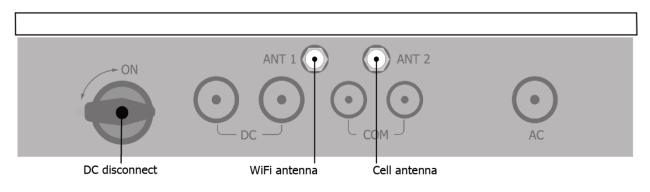
Enclosure Overview

MAC ID

A label with the inverter's MAC ID and a tigoenergy.com QR code is located on the left side below the specifications label.



DC Disconnect and Enclosure Knockouts



Status Indicators

The status indicator LEDs in the center of the inverter front panel show the EI system's current operating conditions.



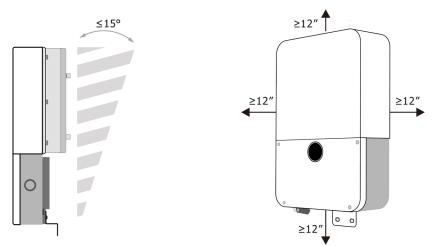
Symbol		Action	Description
	Power	Continuous	Feed in grid
		Flashing 3s on/1s off	DC on/AC off
		Flashing 1s on/3s off	DC off/AC on
		Flashing .5s on/.5s off	Checking
		Flashing 2s on/2s off	Standby mode
		Off	Disconnected
((•))	Communications	Continuous	4G/WiFi, local WiFi ok
		Flashing .5s on/.5s off	Local WiFi connecting
		Flashing 1s on/1s off	4G/WiFi failure, local WiFi ok
		Flashing 1s on/3s off	Local WiFi failure, 4G/WiFi ok
		Off	Failure

	Continuous	Operating normally
Ratton/	Flashing 1s on/3s off	Low charge state
Battery	Flashing .5s on/.5s off	Fault detected
	Off	Disconnected
	Continuous with audible alarm	Arc fault
Fault	Continuous	Fault
	Flashing 1s on/1s off	Warning
	Off	No faults detected

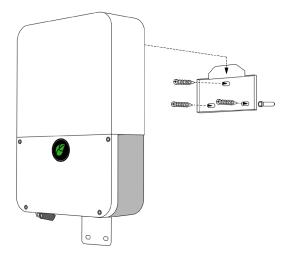
Mounting

To mount the inverter:

1. Choose a location on a plumb wall with adequate clearance, free from direct sun and precipitation.

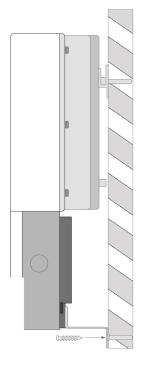


2. Affix the inverter top bracket using screws appropriate for the wall surface.





3. Hang the inverter on the bracket and affix the bottom bracket.



Communications Connections



You must make communications connections to the TAP (if used), ATS, and battery for the EI system to operate as an energy storage system (ESS).

Inverter communications connections include:

- A wired connection to the TAP (if used).
- An antenna to connect to a WiFi or cell network.
- Wired connections to the ATS and battery.

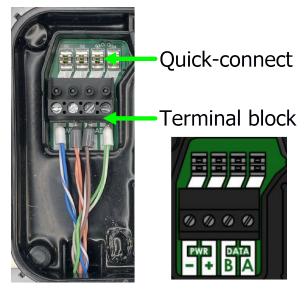
To connect an antenna:

• Attach the provided WiFi or cell antenna to the appropriate inverter *ANT 1* (left, WiFi) or *ANT 2* (right, cell) port on the bottom of the inverter.

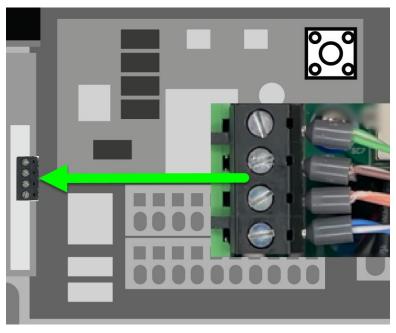


To connect to a TAP when used with TS4-O/S/M MLPE:

- 1. Prepare a 4-wire or CAT5/6 cable:
 - Shielded if running next to PV conductors
 - 20 18 AWG or CAT5/6 twisted pairs
 - Solid core
 - Cable outside diameter (OD) \leq 9mm (.35in)
- 2. Connect the cable to the left side of the nearest TAP using either the quick-connect (4-wire) or the terminal block (4-wire or CAT5/6).



3. At the inverter, terminate the wires at the 4-pin TAP plug from bottom to top: –, +, Data B, Data A.



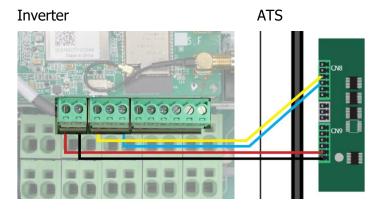


To connect to the ATS, first determine if your inverter has a two-pin *COM* power terminal socket. This image shows an occupied socket:



If absent, disregard 12V DC cable instructions and only connect the two-wire RS-485 cable.

- 1. Prepare:
 - A two-wire 18–20 AWG 12V DC cable
 - A two-wire RS-485 cable
- 2. Locate the 2-pin, 3-pin, and 6-pin plugs included in the EI Inverter and EI ATS box *Accessories* bags. The 2-pin plug is not included with models lacking a 2-pin socket.
- 3. At the inverter, connect the 12V DC cable to the + and terminals on the 2-pin plug and install the plug.
- 4. At the inverter, connect the RS-485 cable to the *A* and *B* terminals on the 3-pin plug and install the plug
- 5. At the ATS, connect the 12V DC cable to the *+12* and *GND* terminals on the 6-pin *CN8* plug and install the plug.
- 6. At the ATS, connect the RS-485 cable from the A terminal of the inverter 3-pin plug to the A terminal on the 6-pin *CN9* plug.
- 7. At the ATS, connect the RS-485 cable from the B terminal of the inverter 3-pin plug to the B terminal on the 6-pin *CN9* plug.
- 8. Install the plug.



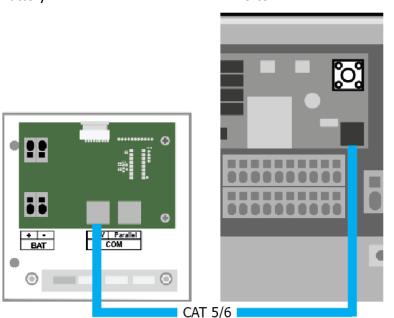


To connect to the battery:

- 1. In the battery's inverter connection wirebox on the left side of the enclosure, plug a CAT5/6 cable into the *COM INV* terminal.
- 2. At the inverter, plug the cable into the battery COM terminal.

Battery

Inverter



To connect COM cables to multiple batteries, refer to the **<u>EI Battery</u>** section.



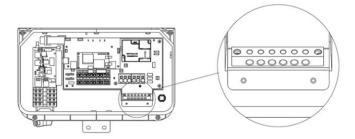
Power Connections



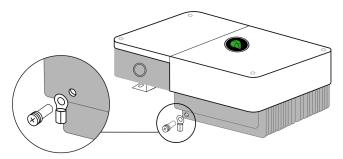
Ensure the inverter DC disconnect switch is OFF before making connections.

Grounding Points

Equipment grounding conductor (EGC):



Grounding electrode conductor (GEC):





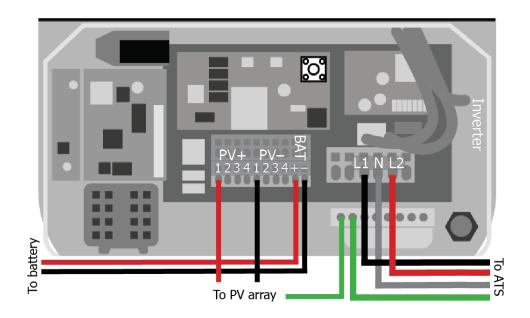
Wiring

Prepare ferruled conductors using copper, non-fine-stranded wire:

- Enclosure grounding: 10 8 AWG
- AC (grid or ATS): 8 6 AWG
- DC (PV): 12 8 AWG
- DC (battery): 12 8 AWG



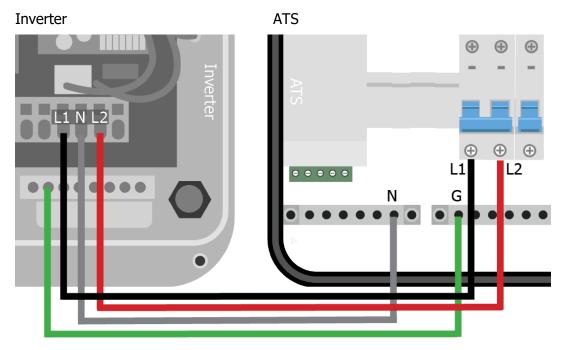
Always calculate conductor AWG based on wire length and current load.





To connect to the grid or ATS:

- 1. Connect conductors to the inverter ground bar and GRID L1, N, and L2 terminals.
- 2. If not using an ATS/battery and connecting directly to the grid, terminate conductors at the main load/service panel:
 - 3.8kW inverter: 20A 2-pole breaker
 - 7.6kW inverter: 40A 2-pole breaker
 - 11.4kW inverter: 60A 2-pole breaker
- 3. If connecting to the ATS, route conductors through the *ATS INV1* knockout.
- 4. Connect conductors to the *INV L1* and *L2* terminals and the ground bar.





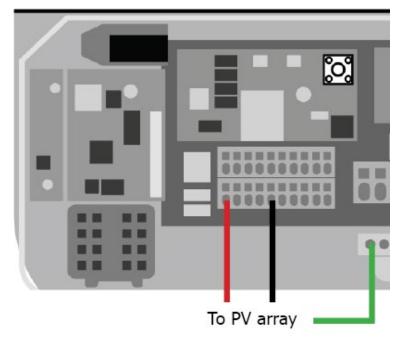
To connect PV strings:

1. Ensure TS4s are properly connected to their PV strings.



The voltage of each PV string must be less than $600V_{\text{DC}}$. Neither positive nor negative conductors can be grounded.

- 2. Connect conductors to the inverter:
 - 3.8kW (2 MPPT) EI Inverter: up to two strings
 - 7.6kW (3 MPPT) EI Inverter: up to three strings
 - 11.4kW (4 MPPT) EI Inverter: up to four strings
- 3. Connect the PV array rack EGC to the inverter EGC busbar.



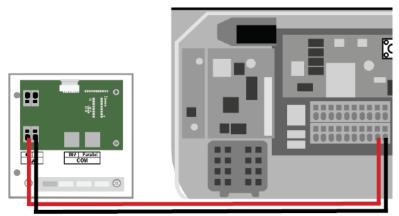


To connect to a battery:

- 1. In the battery's inverter connection wirebox, connect two $\leq 2m/6'7$ in conductors to the *BAT+* and *BAT-* terminals.
- 2. Connect the conductors to the inverter *BAT+* and *BAT-* terminals.

Battery

Inverter



For details on how to add more batteries, refer to the **<u>EI Battery</u>** section.



E-Stop Switch for Rapid Shutdown

Together, the Tigo EI Inverter and TS4-A-F/O PV MPLE enable a Photovoltaic Rapid Shutdown System (PVRSS) as defined by NFPA 70, National Electrical Code (NEC).

- If grid power fails in a grid-tie system, the EI solution automatically shuts down each PV module's output and disconnects any marginal PV power to the grid.
 A manual rapid shutdown switch is optional.
- If grid power fails in a system that uses a battery, PV output is unaffected, and the EI solution disconnects any PV or battery power to the grid.
 A manual rapid shutdown switch is mandatory.

To install the E-Stop rapid shutdown switch:

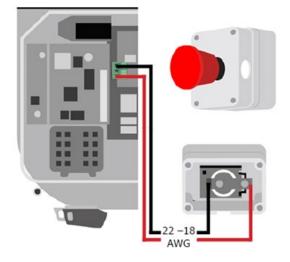
1. Mount the E-Stop switch within 1m/3ft of the inverter or service entrance outside the residence.

It must be clearly visible and accessible to first responders and maintenance workers.

- 2. At the inverter, route two 22 18 AWG conductors through the left COM knockout.
- 3. Remove the 3-pin connector from the CN14 port.
- 4. At the inverter, connect the conductors to the 3-pin connector in positions *1* and *3* (position *2* is open). Polarity is not important.
- 5. Route the conductors to the E-Stop switch and connect them to the two E-Stop terminals.

Inverter

E-Stop switch

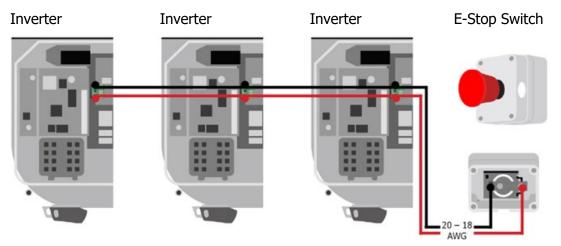


6. Affix the rapid shutdown label within 1m/3ft of the E-Stop switch.





To connect a switch to multiple inverters, daisy-chain two 20 - 18 AWG wires to connect EI Inverter E-Stop switch terminals to the E-Stop switch.



The EI Automatic Transfer Switch (ATS)

This section includes:

- Box Contents
- Enclosure Overview
- Mounting
- Wiring
- Service Disconnect Lock
- Manual Bypass
- Status Indicators

For detailed specifications, download the ATS data sheet from the tigoenergy.com <u>Downloads</u> page.

Some of the connections described in this section may duplicate instructions included in other component sections in this manual.

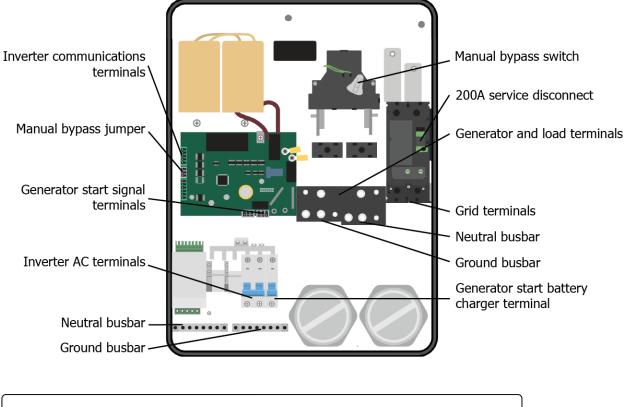
Box Contents

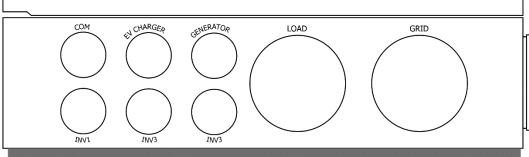
The ATS box includes:

- Quick Start Guide
- 3-pin plugs for communications and generator connections (2 w/TSS-200A-US-G)
- 3-pin plug with pins 1-3 jumped for manual bypass
- 6-pin plugs for communications (2)
- Bracket mounting screws (2)
- ATS-bracket hold-down screw
- 200A circuit breaker lock plate with two screws



Enclosure Overview



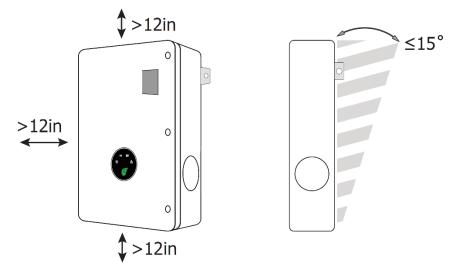




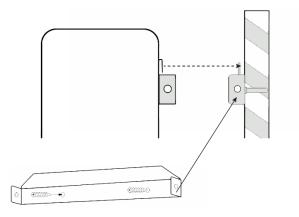
Mounting

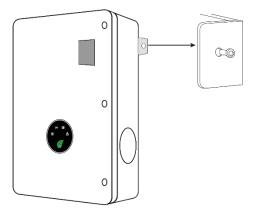
To mount the ATS:

1. Choose a location on a plumb wall with greater than 12in clearance and free from direct sun and precipitation.



2. Use screws appropriate for the wall surface to affix the bracket, hang the ATS, and secure it with an M5 screw.

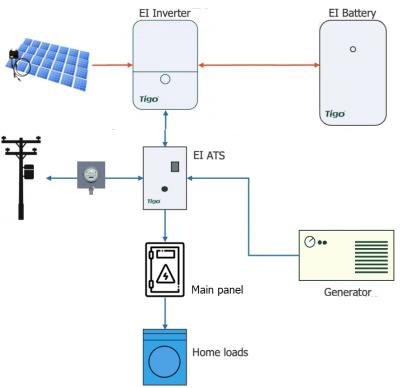




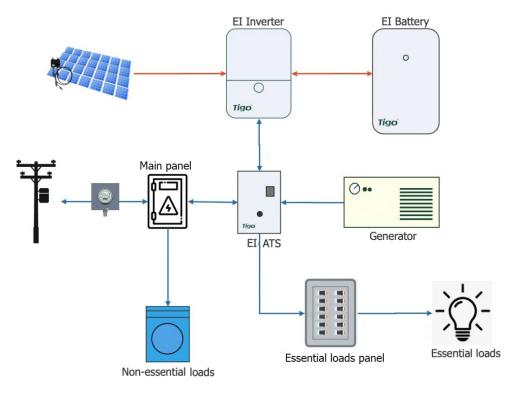


Wiring

The ATS connects to the grid, loads, and inverter and, if installed, a generator (TSS-200A-US-G only). A whole-home backup configuration:



A partial-home backup configuration:





Conductors must be ferruled copper, 90°C rated, non-fine stranded:

- ATS AC to load/grid: 1/0 4/0 AWG
- ATS AC to inverter: 8 6 AWG
- ATS AC to generator starter battery charger (TSS-200A-US-G only): 12 10 AWG
- ATS AC to generator (TSS-200A-US-G only): 4 1/0 AWG
- EGC: 8 6 AWG, insulated or bare

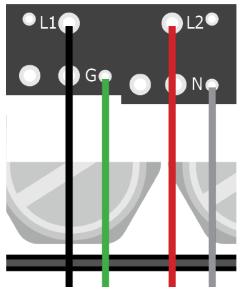


Always calculate conductor AWG based on wire length and current load.

Load Connections

To connect the ATS to the main (whole-home backup) or essential loads (partial-home backup) panel:

1. Connect ground and neutral conductors to the ground and neutral bars and power conductors to the *LOAD L1* and *L2* terminals. Torque to 22.5Nm.



2. Terminate conductors at a main or essential loads panel.



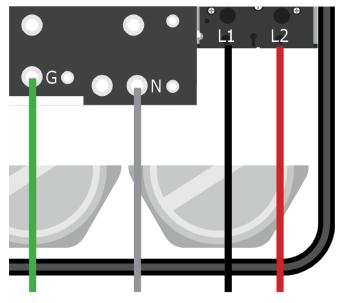
Grid Connections



This connection carries power between the utility grid and the ATS. Direct connection to utility feeders or a line side may require coordination with the local utility.

To connect the ATS to the service entrance (whole-home backup) or main panel (partial-home backup):

1. At the ATS, connect ground and neutral conductors to the ground and neutral bars and power conductors to the *GRID L1* and *L2* terminals. Torque to 22.5Nm.



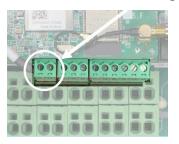
2. Terminate conductors at the service entrance or main panel.



Inverter Connections

The ATS connects to the inverter COM and GRID terminals.

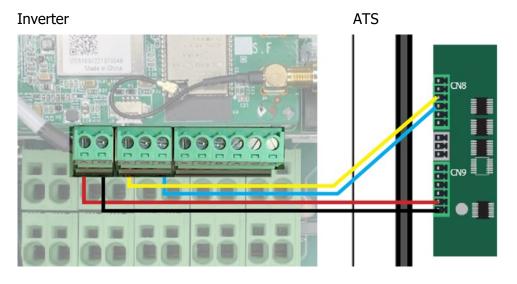
To connect to the ATS COM terminals, first determine if your inverter has a two-pin *COM* power terminal socket. This image shows an occupied inverter socket.



If absent, disregard 12V DC cable instructions and only connect the two-wire RS-485 cable.

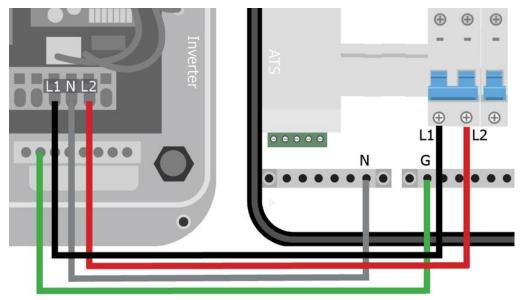
- 1. Prepare:
 - A two-wire 18–20 AWG 12V DC cable
 - A two-wire RS-485 cable
- 2. Locate the 2-pin, 3-pin, and 6-pin plugs included in the EI Inverter and EI ATS box *Accessory* bags. The 2-pin plug is not included with all models.
- 3. At the inverter, connect the 12V DC cable to the + and terminals on the 2-pin plug and install the plug.
- 4. At the inverter, connect the RS-485 cable to the *A* and *B* terminals on the 3-pin plug and install the plug.
- 5. At the ATS, connect the 12V DC cable to the *+12* and *GND* terminals on the 6-pin *CN8* plug and install the plug.
- 6. At the ATS, connect the RS-485 cable from the A terminal of the inverter 3-pin plug to the A terminal on the 6-pin *CN9* plug.
- 7. At the ATS, connect the RS-485 cable from the B terminal of the inverter 3-pin plug to the B terminal on the 6-pin *CN9* plug.

8. Install the plug.



To connect to the inverter *GRID* terminals:

- 1. At the ATS, connect conductors to the *L1* and *L2* terminals and the neutral and ground busbars.
- 2. At the inverter, connect conductors to the *L1* and *L2* terminals and the ground busbar.





Generator Connections (TSI-200-US-G only)

The ATS can connect to a generator that meets these requirements:

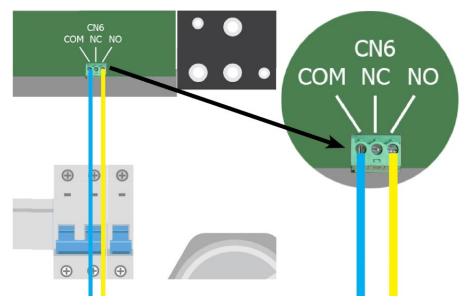
- Pure sine wave output
- A two-wire start signal circuit
- Minimum capacity equal to inverter wattage; maximum capacity 24,000kW. Recommended capacity is 2x inverter capacity (≤24,000kW).

The ATS connects to the generator:

- Two-wire start signal connection
- Starter battery charger
- Power output terminals

To connect the ATS to a two-wire start signal connection:

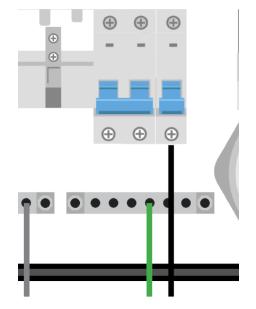
- 1. Connect two RS-485 wires to the outermost pins of the 3-pin plug included in the *Accessories* bag.
- 2. Install the plug.



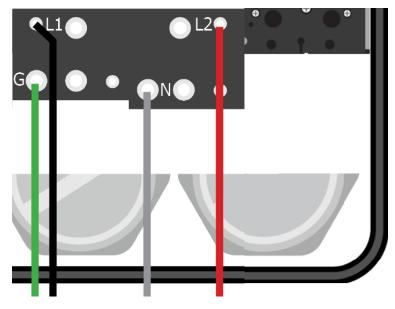
If the generator uses NC, change it to use NO.



To connect the ATS to a generator's starter battery charger, connect three 12 - 10 AWG conductors to the ATS generator maintenance breaker and neutral and ground busbars.



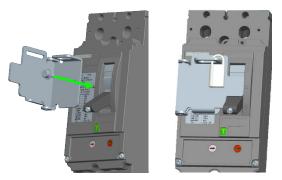
To connect the ATS to generator power output, connect four 4 - 1/0 AWG conductors to the ATS generator neutral and ground busbars and L1/L2 terminals.





Service Disconnect Lock

To install the lock plate and screw (located in the ATS *Accessories* bag) on the 200A service disconnect, pull back or cut the label to reveal the lock plate screw hole and attach the plate.



Manual Bypass Switch

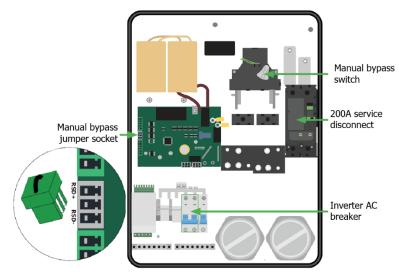
This switch lets you provide full electrical service for homeowners while installing, commissioning, or maintaining a residential solar solution. It isolates inverter, battery, and PV components while routing power from the grid to the home service panel.



Before using the manual bypass switch, turn the 200A service disconnect and the inverter AC breaker to OFF. Wait until no ATS LEDs show power before proceeding.

To avoid damaging equipment and to safely bypass the ATS, follow these instructions carefully with particular attention to:

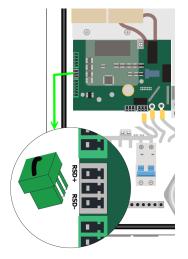
- Installing the manual bypass jumper found in the ATS Accessories bag.
- Letting the ATS automatically reset the manual bypass switch during restart it must not be manually reset.



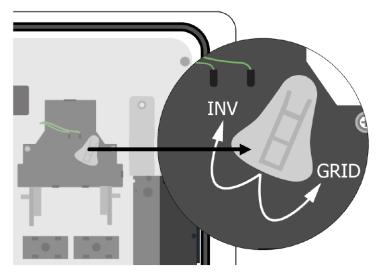


To manually bypass the ATS:

- 1. At the main service panel, turn the 2-pole breaker that connects the grid to the ATS to OFF.
- 2. Turn the inverter and battery DC disconnects to OFF.
- 3. At the ATS, turn the 200A service disconnect and inverter AC breakers (see diagram) to OFF.
- 4. Locate the 3-pin manual bypass jumper in the *Accessories* bag that has pins 1 and 3 jumped.
- 5. Plug the jumper into the terminals labeled *RSD+* and *RSD-*.



6. Remove the black safety cover if necessary and turn the bypass switch to GRID.



- 7. Turn the inverter AC breaker to ON.
- 8. Turn the ATS 200A service disconnect to ON.
- 9. Turn the inverter and battery DC disconnects to ON.



- 10. At the main service panel, turn the 2-pole breaker that connects the grid to the ATS to ON.
- 11. Ensure the E-Stop rapid shutdown button is open (not depressed).

The ATS will route AC power from the grid terminals to the load terminals until you reverse the bypass procedure.

Reverse the Bypass Procedure

To reset the ATS to normal operation:

- 1. At the main service panel, turn the 2-pole breaker that connects the grid to the ATS to OFF.
- 2. Turn the ATS 200A service disconnect and inverter AC breakers to OFF.
- 3. Confirm that the inverter and battery DC disconnects are turned to OFF.
- 4. If needed, replace the black safety cover inside the ATS.
- 5. Remove the 3-pin manual bypass jumper and keep it for future bypass procedures.
- 6. At the main service panel, turn the 2-pole breaker that connects the grid to the ATS to ON.
- 7. Turn the inverter AC breaker to ON.
- 8. Turn the ATS 200A service disconnect to ON.
- 9. Turn the inverter and battery DC disconnects to ON.
- 10. Ensure the E-Stop rapid shutdown button is open (not depressed).

It may take several minutes for the inverter and ATS to automatically reset.



Do not manually move the manual bypass switch to *INV*. Damage to the ATS may result. The switch moves automatically when the system is ready.

If the inverter does not start, force-start the battery by removing the start button cover and pressing until the green leaf status LED flashes rapidly.



Status Indicators

The status indicator LEDs on the front panel of the ATS show current operating conditions.

	Action	Description		
Grid	Continuous	Grid power on		
	Off	Grid power off		
Communications	Continuous	Operating normally		
Communications	Flashing .5s on/.5s off	Error		
Sustan Status	Continuous	Operating on-grid		
System Status	Flashing .5s on/.5s off	Operating off-grid w/battery and/or generator		
	Off	Operating normally		
Fault	Flashing .5s on/.5s off	Fault present		
	Flashing 1s on/3s off	Loads exceed available power		
	Grid Communications System Status	ContinuousGridContinuousOffOffCommunicationsContinuousFlashing .5s on/.5s offFlashing .5s on/.5s offFaultOffFlashing .5s on/.5s offFlashing .5s on/.5s off		



The EI Battery

An EI system may include one, two, or four battery enclosures. This section includes:

- Box Contents
- Enclosure Overview
- Place and Prepare
- Connect to the Inverter
- Add Batteries

For detailed specifications, download the EI Battery data sheet from the tigoenergy.com <u>Downloads</u> page.

Some of the connections described in this section may duplicate instructions included in other component sections in this manual.

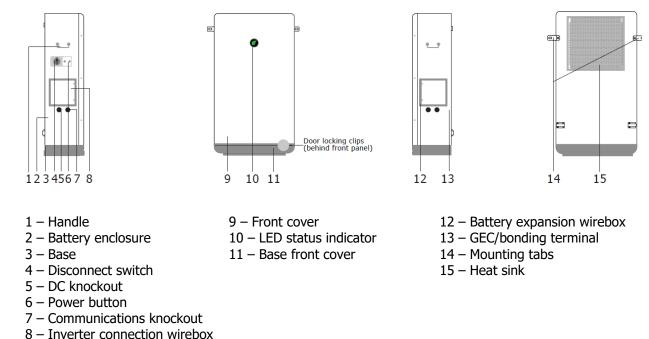
Box Contents

The EI Battery box includes:

- Battery enclosure
- Quick Start Guide
- Security screws (6)
- Sleeve anchors (2)
- Wire ferrules (4)

Battery modules are packaged separately and include two RJ45 terminators. One loose cable is included within the battery enclosure.

Enclosure Overview

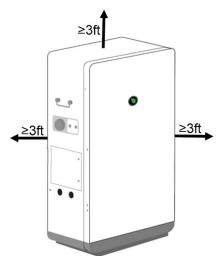




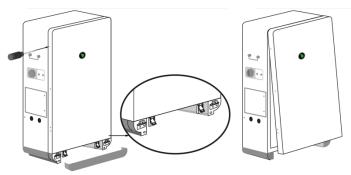
Place and Prepare

To place and prepare a battery:

- 1. Choose a location with:
 - A level floor.
 - A plumb wall.
 - Minimum 914mm (3ft) clearance side-to-side and top.
 - No direct sun or precipitation.



- 2. If mounting against a wall, affix the two side tabs.
- 3. Remove the front panel screws and two locking clips behind the base cover and open the enclosure.

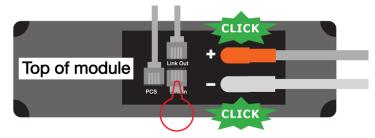


4. Detach the display and ground cables.





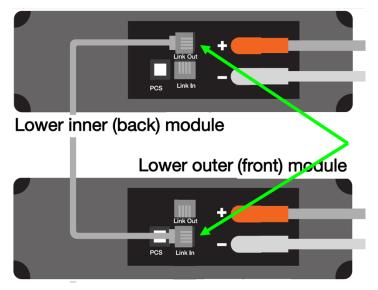
- 5. Place one battery module in the upper section and two modules in the lower section with the power terminals on the right side.
- 6. Secure the modules with the brackets attached to the enclosure.
- 7. In the upper section, connect the cables labeled *PCS*, *Upper bat Link-Out*, *Upper bat+* (red), and *Upper BAT* (black) to their respective terminals.



8. Insert an RJ45 terminator in the *Link In* terminal.

The accessory bag in the battery module package includes two terminators.

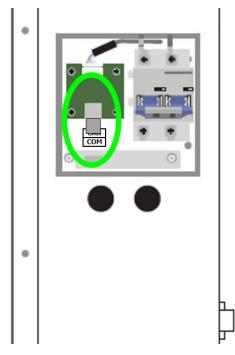
9. In the lower section, connect the loose *Lower inner bat Link-Out* cable to the inner (back) module *Link Out* terminal and the outer (front) module *Link In* terminal.



10. Connect the other cables according to their labels.



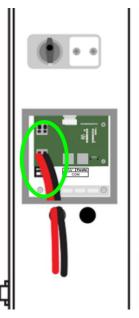
11. Insert an RJ45 terminator in the *CAN/COM* port located in the battery expansion wirebox on the enclosure right side.



Connect to the Inverter

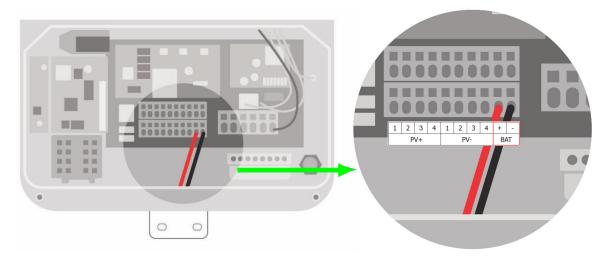
To connect battery power conductors to the inverter:

1. In the inverter connection wirebox on the enclosure left side, connect two $\leq 2m/6'7$ in conductors to the *BAT+* and *BAT-* terminals.





2. Connect the conductors to the inverter *BAT+* and *BAT-* terminals.



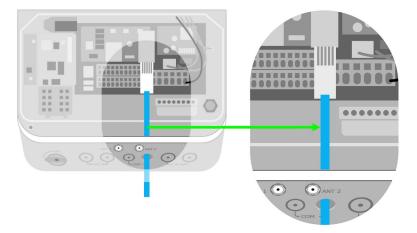


To connect the battery COM cable to the inverter:

1. In the battery inverter connection wirebox, plug the COM cable into the *COM INV* port.



2. Plug the cable into the inverter battery *COM* port.





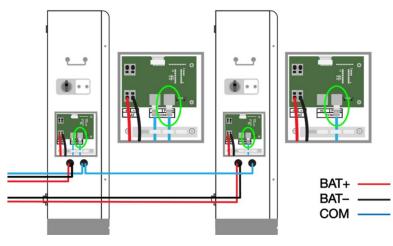
Add Batteries

You may add:

- One or three more batteries using a parallel connection.
- One battery using a serial connection (legacy installations only).

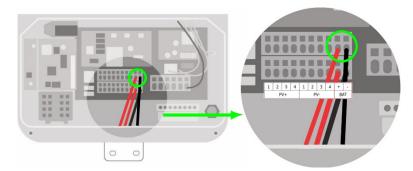
To add one battery in parallel:

1. In the battery expansion wireboxes, connect an RJ45 (CAT5/6 T586B) cable from the battery #1 *COM Parallel* plug to the battery #2 *COM Parallel* plug.

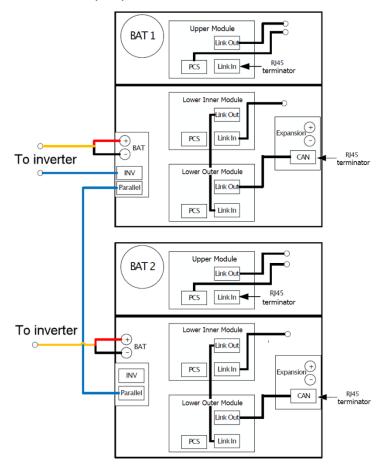




2. Connect two ≤2.5m (7'8") conductors between the battery #2 BAT+ and BATterminals and the inverter BAT terminals.



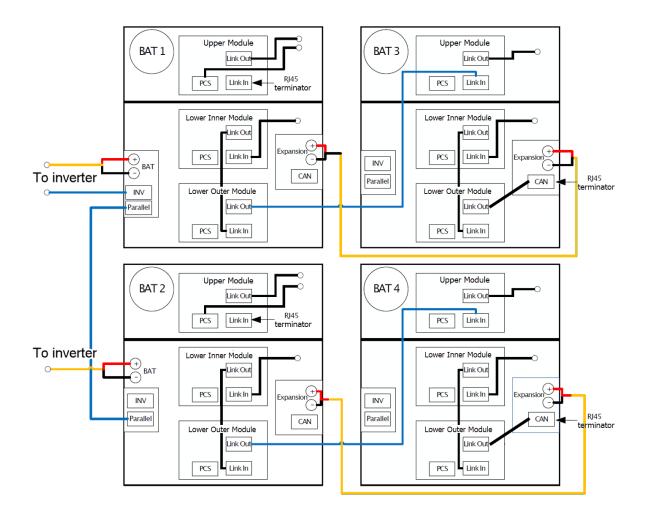
12. In the battery expansion wireboxes, connect a terminator to each CAN/COM terminal.





To add three batteries in parallel:

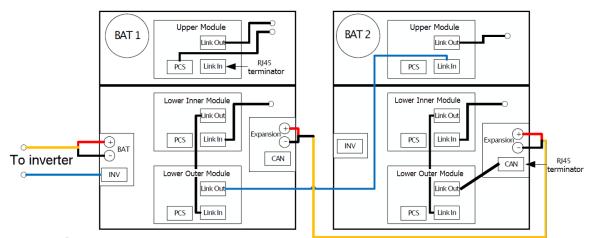
- 1. In the inverter connection wireboxes, connect a COM cable between the battery #1 and battery #2 *COM Parallel* RJ-45 ports.
- 2. Inside the battery enclosures, connect a COM cable from the battery #1 lower outer module *COM Link Out* plug to the battery #3 upper module *COM Link In* plug.
- 3. Inside the battery enclosures, connect a COM cable from the battery #2 lower outer module *COM Link Out* plug to the battery #4 upper module *COM Link In* plug.
- 4. In the battery expansion wireboxes, connect power conductors between the *BAT+* and *BAT–* terminals on batteries #1 and #3.
- 5. In the battery expansion wireboxes, connect power conductors between the *BAT+* and *BAT–* terminals on batteries #2 and #4.
- 6. In the battery expansion wireboxes, connect terminators to CAN/COM terminals on batteries #3 and #4.



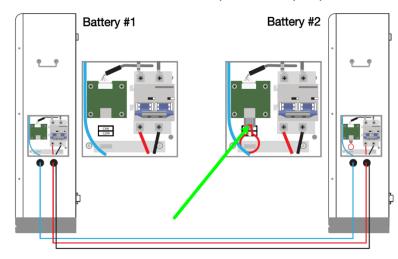


To add one battery with a serial connection (EI Battery part number 603-00000-10 only):

- 1. Inside the battery enclosures, connect a COM cable from the battery #1 lower outer module *COM Link Out* plug to the battery #2 upper module *COM Link In* plug.
- 2. In the battery expansion wireboxes, connect conductors between the *BAT+* and *BAT-* terminals on batteries #1 and #2.

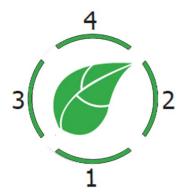


3. Insert a terminator in the battery #2 battery expansion wirebox CAN/COM terminal.



Status Indicators

The green leaf and encircling four bars indicate the battery operating condition.



The leaf indicates battery status:

Leaf
Flashing green (.5s on/2s off)
Continuous green
Continuous green
Flashing green (.5s on/.5s off, .5s on/2s off)
Flashing red (1s on/1s off)
Flashing yellow (1s on/1s off)
Flashing green (.1s on/.1s off)
Flashing red (.1s on/.1s off)

LEDs indicate battery charge:

Charging	Discharging
≤25% – 1 flashes; 2, 3, 4 off	≤25% – 1 on; 2, 3, 4 off
≤50% – 1 on, 2 flashes; 3, 4 off	≤50% – 1, 2 on; 3, 4 off
≤75% – 1, 2 on, 3 flashes; 4 off	≤75% – 1, 2, 3 on; 4 off
≥75% – 1, 2, 3 on; 4 flashes	≥75% – 1, 2, 3, 4 on



Forced Start/Shutdown

To force-start or shut down the battery:

1. On the left side of the battery enclosure, remove the power button cover.



- To force-start the battery, press the power button for 10s. The leaf status indicator starts flashing green (.1s on/.1s off).
- To force a shutdown, press the power button for 10s.
 The leaf status indicator starts flashing red (.1s on/.1s off).
- 4. Reinstall the cover.



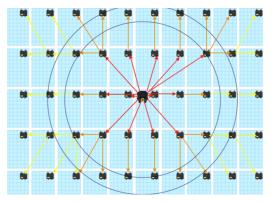
TAP and TS4 MLPE

Install the Tigo Access Point (TAP)

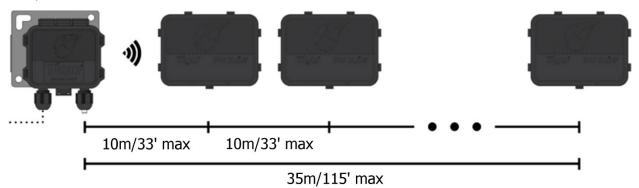
Installations equipped with TS4-A-O/S MLPE require a wired TAP connection to the inverter.

A TAP wirelessly communicates with TS4 devices to gather data and perform rapid shutdowns. The TAP connects to the link via a 4-wire or CAT5/6 cable.

Install the TAP centrally in an array for best coverage. Ensure there are no obstructions that may interfere with the TAP signal to other TS4 units in the array. If the array has multiple roof planes, you may need to install another TAP.



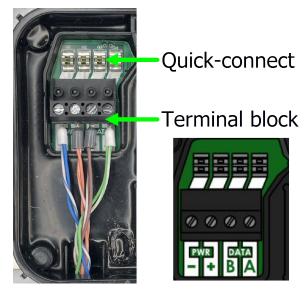
The TAP communicates directly with any TS4 within 10m/33'. Each TS4 can relay data to and from another TS4 within 10m/33'. The TAP can communicate through relays to any TS4s within 35m/115'.





To install a TAP:

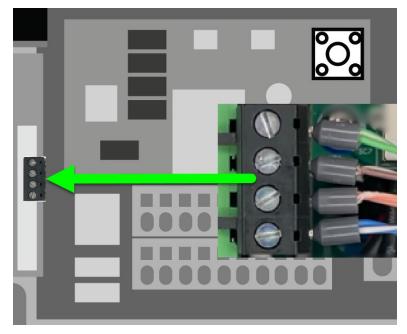
- 4. Prepare a 4-wire or CAT5/6 cable:
 - Shielded if running next to PV conductors
 - 20 18 AWG or CAT5/6 twisted pairs
 - Solid core
 - Cable outside diameter (OD) \leq 9mm (.35in)
- 5. Connect cable wires to the left side of the TAP using either the quick-connect (4-wire) or the terminal block (4-wire or CAT5/6 twisted pairs).



- 6. Use the right-side terminals to connect a cable to another TAP. If there is only one TAP, leave the terminating jumper in the right-side terminal block.
- 7. Attach the TAP to the PV module. For frameless modules, remove the silver clips and bolt directly to the rail.



8. Run the CAT5/6 cable through the inverter left COM knockout and connect to the 4-pin connector.





Install TS4 MLPE

To install TS4 devices and map them for the Tigo Energy Intelligence app:

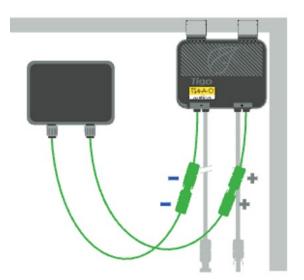
1. Attach a TS4 device to a PV module frame using the silver clips. If using frameless modules, remove the clips and bolt the TS4 directly to the PV rail with M8 bolts. No additional earthing is required.



If frame thickness \leq 35mm (1.4in), install the module with the TS4 label facing the PV module.

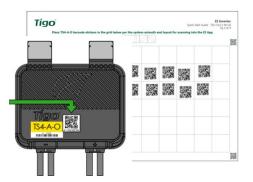


You must connect the shorter TS4 input leads to the PV modules first. Failure to do so can damage the TS4 unit.

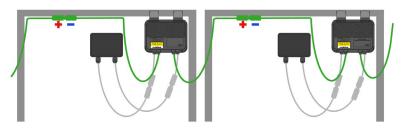




2. Remove the barcode sticker on the TS4 and place it on the PV array map located at the end of the EI Inverter Quick Start Guide. Ensure the sticker matches the physical location of the module on the roof.



3. Connect the longer set of TS4 output cables to the neighboring TS4 to create a string.



4. For installation data specific to your TS4 (TS4-A-O/S/M), visit the Tigo <u>Downloads</u> page:





Commissioning

Commissioning must be performed by a licensed electrician or other qualified person in accordance with the latest local and NEC code requirements.

To commission the system, you will:

- Check Connections
- Power On the System
- Run the Tigo Energy Intelligence App

Check Connections

Before powering on the system, ensure:

- PV and grid voltages are within specifications for your inverter model.
- A Wi-Fi connection is accessible.
- Power and communications connections are secure at the inverter, ATS, E-Stop switch, battery, and service and load panels.
- Module racks, metal conduit, and enclosures are properly grounded.
- Unused enclosure knockouts are sealed.

Power On the System

If the ATS is manually bypassed, restore automatic operations. Refer to the ATS <u>Manual Bypass</u> <u>Switch</u> section.

To power on the system:

- 1. Turn the two ATS breakers and the inverter and battery DC disconnects to ON.
- 2. Turn on disconnects/breakers between the grid and the ATS.
- 3. Ensure the E-Stop shutdown button is not engaged.
- 4. If the inverter does not start, force-start the battery by removing the start button cover and pressing until the green leaf status LED flashes rapidly.
- 5. Ensure Bluetooth is enabled on your mobile device, open the Tigo EI app, and tap + to create a new system.
- 6. Open *Select Equipment*, tap *Scan*, and select the EI inverter.

If the inverter does not turn on, press and hold the battery power button for 10s. If the inverter status LEDs continue to flash red and it does not start, contact Tigo support.



Run the Tigo Energy Intelligence App

The Tigo EI app for Android and iOS mobile devices enables fast system commissioning and provides comprehensive visibility into system and module performance.

Scan one of these QR codes to download the app.



To run the Tigo EI app and commission the system, first ensure Bluetooth is enabled on your mobile device.

Do not try to select your system using your mobile device's Bluetooth settings. The EI app will automatically connect to your system.

The EI app organizes the commissioning process into five steps:

- Set System Info
- Select Equipment
- Configure Layout
- Configure Communication
- System Access

The commissioning process will vary depending on your particular installation, and the following instructions may not completely address your needs. Visit the tigoenergy.com <u>Help Center for</u> more extensive instructions.

Set System Info

1. Open the app and log in (existing users) or enroll.

If you enroll in a new account, respond to the email message sent to verify your email address.





Q Search

2. Tap + to configure a new system.

3. Enter the system name and turn on date and tap *Next*.

+

Ê

26

FA



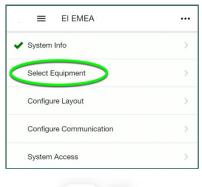
4. Confirm your location and tap *Create* -> to save the system information.

Select Equipment

- 1. Tap Select Equipment.
- 2. Tap *Scan* to let the app scan for EI components such as the inverter and battery.

Tap *Add* to configure components manually.

The first component discovered is the EI Inverter or, in some cases, the Cloud Connect Advanced (CCA) component.





3. After a component is discovered or entered manually, tap *Add*.





4. Perform updates as needed.

As you progress through the commissioning process, symbols will show which areas need attention and which are complete:

- Section is complete and passes all checks.

A – Section has not been completed.

A fault requires correction.

5. Tap *Internet Settings* and connect to the customer's WiFi network.

6.	Drag the screen down to refresh the list
	of networks.

7. Tap Inverter Settings, select the *Grid Code*, configure *Advanced Options*, and tap *Save*.

Update 04C05B905404
✤ 04C05B905404
Do not turn off or restart your device while updating.
Device update is required This process takes typically between 5-10 m outes
Status: Applying update





Advanced Options

8. Configure AC Meter, Battery Settings, and Main Breaker Limit options as needed.

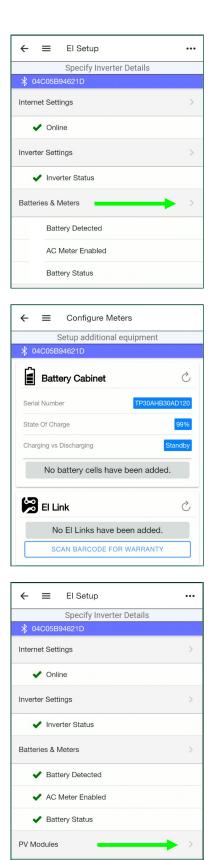


9. Tap and configure *Batteries & Meters* options.

10. Tap *SCAN BARCODE FOR WARRANTY* and use your smartphone camera to capture all equipment bar codes.

You may scan bar codes located on enclosures or on boxes.

11. Tap the back arrow and tap *PV Modules* to set up the PV array and Tigo TS4 devices.





•••

ASP-250 -

1 -

- 12. Edit inverter settings and tap *ADD STRING*.
- Inverter Name EI-04C05B94621D Tigo Energy, Inc 🔻 Model Select -MPPTs 1 -ADD STRING CANCEL Add String Specify string info 04C05B94621D **NEW STRING** Manufacturer Advanced Solar -

Edit Inverter

Specify electrical configuration

← ≡

Model

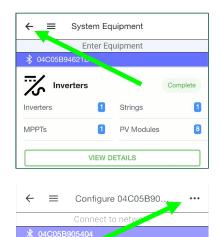
PV Modules count

★ 04C05B94621D

13. Select a *Manufacturer, Model*, and *PV* Modules count and tap *Save*.

- 14. Repeat these steps for as many strings as needed and tap Done.
- 15. Review your entries and tap the back arrow.

16. Check your system information at any time by tapping the three-dot icon and selecting *Real-Time Data*.





Configure Layout

1. Tap *Configure Layout* to map equipment items on a layout grid.

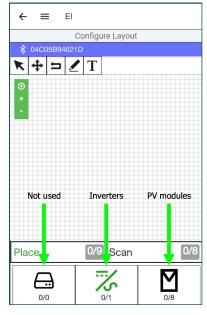
You may also configure layout using a large monitor via the EI portal. Click Tigo EI Login at <u>www.tigoenergy.com</u> and use your EI app credentials. However, you can only complete commissioning using the mobile app.

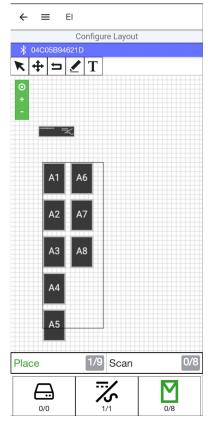
← ≡ EI	
🖇 04C05B94621D	
✓ System Info	>
✓ Select Equipment	>
Configure Layout	
Configure Communication	>
System Access	>



- 2. Tap the inverter icon at the bottom of the screen and then tap a location in the layout grid to place it.
 - The numbers below the equipment icons show the number of devices placed on the grid over the number detected.
 - Once placed, you may drag a device to adjust its location as needed.

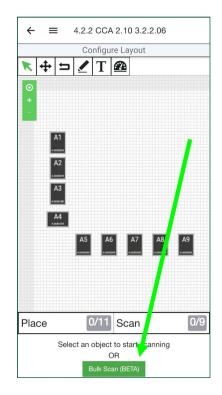
- 3. Drag the PV module icon to the layout grid to place multiple modules. Otherwise, tap the icon and then tap the grid to place them individually.
 - Arrange the modules carefully to reflect their actual layout on a roof or field. Tap a module to change its portrait/landscape orientation.







- 4. Choose a method to identify TS4 devices attached to PV modules.
 - If, during installation, you affixed barcode/QR code stickers from each TS4 to the array map included in the EI Inverter Quick Start Guide, you may use the Bulk Scan method.
 - You may scan each TS4 barcode/QR code with your smartphone.
 - You may enter codes manually.
- 5. To use the Bulk Scan method, tap *Bulk Scan* and take a photo of a completed TS4 array map.
 - If the array map is large and one photo does not successfully capture all labels, repeat the process to take several smaller photos of the map.

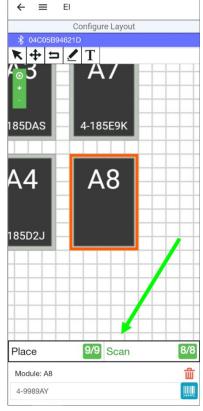




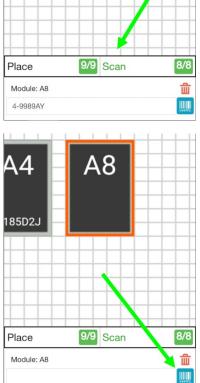
6. To scan TS4 labels individually, tap a PV module in the layout grid and then tap *Scan*.

7. To manually enter TS4 data, tap the module in the layout grid, tap the blue barcode icon, and enter the code.

- Verify that all modules are oriented consistently portrait or landscape. Tap a module
- repeatedly to alternate orientation.
- 9. Tap the back arrow to return to the commissioning screen.











Configure Communication

1. Tap Configure Communication.

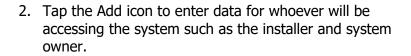
Bluetooth communication has already been established and the WiFi option is not yet implemented.

2. Tap the back arrow to return to the commissioning screen.

← ≡ EI	•••
✓ System Info	>
✓ Select Equipment	>
✓ Configure Layout	>
Configure Communication	>
System Access	>

Set Up System Access

1. Tap System Access to set access permissions.







←	≡	Add system access
∦ Co	nnected	I to CCA: 04C05B80797F
Email		
First Na	me	
Last Na	me	
		ADD



Reference

This section includes the following topics:

- Error Codes
- Decommissioning
- Maintenance
- Customer Support
- Specifications
- Warranty

Error Codes

To view error codes, open the EI app and navigate to the *Select Equipment > Inverters > View Details > Configure Inverter Details* screen and tap *Connect*.



Shut down the system before checking PV module or system wiring.

If you are unable to resolve an error, visit the Tigo <u>Help Center</u>.

Inverter Warning Codes

Code #	Description	Suggestions			
203	PV1 or PV2 circuit short	1. Check PV panel polarity.			
		2. Restart the inverter.			
204	Disconnect function abnormal	1. Shut down the system.			
		2. Check disconnect wiring.			
205	PV1 or PV2 boost broken	Restart the inverter.			
207	USB over-current	1. Unplug the USB disk or monitor.			
		2. Re-access USB disk or monitor after			
		shutdown.			
401	Inverter to energy meter abnormal	1. Check if the meter is on.			
	communication	2. Check the inverter and the meter			
		connection is normal.			
404	EEPROM abnormal	Restart the inverter.			
405	The firmware version is not consistent	Update inverter to the latest firmware			
		version.			



Inverter Fault Codes

Code #	Description	Suggestions
402	Output high DCI	Restart the inverter.
404	Bus sample fault	Restart the inverter.
405	Relay fault	Restart the inverter.
408	Over temperature	Restart the inverter when the ambient temperature of the inverter is lower than 60°C.
409	String voltage has exceeded 560V _{DC}	Restart the inverter.
411	DSP communicates M3 abnormal	 Restart the inverter. If the problem still exists, update the DSP and M3 firmware. Change the DSP or M3 board.
417	The data sampled by the DSP and redundant M3 are not the same.	Restart the inverter.
420	GFCI fault	Restart the inverter.



System Fault Codes

Code #	Error Message	Description	Suggestions				
201	Residual I high	Leakage current too high	Restart the inverter.				
202	PV voltage high	The DC input voltage is exceeding the maximum tolerable value.	 Disconnect the DC switch immediately. Check the voltage of each PV string with a multimeter. 				
203	PV isolation low	Insulation problem	 Check if the panel enclosure is grounded properly. Check if the inverter is grounded properly. Check if the DC breaker is wet. Check the impedance of PV + and PV – between ground (>25KΩ or 550KΩ (VDE 0126)). 				
300	AC V out range	The utility grid voltage is out of permissible range.	 Switch off the DC disconnect. Check AC wiring especially the neutral and ground wires. Verify grid voltage is within tolerances. Restart the inverter. 				
302	No AC connection	No AC connection The inverter does not detect grid voltage.	 Check AC wiring connections. Check the status of the AC breaker. 				
303	PE abnormal	Neutral and PE voltages exceed 30V.	 Check neutral and PE voltages. Check AC wiring. Restart the inverter. 				
304	AC F out range	Utility grid frequency out of permissible range.	 Switch off the DC disconnect. Check AC wiring especially the neutral and ground wires. Verify grid frequency is within allowable tolerance (59.3 to 60.8 Hz). Restart the inverter. 				
407	Auto test failed	The EI Inverter initial auto test has failed.	 Restart the inverter. Repeat auto test. Check all connections and wiring. Check DC, AC, and battery voltage readings and if Grid selection in the app matches the actual Grid reading. Check the firmware version and update if needed. 				
500	BMS COM fault	BMS not able to communicate properly with the inverter.	 Check RS485 cable connection. Check if the battery is sleeping. 				



Decommissioning



Wait five minutes after complete system shutdown for enclosures to cool before disassembling the system.

To decommission the system:

- 1. Turn off the system by reversing the procedure listed in the <u>Power On the System</u> section.
- 2. Contact <u>support@tigoenergy.com</u> to deactivate the system in the Tigo database.

Follow these precautions with the battery modules:

- Pack modules in the original packaging or equivalent carton.
- Store modules in a dry location with ambient temperatures of -30°C to 50°C and relative humidity of 0-100% for up to three months.
- Do not store near flammable or toxic substances.
- Recycle or dispose of battery modules in compliance with local regulations.

Maintenance

Any operational problems or external damage must be evaluated by a qualified service technician. In addition:

- Clean surfaces with a damp cloth only. Never use solvents or abrasives.
- Maintain proper clearances around all enclosures to ensure proper air circulation.
- Check enclosures quarterly and remove any insects and rodent nests.

Specifications

Download comprehensive specifications for all Tigo products from the Tigoenergy.com <u>Downloads</u> (www.tigoenergy.com/downloads) page.

Warranty

Download comprehensive warranty information from the Tigoenergy.com <u>Downloads</u> (<u>www.tigoenergy.com/downloads</u>) page.



Customer Support

The Tigo support team is available by:

- Chatting with a tech through the Tigo EI app.
- Submitting a ticket from the Tigo EI app.
- Submitting a ticket through the <u>Tigo Help Center</u>.
- Calling +1 408 402 0802.

Support hours are Monday – Friday, 7am – 6pm PST.

In addition, the <u>Tigo Community web forum</u> is an important 24/7 resource where solar technicians learn, share, and collaborate.

When you contact Tigo support for installation or operational assistance:

- If the system is commissioned and connected to the internet, Tigo will have componentlevel data to help understand and resolve the issue.
- If you have not yet commissioned the system, you'll need to know your System ID as well as serial and model numbers for the inverter, battery, and MLPE components relevant to your issue.

Support will need:

- A description and history of the problem.
- Any relevant error codes.
- A procedure for reproducing the problem, if possible.
- Grid and DC input voltage (for inverters).
- Ambient weather conditions.
- If module-level monitoring was not installed or was improperly mapped, you may be asked for the module manufacturer, model, wattage, V_{OC} , V_{MP} , I_{MP} , and the number of modules in each string.



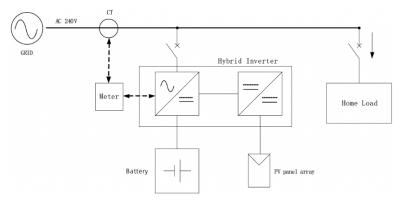
Appendix A – UL 1741 PCS CRD Section 208 Information

The major system elements making up the Tigo power control system (PCS) include:

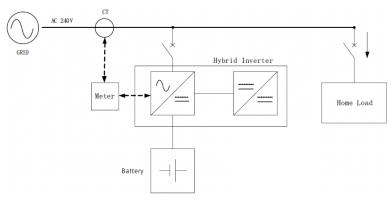
- A hybrid inverter: TSI-3.8K-US, TSI-7.6K-US, or TSI-11.4K-US
- A smart energy meter built into the inverter
- A GO Battery MSX (one TSM-30 battery management system plus one-to-six TSB-5 battery modules)

Integrations

A DC-coupled integration is shown below:



An AC-coupled integration is shown below:



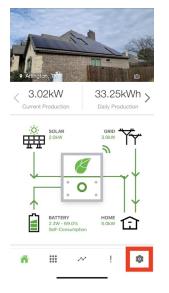


The Tigo PCS supports the following operational modes:

- Time of Use
- Self-Consumption
- Backup
- Zero Export

To set a mode and adjust settings:

1. Open the Tigo Energy Intelligence mobile app.



2. Tap the Settings icon.

Time of Use

This mode controls when the grid may be used to charge the battery.

To configure *Time of Use* settings:

1. Select *Energy/Battery Management > System Behavior > Time of Use*.

		←	≡	Energy	//Battery	Mana	gem	nent					
0	Use		tem's e		y during Pea as if and who					nighest. Spe	cify your Pe	ak Periods (tin	nes
										4pm	9p	m	
	\checkmark	Peak	Period	1	12am	ŧ	Sam	7am				12am	
	0		harginç	9	12am		•			69%		12am	
		Peak F Batter Reserv	y		0					•		100	

2. Adjust the sliders to set when utility rates are highest, when the battery can be charged from the grid, and a desired battery reserve during peak periods (how much energy to save in case of grid failure).



Self-Consumption

This mode controls the battery reserve to enable minimizing grid usage.

To configure *Self-Consumption* settings:

1. Select *Energy/Battery Management > System Behavior > Self-Consumption*.

S	ystem	ı Be	hav	ior			
You belo	r battery will c w.	harge and	discharş	ge at th	e time	s indic	ated
1 1	ZAM 3AM 6	AM 9AM	12PM	3PM	6PM	9PM	12AM
: ()	Time of Use Use your sys day when uti Periods (time when chargin	tem's ener lity rates a is with high	e their h utility r	nighest ates) a	. Speci s well a	ify you	r Peak
' 0	Self-Cons Use your sys your electric you wish to P	tem's ener bill. Specif	gy wher y the an	nount c	f batte		
				699	6		
	0					10	00
0	Backup Keep your be prepared for			at all t	imes to	o be	
					5	Save	

2. Adjust the slider to set a desired battery reserve (how much energy to save in case of grid failure).

Backup

This mode controls the battery reserve to enable maximizing backup energy in case of an outage.

To configure *Backup* settings:

1. Select *Energy/Battery Management > System Behavior > Backup*.

Sys	ster	n E	Bel	/Batte	vior	•		
our bat	tery wil	l charg	e and	dischar	ge at th	ne time	s indic	ated
12AM	3AM	6AM	9AM	12PM	3PM	6PM	9PM	12A
⊖ Usi you	If-Cor e your s ir electr i wish to	ystem ic bill.	s ener Specif	gy whe y the ar	nount o	of batte		
Pa	ckup							
o Kei	ckup ep your pared f				i at all i	times t	o be	
o Kei	ep your				d at all t		o be Save	

2. Tap the *Backup* control.



Zero Export

This inverter setting enables or disables sending energy to the grid.

To configure *Zero Export* settings:

1. Select *Edit System > Select Equipment > Inverter > View Details > Connect > Inverter Settings > Grid Code > Advanced Options > AC Meter.*

← ≡ AC Meter Op	tions
Configure your A	C meter
🖇 04C05B90376F	
AC Meter Enabled	
Export Power Allowed	

2. Toggle off the *Export Power Allowed* setting.

Appendix B – Configuring HECO Requirements

The Hawaiian Electric Company's (HECO) tariff Rule No. 14 Section H concerns the interconnection of distributed generating facilities operating in parallel with the company's electric system.

To configure the inverter for HECO requirements, you must set voltage levels and disable sending energy to the grid with the *Zero Export* setting.

To set voltage levels:

- 1. Open the Tigo Energy Intelligence mobile app.
- 2. Select *Settings > Edit System > Select Equipment > Inverter > View Details > Connect > Inverter Settings > Grid Code > Advanced Options > HECO.*

Configure Inve	arter Settings
\$ 04C05B90378F	
Inverter	
Fault Code	٥
Warning Code	٥
Grid Code	IEEE1547 -
Voltage Level	208 -
Advanced Options	^
EEE1547	
RULE 21	
HECO	
PRC-East	
PRC-West	
PRC-Quebec	
Cancel	

3. Select *Advanced Options > Voltage Level* and set appropriate levels.

To configure Zero Export settings:

- 1. Open the Tigo Energy Intelligence mobile app.
- 2. Select Settings > Edit System > Select Equipment > Inverter > View Details > Connect > Inverter Settings > Grid Code > Advanced Options > AC Meter.

← ≡ AC Meter Opti	ons
Configure your AC	meter
\$ 04C05B90376F	
AC Meter Enabled	
Export Power Allowed	

3. Toggle off the *Export Power Allowed* setting.