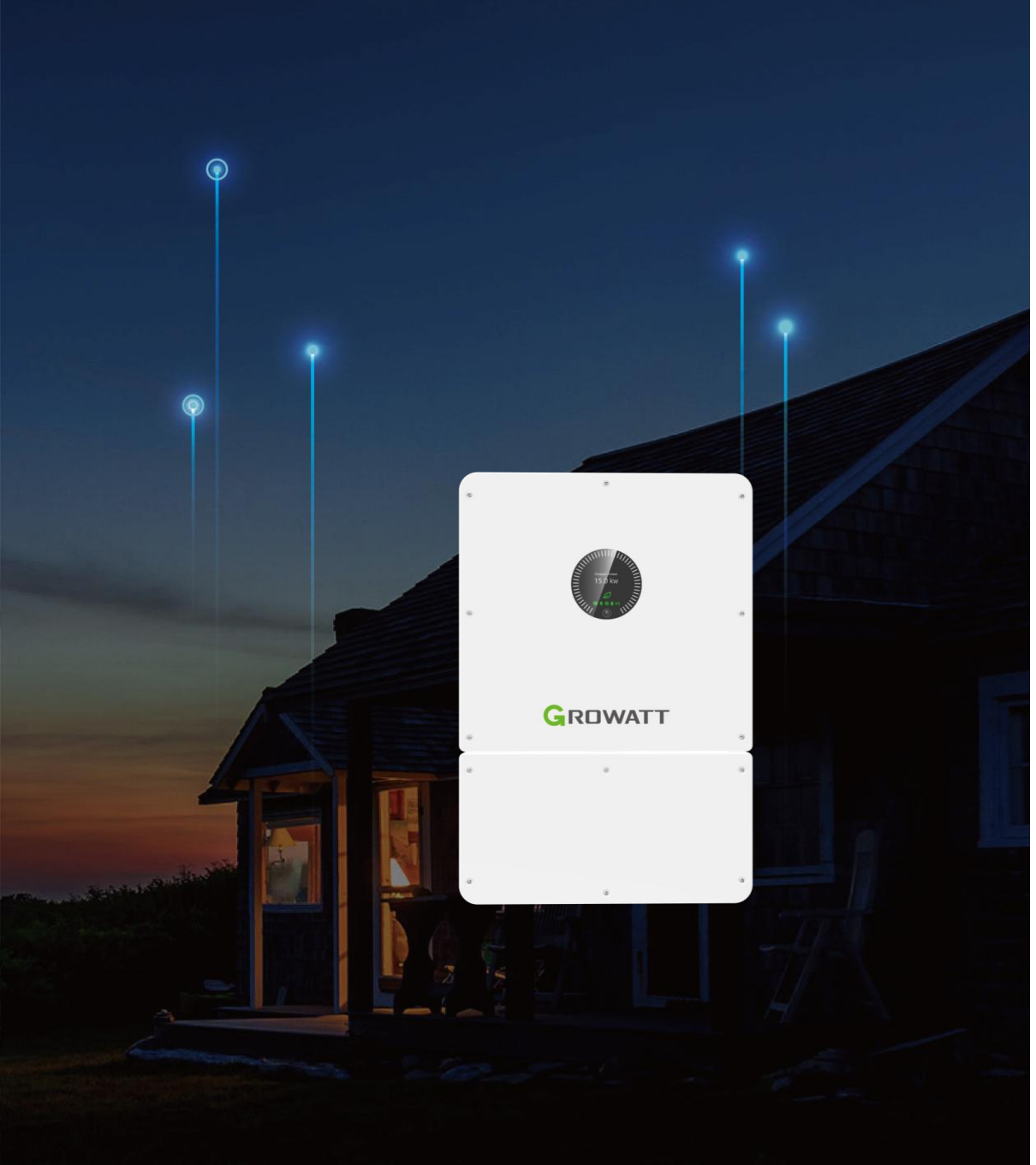


WIT 10-15K-HU-L2
System Solution Introduction

GROWATT

SHENZHEN GROWATT NEW ENERGY
CO.,LTD



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01 General Introduction

02 Flexible application in multiple scenarios

03 Product Introduction

04 Monitoring and Configuration

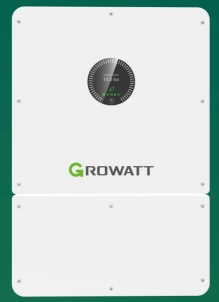
01

General Introduction



WIT Microgrid Products

Inverter



WIT 10-15K-HU-L2
(10/15kW)

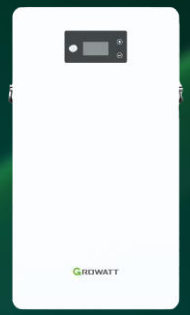
Battery



ALP 5.0L-E2
(5–320kWh)



Hope 5.0L-B1
(5–240kWh)



Hope 14.3L-A1
(5–240kWh)



HOPE 16.0LM-A1/A2
(16 kWh ~ 768 kWh)

High Yields

More power with 1.6 DC/AC ratio

Maximum current per string up to 20A

Maximum PV input voltage up to 1000VDC

Scalable & Flexible

Compatible with third-party batteries

Scalable up to 90kW application

Support DC-coupled and AC-coupled system

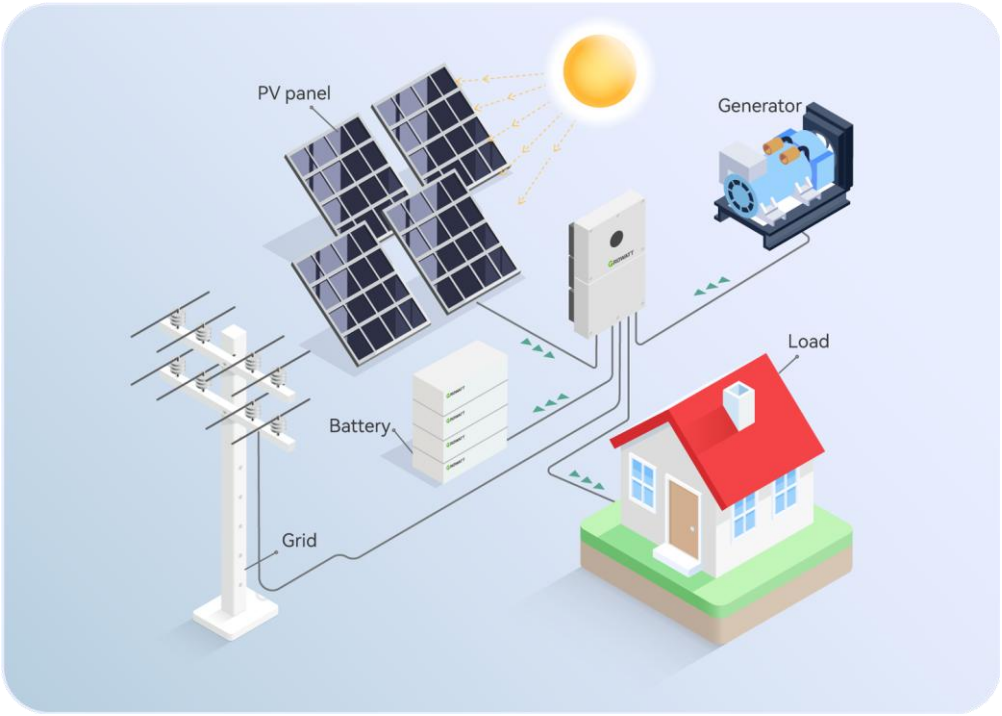
Smart & Reliable

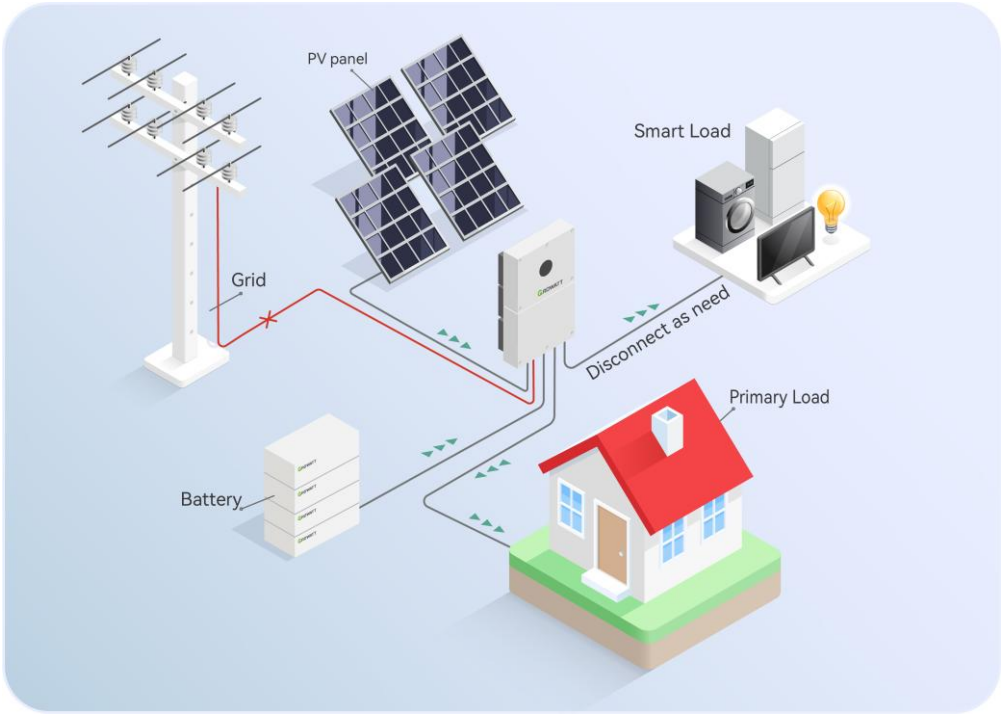
IP66 protection degree

One-click upgrade/diagnose

Support AFCI and online monitoring

Multiple Functions in GEN Port Integration





Generator as Backup Power Source

- Support generator supply power to load and charge the battery in off-grid mode;
- The generator will automatically start to charge the battery when the battery capacity reaches the Min. value

Smart Load Function

- The high-power smart load is connected through the GEN port, and can be disconnected based on battery SOC when in off-grid mode;
- Load control benefits for battery saving in off-grid situation

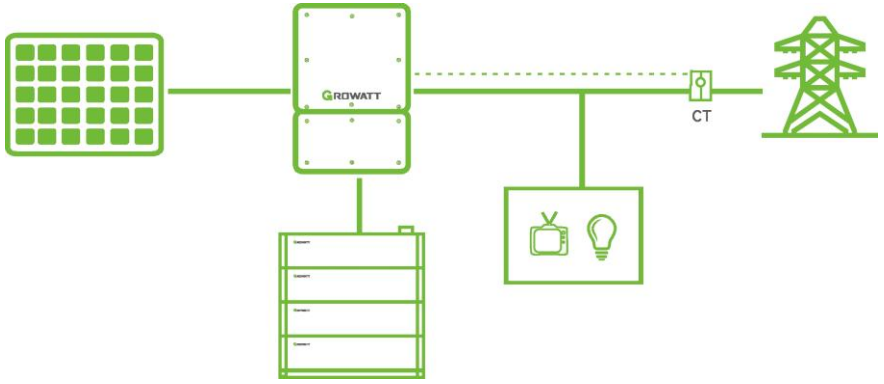
02

Flexible application in multiple scenarios

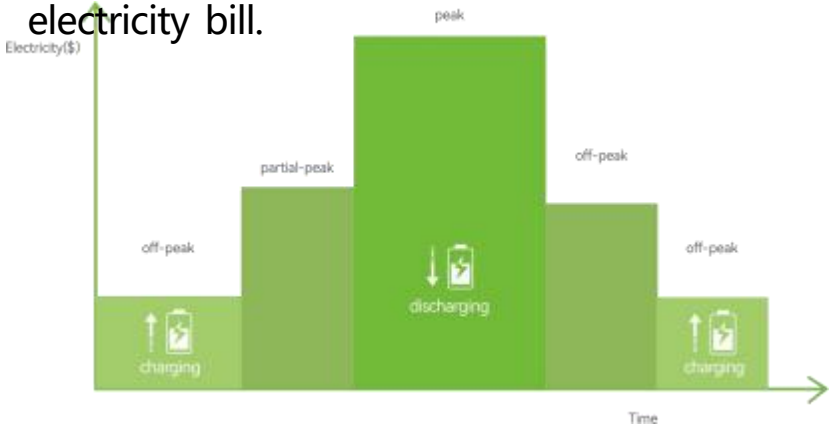


Energy Storage System Application

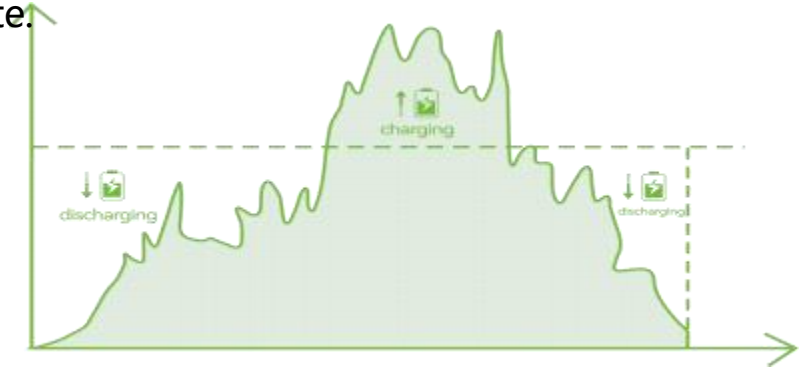
- **Export Limit:** Set a limit value on the feed power, and when it exceeds this power value, the PV output will be limited.



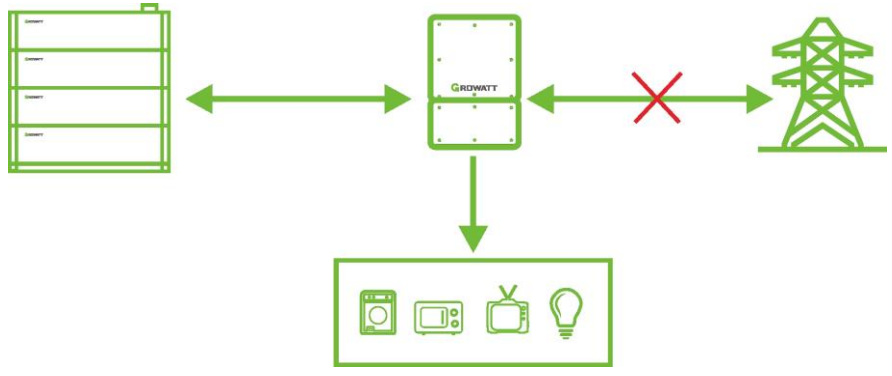
- **Time of Use:** Charge the battery at off-peak tariff and use it at peak tariff to reduce the electricity bill.



- **Self-Consumption:** Storing the surplus solar power into the battery during the day and using it at night, which maximizes the solar energy self-consumption rate.

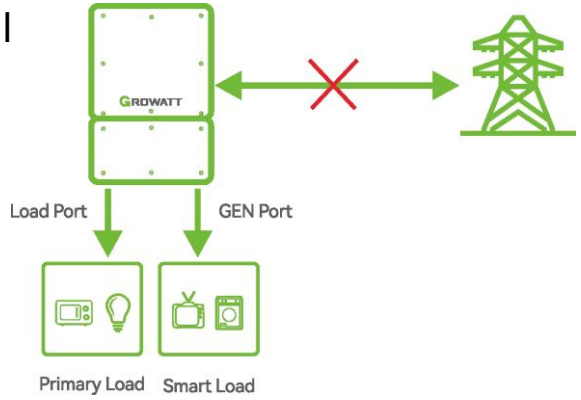


- **Backup Power:** The energy storage system as a backup power will supply power to the load when the power grid fails.

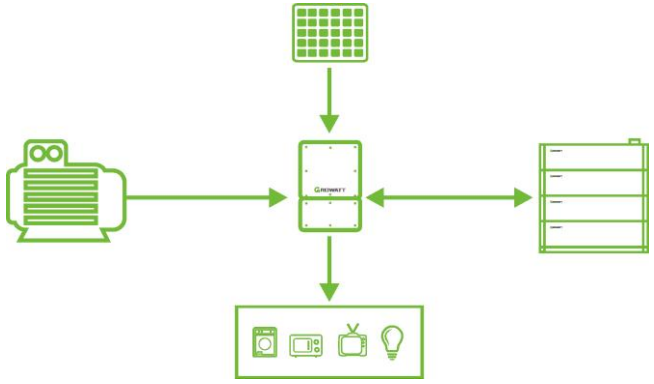


Energy Storage System Application

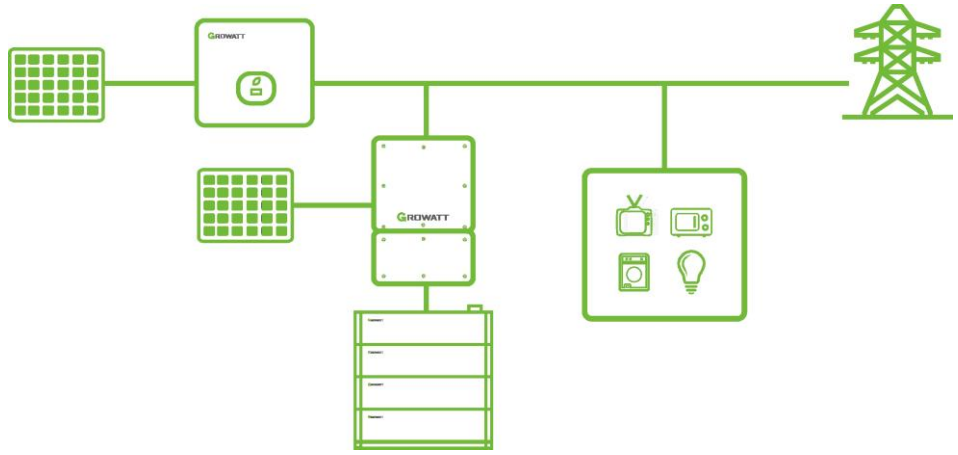
- **Smart Load:** The generator port can be used as an intelligent load output port. When in off-grid, the smart load will be disconneced, making load control more intell



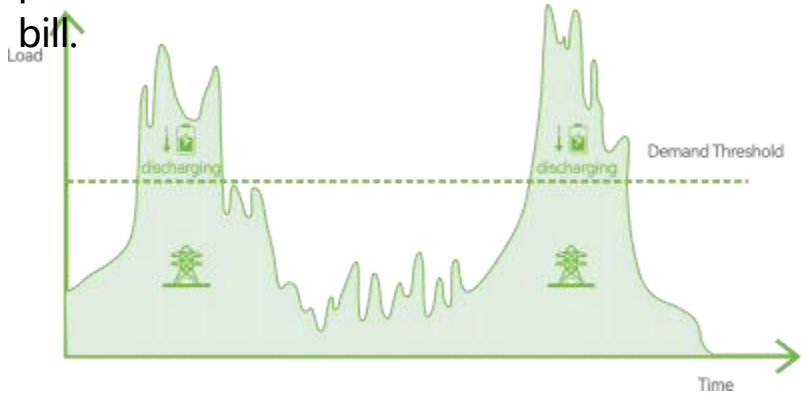
- **Micro-grid:** Work with multiple energy source to guarantee 24/7 power supply where there is no grid.



- **AC-Couple:** Hybrid inverter solution for retrofit project, support work with on-grid inverters.



- **Peak Shaving:** The battery will discharge to offset portions of the load consumption beyond the power demand threshold to reduce the electricity bill.



Solutions for WIT Application Scenarios

Application Scenario:

1. Stable grid
2. On/Off-grid solution
3. No need for back up box

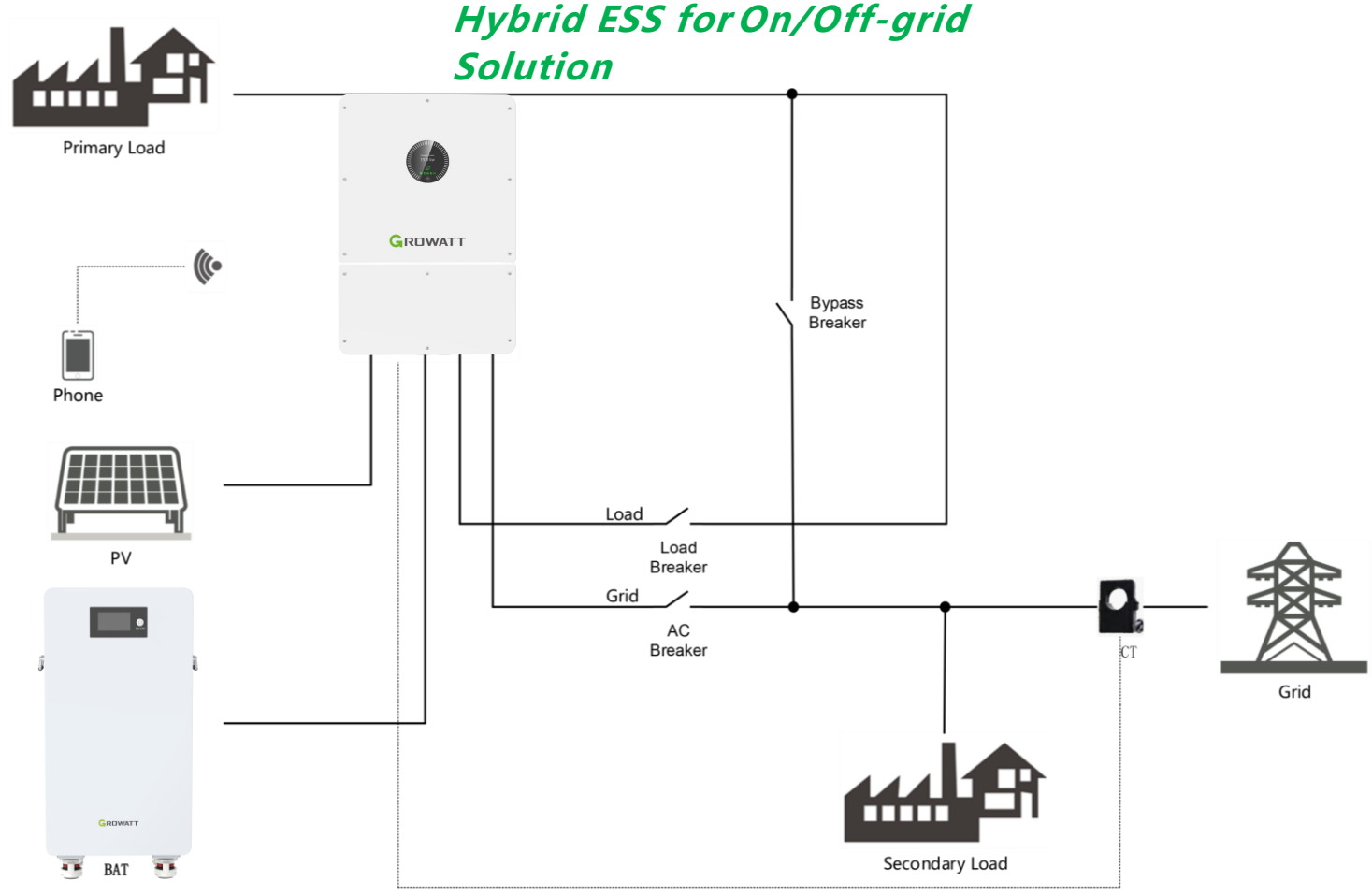
System Composition

- **Inverter:** WIT 10-15K-HU-L2
- **BAT:** HOPE 16.0LM-A1/A2 Battery
- **3CTs**

Remark:

- Support export limitation with CTs;
- On/Off-Grid transform time 10ms;
- Maximum off-grid power up to 2 times rated power, 10s.

Hybrid ESS for On/Off-grid Solution



Solutions for WIT Application Scenarios

Application Scenario:

1. Relatively unstable grid

2. Off-grid solution

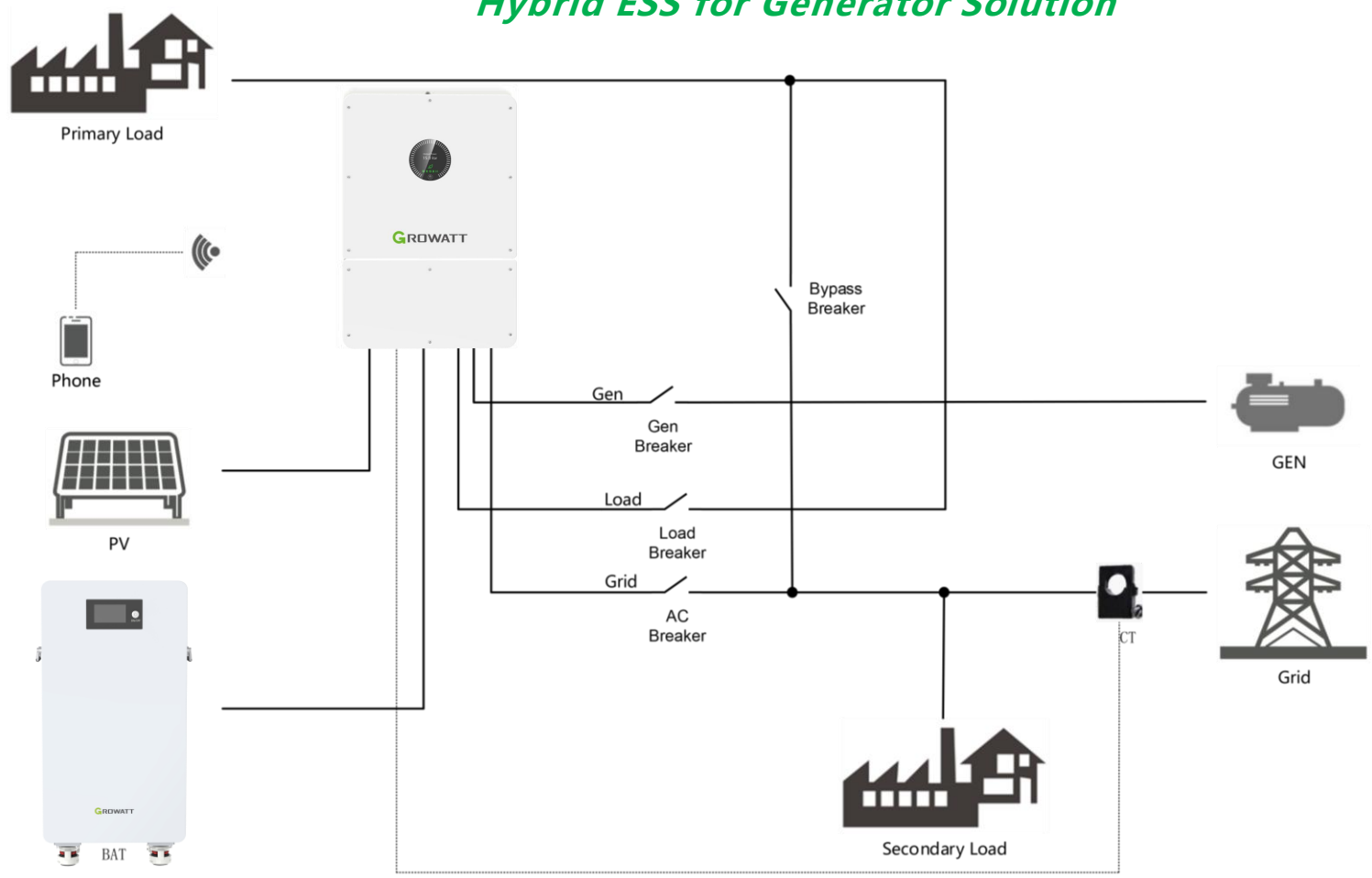
System Composition

- **Inverter:** WIT 10-15K-HU-L2
- **BAT:** HOPE 16.0LM-A1/A2 Battery
- **Generator**
- **3CTs**

Remark:

- Support export limitation with CTs;
- When the battery SOC is lower than the off-grid GEN start SOC, GEN will automatically be turned on to suply the load and charge the battery;

Hybrid ESS for Generator Solution



* Support Growatt TPM-CT-E(SDM630MCT-MA). If the customer needs a meter, just order the meter separately. The CT used for the meter can use the CT that comes standard with WIT.

Solutions for WIT Application Scenarios

Application Scenario:

1. Relatively stable grid
2. On/Off-grid solution
3. Different load scenarios

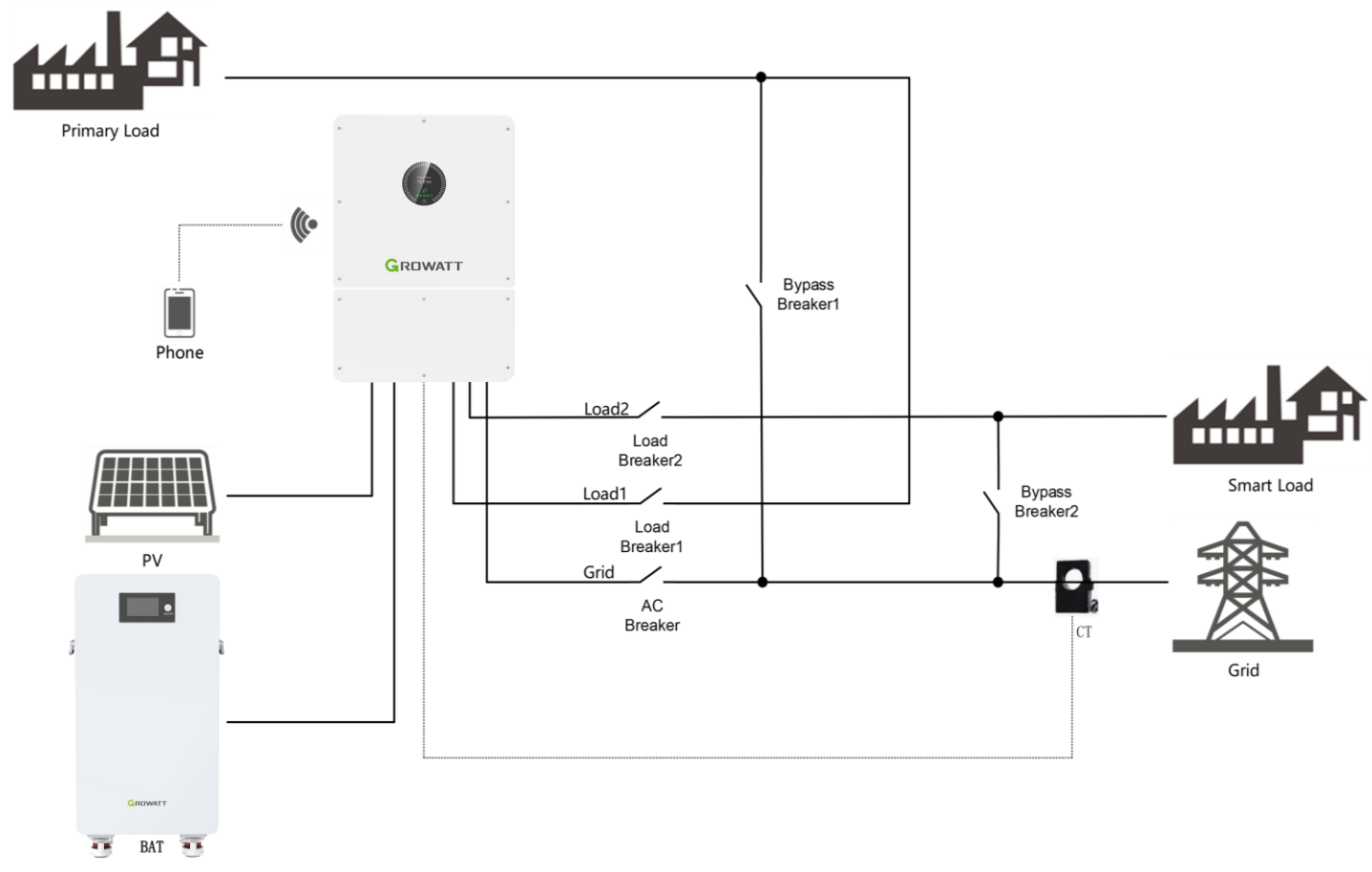
System Composition

- **Inverter:** WIT 10-15K-HU-L2
- **BAT:** HOPE 16.0LM-A1/A2 Battery
- **3CTs**

Remark:

- The smart load is connected through the GEN port, and it will be intelligently cut off when in off-grid mode;
- Smart load≤nominal power;
- The SOC for smart load cut off can be set;
- Allows customers to prioritize home loads.

Hybrid ESS for Smart Load Solution



Solutions for WIT Application Scenarios

Application Scenario:

1. Stable grid
2. Original PV inverter
3. Easy to extended energy storage

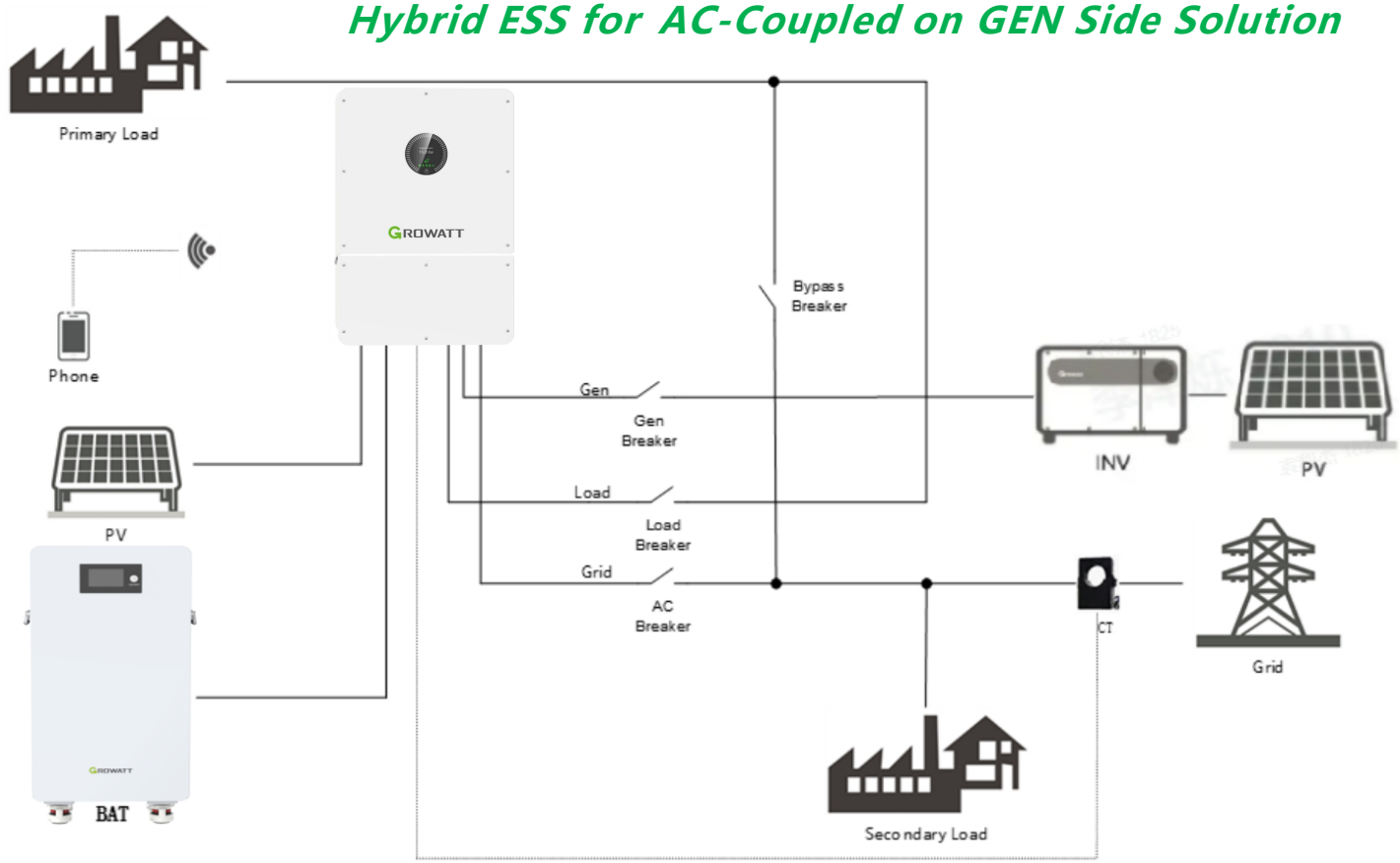
System Composition

- **Inverter:** WIT 10-15K-HU-L2
- **BAT:** HOPE 16.0LM-A1/A2 Battery
- **Meter/3CTs**

Remark:

- The PV inverter is connected through the GEN port;
- The PV inverter should be from Growatt and its power should not be greater than that of WIT;
- PV inverters will work normally when in off-grid operation.

Hybrid ESS for AC-Coupled on GEN Side Solution



* The inverter connected to the GEN port requires a GROWATT inverter with a power less than or equal to the inverter's power and battery charging/discharging power. And no meter needs to be installed between WIT and PV inverter.

Solutions for WIT Application Scenarios

Application Scenario:

1. Relatively stable grid
2. On/Off-grid solution
3. AC-Coupled inverter basic solution for retrofit project

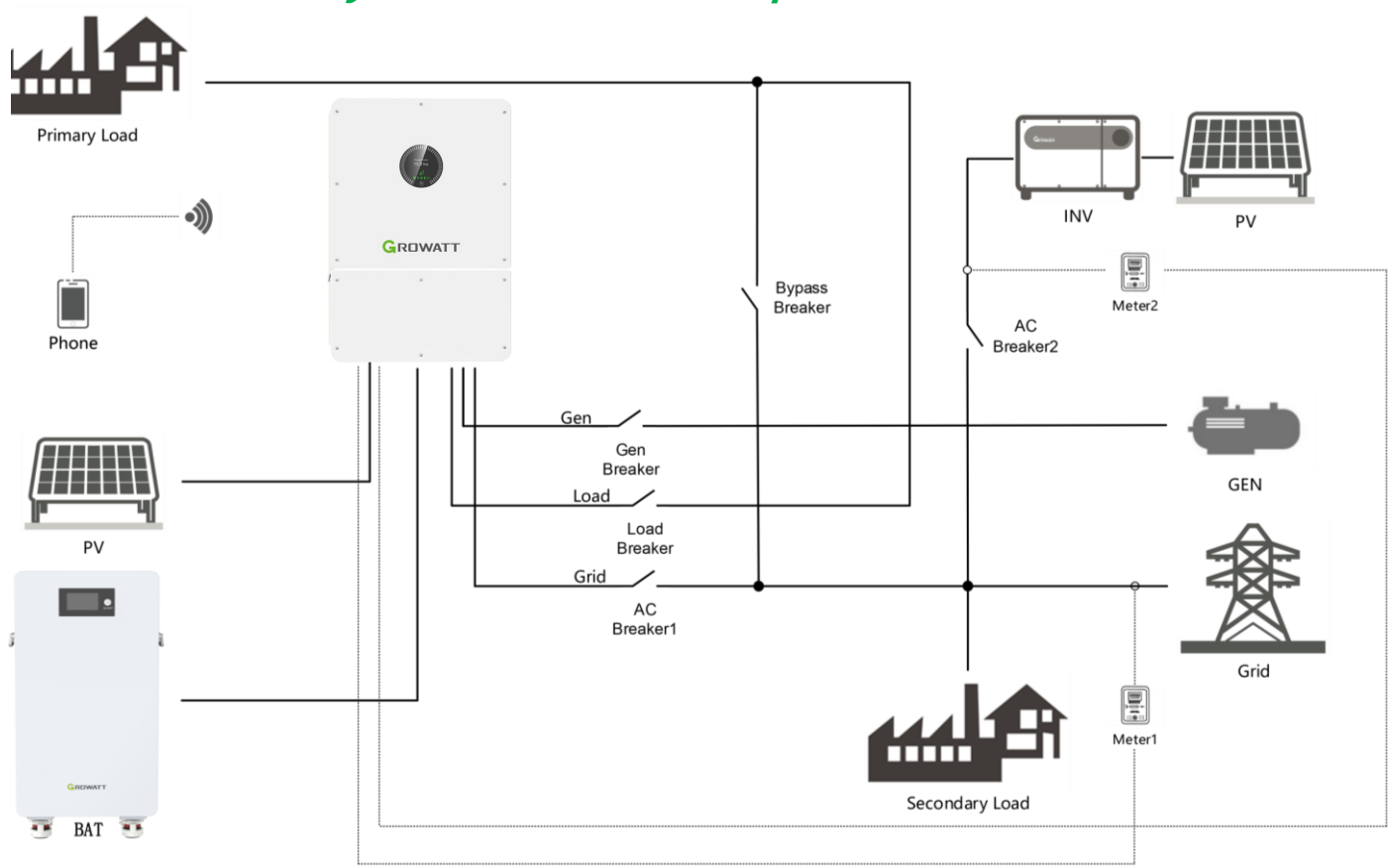
System Composition

- **Inverter:** WIT 10-15K-HU-L2
- **BAT:** HOPE 16.0LM-A1/A2 Battery
- **Generator**
- **Meter*2 / Meter+3CTs(Opt)**

Remark:

- The PV inverter is connected through the grid side;
- The PV inverter can be a third-party inverter;
- The PV inverter will not work when in off-grid operation.

Hybrid ESS for AC-Coupled on Grid Side Solution



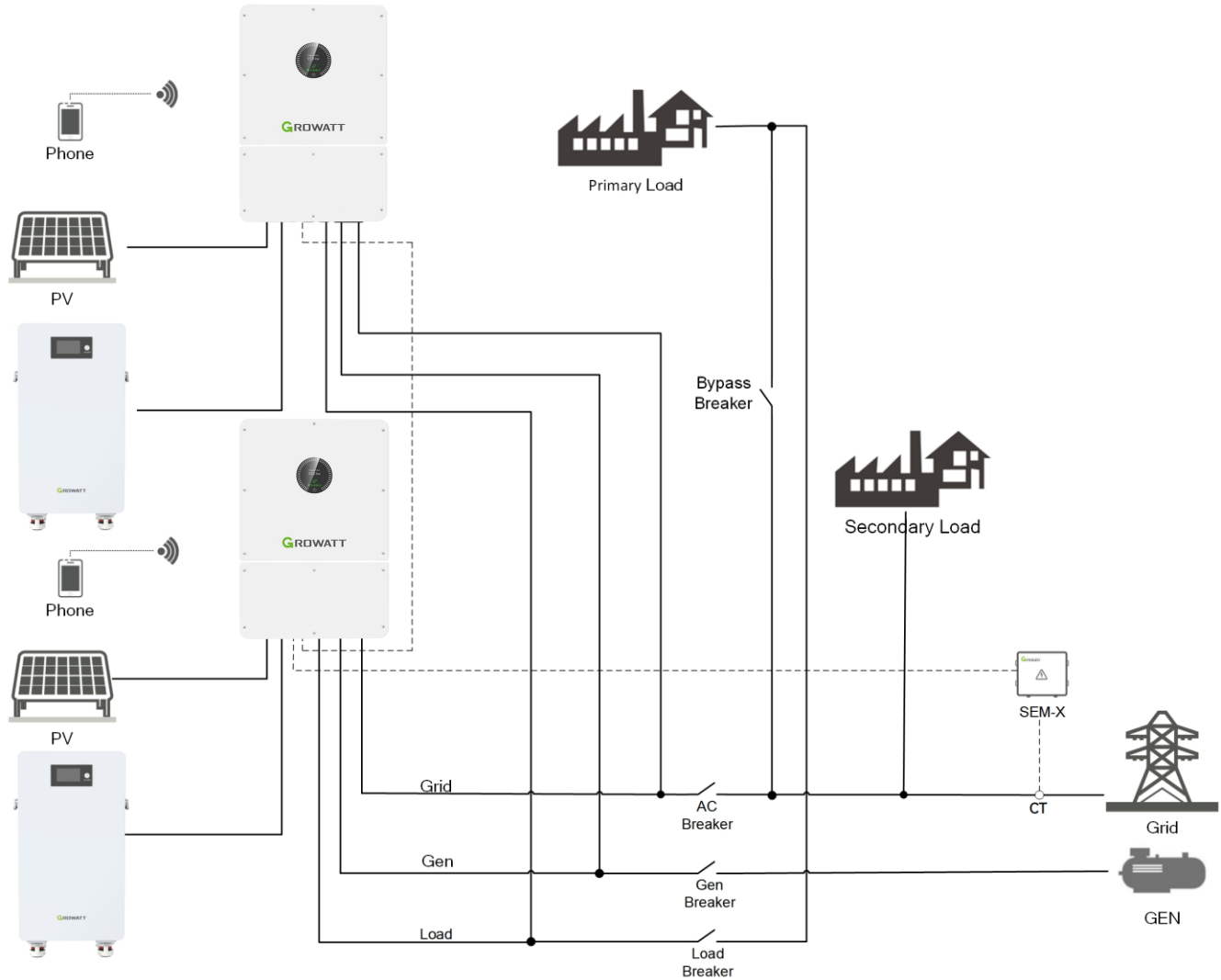
* A meter needs to be connected between WIT and PV inverter. The meter model is TPM-CT-E.

Solutions for WIT Application Scenarios

Application Scenario:

1. Relatively stable grid
2. On/Off-grid solution
3. Small C&I application

Hybrid ESS for Parallel



System Composition

- **Inverter:** WIT 10-15K-HU-L2*2
- **BAT:** HOPE 16.0LM-A1/A2 Battery*2
- **Generator**
- **SEM-X**
- **3*CT**

Remark:

- Up to 6 pcs inverter in parallel;
- Support in on/off-grid scenario;
- Meter is included in SEM-X.

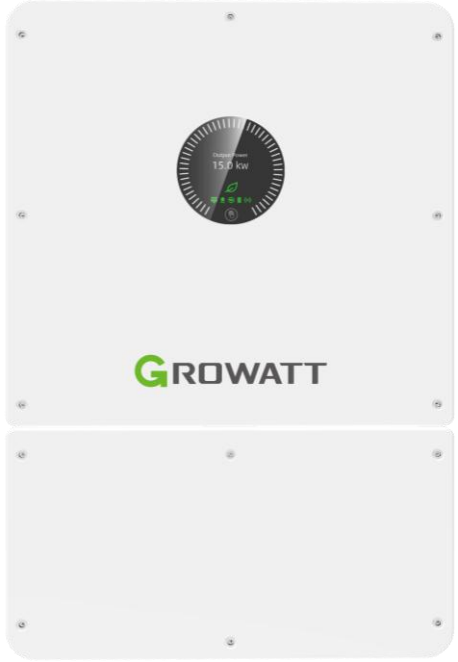
* Note: The inverter parallel function in the early stage can be achieved through remote upgrade.

03

Product Introduction



WIT Product Main Parameters



WIT 10-15k-HU-L2

Main Parameter

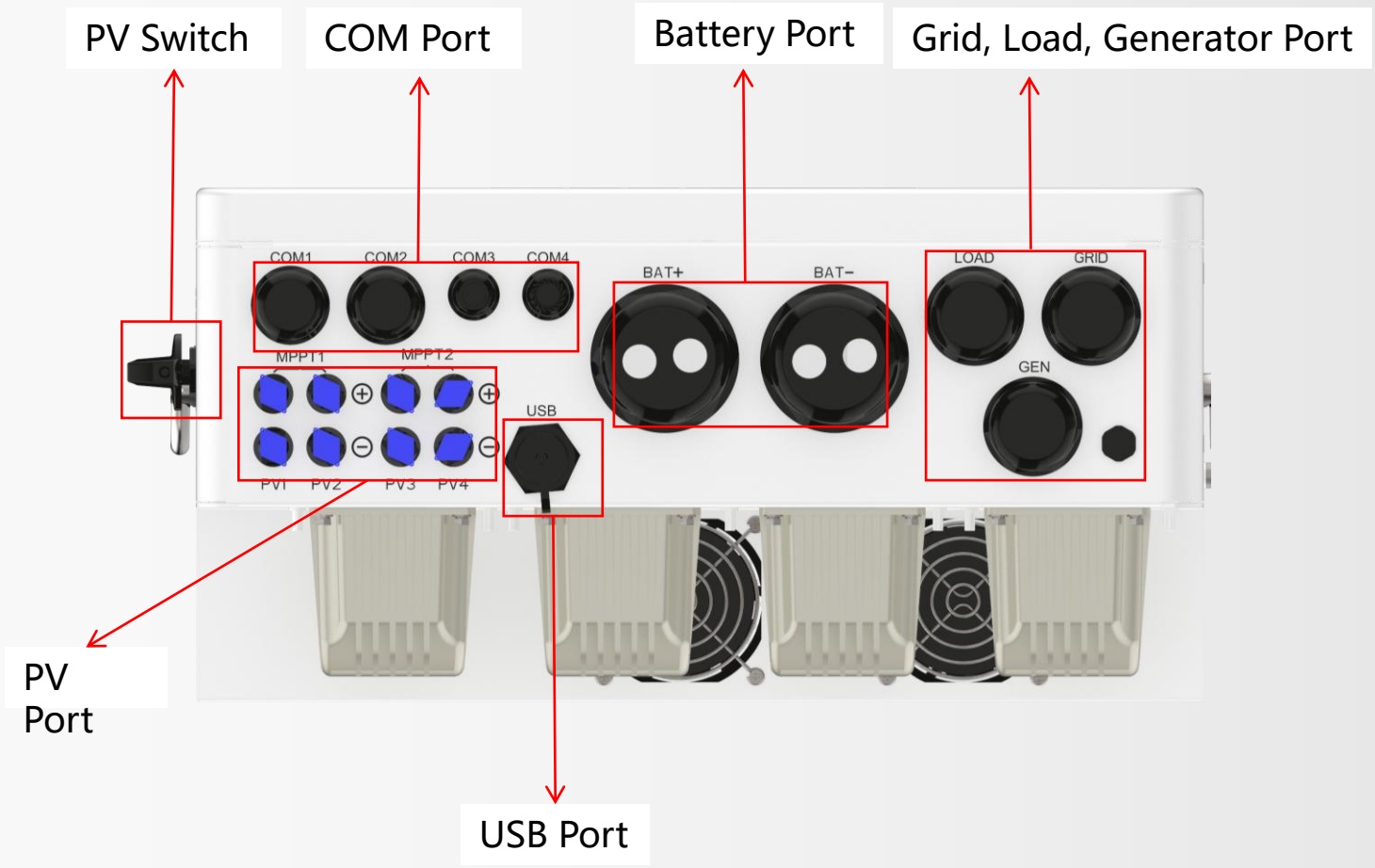
- **Product Model:** WIT 10/15k-HU-L2
- **Max. MPPT input voltage:** 630V
- **Max. input current per string:** 40A
- **Max. Output Power:** 20/30k
- **Nominal Output Power:** 10/15k
- **Nominal AC Voltage:** 208V/220V
- **Nominal AC Frequency:** 50/60Hz
- 100% three-phase unbalanced
- **AC Grid Connection Type:** 3P3W+PE or 3P4W+PE
- **Max. Efficiency:** 97.6%
- **Ingress Protection:** IP66
- **Wide Temperature Range:** -30°C ~ 60°C

WIT Product Appearance

Dimensions (W / H / D)
475/695/241mm



WIT 10-15K-HU-L2



Product Features

Higher Yields

- Up to 2.0 DC/AC Ratio
- Operating voltage range150V-850V
- String current 40A for high power modules
- Dual battery input port for two cluster of battery system in parallel
- Build-in PID recovery function

Safe and Reliable

- Fuse free design
- IP66 protection degree
- Type II/III SPD on DC/AC side
- Active ARC protection (AFCI)

AC Power Ability

- Support smart load function
- 100% unbalanced output: each phase up to 50% of rated power
- Support connect to GEN to supply the load and charge the battery

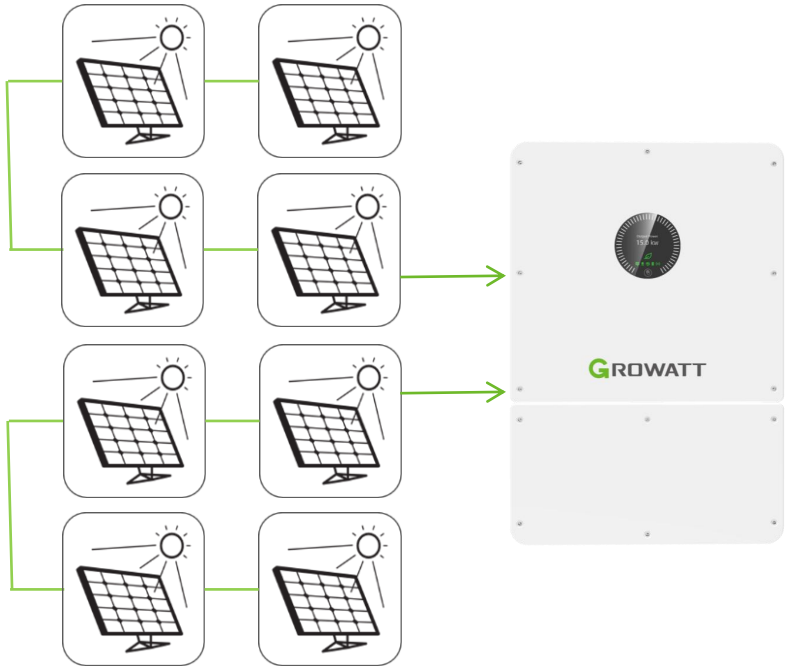
Smart and Flexible

- Compatible with ALP/AXE/Hope and third party battery
- Intelligent string monitoring
- Online monitoring and maintenance
- MODBUS TCP available

Excellent PV Side Performance Allows More PV Panels

WIT 10-15k-HU-L2

- Up to 2.0 DC/AC Ratio
- Max. PV input voltage up to 630V
- Max. string current up to 40A
- 3 string PV inputs for 12kW and 15kW model
- 4 string PV inputs for 17kW and 25kW model



Battery System

Growatt LV Battery



AXE 5.0L – C1

- IP20, 5.0kWh / Module
- Max Charge/discharge Current: 160A
- Max charge and discharge rate: 0.5C



ALP 5.0L-E2

- IP66, 5.0kWh / Module
- Max Charge/discharge Current: 130A
- Max charge and discharge rate: 0.7C



HOPE 16.0LM-A1/A2

- IP20, 16kWh / Module
- Max Charge/discharge Current: 150/200A
- Max charge and discharge rate: 0.7C

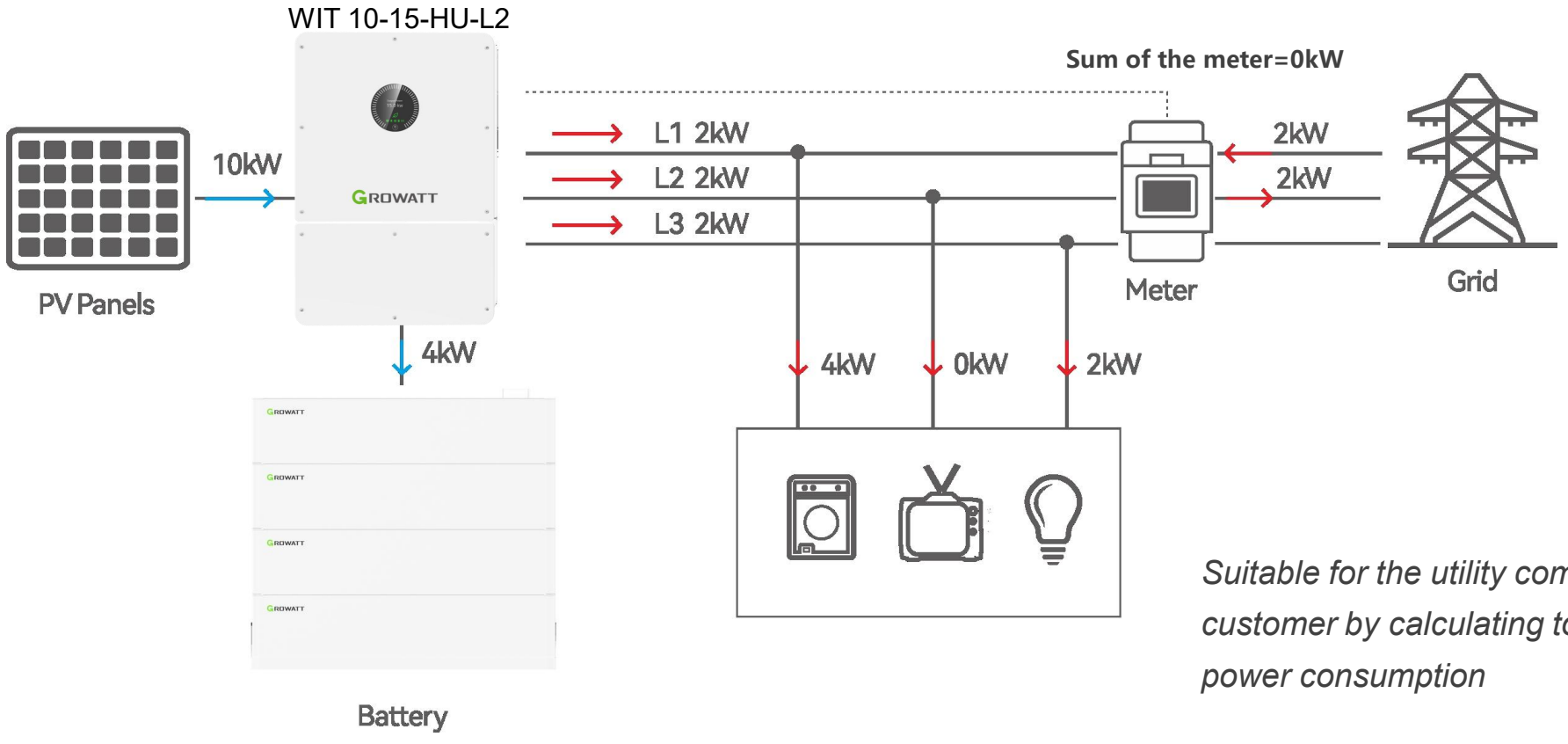


Hope 5.0L-B1

- IP20, 5.0kWh / Module
- Max Charge/discharge Current: 100A
- Max charge and discharge rate: 1C

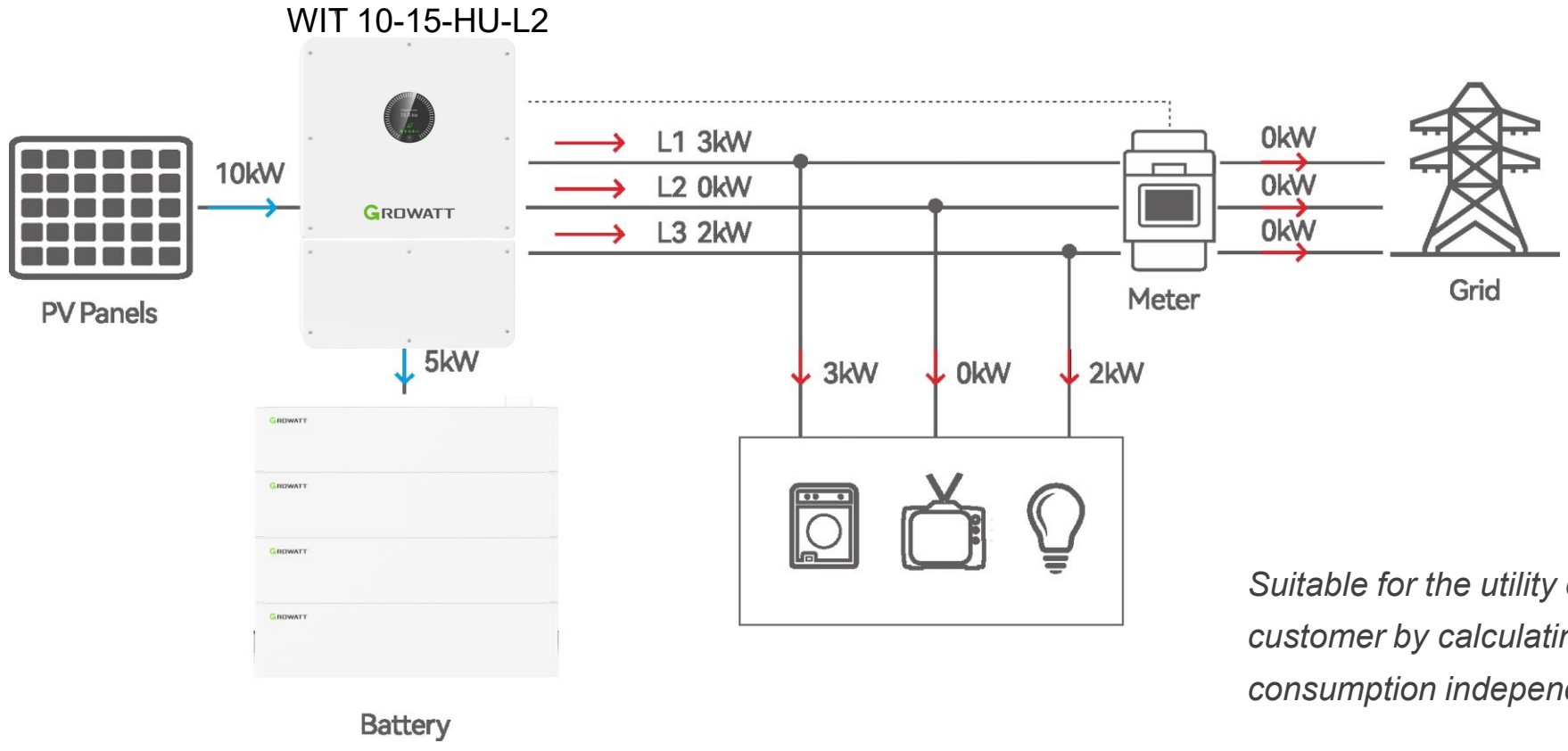
*WIT 4-25K-HU can also be matched with batteries from third-party manufacturers. For details, please contact the sales for consultation.

Standard Three-phase Power Control Basic Solution



Suitable for the utility company which charges customer by calculating total three phase power consumption

Smart Phase-level Power Control Basic Solution

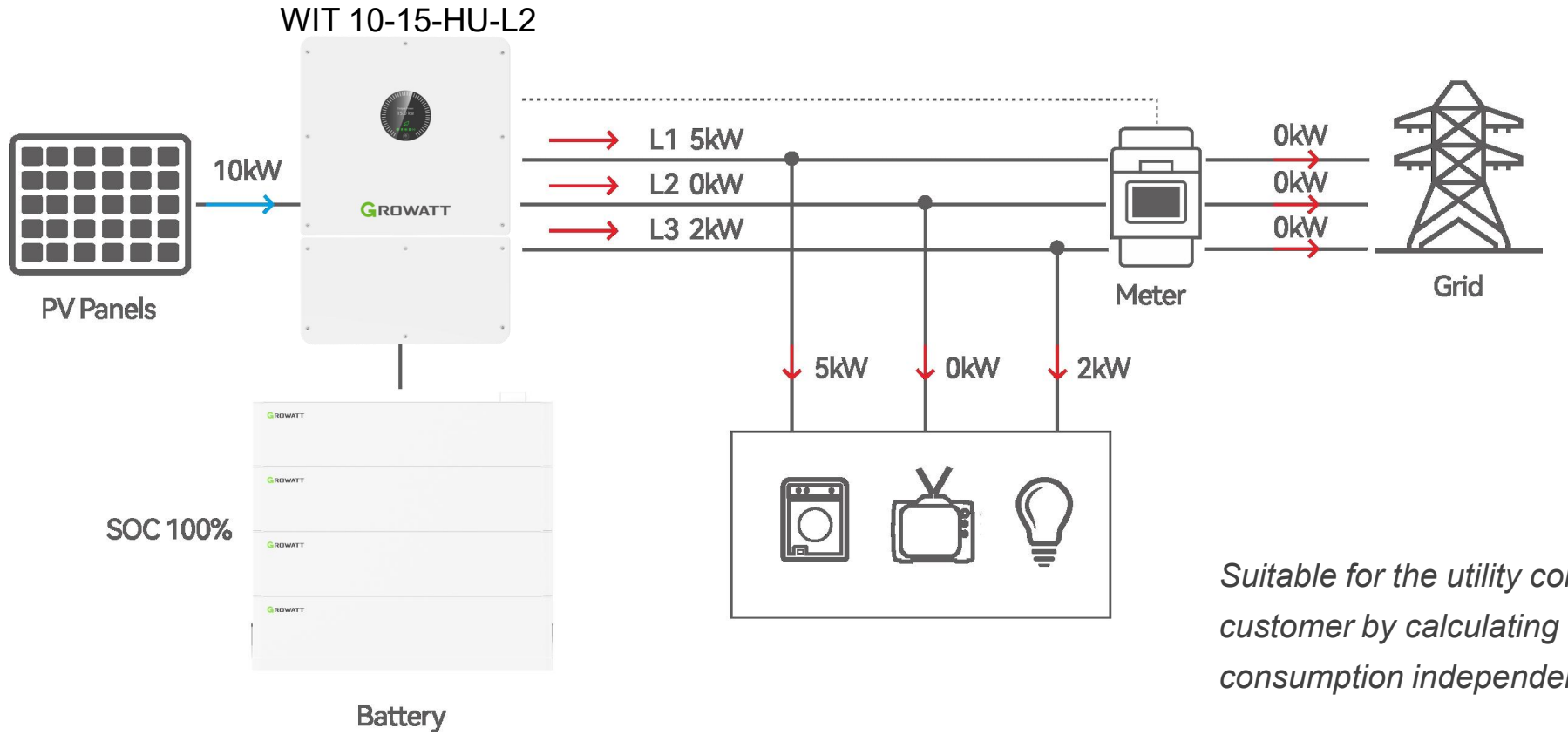


Suitable for the utility company which charges customer by calculating each phase power consumption independently

**The inverter will prioritize load output and not feed to the grid, and the excess power will be charged to the battery.

Three-phase 100% Unbalanced Output

Three-phase 100% Unbalanced Output and Smart Phase-level Export Limit Function

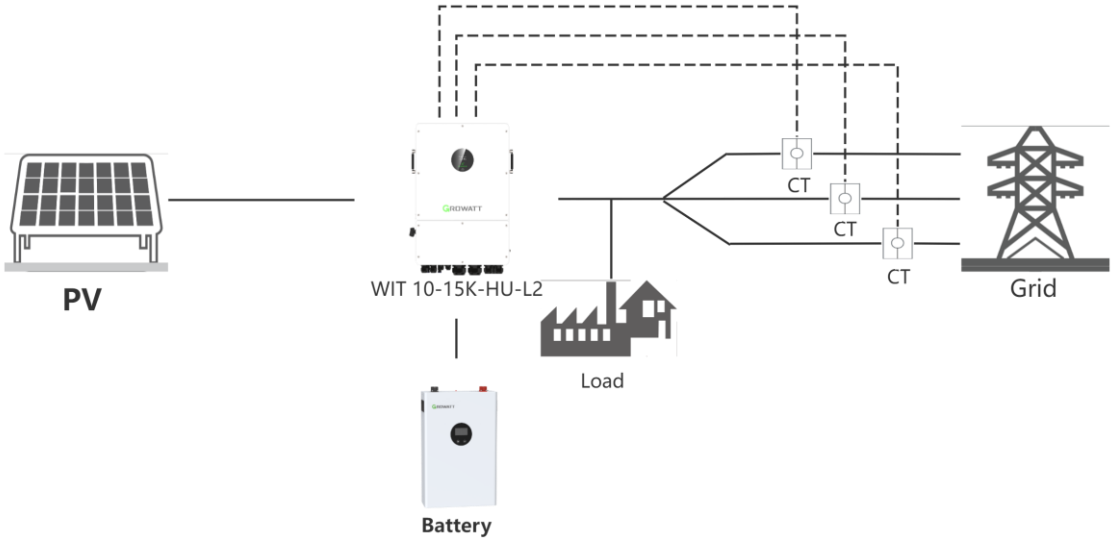


Suitable for the utility company which charges customer by calculating each phase power consumption independently

**Max. power output of single phase is 10/15kW, and the system will draw the power from the grid once exceeding it.

3 CTs Direct Connection

Cost-effective and Easy Installation Solution



- Supports 3 CTs direct connection
- Save system costs and reduce unnecessary expenses
- Easy to install, make the system more concise

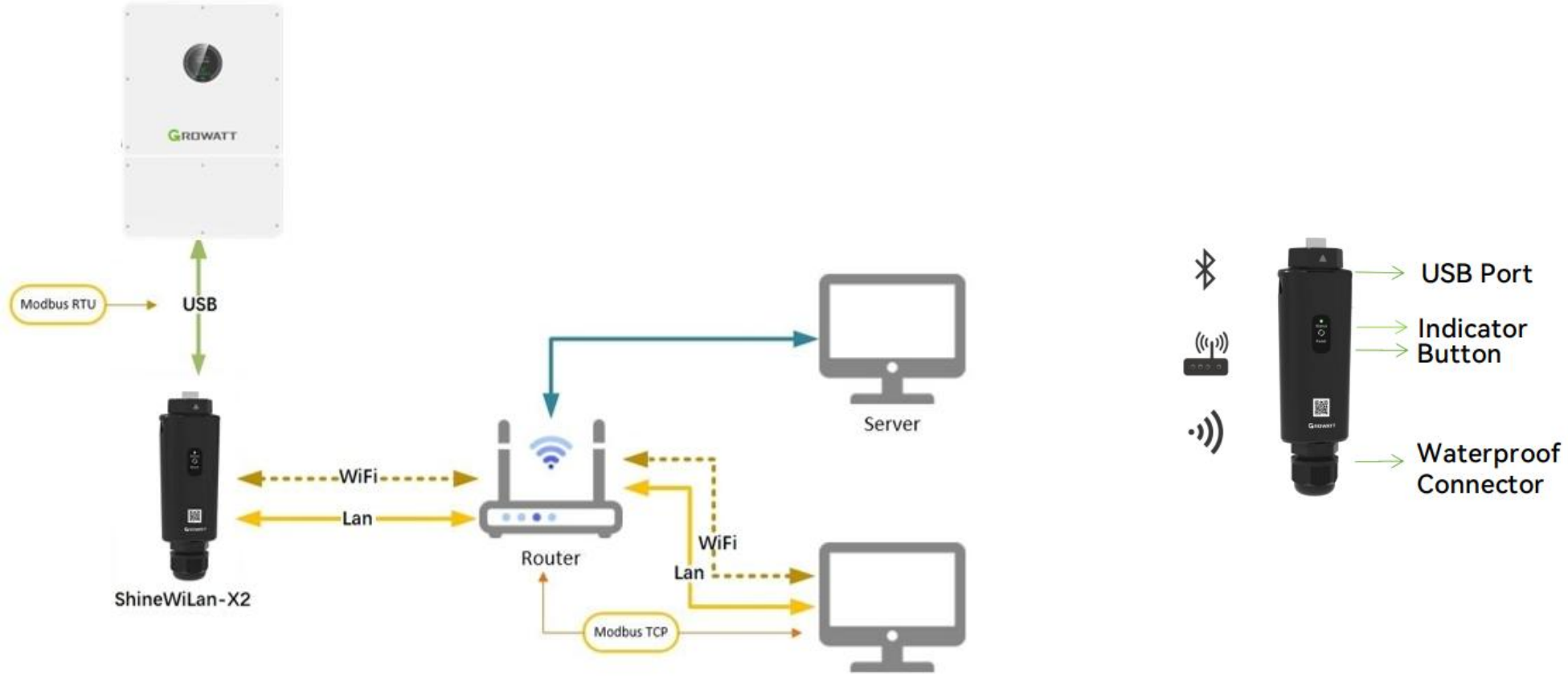
* WIT comes standard with 3 CTs. Customers can also purchase additional meters(TPM-CT-E) according to different needs.
**The CT direction is from grid to the load and supports remote correction when reversed.

04

Monitoring and Configuration



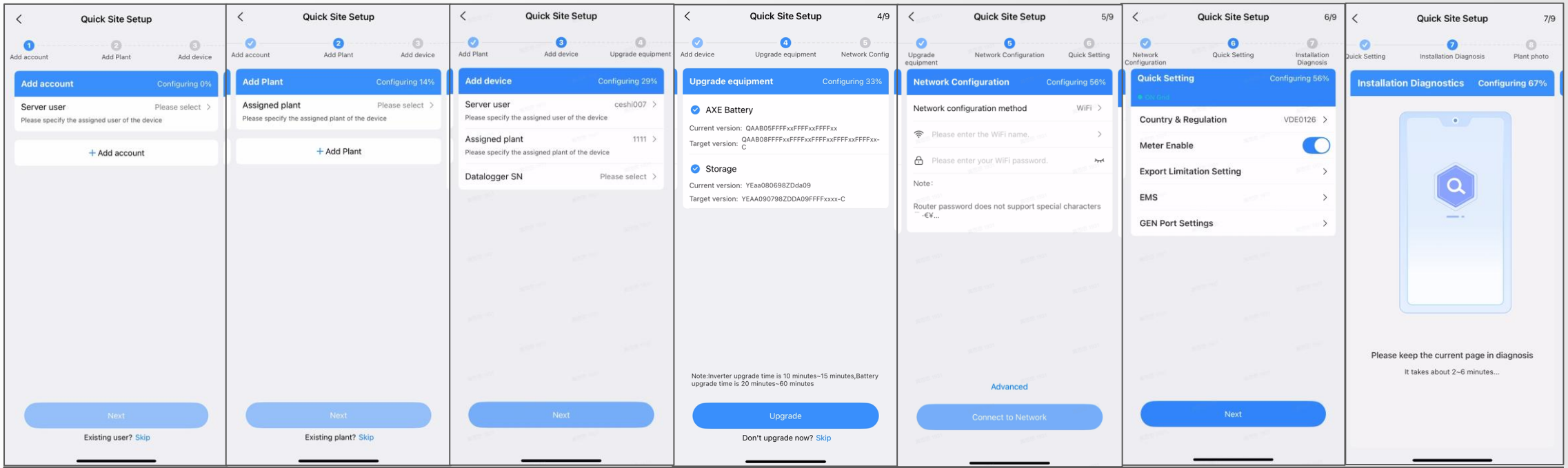
MODBUS TCP Available



- By using the newest software version, ShineWiLan-X2 could be used to support SCADA control based on MODBUS TCP protocol for the third party.
- The third party system is connected to the router through a LAN cable, the ShineWiLan-X2 is connected to the router through WiFi, and the ShineWiLan-X2 communicates with the inverter via the USB port, and the customer still needs to read and set the inverter values according to Growatt's inverter protocol registration table.

System Solution-Shinetools Quick Site Setup

Shinetools---Quick Site Setup



①Add account	②Add plant	③Add device	④Upgrade equipment	⑤Network Configuration	⑥Quick setting	⑦Installation Diagnosis

* This function of Shinetools is mainly for installers, and is used to quickly set up and upgrade the WIT system after installation on-site, as well as perform one - click diagnosis. It can more accurately assist installers in completing the installation and is also helpful for subsequent operation and maintenance.

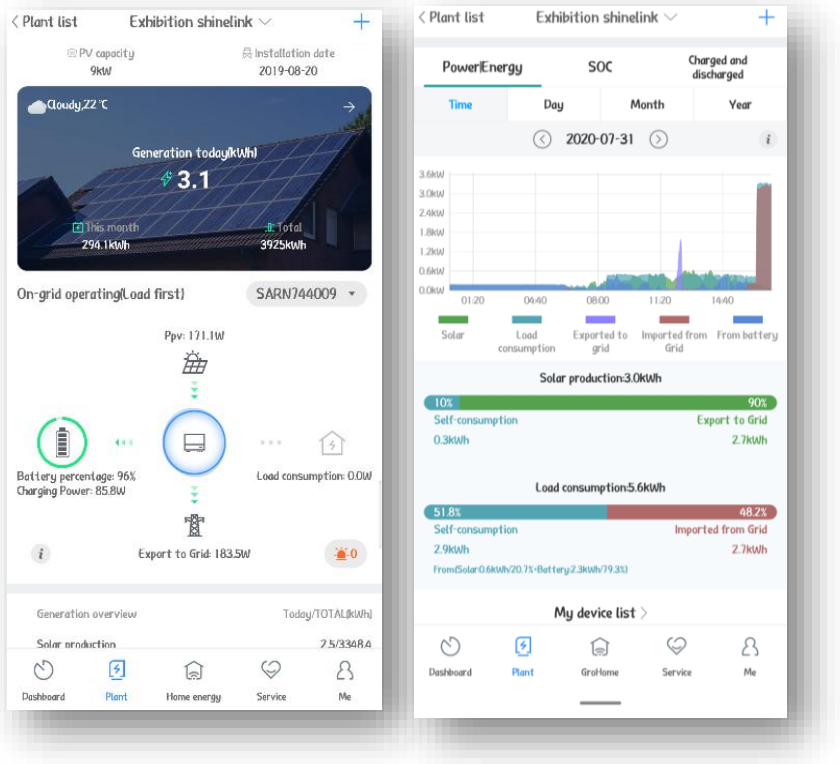
Online Smart Diagnosis



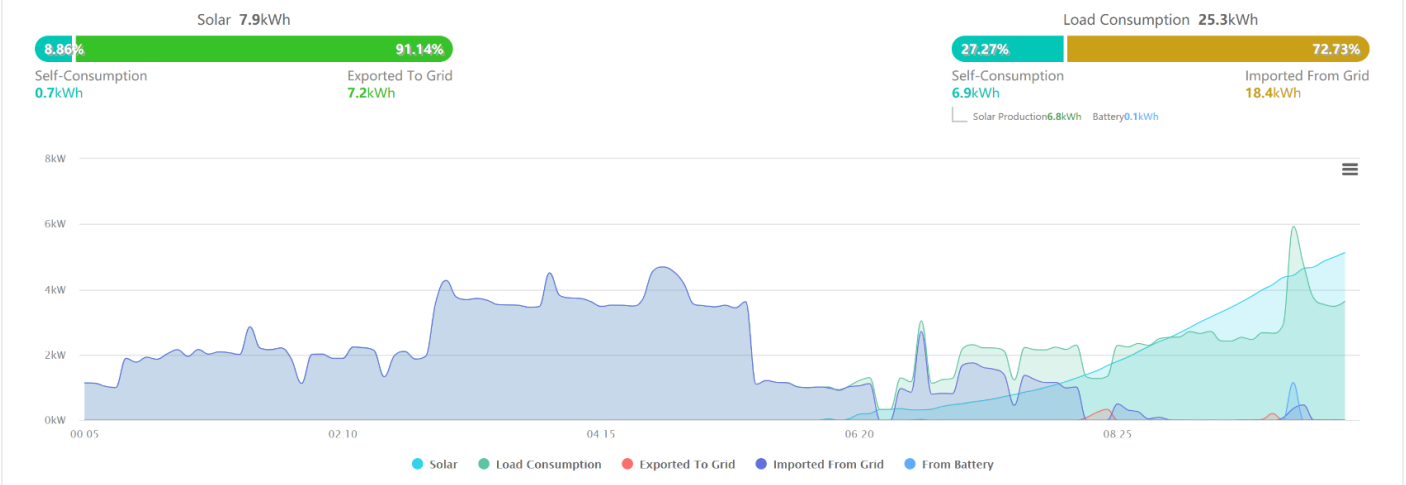
- One-click-diagnosis for solar input side, no need professional people or equipment
- Intelligent I-V curve detection, realizing intelligent operation and maintenance
- Accurate fault location and trouble-shooting guide

Smart Maintenance

Monitoring of Real-time data and system status.
Resumes transmission at break-points



ShinePhone App

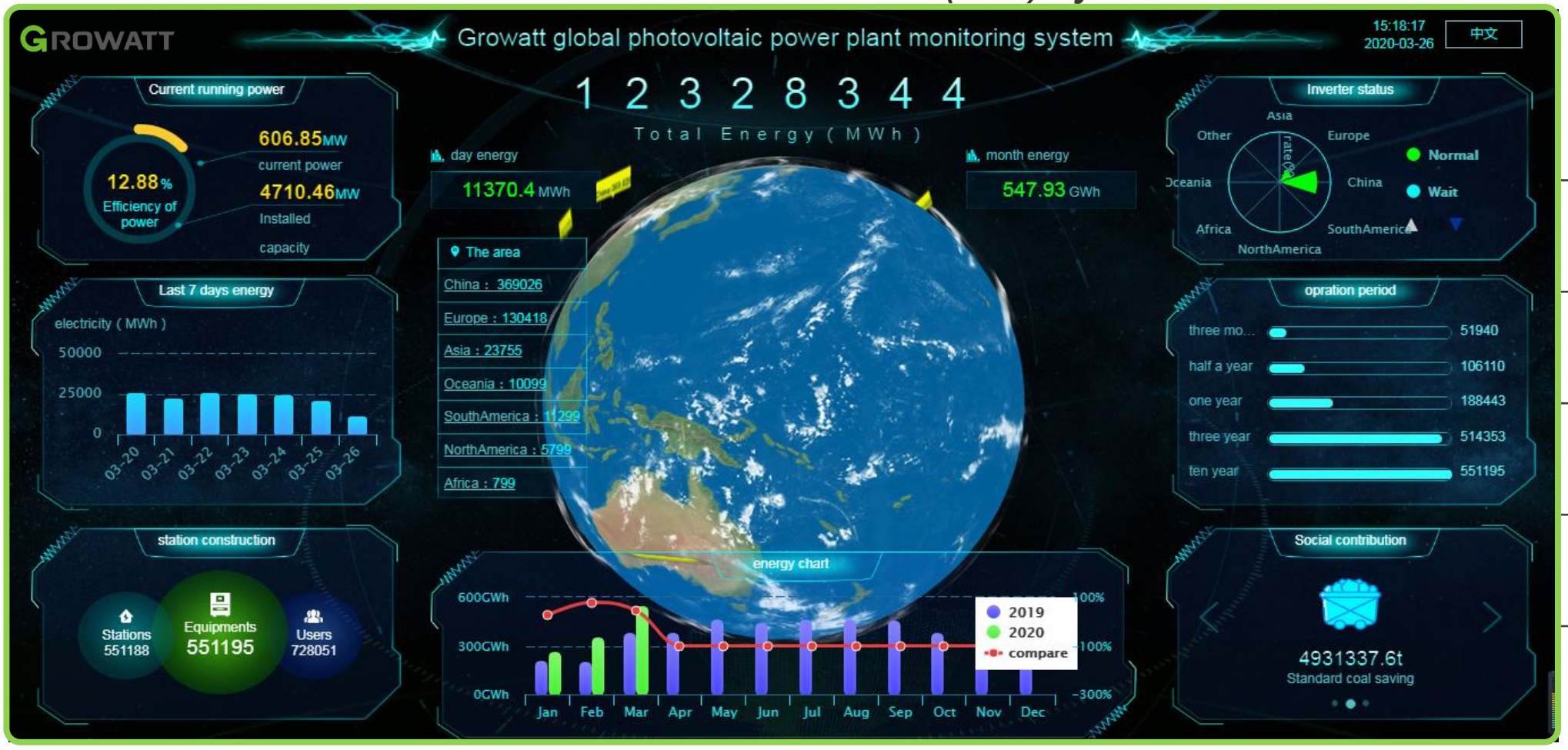


Server Monitor

Smart Maintenance

GROWATT

Online Smart Service (OSS) System



- Online failure reporting
- Remote parameter setting
- Remote firmware upgrading
- No need site travelling
- Reduce maintenance cost

Descripción del producto: batería de litio



Hope 16.0LM-A1

16 kWh/Módulo

Capacidad: 16 kWh ~ 768 kWh

Tamaño: 478/812/265 mm



Hope 5.0L-B1

5.0 kWh / Module

Capacidad : 5.0kWh ~ 240kWh

Tamaño： 440/480/130.5mm



Hope 5.0LW-B1

5.0 kWh / Módulo

Capacidad : 5.0kWh ~ 240kWh

Tamaño： 390/580/160mm

Descripción del producto: batería de litio



Hope 16.0LM-A1

16 kWh/Módulo

Capacidad: 16 kWh ~ 768 kWh

Tamaño: 478/812/265 mm



Hope 5.0L-B1

5.0 kWh / Module

Capacidad : 5.0kWh ~ 240kWh

Tamaño ： 440/480/130.5mm

Descripción del producto

GROWATT

Modelo	Hope 5.0L-B1	Hope 5.0LW-B1	Hope 16.0LM-A1
Energía total	5.12kWh	5.12kWh	16kWh
Usable energy	5.0kWh	5.0kWh	15.3kWh
Energía utilizable	**1 ~ 48** in paralelo	**1 ~ 48** in paralelo	1 ~ 48 in paralelo
Rango de voltaje nominal	51.2V (40-58.4V)	51.2V (40-58.4V)	51.2V (40-58.4V)
Máxima potencia de carga/descarga	5.12kW/5.12kW	5.12kW/5.12kW	7.68kW/**10.24kW**
Grado IP	IP 20	IP 20	IP 21
Temperatura de funcionamiento	Carga 0 ~ 55°C Descarga -20 ~ 55°C	Carga 0 ~ 55°C Descarga -20 ~ 55°C	Carga 0 ~60°C Descarga -20 ~ 60°C
Dimensiones (An. x Pr. x Al. mm)	440*480*130.5	390*580*160 (Diseño de montaje en pared)	478*812*265
Peso	43kg	43kg	126kg
Comunicación	CAN/RS485	CAN/RS485	CAN/RS485
Ciclo de vida de la batería	>6000 (25°C, 0.2C,)	>6000 (25°C, 0.2C,)	>6000 (25°C, 0.5C,)
Garantía	5 años	5 años	5/10 años

Características principales

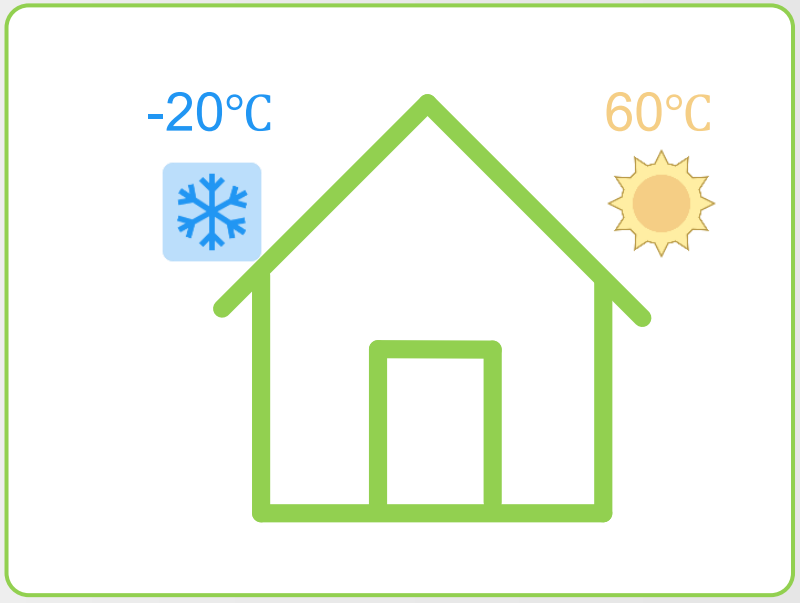
Tamaño compacto y fácil instalación

43kg/5.0Wh



Amplio rango de temperatura de trabajo

Temperatura de funcionamiento : -20℃ ~ 60℃



Características principales

Enfriamiento natural

Refrigeración natural que proporciona una eficiencia óptima y un ambiente doméstico tranquilo.



Diseño modular

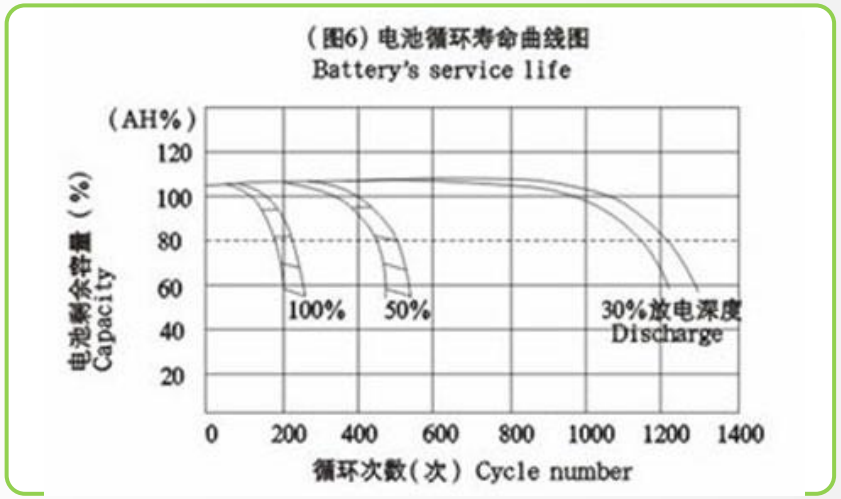
Diseño modular flexible para instalación y expansión de capacidad.



Características principales

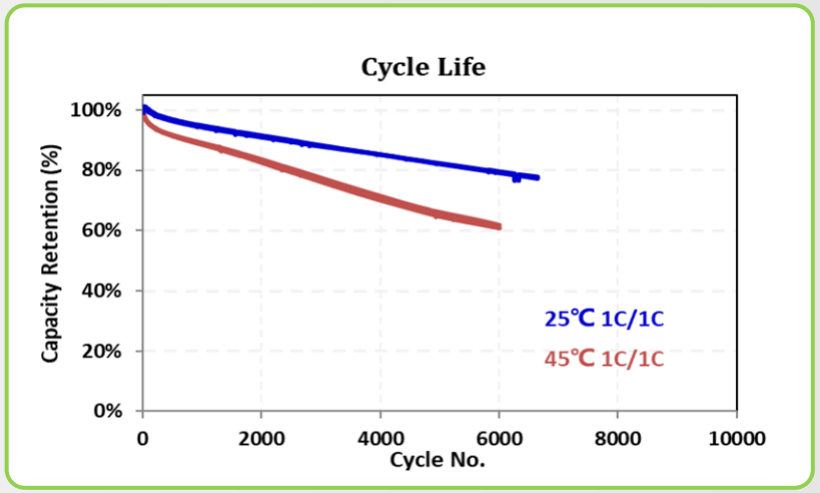
Comparación del ciclo de vida con la batería de plomo-ácido

Batería de plomo-ácido



Ciclo de vida 300-500 @60%DoD

Batería de iones de litio



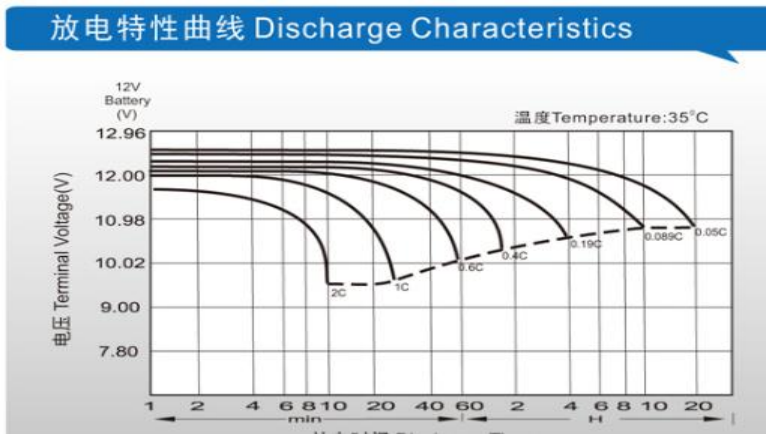
La vida útil del ciclo será de hasta **6000**

@60%SOH

Características principales

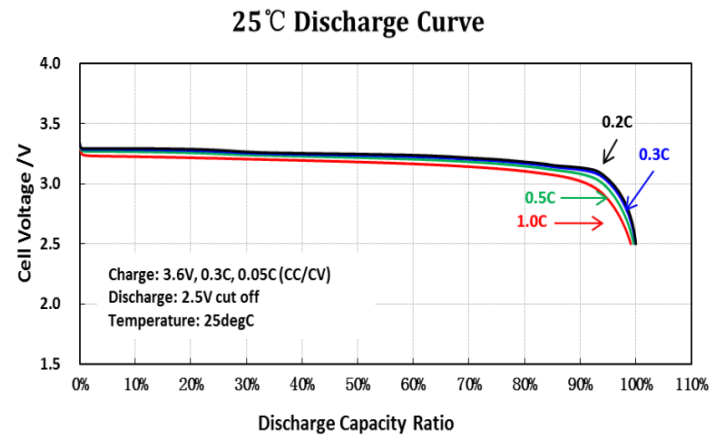
Relación de descarga en comparación con la batería de plomo-ácido

Batería de plomo-ácido



Solo 40% DOD @ 1C relación de descarga

Batería de iones de litio



100% DOD @ 1C relación de descarga

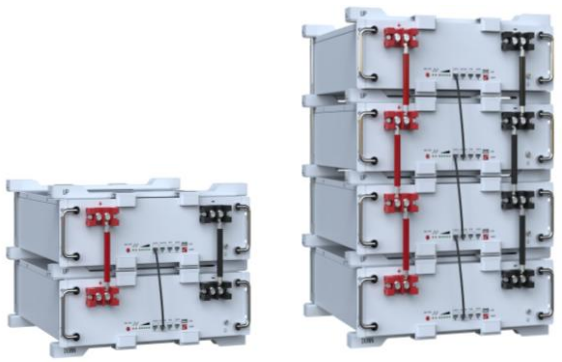
Energía útil de una batería de 1 kWh

Plomo-ácido 0,4 kWh vs. Li-ion 1 kWh

Características principales

Espacio de instalación más pequeño

Batería de iones de litio



Alta densidad energética y tamaño compacto, diseño modular para ahorrar espacio de instalación.

Batería de plomo-ácido



El diseño de baja densidad energética necesita más espacio de instalación

Flexibilidad del sistema

Expansión de capacidad flexible

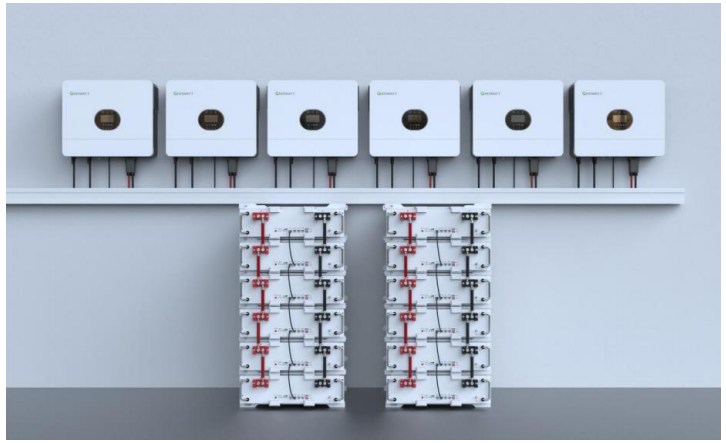








Máximo 6 módulos en paralelo para kit de batería serie Hope, pantalla de visualización (opcional)



Sistema máximo de 12 módulos en paralelo (66 kWh) para batería Hope 5.5L-A1



Sistema máximo de 48 módulos en paralelo (240 kWh) para batería Hope 5.0L-A1

Flexibilidad del sistema

Instalación flexible



Montado en la pared



En la tierra

Máx. 48 módulos en paralelo para batería Hope serie 14.3L-A1, accesorio de rueda opcional

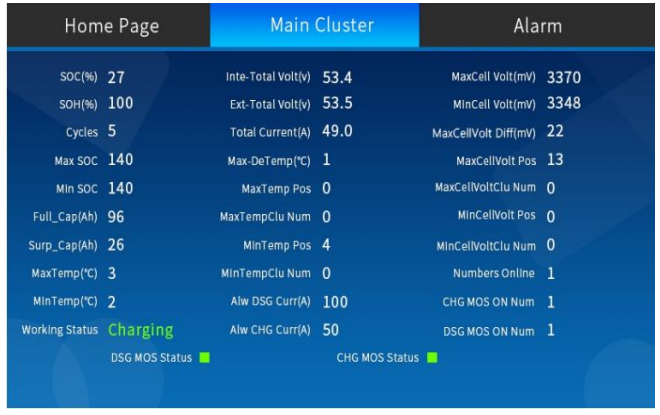
Flexibilidad del sistema

Pantalla LCD adicional











Se puede ver la información de cada grupo de baterías, módulo de batería y celda, y la tarjeta SIM incorporada puede registrar la información de la batería.

Thanks!

www.ginverter.com

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