GO Battery (US)

Installation Manual

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Document Version History

Version	Date	Changes
1.0	20260304	Initial Release

About this Document

This manual provides the information needed to install, operate, and maintain the GO Battery System. It includes safety requirements, system components, installation steps, electrical connections, commissioning, and troubleshooting. Review all instructions before beginning installation.

Contents

Safety and Compliance

LETHAL VOLTAGE MAY BE PRESENT IN ANY PV INSTALLATION
SAVE THESE INSTRUCTIONS

The GO Battery System contains high-voltage components. Incorrect installation or operation can cause serious injury or death. Only qualified and trained personnel should install or service this equipment.

Tigo Energy is not responsible for any damage or issues resulting from the following:

- Damage during transportation by the customer.
- Damage caused by improper operations when transporting, storing, installing, or operating the product; or the third party fails to convey the correct information to end users about transporting, storing, installing, or operating the equipment.
- Installations which do not comply with local Codes and Standards.
- Failure to follow the operation instructions and safety precautions specified in this document.
- Unauthorized modifications or removal of the software package.
- The product's tamper-evident label is removed, or any item is missing, due to the customer's negligence or intentional damage.
- Operation in environments that cannot meet the requirements specified in this document.
- Damage caused by repairing, disassembling, and modifying Modules without authorization.
- Damage to labels on the chassis or modification on the date of production.
- Battery Modules have been left uncharged for more than six months.
- Damage due to force majeure, such as lightning, earthquakes, fire, and storms.
- Warranty expiration.

Environmental Requirements

- Install the battery in a dry, well-ventilated area away from heat sources and temperatures above 122°F (50°C).
- Do not install the system in wet, damp, or corrosive environments.
- Avoid direct sunlight and protect the system from exposure to liquids.
- Keep the installation area secure and inaccessible to children or animals.
- Prevent battery terminals from contacting conductive objects.
- Do not dispose of the battery in fire or expose it to ignition sources
- Install the battery in a dry, well-ventilated area away from heat sources and temperatures above 122°F (50°C).

Handling Precautions

- Do not handle the battery system with wet hands.
- Avoid crushing, dropping, or puncturing any battery module or high-voltage component.
- Follow all local regulations for battery disposal.
- Store, charge, and transport battery modules only as instructed in this manual.
- Ensure all grounding connections are secure before operation.
- Remove metal jewelry or accessories before installation or maintenance.
- Only qualified personnel should service or install battery modules.
- Do not stack batteries unless they are in their protective packaging and within the printed stacking limits.
- Do not use damaged, deformed, or leaking battery modules.
- Do not handle the battery system with wet hands.
- Avoid crushing, dropping, or puncturing any battery module or high-voltage component.

Installation Tools

- Hammer Drill with 13/32” (10mm) concrete bit, 9/64” (3.6mm) bit,11/64” (4.4mm) drill bit
- Phillips Screwdriver
- 5mm hex key
- Marker
- Level
- Safety Gloves
- Multimeter
- Insulated Gloves
- Ratchet Wrench + 8mm sockets
- Measuring Tape
- Safety Shoes

Label Description

SymboL	Type	Safety Instruction
	**Disposal**	Do not dispose of the system with household waste. Follow all local disposal and recycling regulations.
	**Recycling**	Lithium-ion batteries are recyclable — dispose of them properly through approved collection facilities.
	**Electric Shock**	Risk of electric shock — handle with care and follow all safety instructions.
	**Ventilation**	Risk of explosive gases — operate and store the system in a well-ventilated area.
	**Battery Leak**	Risk of battery leakage — avoid damage to the enclosure and handle modules carefully.
	**Lifting**	Battery modules are heavy — lift using proper technique or mechanical assistance.
	**Access Control**	Keep the battery pack out of reach of children and unauthorized personnel.
	**Polarity**	Ensure correct polarity — verify that positive and negative terminals are properly connected.
	**Fire Hazard**	Keep away from open flames or ignition sources.
	**Instructions**	Read and follow all instructions in this manual carefully.
	**Information / Notes**	Highlights important background information, specifications, or reminders. For example:
	**Danger**	Indicates a hazardous situation that, if not avoided, will result in death or serious injury. For example:
	**Safety Warning / Caution**	Calls attention to safety risks, potential hazards, or necessary precautions. For example:
	**Action Step**	Specifies the required action for the installer in a procedure. For example:

Emergency Actions

The manufacturer has considered potential risk scenarios and designed the battery system to reduce hazards. In an emergency, follow these steps:

In any emergency, immediately press the Rapid Shutdown button and contact your local fire department.

Emergency	Description and Measures
Electrolyte Leak or Spill	**Inhalation:** Move to fresh air immediately and seek medical attention. **Eye Contact:** Rinse eyes with clean running water for at least 15 minutes. Get medical help immediately. **Skin Contact:** Wash thoroughly with soap and water. Seek medical attention if irritation occurs. **Ingestion:** Seek medical attention immediately.
Battery Fire	The battery system is not likely to ignite on its own. If a fire occurs, do not attempt to put it out—**evacuate people immediately.**
Water Damage or Submersion	If the battery system is wet or submerged, do not touch it to avoid **risk of electric shock**. Contact Tigo Support for immediate assistance.
Physical Damage to Battery Case	**Do not use batteries with cracked or deformed casings**. Contact Tigo Energy or your distributor for safe disposal.

Product Overview

Intended Use

The GO Battery US System is composed of a Battery Management System (BMS) and multiple Battery Modules (BM). Up to 6 Battery Modules can be connected in parallel to expand the system's overall energy capacity and power output. Each Battery Module contains lithium iron phosphate (LFP) cells, and an integrated DC-DC converter that boosts the battery voltage to 380 V.

The GO Battery System operates with the Tigo EI Inverter, which supplies power to household loads as needed. When solar energy is available, it is used to power the loads first, while any excess solar energy is automatically stored in the GO Battery US System for later use.

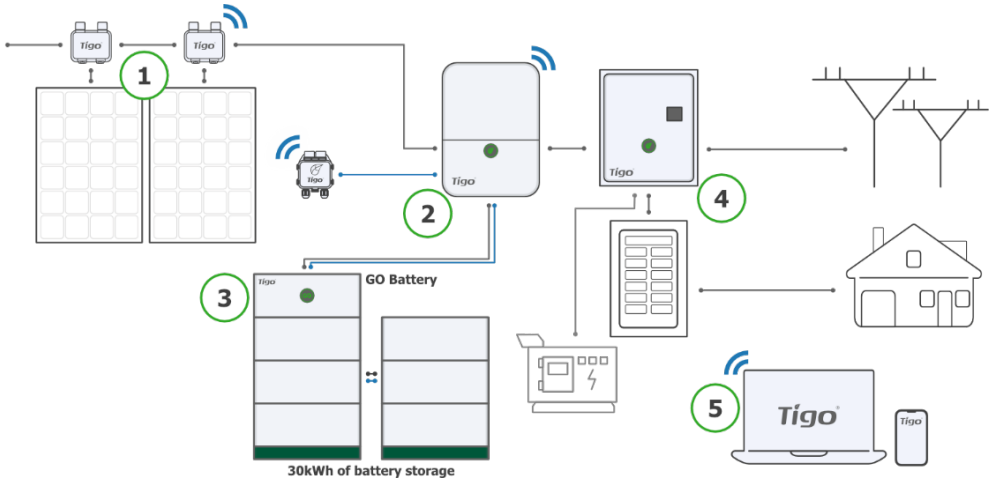


Figure 1.1 System diagram of the GO Battery

Make sure a Tigo EI Inverter is installed, and all spacing clearances are met before installing the GO Battery.

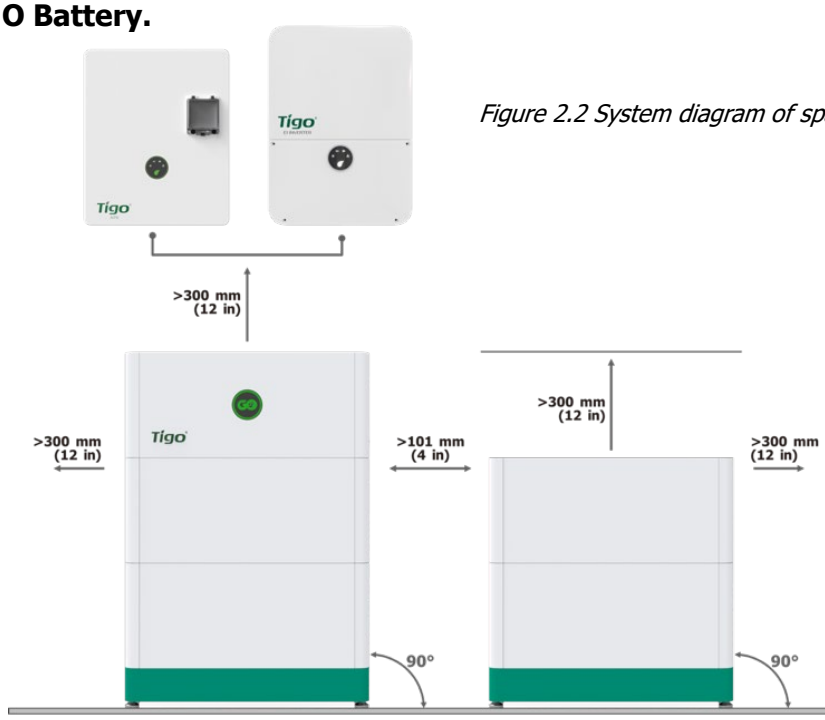


Figure 2.2 System diagram of spacing requirements

Component Identification

The Tigo GO Battery System consists of four main components/Kits, each designed to ensure optimal performance, safety, and flexibility in installation. These components work together to deliver efficient energy storage, reliable backup power, and seamless integration with the Tigo inverter and monitoring platform.

Kit	Model Number	Part Number	Note
GO Battery US BMS Kit	TGM-30	705-2030H0-0001	BMS, base, mounting brackets, and cables
GO Battery US module Kit, 5kWh capacity	TGB-5	702-2005H0-0001	Battery module, cables, and mounting bracket
GO Battery US Expansion Kit*		707-200000-0201	Base and cables
GO Battery US Wall Mount Kit**		707-200000-0301	Wall mount brackets, nuts, and screws

* Required when more than four battery modules are connected to a single BMS.
** Applicable for wall mount installations.

GO Battery Management System (BMS) Kit (TGM-30)

BMS Kit main components

This kit includes the Battery Management System (BMS), base, mounting brackets, and communication/power cables.

The BMS functions as the system's control and protection unit, managing communication between modules, ensuring cell balancing, and safeguarding against overcharge, over-discharge, and overcurrent. It also houses power control units, relay, fuse, DC switch, power supply, and communication terminals.

The diagram below identifies the main external components and connection points.

The BMS Enclosure

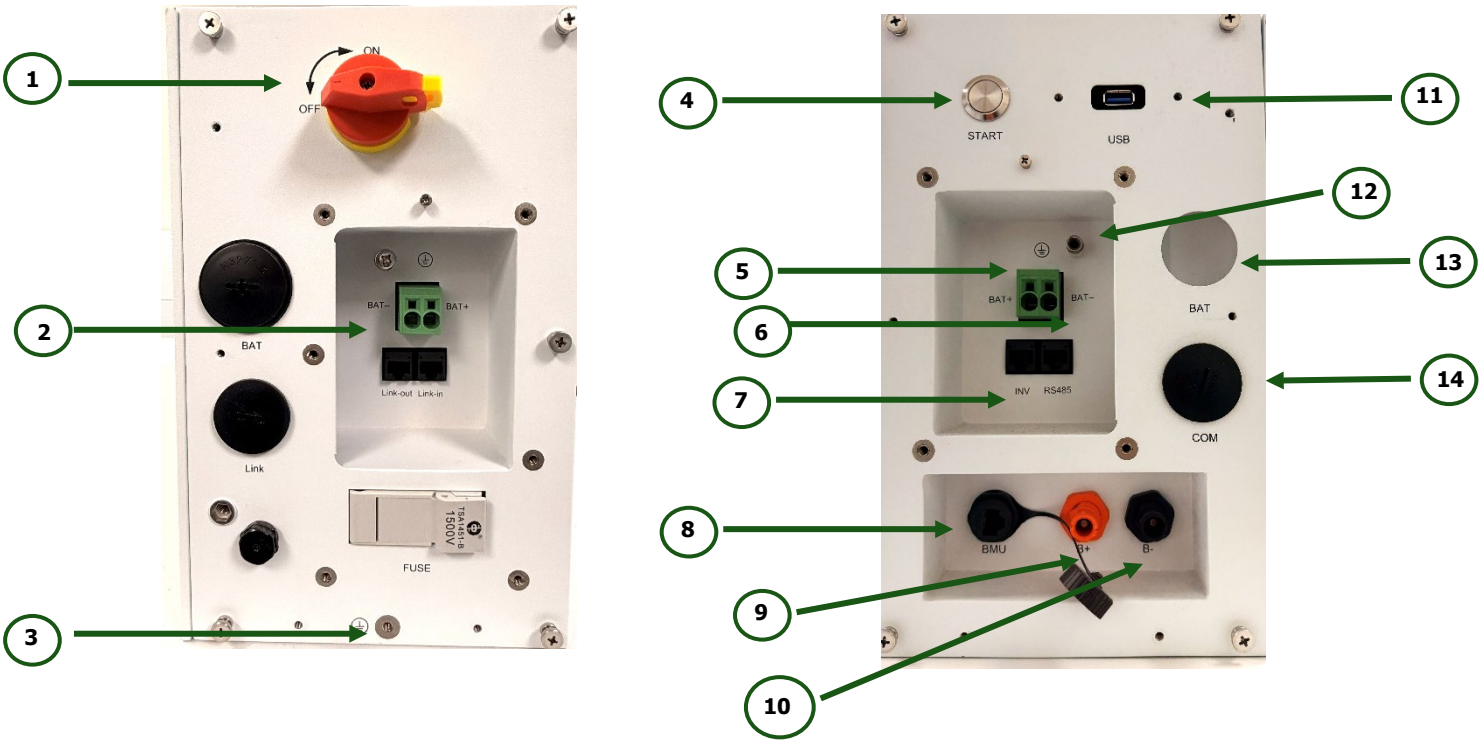


Figure 3.3 Side views of the BMS

No#	Port	Function
1	DC switch	Turns the power connection between the BMS and EI Inverter on or off
2	BAT	Knockout for GO Battery power cables
3	LINK	Connect a ground wire to the adjacent battery module
4	Start button	Wake up the battery module(s) by pressing for 5+ seconds
5	BAT+ terminal	Connect a + conductor to the inverter through the BAT port (13)
6	BAT– terminal	Connect a – conductor to the inverter through the BAT port (13)
7	INV RJ-45 plug	Connect a CAT5/6 COM cable to the inverter through the INV port (14)
8	BMS terminal	Connect a Link COM cable to the adjacent battery module
9	B+ terminal	Connect a + power cable to the adjacent battery module
10	B– terminal	Connect a – power cable to the adjacent battery module
11	USB port	Connect a USB flash drive to upgrade firmware
12	Ground terminal	Connect a ground wire to the inverter through the INV port (14)
13	BAT	Conduit port to the inverter for BAT conductors
14	INV	Conduit port to the inverter for COM cable and ground wire

The Battery Module Enclosure

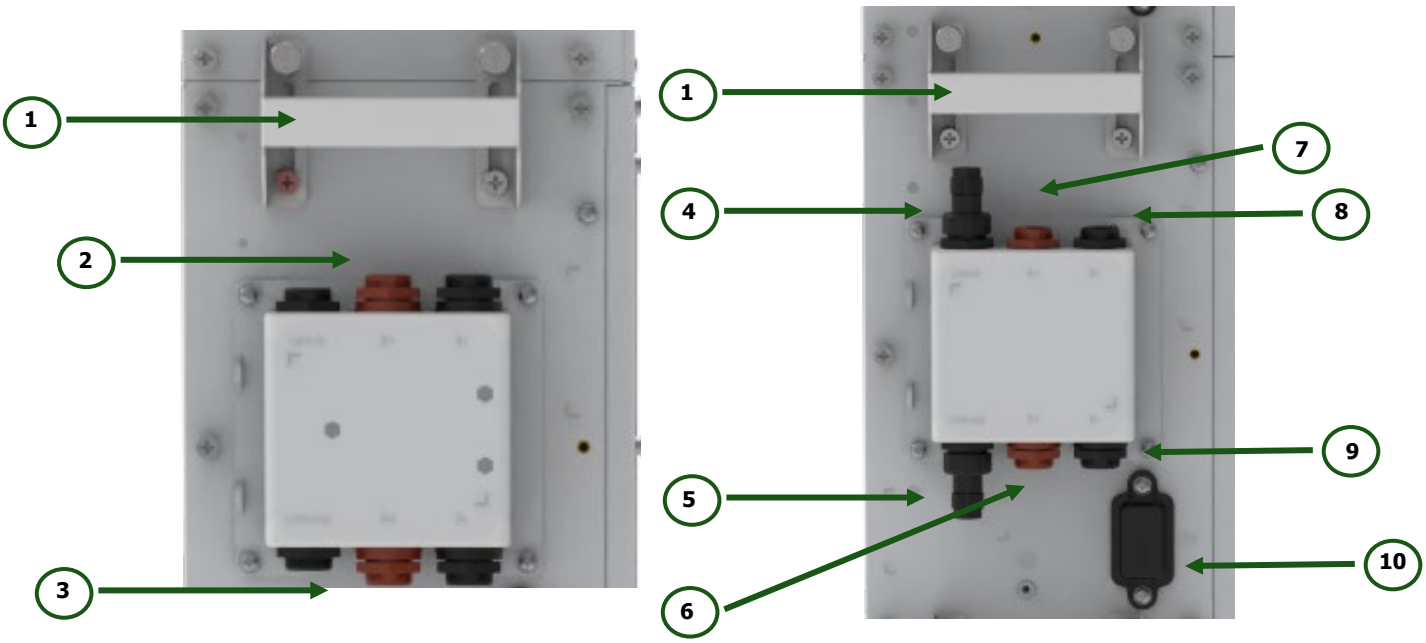


Figure 4.4 Side views of the BMS Enclosure

No#	Port	Function
1	Battery handle	Connect the enclosure to the BMS or the upper battery module.
2	Ground terminal	Connect a ground wire to the BMS or the upper battery module.
3	Ground terminal	Connect a ground wire to the lower battery module.
4	Link-in	Connect a Link COM cable to the BMS or the upper battery module.
5	Link-out	Connect a Link COM cable to the lower battery module.
6	B+ terminal	Connect a B+ power cable to the lower battery module.
7	B+ terminal	Connect a B+ power cable to the BMS or the upper battery module.
8	B– terminal	Connect a B– power cable to the BMS or the upper battery module.
9	B– terminal	Connect a B– power cable to the lower battery module.
10	USB port	Connect the enclosure to the BMS or the upper battery module.

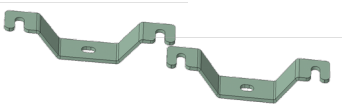
System Status Indicators

The GO Battery System uses front-panel LEDs on the BMS to display the system's operational status and state of charge (SOC).

Each LED segment represents 12.5% SOC.

Battery Status	GO LED	Ring LED	Example
Idle	Solid Blue	Solid Blue	
Charging	Solid Green	Green	
Discharging	Solid Blue	Green	
Firmware Update	Blinking Yellow	OFF	
System Fault	Solid Red	OFF	
System Off	OFF	OFF	

BMS Kit

#	Image	Description	Qty
1		BMS Module	1
2		Power cable ferrules (cable from inverter to BMS)	4
3		BMS to module power cable, +, 7-7/8 inches	1
4		BMS to module power cable - 7-7/8 inches	1
5		BMS to module com cable, 7-7/8 inches	1
6		Grounding cable. 3-13/16 inches (between BMS and first module)	1
7		Battery module left cover	1
8		Battery module right cover	1
9		L-bracket to secure battery to brackets	2
10		M4*9 ground connection screw (to connect grounding cable, L bracket)	4
11		Horizontal Support bracket	1
12		Battery base	1
13		Base anchor brackets (Preinstalled)	2
14		Battery anchor brackets (locks battery to base)	2
15		Torque gauge tool, for RJ45 nut connector	1

GO Battery Module Kit

Each GO Battery Module contains high-performance LFP cells, a DC-DC converter, mounting brackets , and power and communication terminals. Modules can be stacked in parallel—up to six per system—to expand total capacity and power output.

GO Battery Module Main Components

The diagram below identifies the main components and connection points.

#	Description	Description / Function
1	Heat Sink	DC-DC converter heat sink for thermal dissipation
2	Ground terminal (next module)	Ground connection to the next battery module
3	Ground terminal (previous module)	Ground connection to the previous battery module
4	Link in	Communication port for parallel BMS
5	Link out	Communication port for parallel BMS
6	B+	Positive power terminal for parallel BMS
7	B-	Negative power terminal for parallel BMS
8	USB	USB port for firmware upgrades via flash drive

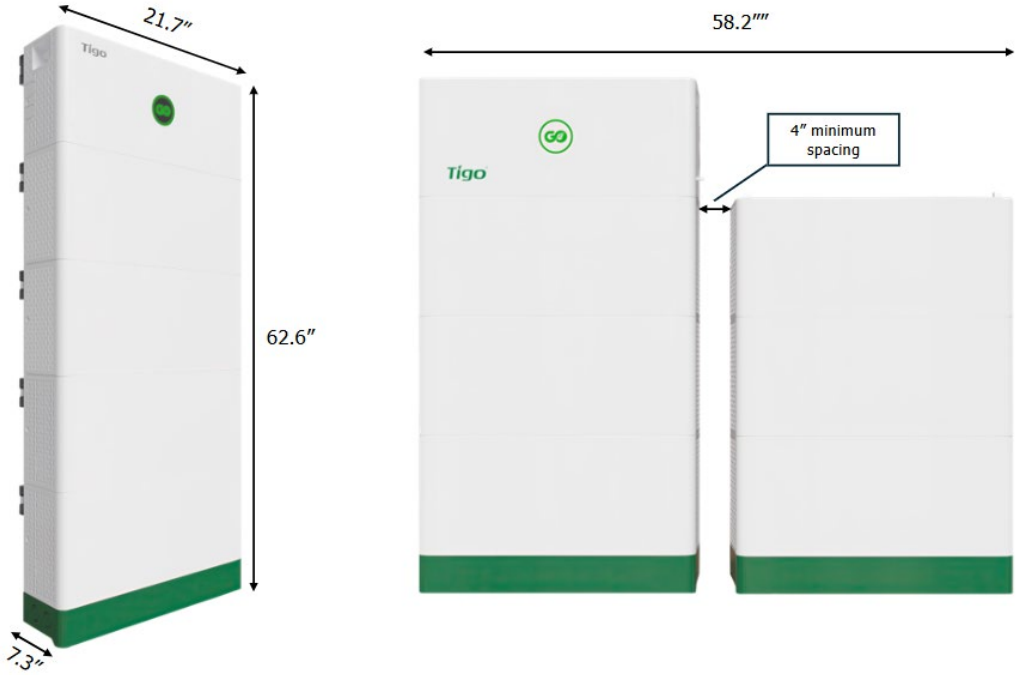
GO Battery Expansion Kit

The expansion kit is required when installing two columns or more than four modules. It includes an additional base and cables to provide structural stability and electrical interconnection between stacks.

GO Battery Expansion Kit Contents

#	Accessories	Qty
1	Expansion Ground Cable, 6.2ft	1
2	Expansion Cable, positive, 6.2ft	1
3	Expansion Cable, negative, 6.2ft	1
4	Expansion Comm Cable, 8.2ft	1
5	Battery Base	1
6	Base Anchor Brackets	2
7	Battery Anchor Brackets	2
8	Cover, plastic, left	1
9	Cover, plastic, right	1
10	M8 Stainless Steel Anchor	2

BMS Dimensions



GO Battery Wall Mount Kit

This kit includes wall-mount brackets, nuts, and screws designed to ensure safe handling and installation of the GO Battery modules.

Components Included with the GO Battery Wall Mount Kit

#	Accessories	Qty
1	Left Wall Mount Bracket	1
2	Right Wall Mount Bracket	1
3	Screw, Wood, M8 X 95mm	8
4	Screw, Machine, M6X20	4
5	Punched paper	1
6	M6 flange nut	4

System Operation

The GO Battery design provides efficient charging and discharging, flexible capacity expansion, accurate status monitoring, long service life, and low self-discharge.

A single system can use 1 to 6 Battery Modules in parallel to increase storage capacity and power output. Communication with the GO Battery is via RS485.

Functions:

- **Monitoring:** Measures voltage, current, and temperature for each battery module and the entire system.
- **Protection and Alarms:** Provides protection and alarms for overvoltage, undervoltage, overcurrent, and extreme temperatures.
- **Reporting:** Sends alarm and status data to the EI inverter.
- **Parallel Connection:** Allows one to six battery modules to operate in parallel.
- **Cell Balancing:** Passively balances cells within each module.
- **Module Balancing:** Actively balances power between modules.
- **Automatic Shutdown:** Turns off 12 minutes after communication with the EI Inverter is lost. Click here to learn more about the GO Battery Operating Modes.

Storage and Transportation

Storage Requirements

- Place batteries according to the markings on the packing case.
- Do not place batteries upside down or on their side.
- Keep damaged batteries separate from undamaged ones.
- Store batteries in a dry, clean, and well-ventilated location.
- Recommended storage temperature: –20°C to 30°C (–4°F to 86°F). Charge batteries periodically during storage.
- Observe Relative Humidity (RH) limits.

Storage temperature	Storage RH	Storage period	Recharge period
Below –4°F (–20°C)	--	Not permitted	--
–4°F to 86°F (–20°C to 30°C)	5% - 95%	≤12 months	≤12 months
86°F to 122°F (30°C to 50°C)	5 - 95%	≤6 months	≤6 months
Above 122°F (50°C)	--	Not permitted	--

Note:

Recharge before the maximum storage period to avoid permanent damage. Charge the battery only through the inverter.

- Avoid direct sunlight and rain.
- Do not expose batteries to corrosive environments.
- Keep at least 2 m (78.74 in) away from heat sources (such as radiators).
- If the battery is over-discharged (<10% SOC), recharge to 40% SOC within 7 days.

Failure to follow the above long-term storage instructions may reduce the battery's cycle life or cause permanent damage.

Performance may be reduced when temperatures are below 50°F (10°C) or above 113°F (45°C).

Transportation Requirements

Lithium-ion batteries are regulated as **Class 9 Dangerous Goods** under U.S. Department of Transportation (DOT) and international shipping rules. This classification covers hazardous materials that present a risk during transport but do not fit into other categories (e.g., explosives or flammable liquids). For lithium-ion batteries, the primary risks are fire, thermal runaway, and release of hazardous gases.

When transporting or storing these batteries:

- Do not ship or store with other flammable, explosive, or toxic materials.
- Keep the original packaging and labels intact and readable.
- Avoid direct sunlight, rain, condensation, or mechanical damage during handling.
- **Stacking limit**: Do not stack more than four battery modules high.
- **Capacity changes**: Batteries may lose some capacity during transportation or long-term storage.
- **Transport temperature**: -4°F to 104°F (-20°C to 40°C), relative humidity 5% to 95% RH.

Improper handling or packaging during transport can violate DOT regulations and create safety hazards. Always follow carrier and hazmat requirements when shipping batteries.

Installation

Installation Safety Requirements

- Read this manual thoroughly before beginning installation to ensure a full understanding of the product and all safety precautions.
- Installation must comply with all applicable local regulations and standards. In the U.S., adhere to the National Electrical Code (NEC), NFPA 70; in Canada, follow the Canadian Electrical Code (CSA C22.1).
- Installation, wiring, and maintenance should be performed only by qualified and trained personnel familiar with photovoltaic systems, grid interconnections, battery systems, and relevant standards.
- Always use insulated tools and appropriate personal protective equipment (PPE).

Warnings

- Any damage resulting from failure to follow the transportation, storage, installation, or operation instructions in this manual is not covered by the product warranty.
- Do not install or operate the battery system in proximity to flammable or explosive materials.
- Operate the battery in a clean, well-ventilated environment with ambient temperatures between -10°C (-14°F) and 50°C (122°F). For outdoor installations, provide adequate protection from direct sunlight and precipitation.
- Keep the battery modules free from dust, moisture, and debris.

Basic Installation Requirements

- Maintain relative humidity between 5% and 95%, non-condensing.
- The battery system is suitable for both indoor and outdoor installations.
- Ensure proper installation angle and spacing as illustrated below.

Installation Guidance

Please refer to EI QSG for reference Quick Start Guide: Tigo ATS 200A (US) - English v6.4

System Configuration

- **Tower**: A vertical assembly of GO Battery modules installed on a single support structure and connected to one inverter.
- A maximum of 6 battery modules may be used with a single BMS.
- Each tower supports up to 4 modules installed vertically making maximum energy rating up to 20kWh.
- Installations with more than 4 modules require two towers to maintain structural stability and allow proper service access.

Tower Separation Spacing Requirements

- Recommended separation spacing: 4 to 12 in between adjacent towers — as per UL 9540A large scale fire testing results. Note: Subject to any local code or AHJ decision.
- Residential battery systems can be installed indoors (non-habitable) or outdoor. The angle and space requirements are as follows.

Floor Mounted

Figure 5.5 Floor mounted installation

Wall Mounted

The mounting surface must have a load-bearing capacity of at least 617 lb. (280 kg) to safely support the combined weight of the modules and mounting hardware.

Figure 6.6 Wall mounted installation

Outdoor Protection

When installed outdoors, the battery system must be protected from prolonged direct sunlight and rain.

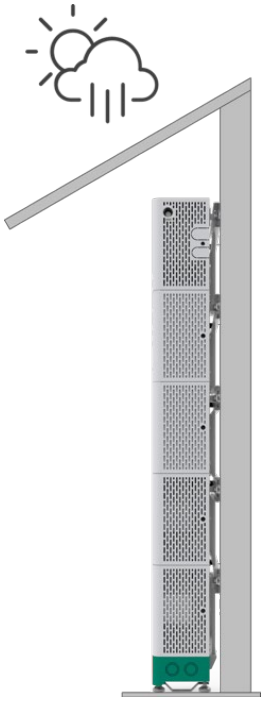


Figure 7.7 Sun/rain shelter

Installation Procedure

Pre-Installation Check

Inspect the package carefully before opening. If you notice any visible damage, do not unpack the contents and contact your distributor - Tigo support immediately.

Confirm all components against the packing list. If any parts are missing, damaged, or mismatched, notify your distributor - Tigo support for replacement or support.

GO Battery Configuration Options

	TGB-5.0 US	TGB-10 US	TGB-15 US	TGB-20 US	TGB-25 US	TGB-30 US
Nominal capacity	5 kWh	10 kWh	15 kWh	20 kWh	25 kWh	30 kWh
# battery modules	1	2	3	4	5	6
# BMS kits	1	1	1	1	1	1
# bases	1	1	1	1	2	2
Expansion kit required	No	No	No	No	Yes	Yes
For wall-mounted	1x wall mount kit	1x wall mount kit	1x wall mount kit	1x wall mount kit	2x wall mount kit	2x wall mount kit

NOTE: 25k Wh and 30k Wh installations required an additional base and additional wall mount kit (if wall mounted).

Complete installation (30kWh)

Example base + mounting (30kWh)

GO Battery Installation – Physical Mounting

Installation Overview

The GO Battery system can be ground-mounted or wall-mounted using a Wall Mounting Kit. If installing outside, always mount on a pad, never on bare ground.

Even in a floor-mount setup, the system must be secured to the wall using the provided brackets to ensure stability and prevent tipping.

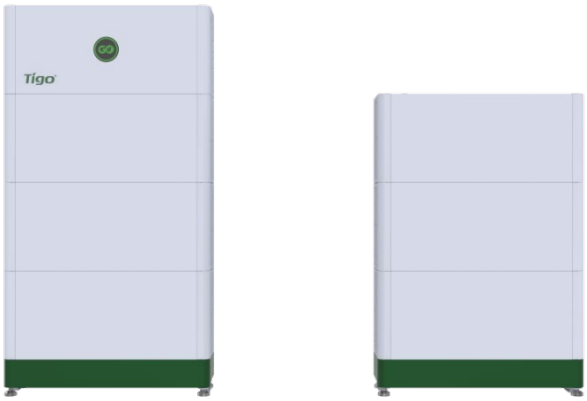
NOTE: Verify the area is structurally sound and clear of obstructions before beginning installation. Refer to Installation Guidance section for clearance requirements. Unpack all boxes and verify components using section BMS Kit

Ground-Mount Installation

Single Tower (Up to 4 Battery Modules)

Expansion Tower (required when using 5 or 6 battery modules)

Must purchase Expansion Kit (refer to Section Component Identification)



Step 1 - Position & Anchor the Base

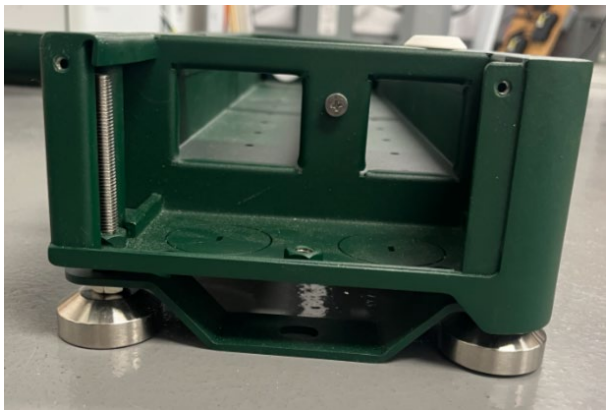
1.1 Position the Base in its final location. Adjust height using the silver levelers. Use a level to ensure the top surface is flat

1.2 Use the Base as a template to mark anchor hole locations.

1.3 Drill 3/8 in (10 mm) masonry holes.

1.4 Insert and tighten the supplied M8 concrete anchors.

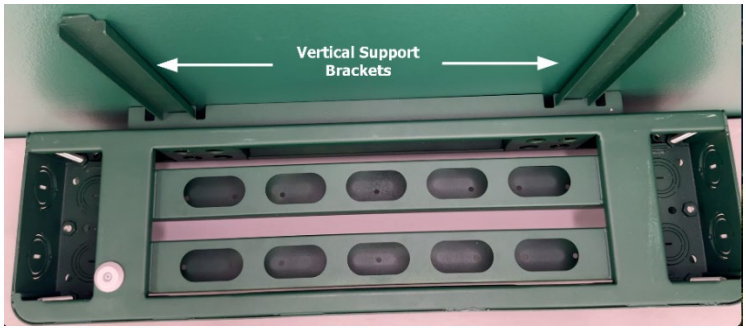
1.5 Remove cover plates. Install the battery locking brackets on both sides of the Base.



Step 2 - Install the Support Rails and Brackets

Brackets are installed like a ladder. All brackets must be installed before battery Module Placement.

2.1 Insert vertical support brackets into the Base slots.



2.2 Align Horizontal Brackets as shown.

2.3 Mark stud hole positions.

2.4 Drill 9/64 in. pilot holes.

2.5 Fasten Rails using M6.3 wood screws (supplied). If securing rails to a non-wood surface, use the appropriate mounting hardware (concrete, masonry, etc.).

2.6 Continue to add Brackets and Rails upward (4 BM max).

Step 3 - Install Battery Modules (BM)

Repeat for each module:

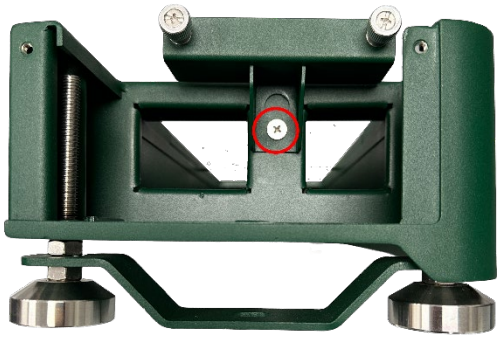
3.1 Set the module on the Base or previous module.

3.2 Tighten the left and right interlock screws into the lower bracket.

3.3 Install L Bracket using supplied screws (M4 to module, M6 to rail).

3.4 Raise the battery locking bracket on the BMS and tighten captive screws into the first battery.

It may be easier to secure the anchor brackets by removing the knockout panel and tightening the screw shown in this image.



3.5 Raise the battery locking handle on each battery, securing it to the battery above using the captive screws.

Step 4 - Install the BMS (Top Position)

4.1 Place BMS on the top module.

4.2 Raise locking handle and tighten captive screws.

4.3 Install L Brackets to secure BMS to horizontal support bracket.

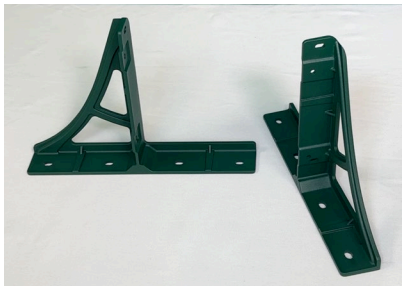
Step 5 -Two Tower Installation (5-6 Modules)

You must use the GO Battery Expansion Kit sold separately.
Part number: 707-200000-0201

- When installing more than four batteries, place the second tower to the right or left.
- Connect the bases using 1- ¼ inch conduit.
  1) Place the expansion base within 4 to 12” of the main tower base.
  2) Connect 1- ¼ inch conduit between the two bases.
  3) Mechanically connect all expansion battery modules using the steps in Ground-Mount Installation

Wall-Mount Installation

When mounting the GO Battery on a wall, you must purchase the GO Battery Wall Mount Kit (sold separately). If you use more than 4 battery modules, you must also purchase the Expansion Kit.

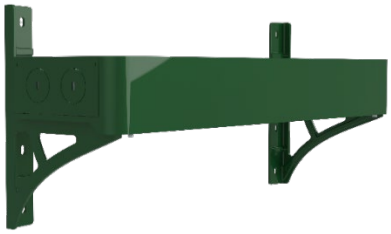


Step 1 - Install Wall Mount Brackets

1.1 Identify stud spacing.
1.2 Mark hole positions.
1.3 Drill ¼ in. (6 mm) pilot holes.
1.4 Mount Lifting Brackets using M8×95 wood screws (supplied).

Step 2 – Attach Base to Wall Mount Brackets

2.1 Set the Base onto the Wall Mount Brackets.
2.2 Fasten with four M6×20 screws + M6 nuts (supplied).



Step 3 – Install Battery Modules and BMS

3.1 Continue wall mount installation starting at Step 2 of the Wall Mount section.

Wall-Mount Rules:

- Max 4 modules + BMS per tower. Wall must support ≥ 617 lb. (280 kg

Pre-Electrical Verification

Before electrical wiring, verify:

- All modules and BMS are fully secured
- L Brackets installed at all levels
- Rails firmly mounted to studs
- Tower spacing meets requirements

GO Battery System - Electrical Connections

The GO Battery electrical wiring sequence must be done in this order:

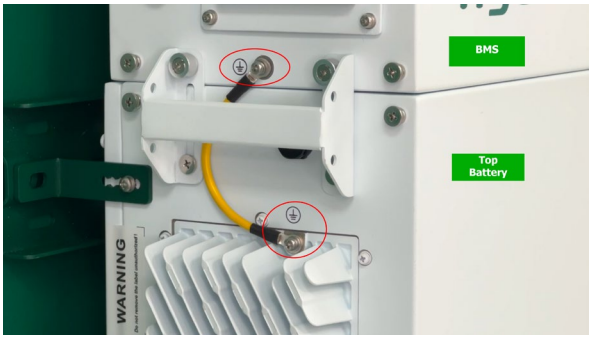
1. Grounding
2. Communication (RS-485)
3. Power (DC positive/negative)

Grounding Connections

Create a continuous grounding path through all battery modules and the BMS.

Step 1 - Ground Each Battery Module

1.1 Connect the ground cable from BMS chassis to the top module's EGC terminal.



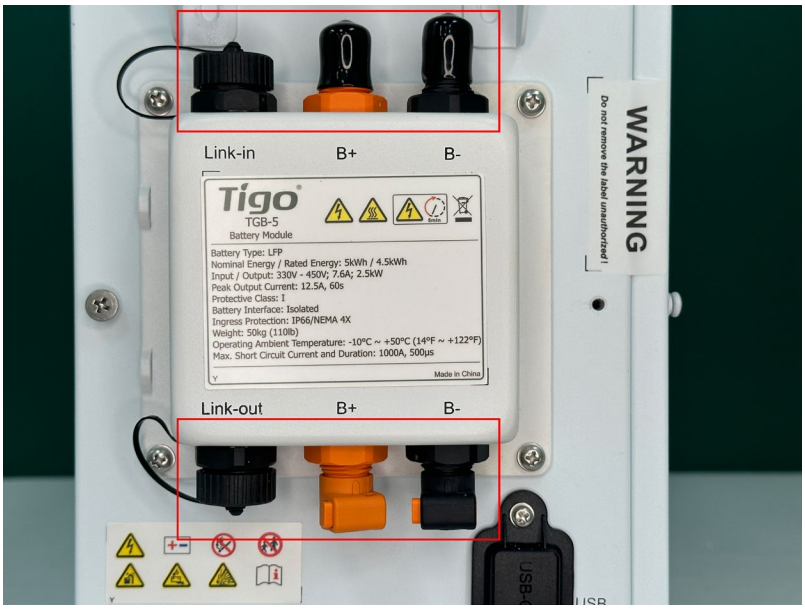
1.2 Continue downward through all modules using supplied grounding jumpers.

1.3 Ensure lugs are clean; tighten grounding screws to 18 in-lb. (2 Nm).

1.4 For two towers, the image below shows the proper ground cable connection.

Communication Cable Connections (RS-485)

RS-485 links the BMS to the batteries and the EI Inverter.
Modules follow a Link In → Link Out daisy-chain pattern.



Step 1 – Prepare Ports

1.1 Remove dust caps.

1.2 Inspect O-rings for debris or damage.

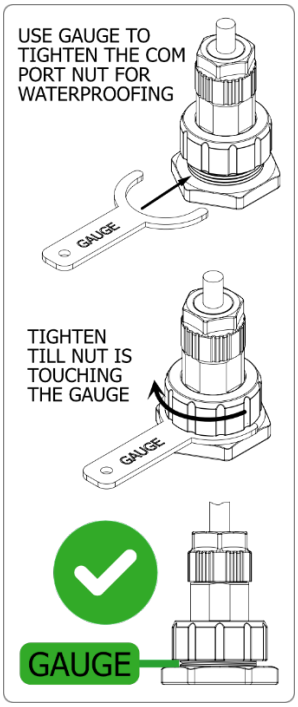
Step 2 – Connect BMS Communication Cable to Top Battery Module

2.1 Insert torque gauge tool as shown below.

2.2 Insert communication cable into the BMS port labeled BMU.

2.3 Connect the other end to the top module's Link In port.

2.4 Tighten locking collars until they touch the tool.



The click sound indicates a proper connection.

Match connector colors when wiring power cables: orange to orange, black to black

Step 3 – Daisy-Chain Battery Module Communication Cables

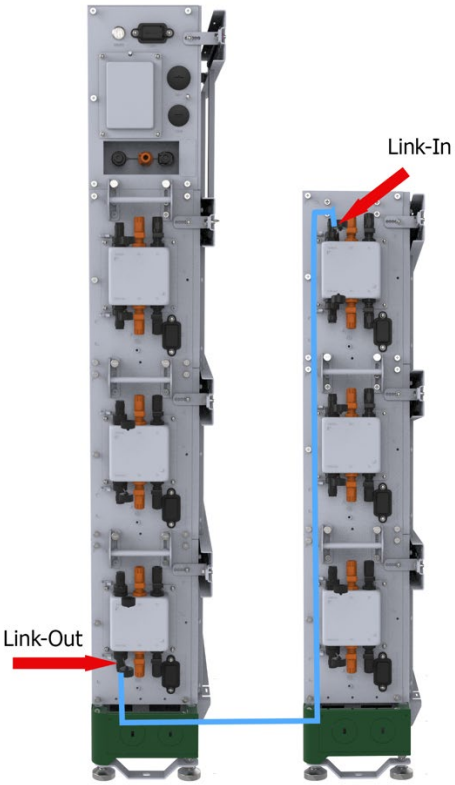
3.1 Connect Link Out → Link In downward.

3.2 Cap the final Link Out port.

Step 4 –Two-Column Communication (5–6 Modules)

4.1 Use Expansion Kit communication cable.

4.2 Connect Link Out of Primary Tower bottom battery to the Link In port of the Expansion Tower top battery.



Power Cable Connections (DC Positive / Negative)

Connect DC power between modules and from BMS to EI Inverter.

Never connect power before grounding and communication.

Step 1 – BMS to Top Module

1.1 Line up the arrow on the power cable with the terminal arrow.

1.2 Connect BMS B+ (orange) → Top Module B+.

1.3 Connect BMS B– (black) → Top Module B–.

1.4 Ensure connectors click fully. Do not tighten onto the input port. Threads will be visible.

Step 2 – Daisy-Chain Power Between Modules

2.1 Connect B+ → B+ and B– → B– module-to-module.

2.2 Continue through the entire tower.

Step 3 – Two-Column Power Connections (5–6 Modules)

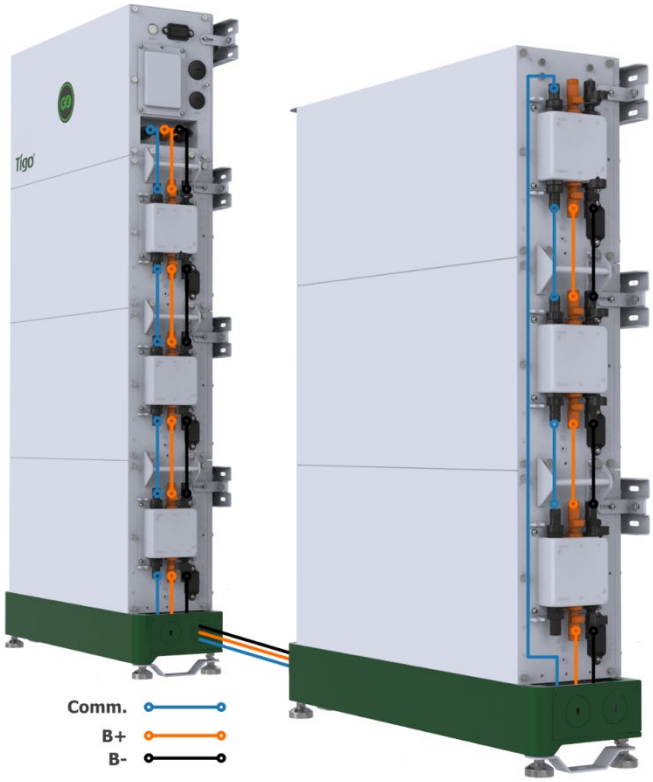
Refer to the previous step for connection locations.

3.1 Connect B+ bottom battery Tower 1 → B+ bottom battery Secondary Tower.

3.2 Connect B– bottom Primary battery tower → B– bottom battery Secondary Tower.

3.3 Remove the black dust cap and install the waterproof connector at the power ports from the last battery module.

** Only the bottom modules share inter-tower power.



Only the power cables are connected from the bottom module of first Tower to the bottom module of the second Tower. The communication cable from the bottom module of Tower 1 1 is connected to the top module of Tower 2.

Ensure all waterproof terminal covers are fully tightened, and no battery terminal is left exposed.

BMS-to-Inverter Connections

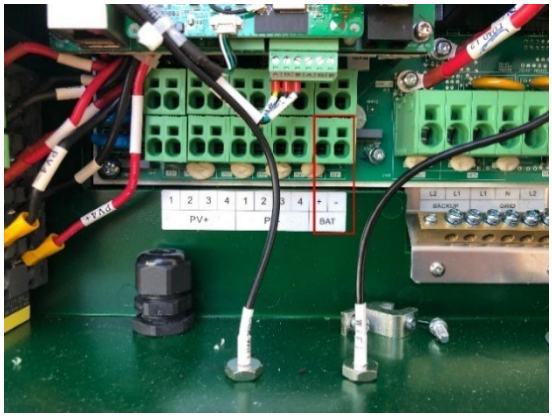
Step 1 – Battery Power Cable (BAT+ / BAT–)

1.1 Turn OFF all power to the Tigo EI Inverter, to include AC breaker, DC switch.

1.2 Verify GO Battery switch is in the OFF position.

1.3 Identify BMS Inverter connections area on right side and remove cover.

1.4 Identify EI Inverter BAT+ and BAT– terminals.

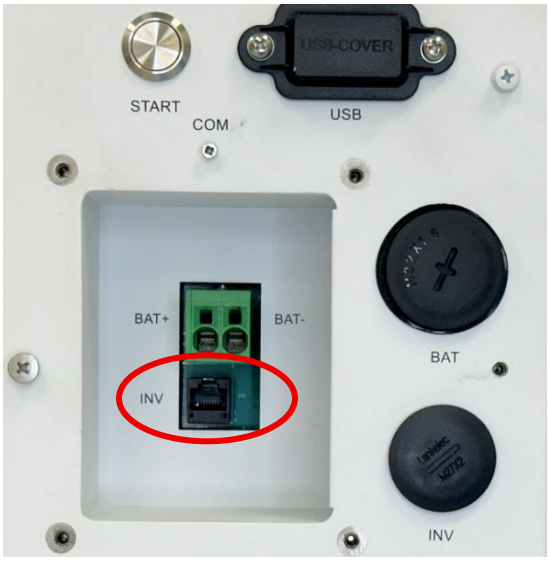


1.5 Land BMS BAT+ (red) → EI Inverter BAT+.
Land BMS BAT– (black) → EI Inverter BAT–.
** Verify polarity before inserting into terminals.

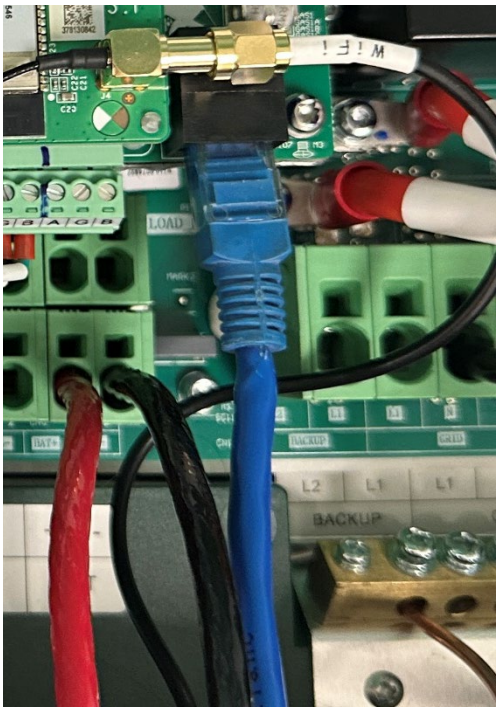
Step 2 – RS-485 Communication — BMS ⇆ Inverter

2.1 Locate BMS 'INV' RS-485 port.

2.2 Connect one end of the CAT5/6 cable to this port until you hear a click.



2.3 Connect the other end of this cable to the EI Inverter Battery Communication terminal.



Final Wiring Checks

- All ground connections secure
- Communication cables fully locked
- Power connectors clicked and seated
- Dust caps installed on unused ports
- No exposed conductors or pinched cables

Battery Dark Start

If battery was discharged to 10% SOC and sleep due to a long outage, homeowner can dark start the system next morning when there is strong sunlight by the procedure below.

- Ensure the DC switch at the left of the BMS is on.
- Ensure the DC switch at the bottom of the inverter is on.
- Ensure the Rapid Shutdown button is unpressed.
- Press and hold the dark start button for 5seconds. The inverter will be waken up in 10s. Battery will be charged from PV automatically.

Appendices

Grid Code Descriptions

Grid Code	Applies To	When to Use
IEEE 1547-2018	United States (most utilities)	Default selection for U.S. installations unless the utility specifies otherwise.
Rule 21	California	Required for California utilities. Mandatory unless the utility explicitly allows another profile.
HECO	Hawaii	Use only for Hawaiian Electric Company interconnections.
ISO-NE	New England (U.S.)	Use when required by utilities in MA, CT, RI, NH, VT, or ME.
New York ORU	New York State	Use for NY utilities requiring ORU-specific settings.
LUMA (PREPA)	Puerto Rico	Required for Puerto Rico (LUMA Energy / PREPA).
Off-Grid	No utility connection	Use only for fully off-grid systems with no interconnection agreement.
PRC-Quebec	Quebec, Canada	Use for Hydro-Québec interconnections.
PRC-East	Canada (non-Quebec, eastern regions)	Use when required by eastern Canadian utilities outside Quebec.
PRC-West	Canada (western regions)	Use when required by western Canadian utilities.

GO Battery – BMS & Battery Module Fault & Protect Code List

GO Battery BMS – Error Codes

Error Code	Fault Description	Troubleshooting Steps
407	GO Battery Module output power cable connection fault	1) Turn off the main breaker on the BMS and ensure the system is completely powered down. 2) Check the cable connections between the BMS and GO Battery Modules. Make sure they are properly and securely connected. 3) Turn the breaker back on and hold START to power up the system. 4) If the fault persists, contact Tigo Support.
411(0)	BMS to Inverter communication fault	1) After shutdown, verify the communication cable between the BMS and inverter is securely connected. 2) Turn off the BMS breaker and confirm all LEDs are off. 3) Turn the breaker back on, then press and hold START on the BMS until the system powers up. 4) If the fault remains, contact Tigo Support.
411(1)	Internal communication error	1) Turn off the main breaker on the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START to power up the system. 3) If the fault persists, contact Tigo Support.
411(5)	BMS to GO Battery Module communication fault	1) Check if the BMS and GO Battery Modules are powered on normally. 2) After shutting down the system, verify that the communication cable between the BMS and modules is securely connected. 3) Turn the breaker back on and long-press START to power on the system. 4) If the fault persists, contact Tigo Support.
411(6)	BMS parallel operation failed	1) Turn off the main breaker on the BMS and ensure the system is fully powered down. 2) Turn the breaker back on. 3) Press and hold START to power up the system. 4) If the fault persists, contact Tigo Support.
411(7)	BMS to GO Battery Module communication fault	1) Shut down the system and verify the communication cable between modules is securely connected. 2) Turn the breaker back on and press and hold START to power up. 3) If the fault persists, contact Tigo Support.

417(1)	BMS to Module software/hardware mismatch error	1) Turn off the main breaker on the BMS. 2) Disconnect the communication cable between the BMS and the GO Battery Modules. 3) **Wait 12 minutes.** 4) Ensure the system is fully powered down. 5) Contact Tigo Support.
417(2)	Internal module CAN protocol mismatch	1) Turn off the main breaker on the BMS and ensure the system is fully powered down. 2) Restart the system by turning the breaker on and pressing/holding START. 3) If the fault persists, contact Tigo Support for remote or on-site firmware alignment.
417(3)	Main board and control board do not match	1) Turn off the main breaker and fully power down the system. 2) Restart by turning the breaker back on and holding START. 3) If the fault persists, contact Tigo Support to replace the BMS.
417(4)	BMS model does not match inverter model (single-phase vs. three-phase mismatch)	1) Verify the inverter model and BMS model match (single-phase with single-phase, three-phase with three-phase). 2) If mismatched, replace with the correct model. 3) If models match but the fault continues, contact Tigo Support.
419(6)	BMS module and GO Battery Module model mismatch	1) Turn off the main breaker and fully shut down the system. 2) Restart the system by turning the breaker on and holding START. 3) If the mismatch fault returns, contact Tigo Support to replace the incorrect module.
431(0)	BOOT software abnormality in monitoring program	1) Turn off the main breaker on the BMS and ensure the system is completely powered down. 2) Turn the breaker back on and press/hold START to power up. 3) If the fault persists, contact Tigo Support for module replacement.
419(5)	BMS software and hardware version fault	1) Turn off the main breaker on the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START to power up the system. 3) If the fault persists, contact Tigo Support.

506(2)	BMS fuse blown	1) Turn off the main breaker on the BMS and ensure the system is completely powered down. 2) Turn the breaker back on, then press and hold START to power up. 3) If the fault persists, contact Tigo Support.
506(3)	BMS output short-circuited	1) Turn off the main breaker on the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START to restart the system. 3) If the fault persists, contact Tigo Support.
510(0)	BMS is in factory test mode	Contact Tigo Support for replacement.
700(0)	Internal temperature sensor fault	If device temperature is above **–20°C (–4°F)** and the fault message persists after restart, contact Tigo Support to replace the BMS.

GO Battery BMS – Protect Codes

Protect Code	Fault Description	Troubleshooting Steps
408(0)	BMS or GO Battery Module heatsink over-temperature	1) Turn off the breaker for the BMS and ensure the system is completely powered down. 2) Turn the breaker back on and hold START to power up the system. 3) If the fault message still appears, contact Tigo Support.
410(2)	Battery USB communication abnormal	1) Remove and reinsert the USB flash drive. 2) Replace the USB flash drive with a new one. 3) If the faulty message persists, contact Tigo Support.

416(1)	Hardware malfunction	1) Switch off the main breaker for the BMS and ensure the system is fully powered down. 2) Check whether the PV array is oversized or if the open-circuit voltage (VOC) is too high. 3) With the system still off, turn the breaker back on and hold START to restart the unit. 4) If the fault message still appears, contact Tigo Support.
500(7)	BMS detected a GO Battery Module offline	1) 1. If any battery module is shut down, press and hold START to power it back on. 2) Check the communication cable between modules and ensure it is properly connected. 3) Turn the breaker back on and press and hold START to restart the system. 4) If the fault still appears, contact Tigo Support.
500(9)	Abnormal communication between BMS units in parallel configuration	1) Shut down the system and verify the communication cable between the BMS units is securely connected. 2) Turn off the breaker for the BMS and confirm the system has fully powered down. 3) Turn the breaker back on and press and hold START to restart the system. 4) If the fault message still appears, contact Tigo Support.
603(1)	BMS soft start failed	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Disconnect the power cables between the BMS and the inverter. 3) Turn the breaker back on and press and hold START to check whether the BMS powers up normally. 4) If the fault message still appears, contact Tigo Support.
707(0)	Overload protection due to high load requirement	1) 1. Turn off loads to reduce demand on the system. 2) **Wait for 10 minutes** — the system will automatically recover. 3) If the issue repeats frequently, contact Tigo Support.

GO Battery Modules – Error Codes

Error Code	Fault Description	Troubleshooting Steps
411(1)	Communication between the GO Battery Module monitoring system and control board failure	1) Turn off the breaker for the BMS and ensure the entire system is completely powered down. 2) Turn the breaker back on and press and hold START to power up the system. 3) If the fault message still appears, contact Tigo Support.
411(5)	Abnormal GO Battery Module communication	1) Ensure both the BMS and GO Battery Modules are powered on. 2) Shut down the system and check that the communication cable between the BMS and inverter is securely connected. 3) Turn off the breaker for the BMS and confirm that the system is fully powered down. 4) Turn the breaker back on and press and hold START to restart the system. 5) If the fault message still appears, contact Tigo Support.
411(6)	GO Battery Module parallel operation failed	1) Turn off the breaker for the BMS and ensure that the entire system is fully powered down. 2) Turn the breaker back on and START long-press to power up the system. 3) If the fault message persists, contact Tigo Support.
411(7)	GO Battery Module parallel operation with multi-master failed	1) Shut down the system and verify that the communication cable between GO Battery Modules is securely connected. 2) Turn off the breaker for the BMS and ensure the entire system is fully powered down. 3) Turn the breaker back on and press and hold START to restart the system. 4) If the fault message persists, contact Tigo Support.
416(6)	LLC resonant inductor abnormal	Contact Tigo Support to replace the GO Battery Module.

419(5)	GO Battery Module software and hardware versions are inconsistent	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START to power up the system. 3) If the fault message persists, contact Tigo Support.
431(0)	BOOT abnormality in monitoring program	1) Turn off the breaker for the BMS and ensure the entire system is fully powered down. 2) Turn the breaker back on and press and hold START to power up the system. 3) If the fault message persists, contact Tigo Support.
502(0)	Battery voltage is low	1) Verify that the battery voltage is within normal range (single module > 32V) through monitoring data. 2) If voltage is below 32V, contact Tigo Support to replace the GO Battery Module.
700(0)	Internal temperature sampling resistor is open-circuited	1) If the temperature of the device is above **–20°C (–4°F)** and the fault persists after restart, contact Tigo Support to replace the module.
1030	Single cell failure	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and START long-press. 3) If the fault message persists, contact Tigo Support.
1035	Front-end chip failure	1) Turn off the breaker for the BMS and ensure the system is completely powered down. 2) Turn the breaker back on and press and hold START to power the system. 3) If the fault message persists, contact Tigo Support.
1062	Single cell overvoltage protection failure	1) The battery has been fully charged — this protection will recover automatically. 2) If the fault message persists, contact Tigo Support.

1074	Fuse failure	1) Turn off the breaker for the BMS and ensure the system is powered off completely. 2) Turn the breaker back on and long-press START to power the system. 3) If the fault persists, contact Tigo Support.
1075	UART communication failure	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Restart the system by pressing and holding START. 3) If the fault persists, contact Tigo Support.
1105	High temperature failure	1) Turn off the breaker for the BMS and ensure the system has powered down completely. 2) Turn the breaker back on and press and hold START. 3) If the fault persists, contact Tigo Support.

GO Battery Modules – Protect Codes

Protect Code	Fault Description	Troubleshooting Steps
408(0)	GO Battery Module heatsink temperature too high	1) The system will automatically recover after the battery cools down. 2) If the fault message persists, contact Tigo Support.
410(2)	Abnormal Battery USB communication	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START to power up the system. 3) If the fault message persists, contact Tigo Support.

416(1)	Hardware malfunction	1) Turn off the breaker for the BMS and ensure the system is completely powered down. 2) Turn the breaker back on and press and hold START to power up. 3) Check the BMS monitoring data webpages for any alarm messages and take corrective actions according to the reported fault. 4) If the BMS does not report any alarms but continues to show hardware malfunction for several days, contact Tigo Support to replace the device.
502(1)	Module output voltage is low	1) The system will automatically recover after one hour. 2) Alternatively, turn off the BMS breaker to fully power down the system, then restart it. 3) If the fault persists, contact Tigo Support.
500(3)	CAN communication abnormality – lock protection	1) Ensure the BMS and GO Battery Modules are powered on. 2) Shut down the system and verify that all CAN communication cables between the BMS, GO Battery Modules, and inverter are securely connected. 3) Turn off the breaker for the BMS and confirm the system is fully powered down. 4) Turn the breaker back on and press and hold START to restart the system. 5) If the fault message persists, contact Tigo Support.
507(0)	Battery operating status "Fault" from BMS	1) Check the BMS battery fault info table. 2) Follow the corrective steps associated with the reported battery fault. 3) If still unresolved, contact Tigo Support.
603(2)	BUS soft-start failed	1) The system will automatically recover after one hour. 2) Alternatively, turn off the breaker for the BMS and ensure the system is fully powered down. 3) Restart the system. 4) If Protection 603-2 continues for several days in a row, contact Tigo Support.

707(0)	Overload fault	1) If running in off-grid mode, reduce loads — the system will automatically recover after 10 minutes. 2) If the fault occurs in grid-connected mode, contact Tigo Support.
1001	Cell charging overvoltage protection (level 1)	1) The battery is fully charged and charging is limited. 2) The system will automatically recover.
1003	Discharge undervoltage protection	1) The battery has been fully discharged and discharging is limited. 2) The system will automatically recover.
1005	Large single-cell voltage difference	1) Cell voltage difference is out of specification; charging and discharging are limited. 2) The system will automatically recover. 3) If the fault message persists, contact Tigo Support.
1007	Charging total voltage overvoltage	1) The battery is fully charged; charging is limited. 2) The system will automatically recover.
1009	Discharge total voltage undervoltage	1) The battery has been fully discharged; discharged is limited. 2) The system will automatically recover.
1013	Discharge high-temperature protection	1) Battery temperature is too high; charging and discharging are limited. 2) The system will automatically recover.

1015	Discharge low-temperature protection	1) Battery temperature is too low; charging and discharging are limited. 2) The system will automatically recover.
1017	Large pack temperature difference	1) Temperature difference is out of specification; charging and discharging are limited. 2) The system will automatically recover. 3) If the fault message persists, contact Tigo Support.
1021	Discharge overcurrent	1) The battery current is too high; discharging is limited. 2) The system will automatically recover.
1023	Charging overcurrent	1) The battery current is too high; charging is limited. 2) The system will automatically recover.
1025	External CAN communication protection	1) Observe whether the BMS and GO Battery Modules are powered on. 2) After shutdown, check if the communication cable between them is properly connected. 3) Turn off the breaker for the BMS and ensure the system is fully powered down. 4) Turn the breaker back on and press and hold START. 5) If the fault persists, contact Tigo Support.
1029	Precharge timeout	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START to restart the system. 3) If the fault persists, contact Tigo Support.
1031	Current sampling fault	1) Turn off the breaker for the BMS and ensure the system is fully powered down. 2) Turn the breaker back on and press and hold START. 3) If the fault persists, contact Tigo Support.

1034	High temperature protection – charging	1) Battery temperature is too high; charging is limited. 2) System will automatically recover.
1038	EEPROM fault protection	1) Turn off the breaker for the BMS and ensure complete power-down. 2) Restart system using START. 3) If the fault persists, contact Tigo Support.
1039	Low-temperature current limiting protection failure – charging	1) Temperature is too low. Charging current exists while charging is limited. 2) The system will automatically recover when temperature rises. 3) Turn off the breaker for the BMS and ensure the system is fully powered down. 4) Restart the system. 5) If the fault persists, contact Tigo Support.
1041	Charging low-temperature protection	1) Temperature is too low; charging is limited. 2) System will automatically recover.
1042	Module voltage sampling abnormal	1) Turn off the breaker for the BMS and fully power down. 2) Restart using START. 3) If the fault persists, contact Tigo Support.
1044	EEPROM calibration parameter fault	1) Turn off the breaker for the BMS and fully power down. 2) Restart using START. 3) Contact Tigo Support if the fault persists.
1047	Internal ambient temperature too high	1) Internal temperature is too high; charging and discharging are limited. 2) System will automatically recover.

1087	Low SOH protection	1) Turn off the breaker for the BMS and ensure full shutdown. 2) Restart using START. 3) If fault persists, contact Tigo Support.
1088	Low temperature charging overcurrent	1) Temperature is too low; charging is limited. 2) System will automatically recover.
1099	Low-temperature overvoltage protection	1) Temperature is too low, and voltage has reached full charge. 2) The system will automatically recover. 3) Turn off the breaker for the BMS and fully power down. 4) Restart using START. 5) Contact Tigo Support if fault persists.
1128	BOOT area flash is damaged	1) Turn off the breaker for the BMS and fully power down. 2) Restart using START. 3) If the fault persists, contact Tigo Support.

GO Battery Maintenance Schedule (User Tasks)

Monthly (Visual Inspection)

Check system airflow and ventilation

- Verify required clearances around the GO Battery system are maintained.
- Ensure all vent openings and heat-sink areas are free of dust, debris, or obstructions.

If the system frequently derates due to high temperatures, confirm airflow is unobstructed and contact your installer if the condition persists.

Quarterly (Every 3 Months)

Clean the GO Battery enclosure

1. Shut down the GO Battery system and confirm it is fully powered off.
2. Wipe the enclosure and front display using soft**, damp (not wet) cloth**.
3. Do **not** use solvents, alcohol-based cleaners, abrasives, or pressurized water.

Keeping the enclosure clean helps maintain proper heat dissipation and long-term system performance.

Semi-Annual (Every 6 Months)

Inspect DC disconnect and visible cables

Visually inspect the DC Disconnect switch and accessible DC cables for:

- discoloration
- cracks
- burn marks
- loose connectors
- visible wear or deformation

If any abnormal condition is found, stop using the system and contact your installer or a qualified service technician.

Annual (Once Per Year)

Exercise the DC Disconnect

- Rotate the DC Disconnect knob **ON → OFF → ON** five times.

This helps clean internal contacts and extend the service life of the disconnect switch.

Important Safety Notes

- Do not open the battery enclosure. Do not perform internal service or repair. All internal service must be performed by qualified, trained personnel only.

Adding a New Battery Module

Battery Module Compatibility

- Only install GO Battery Modules with the exact same model number.
- Do not mix different battery module models or capacities.

Steps to Add a New Battery Module

1) Power Off the System
   Shut down the entire GO Battery system by following the procedure described in this section. Installation Overview
2) Remove the affected battery module. You must take out the bad module before installing the new one.
3) Connect the New Battery Module
   Mount the module and connect it as described in this section. Installation – Physical Mounting. Make sure all power and communication cables are fully seated.
4) Power On the System
   Restart the GO Battery system using the start-up steps.
5) Charge to 100% SOC
   Set the inverter to **Battery First** with **Grid Charging Enabled**, then charge the system all the way to 100% SOC. This lets the modules balance and sync properly.
6) Confirm System Recognition
   Check the monitoring app or web portal and make sure the new module shows up with a normal status.

If the new module does not appear

- Make sure the CAN comms cable and power cables are fully seated between the GO Battery and the EI Inverter.
- Restart the GO Battery system.
- Check the BMS for any Fault or Protect codes. Refer GO Battery BMS – Error Codes
- If it still does not show up, reach out to Tigo Support.

Failure to follow these instructions may reduce system performance or prevent the battery system from operating properly.

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 Tigo Help Center.
- Calling +1 408 402 0802.

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

In addition, the Tigo Community web forum 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 component-level data to help understand and resolve the issue.
- If you have not yet commissioned the system, you will 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.
- Ambient weather conditions.

Commissioning and Tigo App

The Tigo Energy Intelligence platform and mobile app enables easy system commissioning and provides comprehensive ongoing visibility into system and module performance. Please refer for detailed information

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 configure the GO Battery, 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's Bluetooth transmitter.

EI App – Android

EI App – iOS