TIGO ENERGY

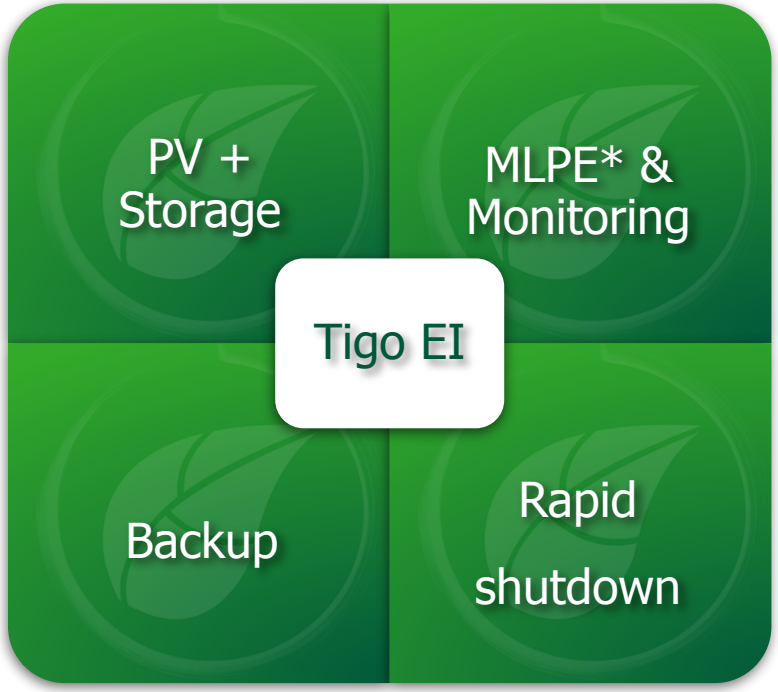
Pitch

Residential Storage Solution - EU

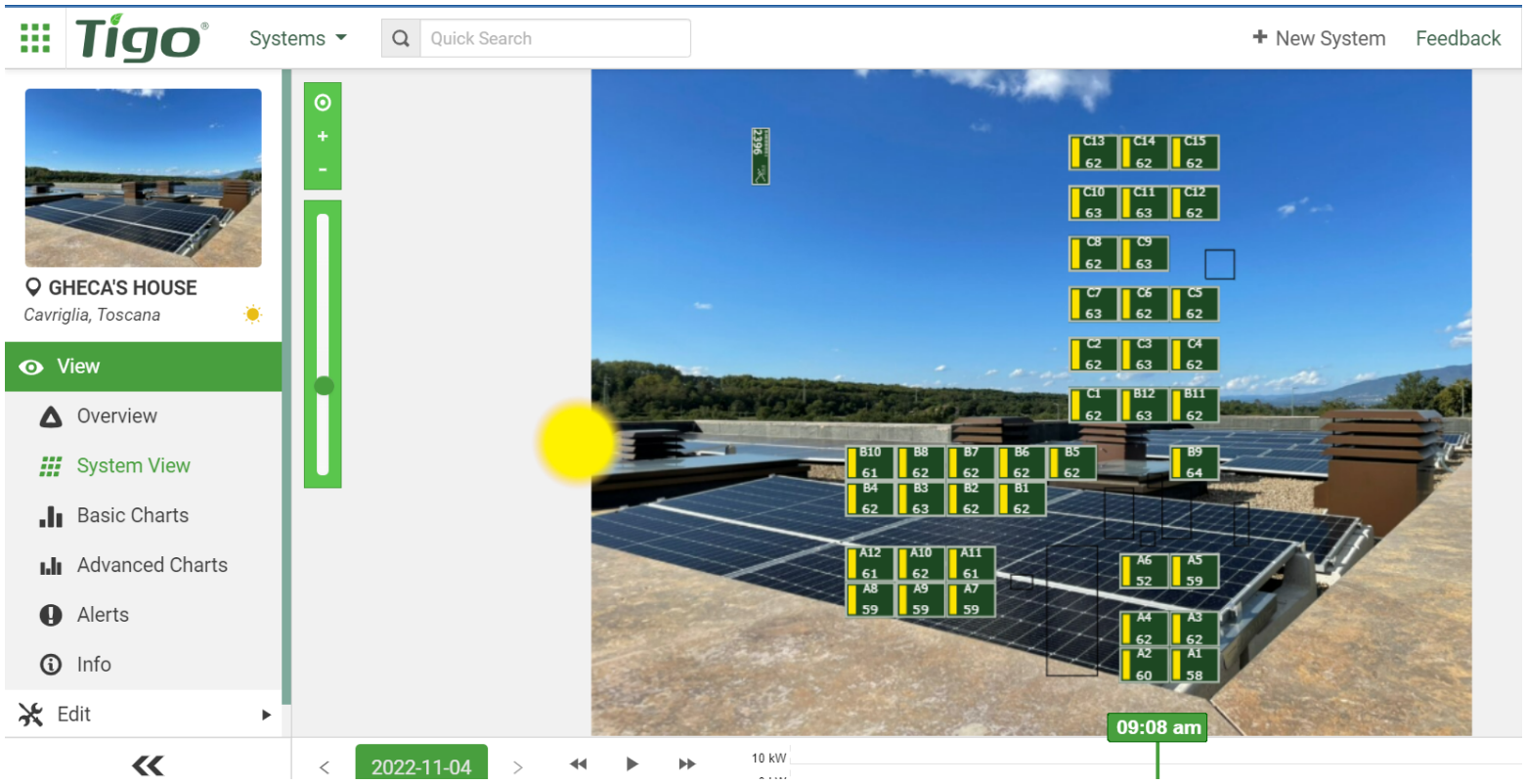
22.11.2022

Content - EI Residential Storage Solution

- Unmatched value proposition
- System Configurations
- EI Battery
- EI Inverter
- EI Link
- Commissioning
- Warranty
- Price
- Tech Support
- Pictures of an installation
- Q&A



Unmatched value proposition - **complete solution** for managing solar energy at residential level



* MLPE = Module-level power electronics — Leistungselektronik auf Modulebene

System Configurations

Power of One – Integrated and Flexible

Einfache Stapelinstallation

- Leichte handliche Komponenten:
  - Inverter 1ph – 22kg (3ph - 34kg)
  - Battery – 33kg (3,1kWh)
  - EI Link – 10kg
- Up to 4 Batteries per System

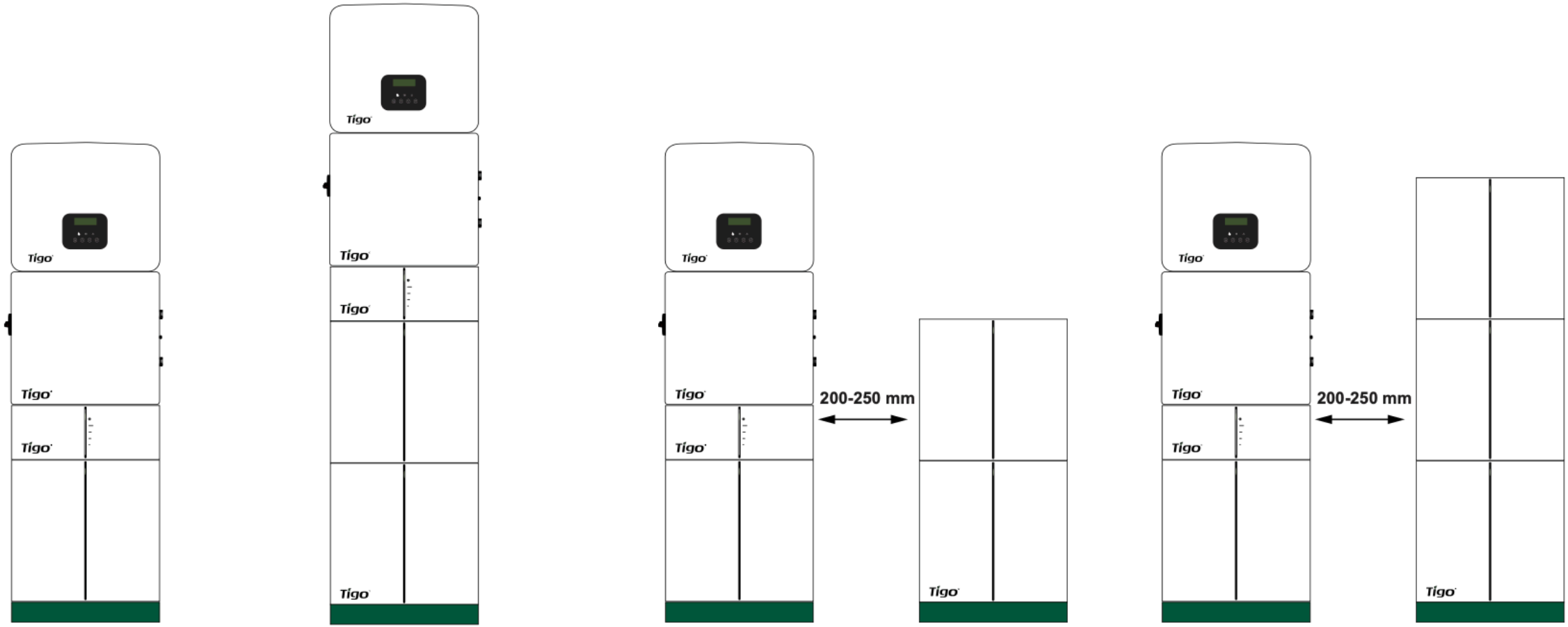
Faster commissioning

- One app commissions all:
  - Inverter
  - Batteries
  - TS4s

Dimensions	W×H×D [mm]
Inverter 1ph	482×417×181
Inverter 3ph	503×503×199
EI Link 1ph	482×437×185
EI Link 3ph	500×512×204
EI BMS	482.5×173.5×153
Battery	482.5×471.5×153

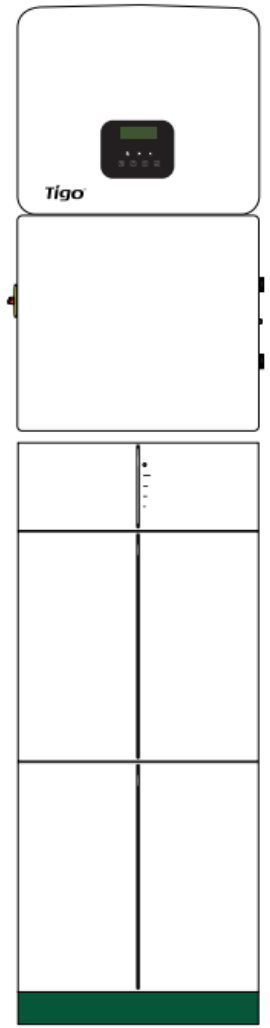
System configuration 1-phase inverter

1 Battery - 3 kWh	2 Battery - 6 kWh	3 Battery - 9 kWh	4 Battery - 12 kWh

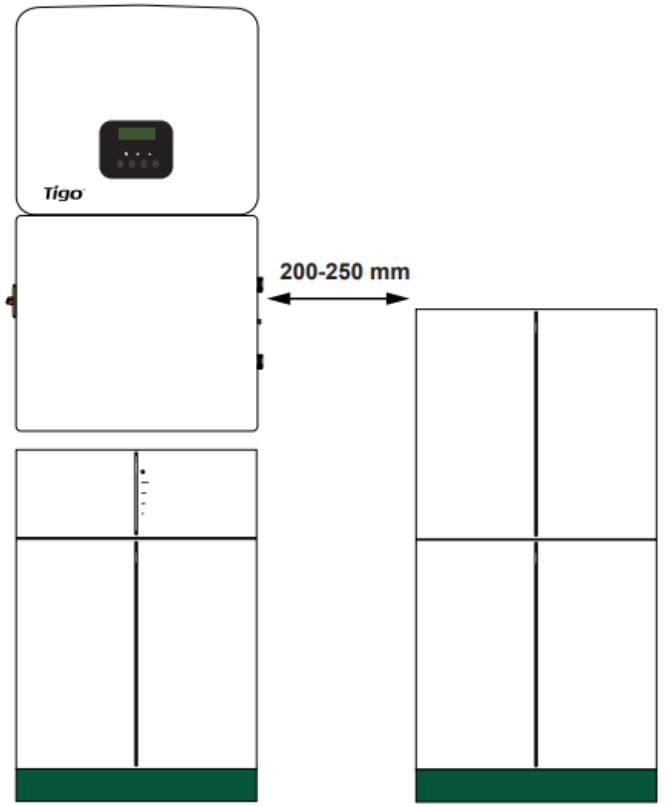


System configuration 3-phase inverter

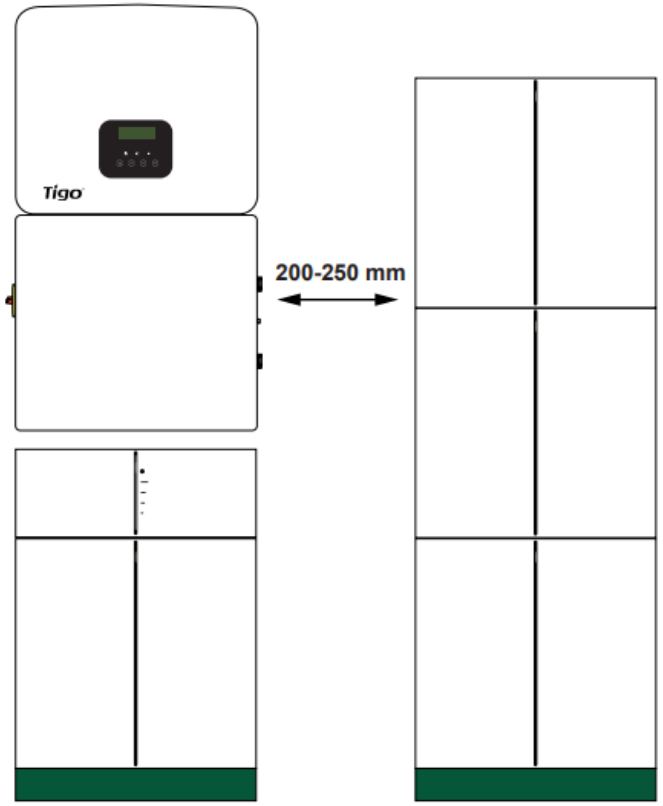
2 Battery - 6 kWh



3 Battery - 9 kWh



4 Battery - 12 kWh



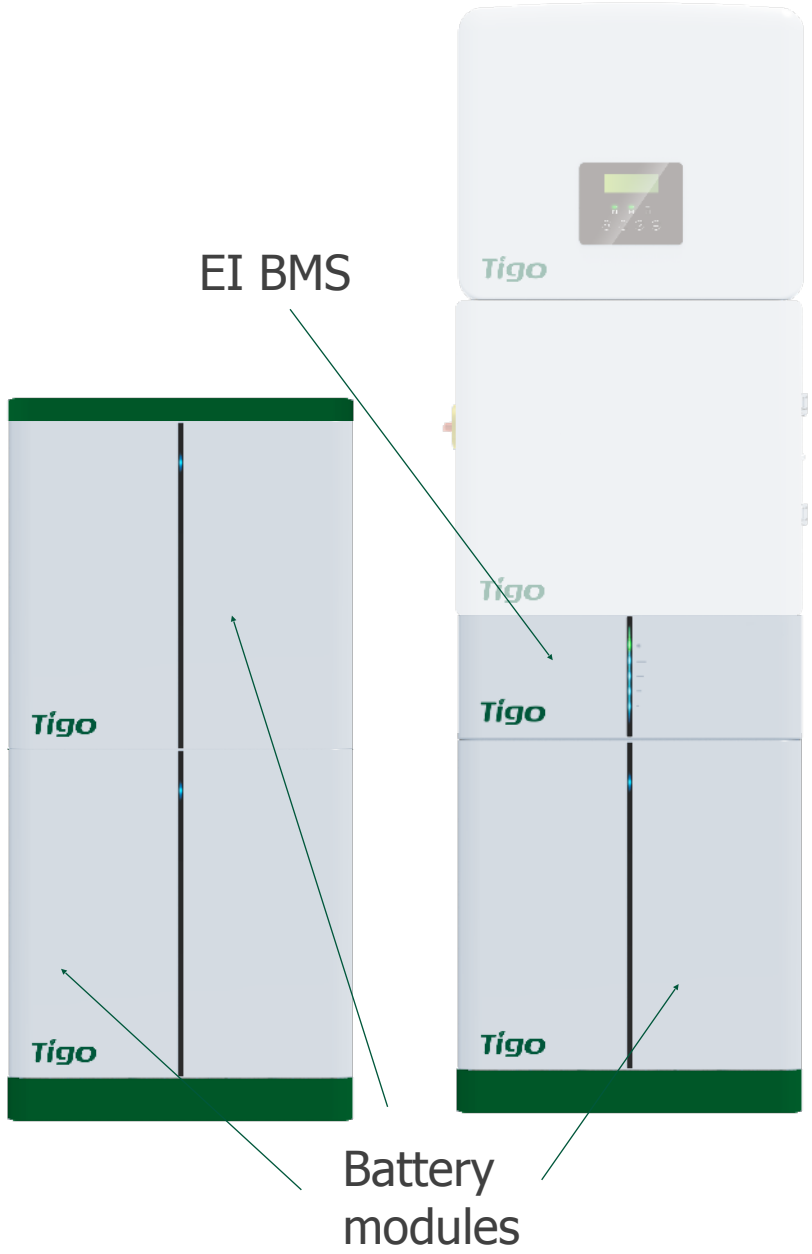
System Components & Installation

Tigo®

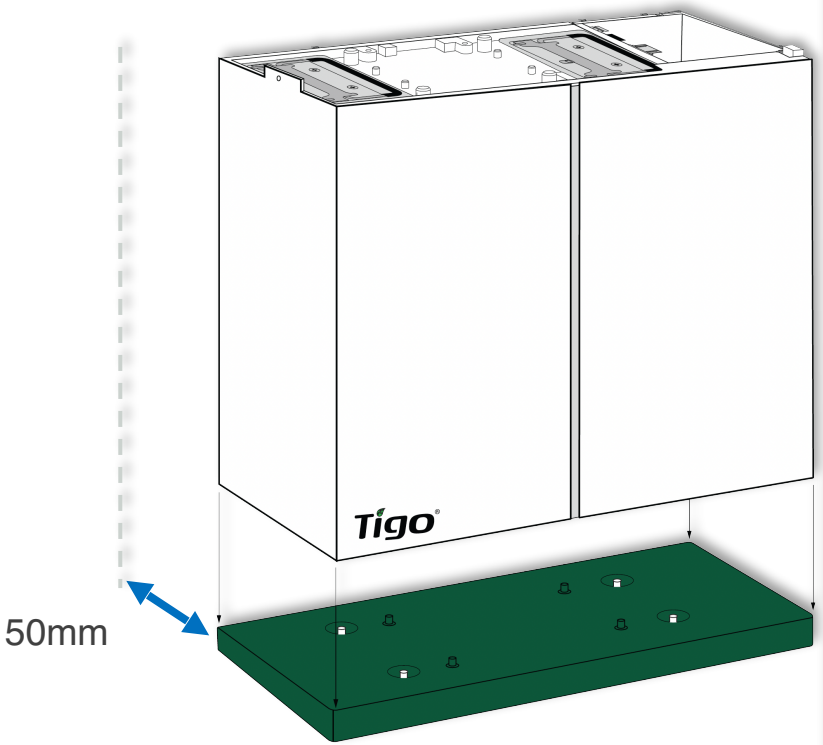
EI Battery Storage

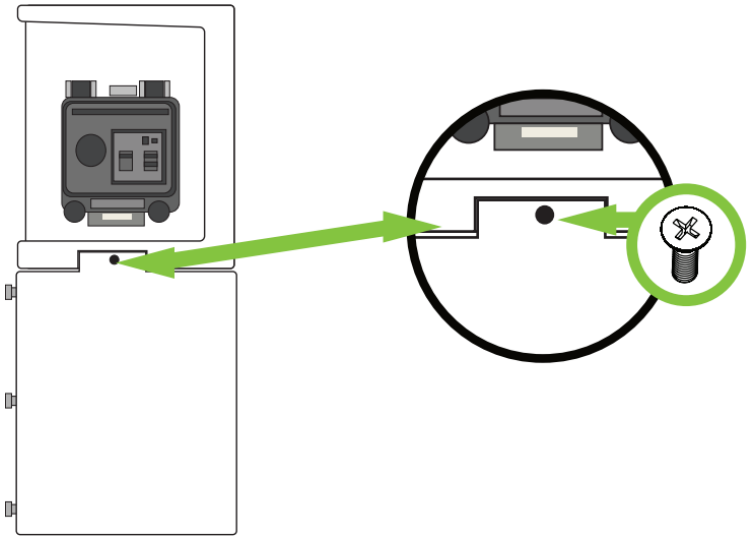
- High performance chemistry – LFP
- Support load shift (TOU), self consumption and backup applications
- 3.1kwh per battery enclosure (2,79 kWh useful energy)
  - Up to 4 batteries (11,16 kWh)
  - Stackable to reduce space
  - 1C Rate - Charge and Discharge in one hour
- 90% depth of discharge
- IP65 - outdoor and indoor rated
- Operating temperature -30°C - 55°C
  - Smart-heating built in for optimal cold weather performance

Model	Description
TSB-3	3.1kwh battery module, LFP
EI BMS	Battery Management System, for use with TSB-3 series battery modules
EI Bat. Acc.	Battery installation accessories/cables kit for expended battery modules (for >2 battery systems)



1. Place base (around 50mm spacing from wall)
2. Use levelers to level base
3. Place battery cabinets onto base
4. Stack additional batteries if applicable
5. Secure batteries using the provided Self Tapping Screw as shown





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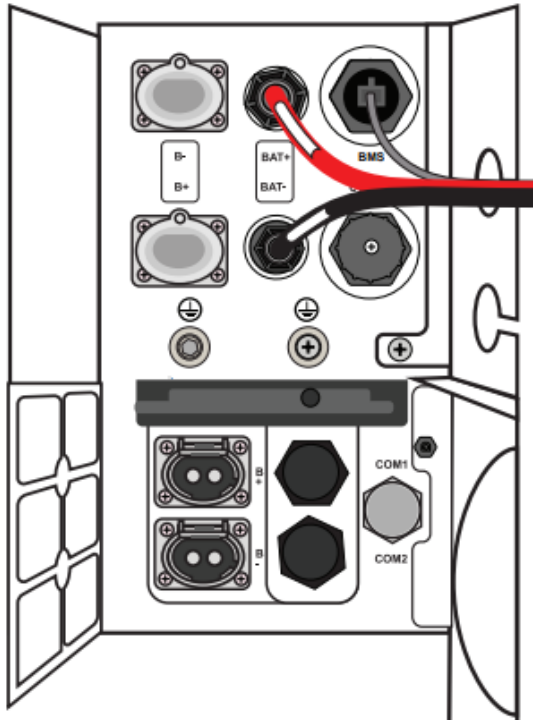
- Crimp the male connector to the red (+) cable. Crimp the female connector to the black (-) cable.

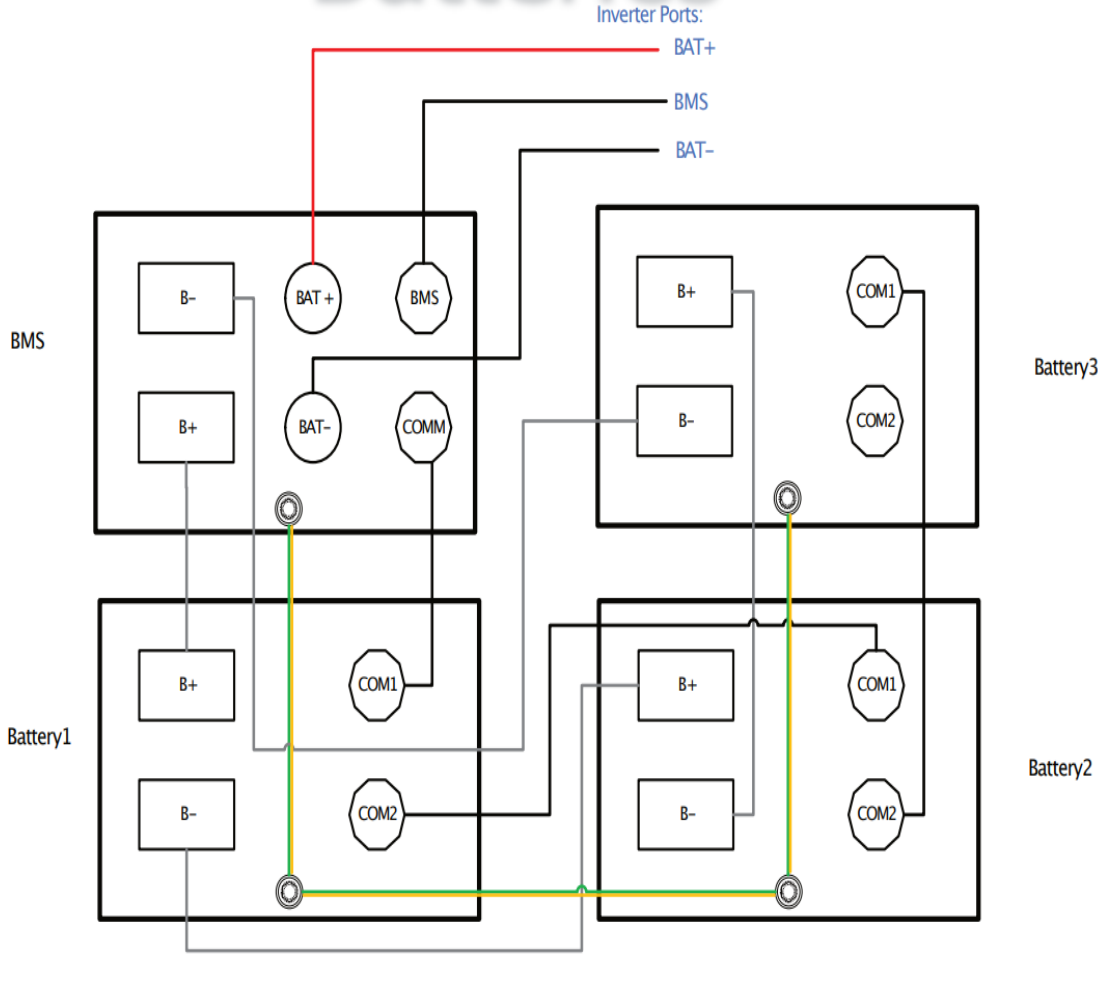
- Connect one end of the BMS Communication Cable (RJ45 ends) to the BMS port and the other end to the EI Inverter BMS port.
- Connect BMS to EI Inverter by using Charging Cables to the corresponding BAT+ and BAT- ports in the EI Inverter.

- Connect BMS and Batteries as it is shown in figure.

BMS to Inverter



BMS & Batteries



Tigo®

EI Inverter

- Storage ready PV inverter – One for All
- 1-phase (3/5/6kW) and 3-phase (6/10/15kW) models
- Up to 150% DC oversizing*
- -35°C to 60°C operating temp
- 90V starting voltage
- Multiple MPPT, fuse-less design
- Built in Wi-Fi communication
- Light weight 22kg
- Commission with EI App (including MLPE)

Model	Power	Phase
TSI-3K1D	3kW	1-phase
TSI-5K1D	5kW	1-phase
TSI-6K1D	6kW	1-phase
TSI-6K3D	6kW	3-phase
TSI-10K3D	10kW	3-phase
TSI-15K3D	15kW	3-phase

EI Energy Storage Single Phase

Tigo EI (Energy Intelligence) is a complete energy storage system that easily expands to accommodate customer's ever changing needs. The Tigo EI Battery stacks 3kWh blocks, easily allowing up to 12kWh of total energy. The Tigo EI Link is the keystone of the EI System. It is the communications hub and points for all grid, inverter, PV and battery connections. When paired with Tigo TS4 Flex MLPE, module level monitoring, optimization, and fire safety features can all be achieved with Tigo communications already built in.

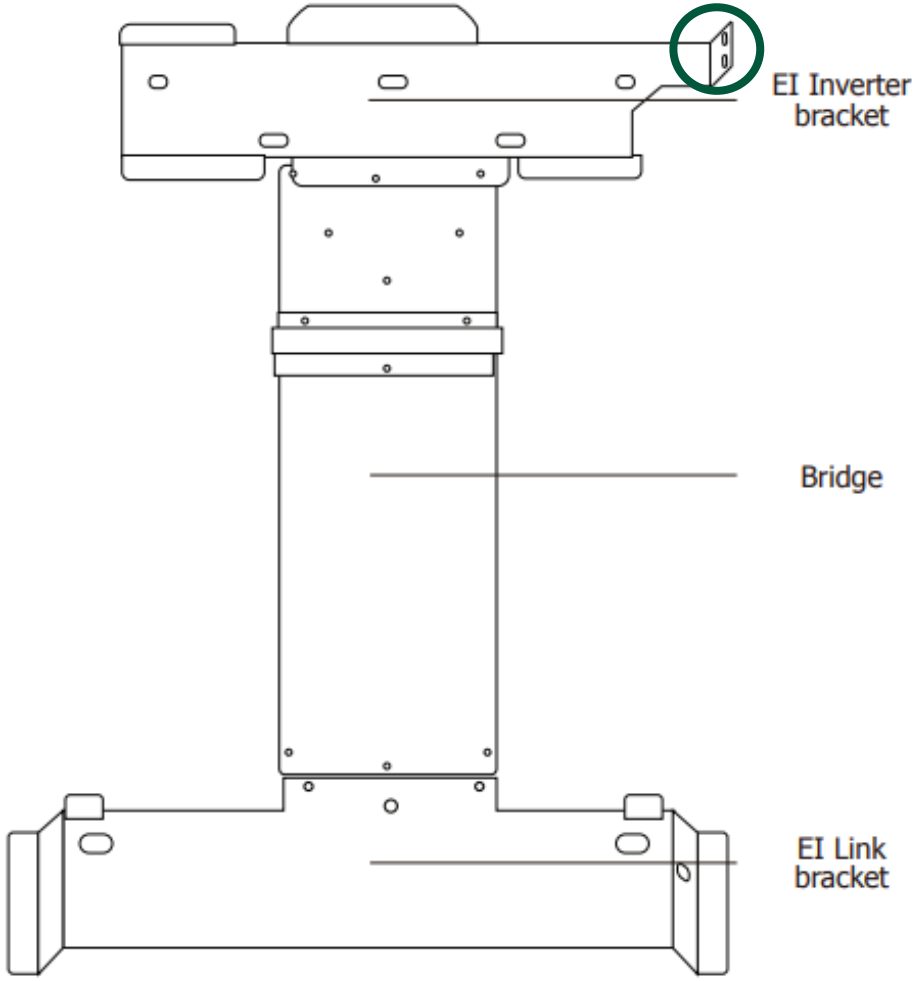
Features

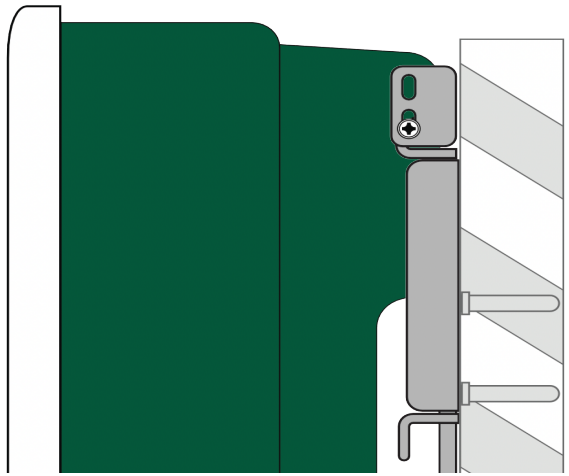
- Powered by Tigo TS4 optimizers for maximizing flexibility with module design
- Supporting 150% oversized PV power
- Providing back-up, time of use, and energy management
- Fast Charging and high discharge current from battery
- Responding time less than 10ms
- Remote Monitoring and over the air upgrade
- Working in full load under extreme cold condition
- Fast installation and commissioning
- Industry leading warranty

*Depending of the Inverter-size

The installation must comply with the following requirements.

- Select a solid vertical surface that can support the EI System.
- Select a well-ventilated location sheltered from direct sunlight and rain.
- Do not install in small spaces (cupboards or closet) that will restrict air flow around the unit.
- The ambient temperature should be below 50°C for optimal operation.





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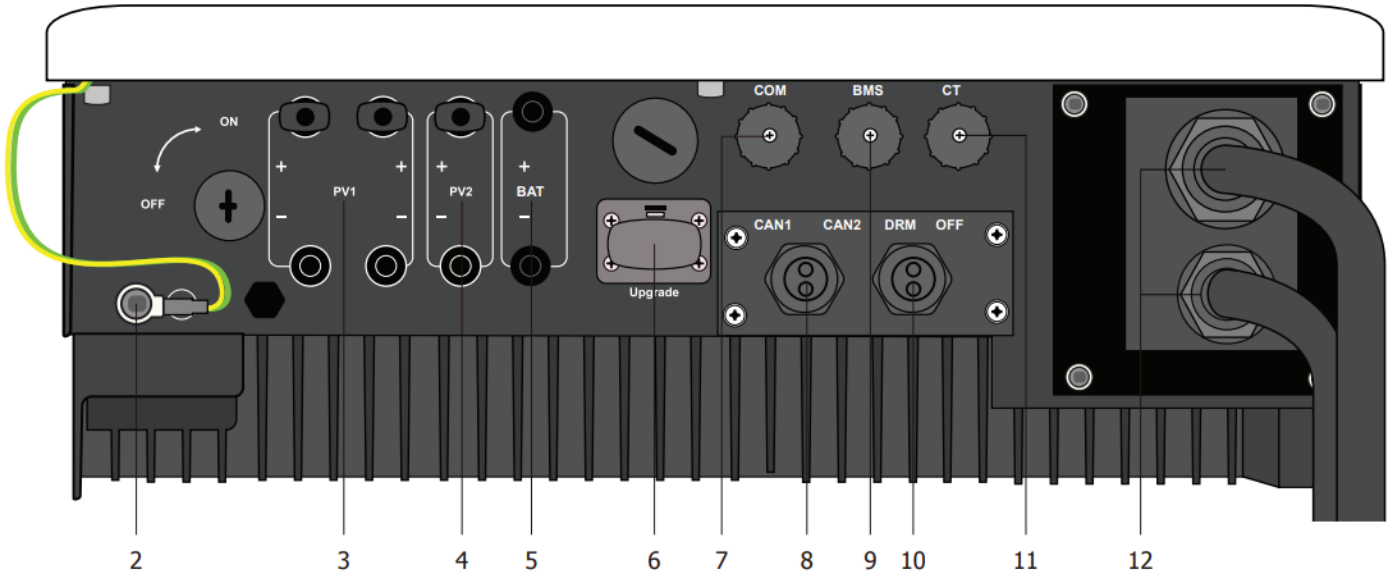
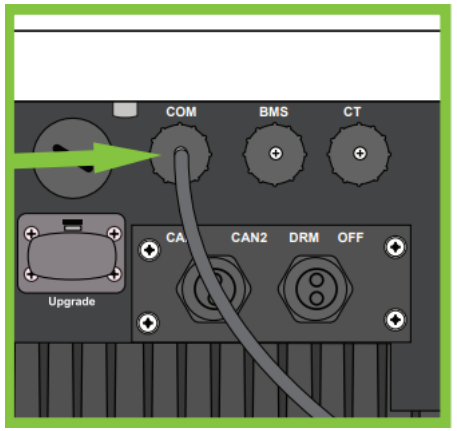
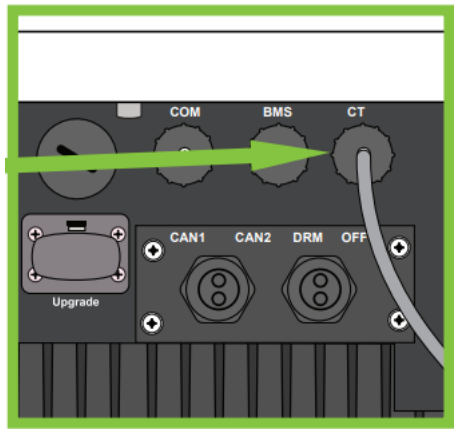
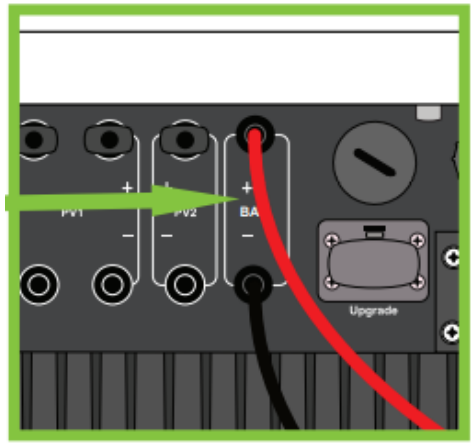
Note: The EI Inverter grounding wire is preinstalled. It will be connected to the EI Link in a future step of that QSG.



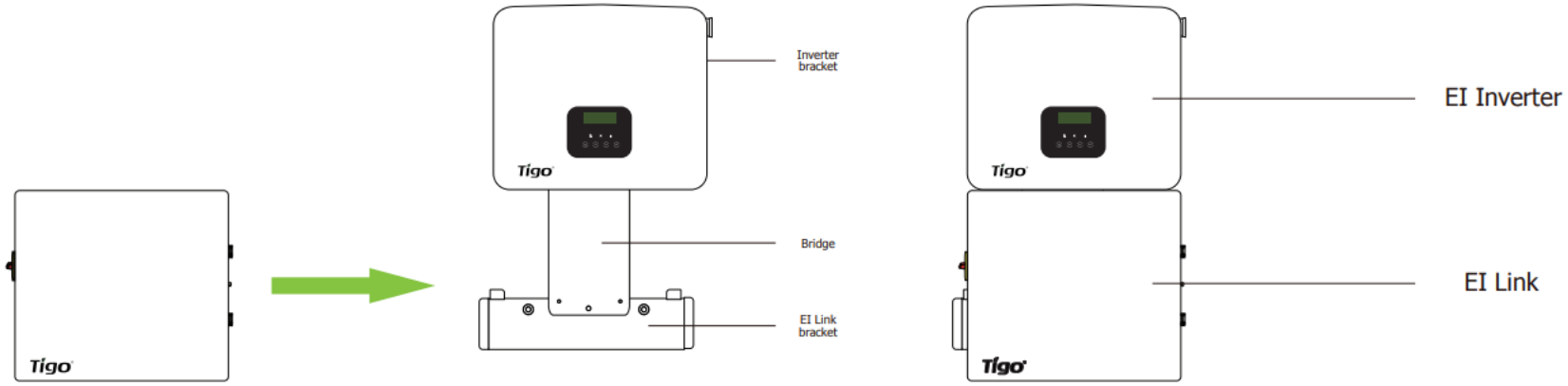
1. LCD Screen
2. Grounding cable
3. PV1 + & -
4. PV2 + & -
5. BAT + & -
6. USB Update
7. COM
8. CAN1 / CAN2
9. BMS
10. DRM
11. CT
12. Grid and EPS

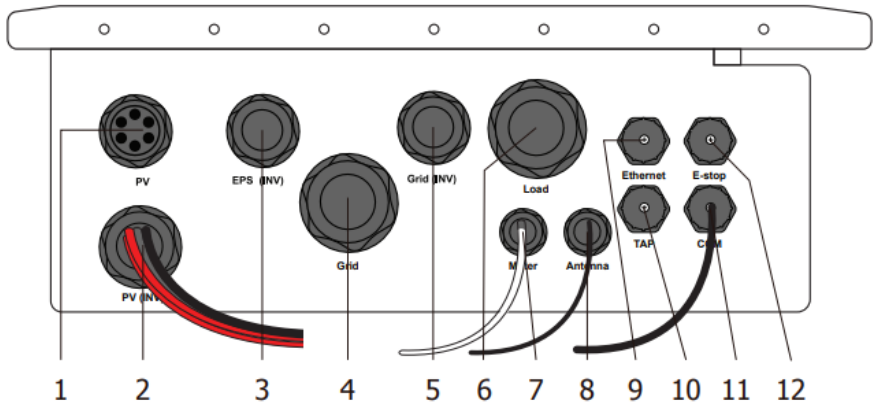






Installation & Ports





1. PV
2. PV (INV) (preinstalled)
3. EPS (INV)
4. Grid
5. Grid (INV)
6. Load
7. Meter (preinstalled)
8. Antenna (preinstalled)
9. Ethernet
10. TAP
11. COM (preinstalled)
12. E-stop

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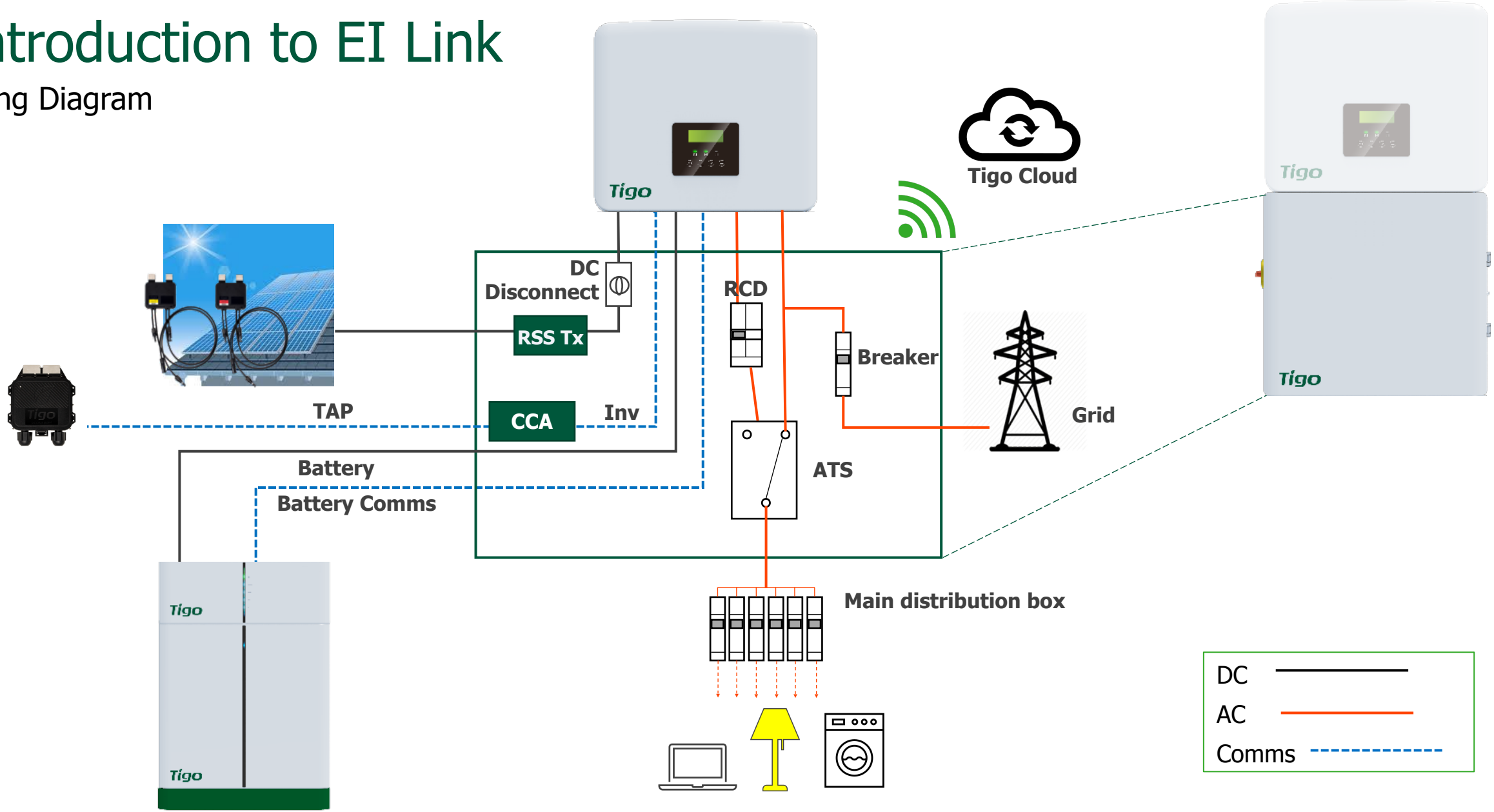
Introduction to EI Link

Wiring Diagram



EI Link

DC / AC Wiring

Tigo

MONITORING & COMMISSIONING

Tigo Energy Intelligence

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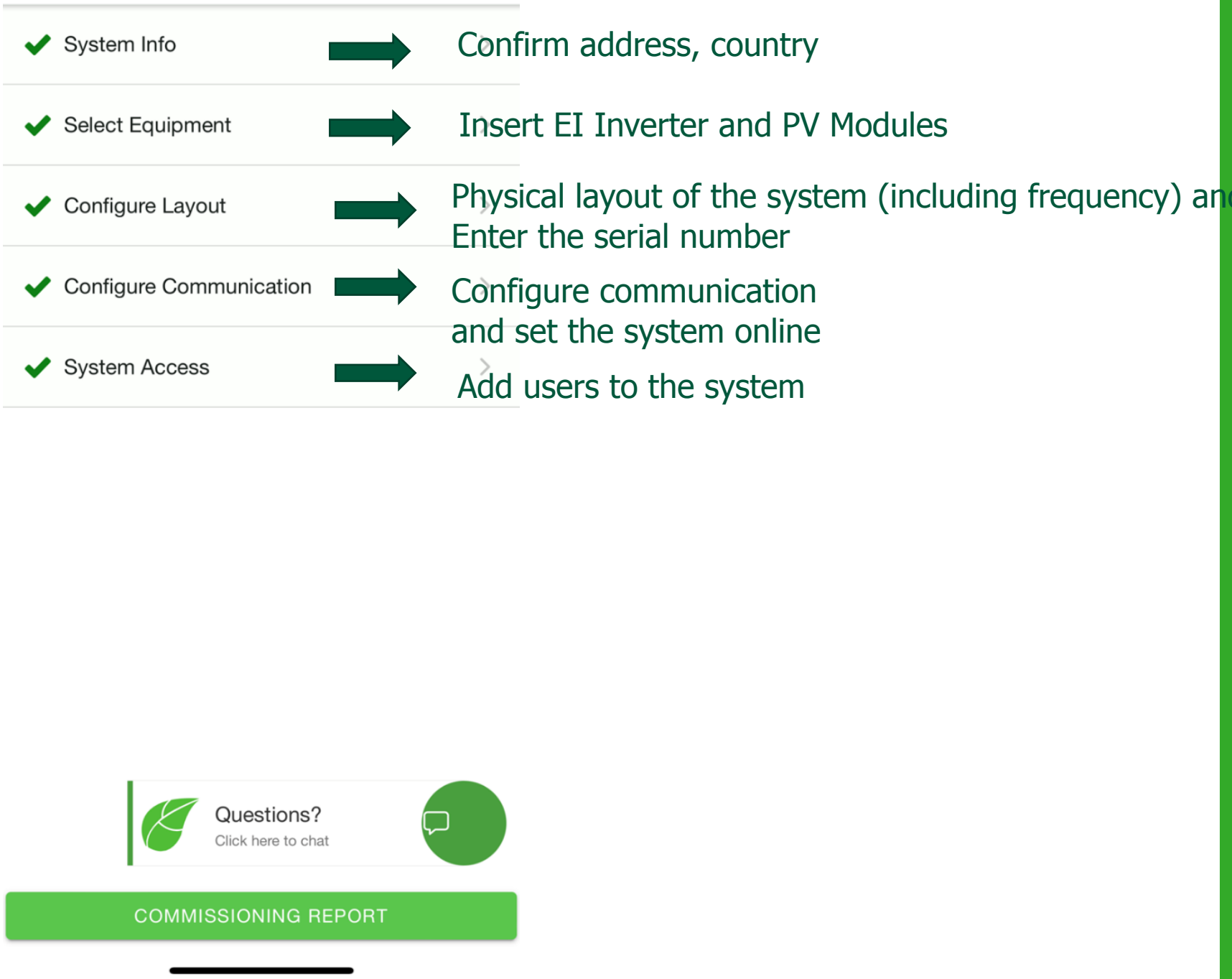
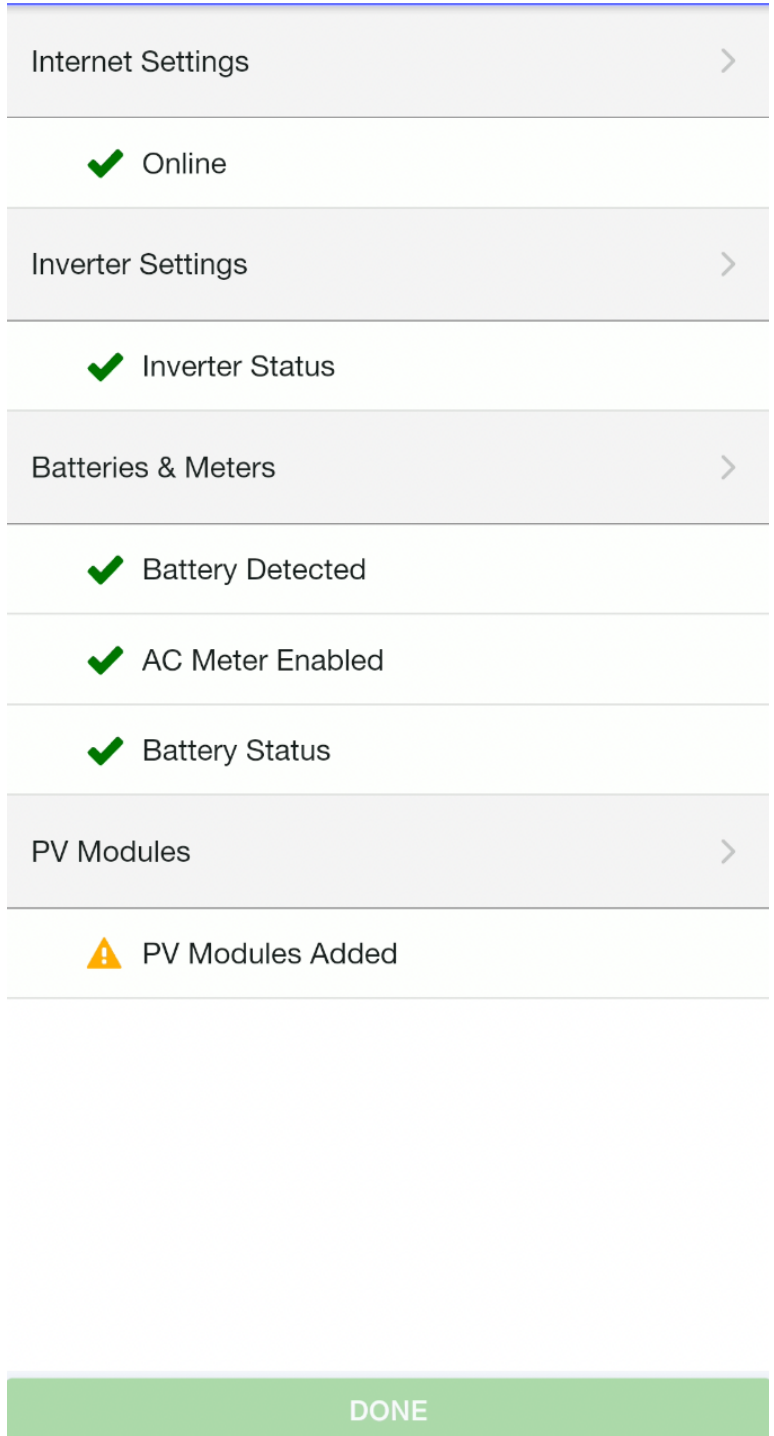
- Login into Tigo Portal and create account
  - www.tigoenergy.com
- Set up new system
- Systemlayout for MPLE
- Start connection of EI System to Internet for monitoring



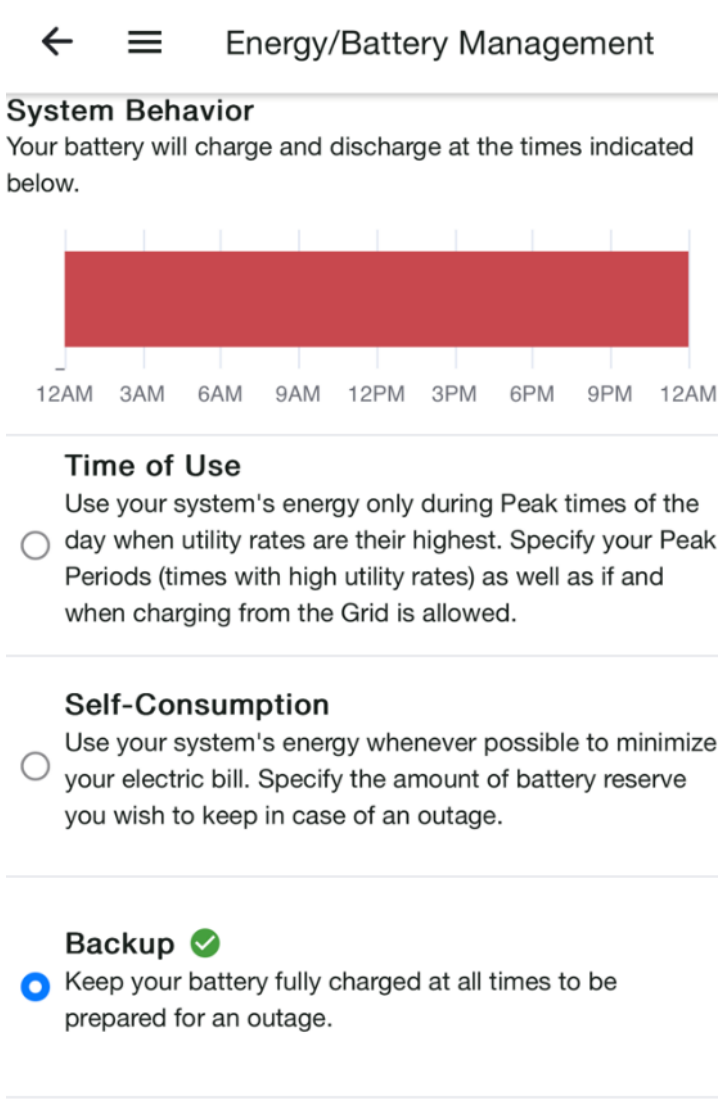
- Settings, administration and all commissioning processes can be done via your app
- The Tigo EI app allows users to make advanced settings and check their system status
- Receive real-time alerts when a performance or security issue occurs.

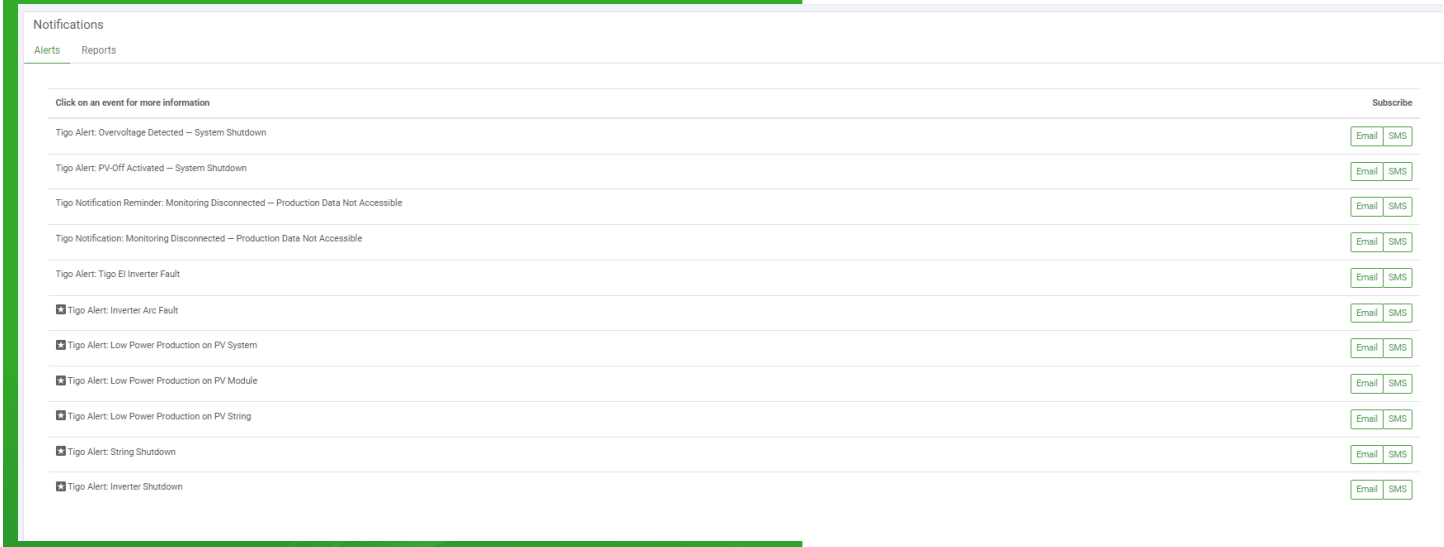


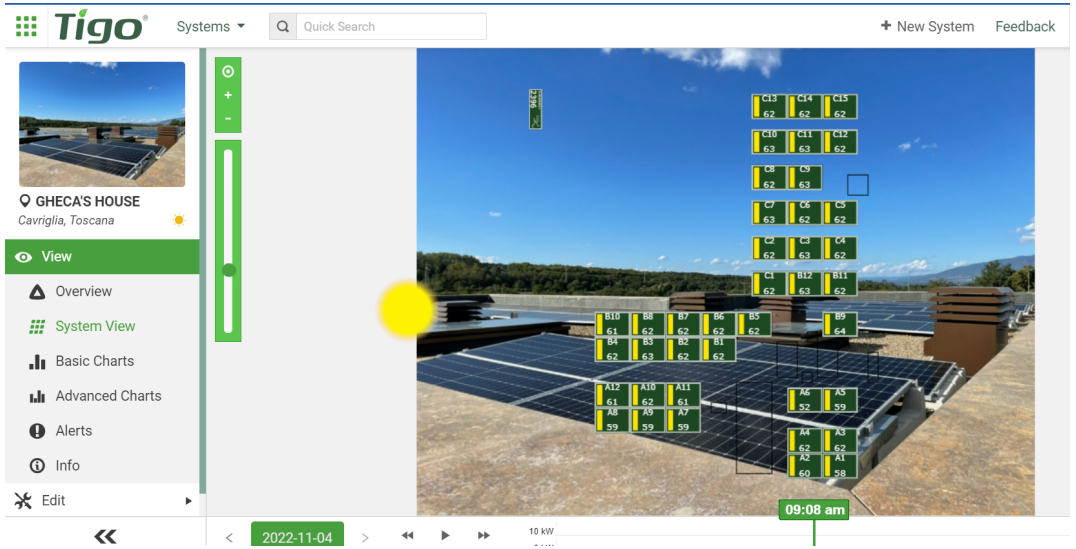
- **Time of use,** allows users to select the period of time that the energy from the memory modules should be taken. Flexible depending on the electricity tariff

- **Self-consumption,** minimizes electricity bills while using the system's energy continuously. In addition, users can specify a number of kWh as emergency power

- **Back Up function** keeps the memory modules fully charged so that they are only used in the event of a black out




Notifications
Alerts
Reports
Click on an event for more information
Subscribe
Tigo Alert: Overvoltage Detected – System Shutdown
Tigo Alert: PV-Off Activated – System Shutdown
Tigo Notification Reminder: Monitoring Disconnected – Production Data Not Accessible
Tigo Notification: Monitoring Disconnected – Production Data Not Accessible
Tigo Alert: Tigo EI Inverter Fault
Tigo Alert: Inverter Arc Fault
Tigo Alert: Low Power Production on PV System
Tigo Alert: Low Power Production on PV Module
Tigo Alert: Low Power Production on PV String
Tigo Alert: String Shutdown
Tigo Alert: Inverter Shutdown
Email
SMS


Tigo
Systems
Quick Search
New System
Feedback
GHECA'S HOUSE
Cavriglia, Toscana
View
Overview
System View
Basic Charts
Advanced Charts
Alerts
Info
Edit
09:08 am
2022-11-04
10 kW

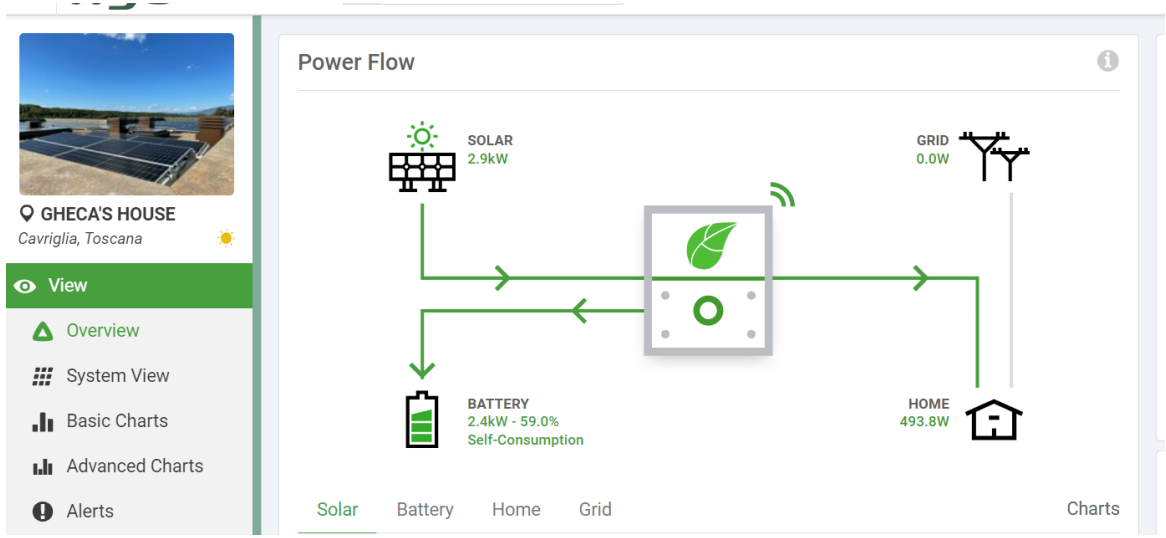

General Settings
Input
Public Access
Appearance
Battery Management
System Behavior
Your battery will charge and discharge at the times indicated below.
12AM
3AM
6AM
9AM
12PM
3PM
6PM
9PM
12AM
Time of Use
Use your system's energy only during Peak times of the day when utility rates are their highest. Specify your Peak Periods (times with high utility rates) as well as if and when charging from the Grid is allowed.
Peak Period 1
Peak Period 2
AC Charging
4pm
9pm
10am
3pm
5am
7am
Self-Consumption
Use your system's energy whenever possible to minimize your electric bill. Specify the amount of battery reserve you wish to keep in case of an outage.
Backup
Keep your battery fully charged at all times to be prepared for an outage.
Save

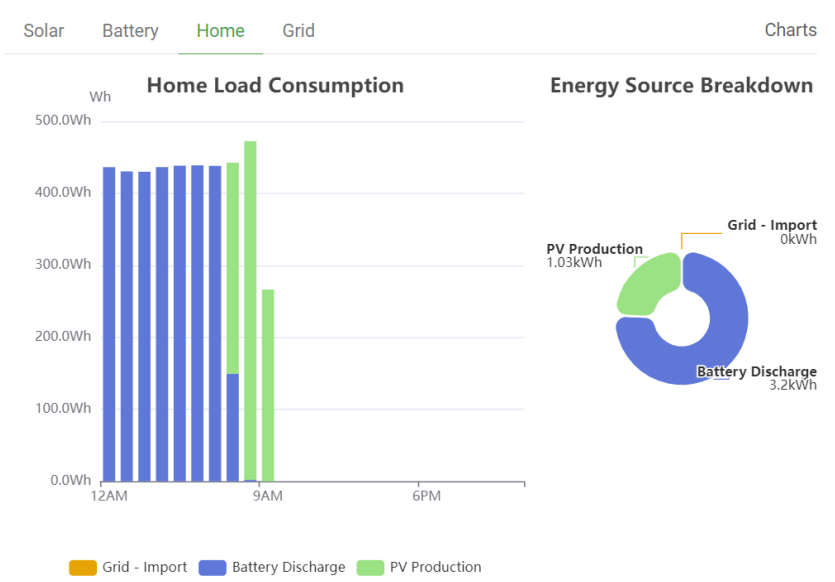
Tigo®

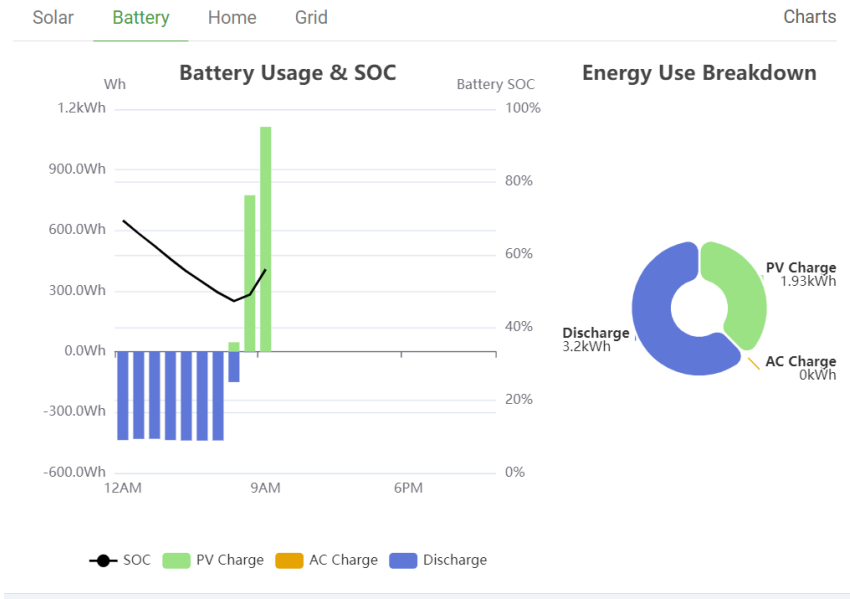
The most powerful monitoring and commissioning solution on the market.

One APP for commissioning, troubleshooting and monitoring.

Errors, warnings and battery management







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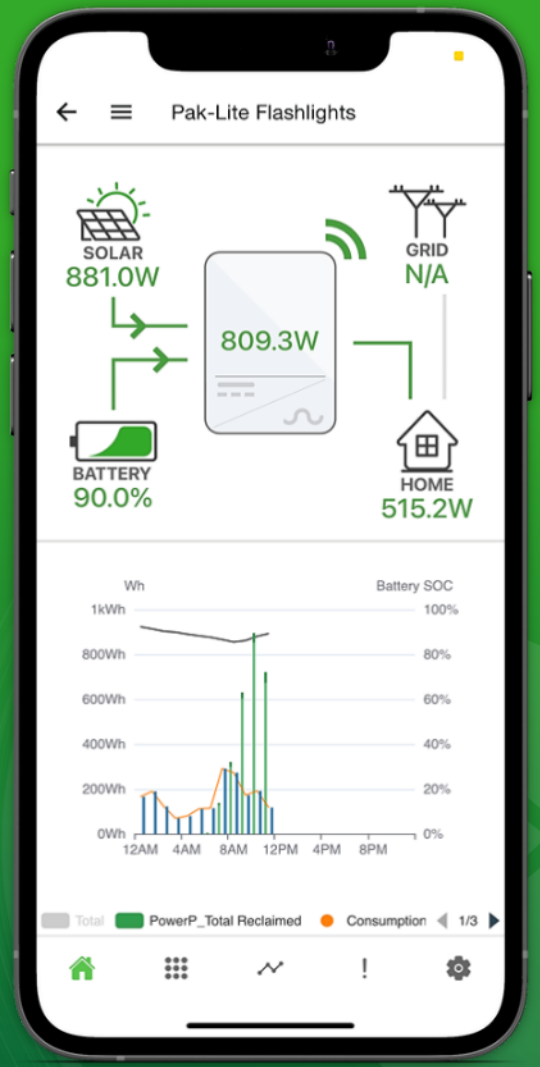
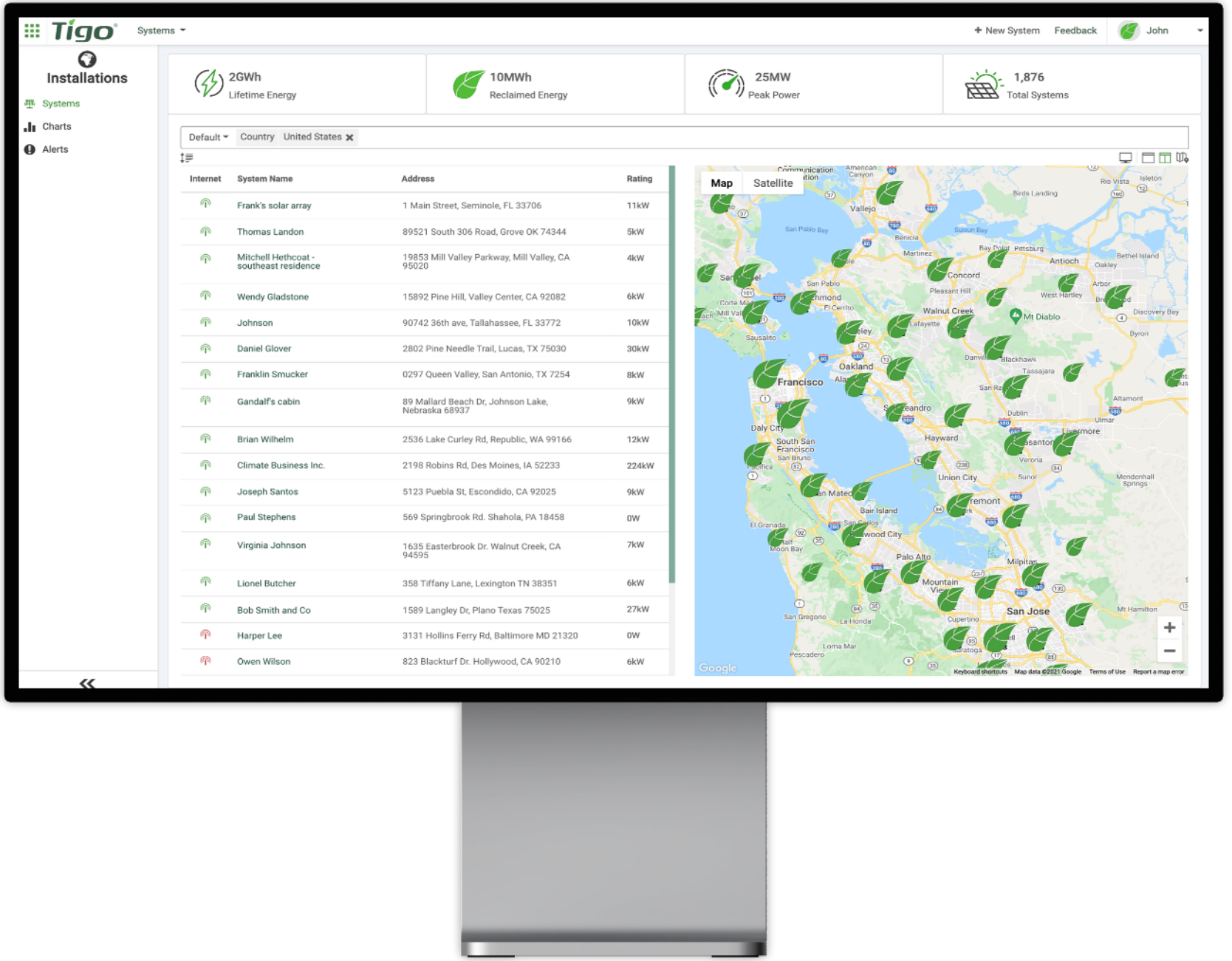

Pak-Lite Flashlights
SOLAR
881.0W
GRID
N/A
809.3W
BATTERY
90.0%
HOME
515.2W
Wh
Battery SOC
1kWh
800Wh
600Wh
400Wh
200Wh
0Wh
100%
80%
60%
40%
20%
0%
12AM
4AM
8AM
12PM
4PM
8PM
Total
PowerP_Total Reclaimed
Consumption
1/3


Tigo
Systems
+ New System
Feedback
John
Installations
Systems
Charts
Alerts
2GWh
Lifetime Energy
10MWh
Reclaimed Energy
25MW
Peak Power
1,876
Total Systems
Default
Country
United States
Internet
System Name
Address
Rating
Frank's solar array
1 Main Street, Seminole, FL 33706
11kW
Thomas Landon
89521 South 306 Road, Grove OK 74344
5kW
Mitchell Hethcoat - southeast residence
19853 Mill Valley Parkway, Mill Valley, CA 95020
4kW
Wendy Gladstone
15892 Pine Hill, Valley Center, CA 92082
6kW
Johnson
90742 36th ave, Tallahassee, FL 33772
10kW
Daniel Glover
2802 Pine Needle Trail, Lucas, TX 75030
30kW
Franklin Smucker
0297 Queen Valley, San Antonio, TX 7254
8kW
Gandalf's cabin
89 Mallard Beach Dr, Johnson Lake, Nebraska 68937
9kW
Brian Wilhelm
2536 Lake Curley Rd, Republic, WA 99166
12kW
Climate Business Inc.
2198 Robins Rd, Des Moines, IA 52233
224kW
Joseph Santos
5123 Puebla St, Escondido, CA 92025
9kW
Paul Stephens
569 Springbrook Rd. Shahola, PA 18458
0W
Virginia Johnson
1635 Easterbrook Dr. Walnut Creek, CA 94595
7kW
Lionel Butcher
358 Tiffany Lane, Lexington TN 38351
6kW
Bob Smith and Co
1589 Langley Dr, Plano Texas 75025
27kW
Harper Lee
3131 Hollins Ferry Rd, Baltimore MD 21320
0W
Owen Wilson
823 Blackturf Dr. Hollywood, CA 90210
6kW
Map
Satellite
Google

Tigo®

Warranty

Tigo®

Warranty - Leader

- Tigo limited warranty commences upon the installation of the Equipment (“Warranty Start Date”) and covers defects in workmanship and materials of the Equipment for the following applicable duration(s) (“Warranty Period”):

  - **Tigo EI Inverter**: 152 months (12 years 8 Months), commencing on the Warranty Start Date
  - **Tigo EI Battery**: the first to end of (i) 132 months (11 years) or (ii) 6,000 cycles, commencing on the Warranty Start Date. The Tigo El Battery shall retain at least 65% of its original available capacity at the end of the Warranty Period.
  - **Tigo BMS**: 132 (11 years) months, commencing on the Warranty Start Date.
  - **Tigo EI Link**: 60 (5 years) months, commencing on the Warranty Start Date.
  - **Tigo TS4**: 300 months (25 years), commencing on the Warranty Start Date.

Price

Tigo®

Price league

Tech Support

Tigo®

Tech. Support

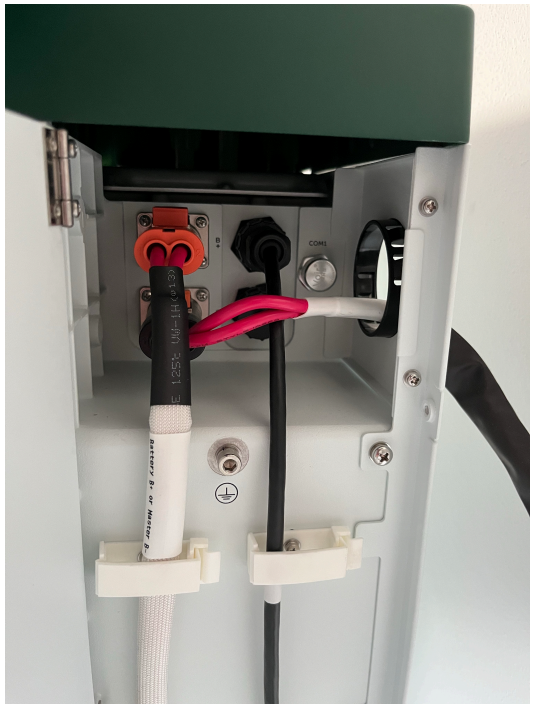
- Tier level 1
  - Team who speak German, Spanish, Czech, Polish, Italian and English
  - Available via email, toll free calls and WhatsApp chat
  - Processing time of each email ticket, less than 24 hours
- Tier 2 level
  - German speaking team

- Tech. Support process:
  - Installer contacts Tigo Tech. Support —> Tier 1 Tech Support will solve the problem remotely, if not solved, Tier 2 will come into question —> If the system needs to be changed, the EI system will be sent and pickup to customer free of charge

Pictures of an installation

Tigo®

System configuration 3-Ph. Inverter + 3 Batteries



Last Message

Tigo®

Last Message

- When you work with Tigo Energy you are working with an US/ European Team
  - We speak your language
  - We are reachable in your time zone
  - We have an European Team in Sales Engineering to support your customers
  - In case of tech issues you will have a Tech. Support European team pushing to solve your problem within 24 hours


THANK YOU
Tigo®

More information

WEBSITE

www.tigoenergy.com

DATASHEETS, GUIDES, COLLATERAL

www.tigoenergy.com/downloads

SUPPORT & RESOURCE CENTER

http://www.support.tigoenergy.com/

CONTACT SALES

http://www.tigoenergy.com/contacts