

Guard Plus Residential Energy Storage System

Powering solutions™

SENMARCK ENERGY

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GUARD PLUS

Powering Your Green Energy Needs



Smart Solution

Flexible With Different Power Demand

- ▶ 3.6/5kw Hybrid single phase inverters, up to 20kWh energy storage system
- ▶ Designed for residential energy demand
- ▶ Multiple work modes, self-consumption & battery priority, load shifting, peak shaving
- ▶ Free App to monitor power flow status
- ▶ One Call for after-sales service

Smart Residential Hybrid Solar Inverter

97% PV Efficiency
Dual MPPT Tracker

AC/DC Surge Protection
APP Remote Control

IP65 Protection for Inverter & Battery Pack

Stacked Module Design
Easy Installation



GUARD PLUS RESIDENTIAL ESS

All-In-One Solution

- ▶ World Number one CATL LFP battery, Higher Energy Density, Comprehensive fire test & shock tests
- ▶ 10000 Cycles, CATL battery with Longer Cycle Life, Ten years performance warranty
- ▶ Real-time online 24/7 Monitoring by APP or PC WebSmart Home System
- ▶ Hybrid inverter, easy set up for self-consumption and Battery Priority, Load Shifting and Peak Shaving , suitable for retrofit and PV expansion
- ▶ Easy Installation, Integrated modular design and quick plug connection



TOP QUALITY

5 Years product warranty, plug and play modular design, up to 20kWh storage capacity



Plus Hybrid Inverter

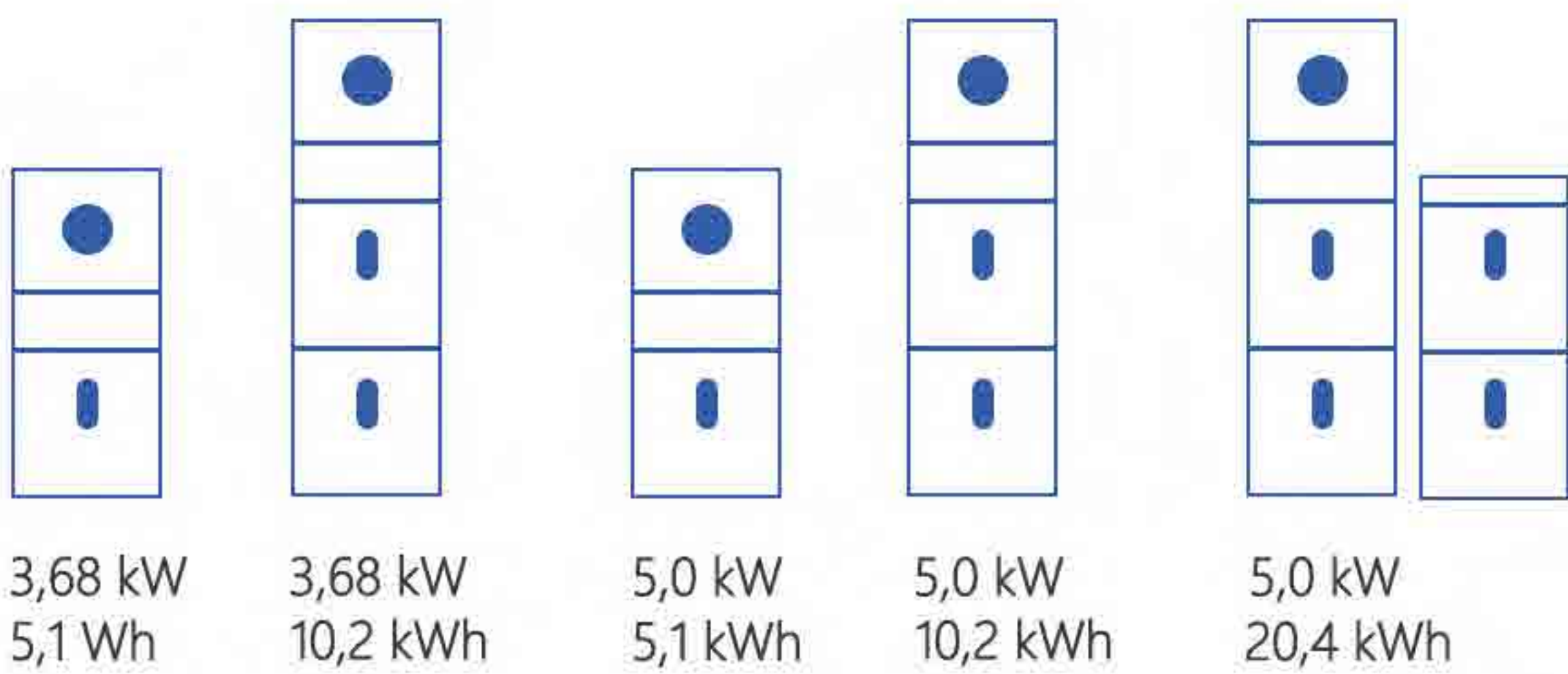


Cable Box



Guard Plus -Pack 5.1
Storage Capacity Expandable to 20kWh

Flexible All-in-one Modules Combination

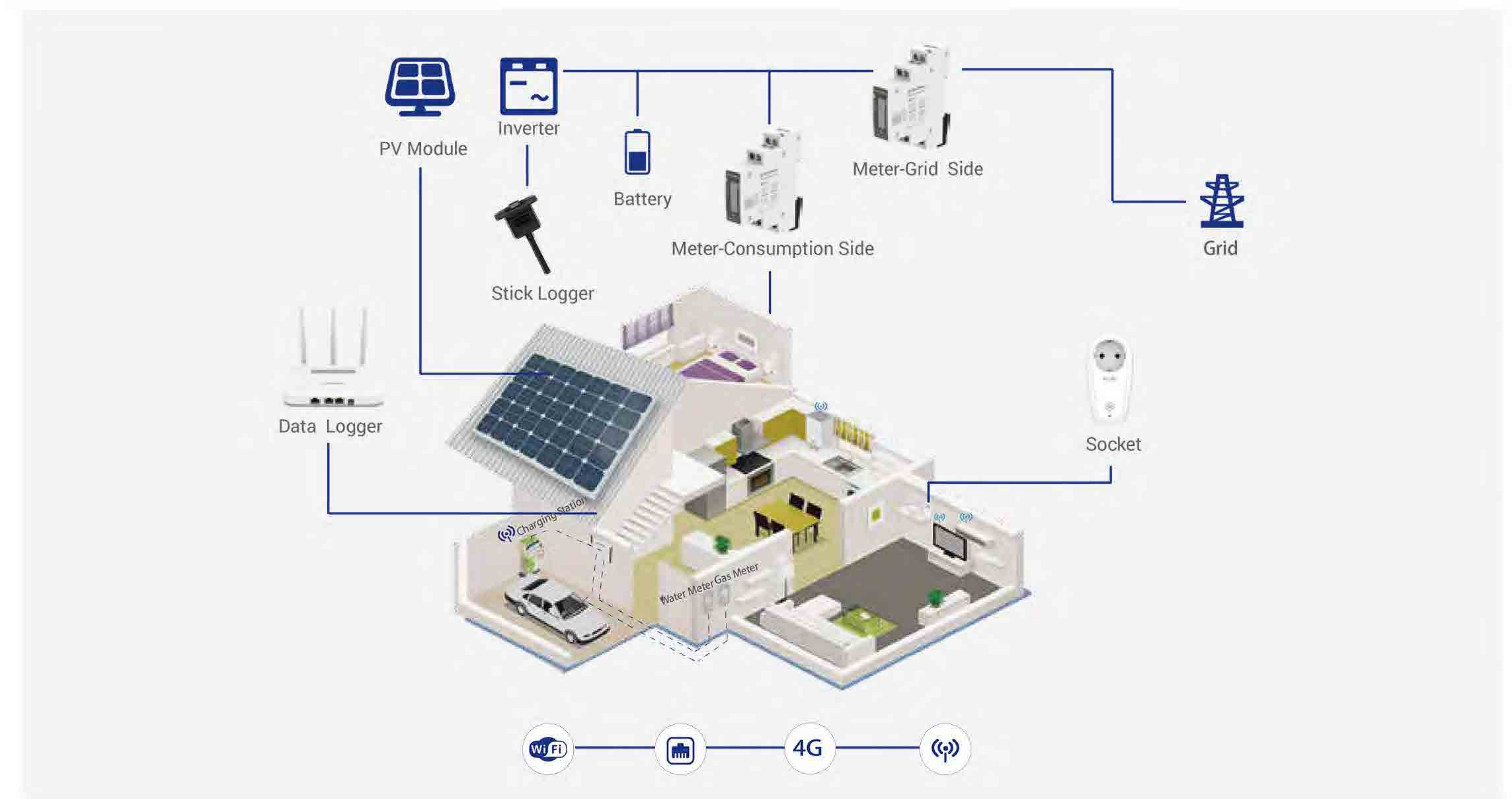
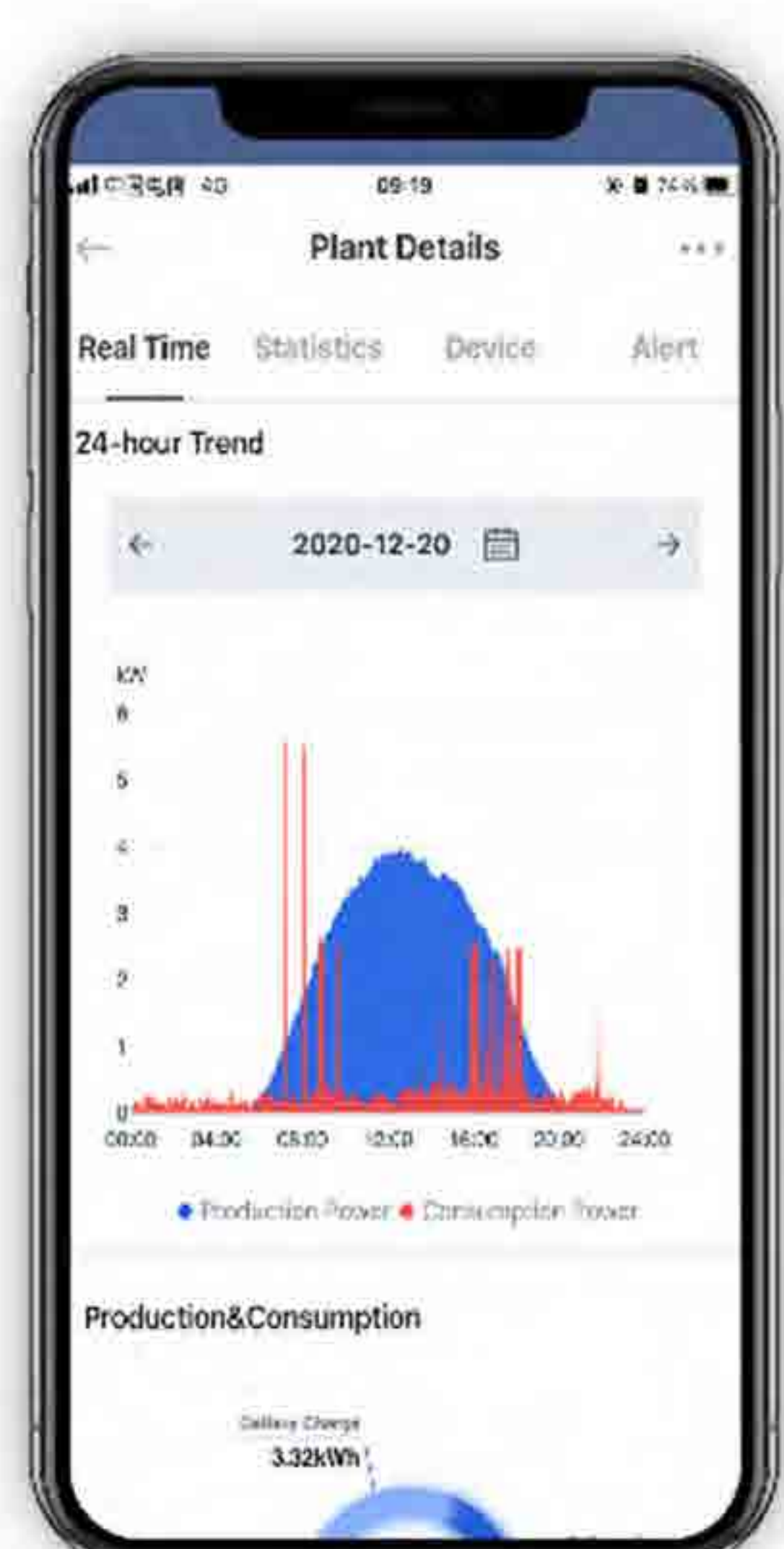
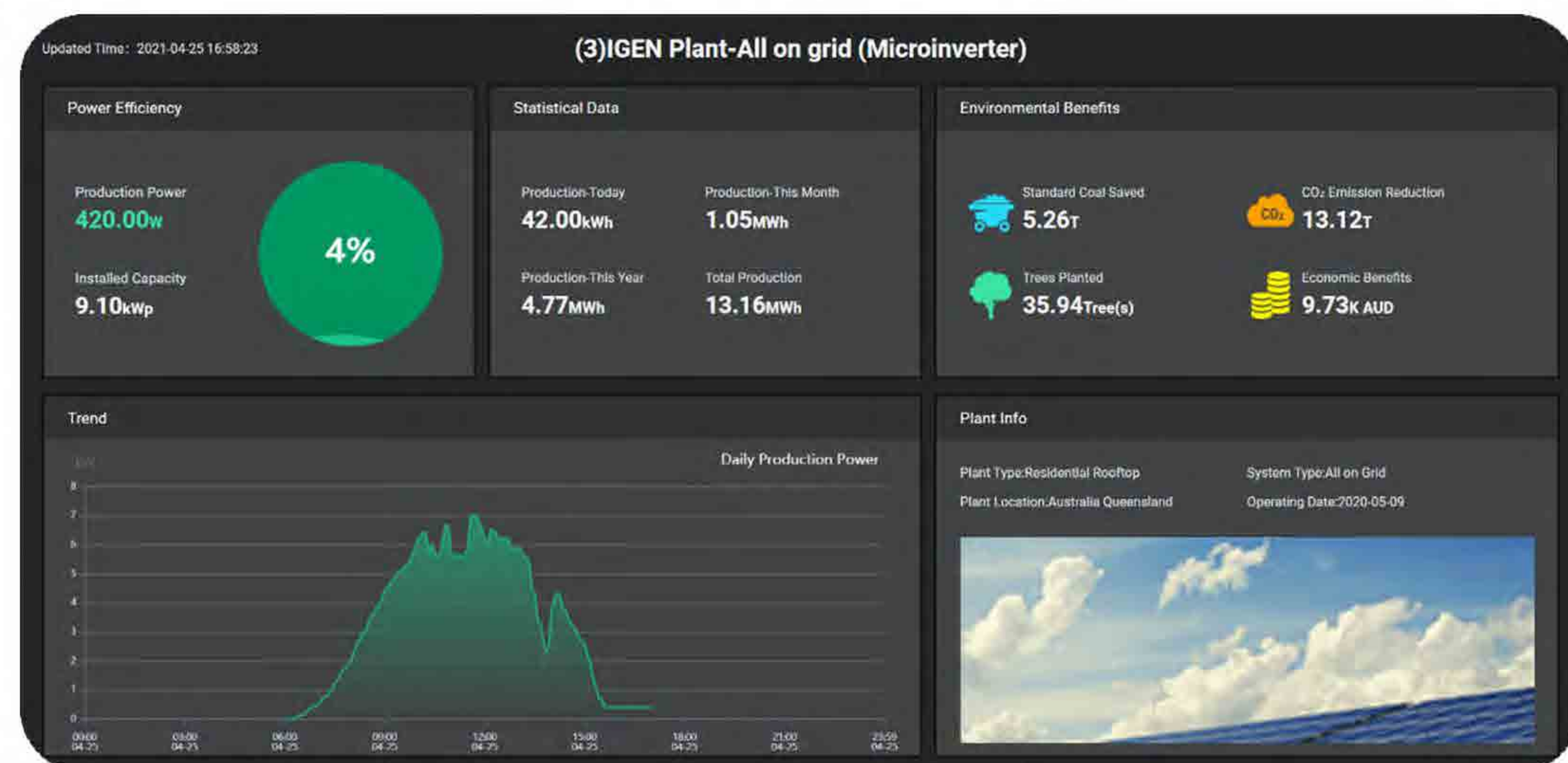
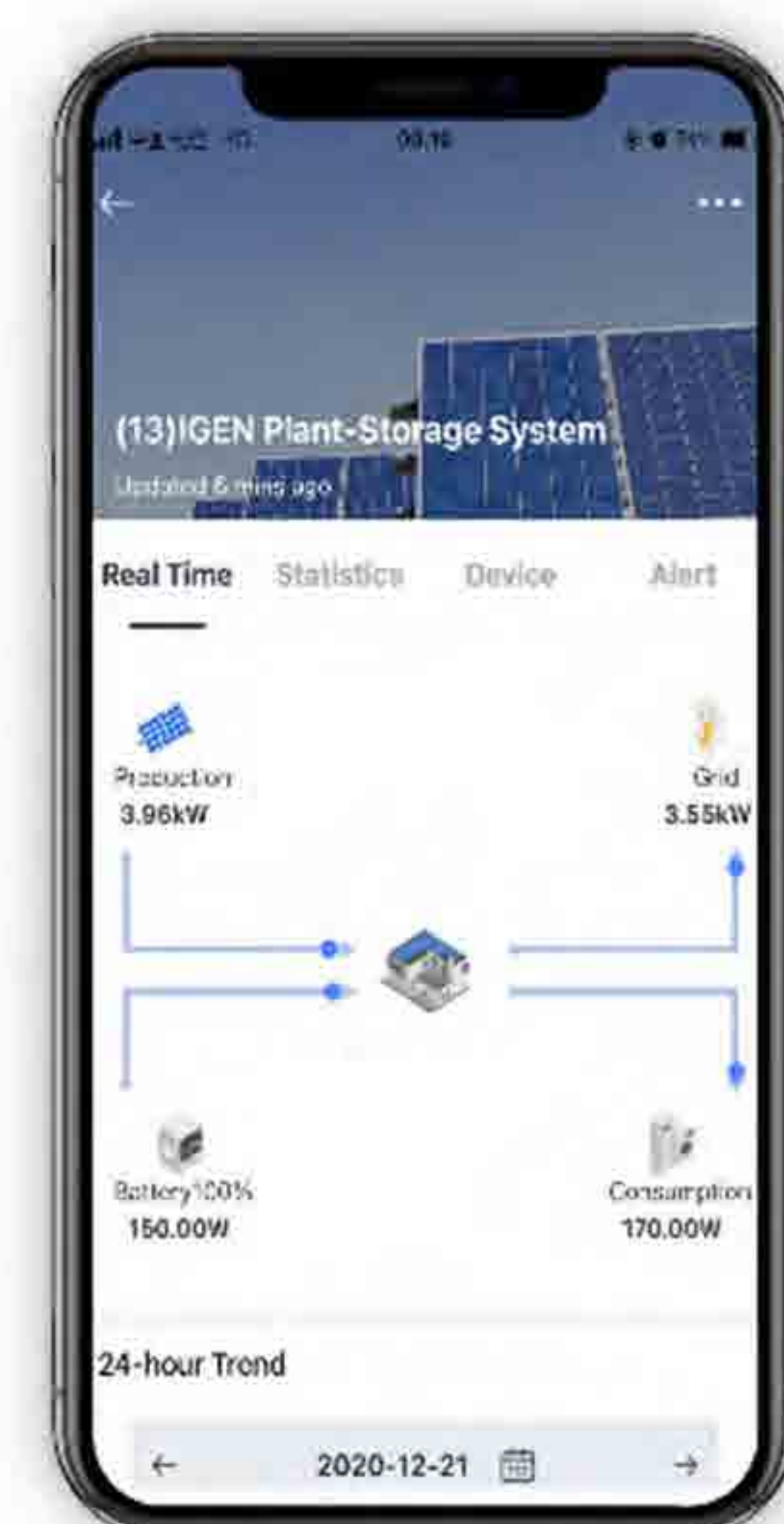
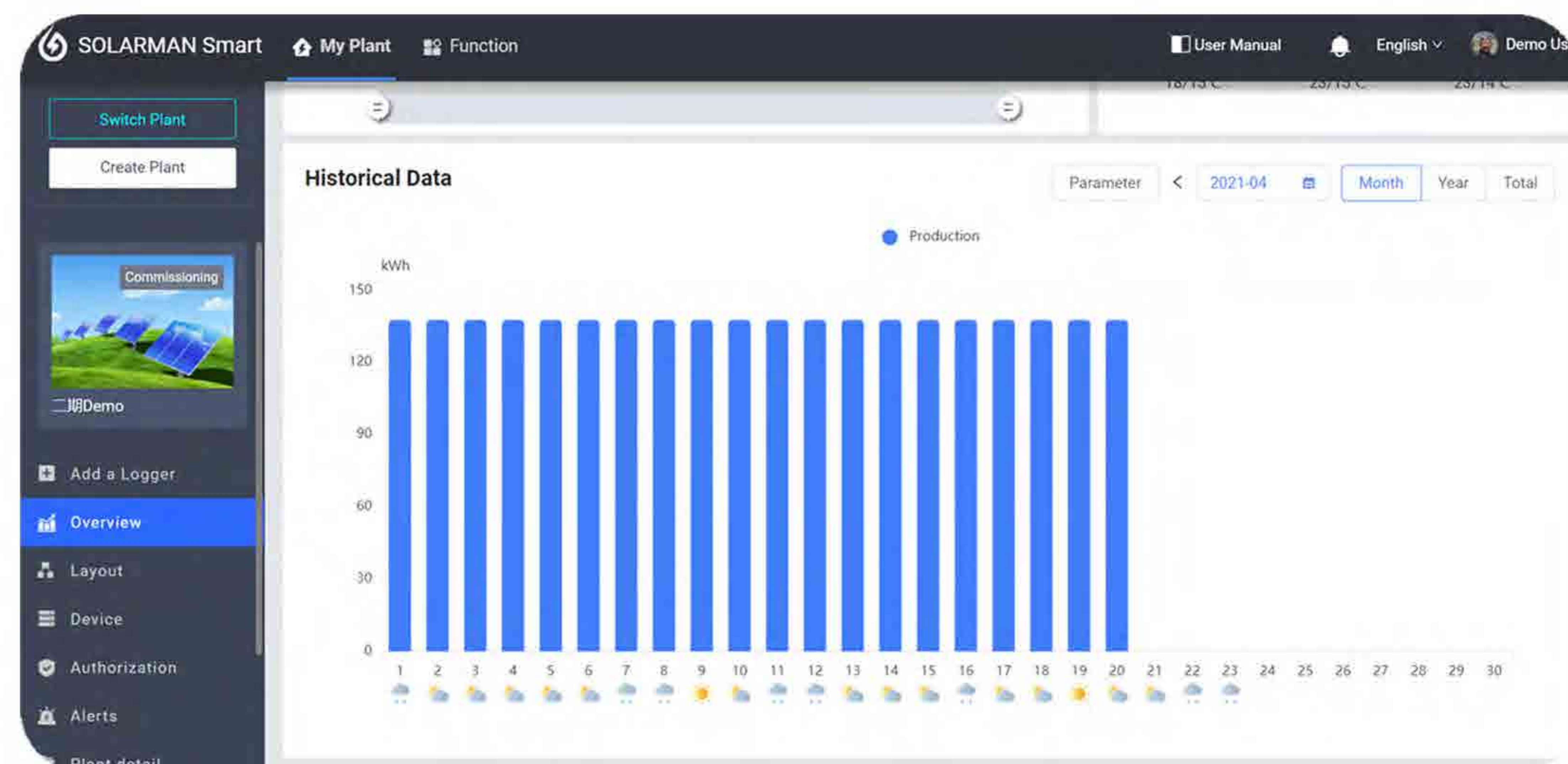


Energy Management System

- Solarman Smart Home System of GUAD PLUS ESS is an open protocol monitoring platform. It helps operators to monitor a diverse range of PV plants.
- It carries extensive data processing, notifications and maintenance functions, supports the PV operators to manage the generation of energy efficiently and comfortably.

Online Monitoring

WiFi Plug or 4G Plug optional, Real-time online monitoring from anywhere at anytime by APP or PC Web



Guard Plus Residential ESS

All-In-One Energy Storage System



GUARD PLUS

Products Specifications

Battery Model		Guard Plus-Pack5.1	
Physical		Operation	
Battery Type	LFP (LiFePO4)	Max. Charge/Discharge Current	50A/80A
System Weight	58KG	Rated DC Power	4096W
Dimension (W x D x H)	540*500*240mm	Max. Charge/Discharge Power	2825W/4096W
IP Protection	IP65	Operating Temperature Range	0 to 50°C charging -10 to 50°C discharging
Warranty	5 Year Product Warranty, 10 Year Performance Warranty	Humidity	0~95% (No condensation)
Electrical		BMS	
Energy Capacity	5.12kwh	Modules Connection	4
Usable Capacity	4.6kwh	Capacity	100-400Ah
Depth of Discharge (DoD)	90%	Power Consumption	<2W
Nominal Voltage	51.2V	Communication	CAN & RS485
Max. Short-circuit Current (Fuse)	125A	Monitoring Parameters	System voltage, current, cell voltage, cell temperature, PCBA temperature measurement
Operating Voltage Range	44.8-56.5V	Certificate	
Internal Resistance	<20mΩ	Safety(Cell)	Pack: IEC/EN 62619;UN38.3 Cell: IEC/EN 62619;UN38.3;UL1973
Cycle Life	10000cycle		

*Maximum 4 battery pack in parallel.

Hybrid Inverter Model	Guard Plus-3680E	Guard Plus-5000E
PV String Input		
Max. DC Voltage	580	580
Nominal Voltage	400	400
MPPT Voltage Range	80V-560V	80V-560V
Start Voltage	130V	130V
Number of MPP Tracker	2	2
Strings Per MPP Tracker	1	1
Max. Input Current Per MPPT	15A	15A
Max. Short-circuit Current Per MPPT	18A	18A
AC Output (Grid)		
Nominal AC Output Power	3680W	4999W
Max. AC Apparent Power	7360VA (from grid)	7360VA (from grid)
Max. AC Output Power	3680W	4999W ¹
Nominal AC Voltage	230Vac	230Vac
AC Grid Frequency Range	50 / 60Hz±5Hz	50 / 60Hz±5Hz
Max. Output Current	16A	22A ²
Max. Input Current	32A	32A
Power Factor (cosφ)	0.8leading-0.8lagging	0.8leading-0.8lagging
THDi	<3%	<3%
Battery Input		
Battery Type	LFP (LiFePO4)	LFP (LiFePO4)
Nominal Battery Voltage	48V	48V
Max. Charging Voltage Range	40-60V	40-60V
Max. Charging Current	50A	100A
Max. Discharging Current	80A	100A
Battery Capacity	100-400Ah	100-400Ah
Charging Strategy for Li-Ion Battery	Depend on the BMS	Depend on the BMS
AC Output (Backup)		
Max. Output Apparent Power	4000VA	5000VA
Peak Output Apparent Power	6900VA 10sec	6900VA 10sec
Max. Output Current	16A	20A
Nominal Output Voltage	230V±0.2%	230V±0.2%
Nominal Output Frequency	50/60Hz±0.2%	50/60Hz±0.2%
Output THDv (@Linear Load)	<2% (Linear Load)	<2% (Linear Load)
Efficiency		
Max. PV Efficiency	97.6%	97.6%
Euro. PV Efficiency	97.0%	97.0%
Protection		
DC Switch	Bipolar DC Switch (125A/Pole)	Bipolar DC Switch (125A/Pole)
Anti-islanding Protection	Yes	Yes
Output Over Current	Yes	Yes
DC Reverse Polarity Protection	Yes	Yes
String Fault Detection	Yes	Yes
AC/DC Surge Protection	DC Type II;AC Type III	DC Type II;AC Type III
Insulation Detection	Yes	Yes
AC Short Circuit Protection	Yes	Yes
General Specifications		
Dimensions W x H x D	540*590*240mm	
Weight	32kg	
Operating Temperature Range	-25°C~+60°C	
Noise (dB)	<25	
Cooling Type	Natural Convection	
Max. Operation Altitude	2000m	
Max. Operation Humidity	0~95% (No Condensation)	
IP Class	IP65	
Topology	Battery Isolation	
Communication	RS485/CAN2.0/WIFI/4G	
Display	LCD/APP	
Certification & Standard	IEC/EN 62109-1&2;IEC/EN61000-6-1;IEC/EN61000-6-2;EN61000-6-3; IEC/EN61000-6-4;IEC/EN61000-3-11; EN61000-3-12;IEC60529;IEC 60068;IEC61683;IEC62116;IEC61727;EN50549-1; AS 4777.2;NRS 097;VDE-AR-N-4105;CEI0-21;G98;G99;C10/C11	

*1. Nominal AC output power is 4999W for Australia and 4600W for Germany and South Africa.

*2. Maximum output current is 21.7A for Australia and 20A for Germany and South Africa.