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**Better Home ESS  
Solutions For You**



# COMPANY PROFILE

GS (Ningbo) ESS Technology Co., Ltd., headquartered in Ningbo, Zhejiang, is a high-tech enterprise specialized in R&D, manufacturing and sales in smart hybrid system, including residential hybrid inverter and micro inverters, energy storage system and EV charging station; we committed to providing whole package solution for our customers with integrated smart energy system in multiple fields such as residential and commercial energy storage system and liquid cooling system.

Our company focuses on R&D investment and innovation with experienced technical team more than 10 years of related experience. We also layout in the fields of power electronics topology, core algorithms, BMS, PCS, EMS, AI, etc., empowering green energy with AI technology to build an extremely safe, reliable, efficient products and systems. Our laboratory also obtain national

CNAS accreditation qualifications and IEC CTF2 qualifications. Furthermore, our products have passed certification and testing by many domestic and international authoritative organizations such as TUV,, BV, SGS and so on.

We also established overseas branches and service centers all over the world, including Europe, North America, Latin America, Oceania, Asia Pacific, the Middle East, and Africa. All of us work diligently to offer reliable and high quality service to our global customers. As we look ahead, GS ENERGY is guided by the simple profound mission: "Serving global customers with green energy"; Upholding our core values of - "Quality, Innovation, Efficiency, and Collaboration". Our ambition is to contribute meaningfully to the global clean energy movement and humbly support the ongoing shift towards smarter energy solutions.

## 2021 Foundation

- 21/02 Established GS ENERGY
- 21/04 Launched R&D of household energy storage system
- 21/06 Started to construct the Industrial Park in GS ENERGY's Headquarter in Ningbo

## 2022 Development

- 22/03 Established R&D Centers in Beijing/Hangzhou/Suzhou
- 22/05 Marketed household PV and energy storage system in Europe
- 22/06 Established warehouses in Dutch/Australian

## 2023 Expansion

- 23/04 Put the Industrial Park in GS ENERGY's Headquarter in Ningbo into operation
- 23/06 Started the R&D of civil small commercial energy storage systems
- 23/08 Established South Africa branch & South Africa warehouse

## 2024 Flourishing

- 24/01 Started the R&D of energy storage and temperature control system
- 24/03 To promote GS ENERGY's household storage & energy storage and temperature control system products to the world
- 23/05 To establish GS ENERGY's branches in Europe, North America, Australia and Latin America



Headquarters in Ninghai



Suzhou



Hangzhou



Beijing



GuangZhou



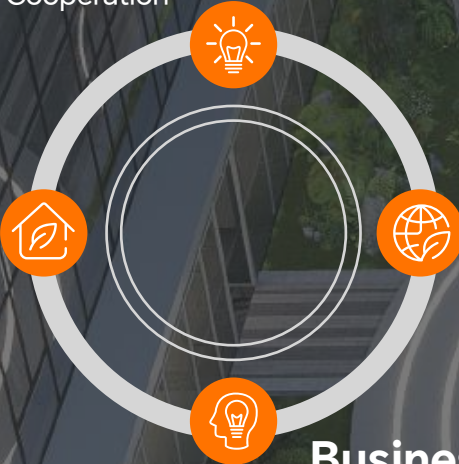
# Company Culture

## Corporate Value

Quality, Innovation,  
Efficiency, Win-Win Cooperation

## Corporate Mission

Serving global customers  
with green energy



## Company Vision


To be the leading global provider  
of intelligent energy solutions

## Business Concept

Quality Priority, Further Refinement,  
Pioneering and Innovation, Continuous  
Improvement

 **50+**  
Major Invention  
Patents

 **10years+**  
Industry Experience of  
R&D Staff

 **50%+**  
Percentage  
of R&D staff

 **100+**  
Countries &  
Regions Covered



# Core advantages

## Rigorous Quality Control, Further Refinement



**Expertise of Staff**  
Top R&D and design capabilities



**First-Class Production Line**  
First-class production base, automatic production line  
Guarantee quality control and stable supply



**Test Specification**  
40+ critical performance tests  
Reliability test, benchmarking test with competitors, etc.



**Ecological Improvement**  
First-class brand selected for key components



**Advanced Experiments**  
Complete testing instruments  
Professional and perfect experiment system



## Technology capability

Perfect Experimental Configuration, Reliable Test System

### Reliable test system

Passed **more than 40** key performance indicators and product protection tests and verifications



**8**  
Product protection  
verifications

Product protection verifications  
Anti-islanding protection test  
DC over-voltage protection verification  
AC over/under-voltage test  
AC over/under-frequency test  
Phase sequence or polarity error protection  
...



**39**  
Key Performance  
Tests

Static and dynamic MPPT efficiency tests  
Weighted efficiency test in Europe/  
California/China  
Energy storage battery charging and  
discharging efficiency test  
Voltage/frequency adaptability test  
...

**15 years**  
Lifecycle environmental  
reliability test

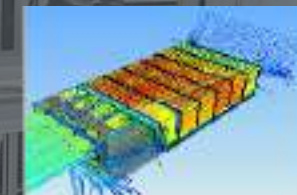
**10+** harsh operating  
environments  
Simulation up to **120,000** times

### Perfect experimental configuration

Equipped with all kinds of testing instruments, totaling **300+ units/sets**

Build up multiple key experimental and testing capabilities in the field of photovoltaic inverters based on product characteristics to ensure the stable operation of the products.

### Professional and perfect experiment system



Simulation of thermal, mechanical,  
electrical and magnetic fusion



Electromagnetic compatibility



Device technology



Noise detection



Reliability verification



Wireless communication



Performance Test



On-grid test



# Design, R&D & Ecology

Comprehensive Capabilities, Perfect Ecosystem

## Design Capabilities

International professional team with dozens of well-known outstanding designers  
Cast aluminum material, integrated molding, light and beautiful, minimalist and exquisite



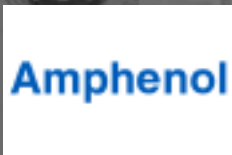
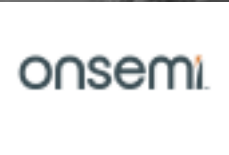
## R&D capability

100+ industry experts, 50+ invention patents, 30+ core technologies under independent research and development



## Ecosystem

- The key components of all series of inverters are selected from first-class brands
- Guaranteed product quality
- Guaranteed design service life of 15 years





## Manufacturing & Supply

Integrated production and testing line, providing sufficient supply guarantee

### Manufacturing capacity

First-class production base with quality control



Fully automatic production and testing lines with performance assurance



### Supply ability

Automatic production line with 24-hour operation to ensure product supply



- Top automatic production line in the industry (under planning)
- Global first-class brand of battery cells, with an annual installed capacity of 6GWh+





# System Certification

Stringent product certification system to ensure the quality of products



**2023**  
Three phase high voltage inverter  
Certified for BV CE-LVD



**2022**  
Single-phase low-voltage inverter  
Certified for BV CE-LVD



**2023**  
Single-phase low-voltage inverter  
Certified for BV CE-EMC



**2023**  
Three phase high voltage inverter  
Certified for BV CE-EMC



**2023**  
Single-phase low-voltage inverter  
Certified for SGS South Africa (NSR) for Grid Connection



**2023**  
GS-LV-5.12P  
Certified for SQI Lithium Battery UN38.3



**2023**  
GS-LV-2.56P  
Certified for SQI Lithium Battery UN38.3



**2023**  
GS2.56-HV  
Certified for SQI Lithium Battery UN38.3



**2023**  
GS2.56-HV  
Certified for TÜV CE-EMC



**2023**  
Single-phase high-voltage inverter  
Certified for Rheinland CE-EMC










**2023**  
Single-phase high-voltage inverter  
Certified for Rheinland CE-LVD



## Corporate honor

### Industry Honor, Honor Continues

-  Polaris Energy Storage Network 2024 "Polaris Cup" Energy Storage Influence Temperature Control and Fire Protection Supplier Award
-  2023 OFweek "Outstanding Temperature Control Technical Solution" Award
-  GGII 2023 New Enterprise of the Year
-  International Energy Network 2023 Energy Storage List Top Ten Residential Energy Storage Brands of the Year
-  Successfully selected for the "2023 China New Energy Storage Temperature Control System Enterprise TOP20" public list by the Energy Storage Application Branch of the China Chemical and Physical Power Industry Association
-  EESA Energy Storage Leaders Alliance Council Member
-  2023 Energy Storage Industry "Residential Energy Storage Technology Progress Enterprise" Award





## Series

First-class Products, Optimal Solutions



Household PV, Energy Storage  
& EV Charging Solutions



Commercial Power  
Solutions



PV + Energy Storage  
Solutions



Lithium battery



Energy Storage and Temperature  
Control Solutions



Large Ground Power  
Station Solutions



Charging pile



Civil Small Commercial Energy  
Storage Solutions



Construction  
Machinery Solutions



Smart energy management  
system



BIPV Solutions



## Product Family

One-Stop Product Layout





## Solutions

### Household PV + Energy Storage systems

#### Support three modes:

- Off-grid system
- On-grid system
- On/off-grid system

#### Advantages

- Peak-valley arbitrage
- Backup power supply
- Energy time shift, improving PV power consumption



# Solutions

Focus on all civil scenarios, with a complete range of products

## 01 Household On/Off Grid String Solutions

Self-generation, self-consumption, extra power for power grid



Three-phase on-grid inverter I1100-RH3 (15kW/17kW/20kW/25kW)



Single-phase off-grid inverter I2000-RL1 (3.6kW/5kW)



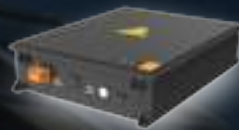
DCS communication stick GS-DCS-WLAN GS-DCS-4G (Under development)



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## 04 Commercial Power Solutions

Flexible, adaptive, cost-effective



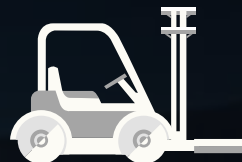
GS023 32.25kWh lithium battery system



Examples of Application Scenarios



GS019 4.09kWh lithium battery system



Examples of Application Scenarios

## 02 Household Low-voltage Mixing Solutions

Quick switching, precise scheduling



Single-phase LVPS inverter I1000-RL1 (3kW/3.68kW/5kW)



Low-voltage energy storage battery GS-LV-2.56P GS-LV-5.12P



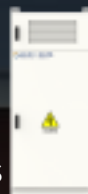
DCS communication stick GS-DCS-WLAN GS-DCS-4G (Under development)



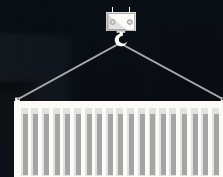
Cloud Platform & APP

## 05 Construction Machinery Solutions

Easy operation & maintenance, higher returns



215kWh/516kWh lithium battery system



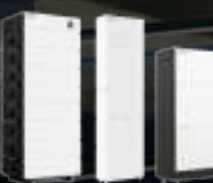
Examples of Application Scenarios

## 03 Household High-voltage Mixing Solutions

Quick switching, precise scheduling



Single/three-phase high-voltage optical storage inverter I1000-RH1 (3kW/3.68kW/5kW/6kW) I1000-RH3 (5.0kW / 6.0kW / 8.0kW / 10.0-A kW/ 10.0kW)



High-voltage energy storage battery GS-HV-2.56 GS-HV-3.74 GS-HV-3.84



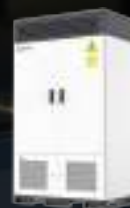
DCS communication stick GS-DCS-WLAN GS-DCS-4G (Under development)



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## 06 Civil Small Commercial Energy Storage System Solutions

Peak-load shifting, intelligent management



GS-CBS-115.2kWh-F (Integrated Air-Cooled PV & Energy Storage System)



GS-CBS-233kWh-Y (Integrated Liquid-Cooled PV & Energy Storage System)



DCS communication stick GS-DCS-WLAN GS-DCS-4G (Under development)



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MI-N2000-M1 (4-in-1)  
MI-N800-M1 (2-in-1)  
MI-N600-M1 (2-in-1)  
Microinverter

### Product Characteristics

Availability


- Support up to X DC overmatching
- Built-in PLC or WiFi


Safety


- Integrated grounding, easy installation
- NEMA-6/IP-66/IP-67 protection level


High efficiency

- Activate MPPT for each module
- Maximum efficiency: 97.1%

 More efficient

 Safer

 Global certification

 More reliable

Technical Parameters

Model	MI-N2000-M1		MI-N800-M1	MI-N600-M1
Input   DC				
Recommended power range of PV module (W)	750 x 4	600 x 2	450 x 2	
MPPT voltage range (V)	22-55			
Starting voltage (V)	24			
Max. input voltage (V)	60			
Max. input current (A)	18 x 4	17 x 2	18 x 2	
Over-voltage protection category	II			
Output   AC				
Peak output power (VA)	2000	800	600	
Max. continuous output power (VA)	1920	750	580	
Rated output voltage (V)	230	230	230	
Rated output voltage range (V)	Configurable	Configurable	Configurable	
Max. continuous output current (A)	8.3	3.26	2.52	
Rated frequency/range (Hz)	50 / configurable			
Power factor (nominal/adjustable range)	1.0/0.8 ahead...0.8 lagging	1.0/0.9 ahead...0.9 lagging	1.0/0.9 ahead...0.9 lagging	
3-cycle AC short-circuit fault current (Arms)	15.3	8.2	4.4	
THDi @ rated power	< 3%			
Max. number of units per 20A branch	2	5	6	
Over-voltage protection category	III			
Efficiency				
Max. efficiency	97.3%	97.3%	97.1%	
MPPT efficiency	99.5%			
Power consumption at night (mW)	110			
General Data				
Operating ambient temperature range (°C)	-40~65			
Relative Humidity Range	0-100%			
Dimensions (W×H×D) (mm)	337 x 233 x 39.5	268 x 250x 42	227 x 132 x 50	
Weight (kg)	3.5	2.9	2.9	
DC connector type	MC4			
Ac connection type (between inverters)	Trunk Cable	Trunk Cable	Daisy Chain AC Bus	
Communication	PLC or WiFi			
Protection Level	NEMA-6 / IP-66 / IP-67			
Certification				
Certificates	UL1741, SAA, TUV, VDE-AR-N 4105, VDE, 0126, G83/2, CEI 0-21, IEC 61727, EN50438, Tor Erzeuger Type A			



# I1000-RL1 Series

3kW / 3.68kW / 5kW

Single-phase low-voltage hybrid inverter, dual MPPT



Compatible with lithium and lead-acid batteries (48V)



Emergency Power Supply



Support remote upgrade and mode settings



IP65 protection level



EMS integration



Support VPP/FFR application

## Technical Parameters

Model	I1000-RL1-3K	I1000-RL1-3.68K	I1000-RL1-5K
PV input parameters			
Max. input power [Wp]	3900	4600	6500
Max. input voltage [V]	580		
MPPT voltage range [V]	100~550		
Starting voltage [V]	110		
Quantity of MPPT	2		
Number of input strings per MPPT	1		
Max. input current per MPPT [A]	13.5 / 13.5		
Max. short-circuit current per MPPT [A]	17 / 17		
DC switch	Integrated		
AC output / input parameters			
Rated AC power [W]	3000	3680	5000
Max. output power [VA]	3000	3680	5000
Max. AC current [A]	13	16	21.7
Rated AC voltage/range [A]	220 / 230; 180~270		
Rated grid frequency/range [Hz]	50 / 60; ±5		
Power factor [cos ϕ]	0.8 ahead~0.8 lagging		
Total harmonic distortion of current [rated power]	<3%		
Battery Parameter			
Battery type	Lithium / lead-acid		
Recommended battery voltage [V]	48		
Battery voltage range [V]	40~60		
Max. charge/discharge power [W]	3000		
Max. charge/discharge current [A]	60		
Communication Port	CAN		
Off-grid output parameters			
Rated output power [W]	3000		
Rated output voltage [V]	220 / 230		
Rated output frequency [Hz]	50 / 60		
Rated output current [A]	13		
Total harmonic distortion of current [rated power]	<3%		
Switching time [s]	<5		
Peak output power, duration [VA,s]	4500, 10		
Efficiency			
Max. efficiency	97.60%	97.60%	97.60%
European efficiency	97.00%	97.00%	97.00%
Max. battery charge/discharge efficiency	94.00%	94.00%	94.00%
General data			
Dimensions (W*H*T) [mm]	528*526*193		
Weight [kg]	29.5		
Display	LCD		
Communication mode	RS485 or WiFi or 4G (Optional)		
Ambient temperature range [°C]	-25~+60		
Relative Humidity	0~100%		
Operating altitude [m]	≤4000		
Self-consumption at night [W]	<1		
Topology	Transformerless		
Cooling mode	Natural		
Degree of protection	IP65		
Certification			
Grid connection standard	G98, G99, NRS-097, MEA, PEA, AS 4777, EN 50438, CEI-021, EN 50549, IEC 61727, IEC 62116, IEC 60068, IEC 61683, C10 / 11		
Safety standards	IEC 62109-1, IEC 62109-2, IEC 62040		
EMC standard	EN 61000-6-2, EN 61000-6-3, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29		
Protection			
	· DC insulation monitoring	· AC over-voltage protection	· Anti-islanding protection
	· Residual current monitoring	· AC over-current protection	· Overheat protection
	· Input reverse polarity protection	· AC short-circuit protection	· DC/AC surge protection



# I1000-RH1 Series

3kW / 3.68kW / 5kW / 6kW

Single-phase high-voltage hybrid inverter, dual MPPT



1.5× DC overmatching



Battery charging/discharging efficiency > 97%.



Support remote upgrade and mode settings



Max. 6,000W charge/discharge power



IP65 protection level



Support VPP/FFR application

## Technical Parameters

Model	I1000-RH1-3K-M1	I1000-RH1-3.68K-M1	I1000-RH1-5K-M1	I1000-RH1-6K-M1
PV input parameters				
Max. input power [Wp]	4500	5500	7500	9000
Max. PV input voltage [V]	600			
MPPT voltage range [V]	120 ~ 550			
Rated PV input voltage [V]	360			
Starting voltage [V]	150			
Quantity of MPPT	2			
Number of input strings per MPPT	1			
Max. input current per MPPT [A]	13.5 / 13.5			
Max. short-circuit current per MPPT [A]	17 / 17			
Array feedback current [A]	0			
DC switch	Integrate			
AC output parameters (on-grid)				
Rated AC power [W]	3000	3680	5000	6000
Rated apparent power [VA]	3000	3680	5000	6000
Rated current [A]	13	16	21.7	26.1
Max. current [A]	13	16	21.7	26.1
Rated voltage/range [V]	220/230/240; 160~290			
Grid frequency/range [Hz]	50 / 60; ±5			
Power factor [cos φ]	0.8 ahead ~ 0.8 lagging			
Total harmonic distortion of current (rated power)	< 2%			
AC inrush current [A]	35			
Max. output fault current [A]	80			
DC output (battery)				
Battery type	Lithium			
Voltage range [V]	80 ~ 450			
Max. charge/discharge current [A]	25			
Max. charge/discharge power [W]	4500 / 3000	5500 / 3680	6000 / 5000	6000 / 6000
Communication Port	CAN			
EPS output data (with battery)				
EPS rated power [W]	3000	3680	5000	6000
EPS rated voltage [V]	220 / 230			
EPS rated frequency [Hz]	50 / 60			
EPS rated current [A]	13	16	21.7	26.1
Total harmonic distortion of current (rated power)	< 3%			
Automatic switching [s]	< 0.5			
Peak apparent power, duration [VA, s]	4500, 10	5520, 10	7500, 10	9000, 10
Efficiency				
Max. efficiency	97.42%	97.45%	97.50%	97.50%
European efficiency	97.15%	97.17%	97.20%	97.20%
MPPT efficiency	99.90%	99.90%	99.90%	99.90%
Battery charge/discharge efficiency	97.15%	97.17%	97.20%	97.20%
Protection				
DC insulation monitoring	Integrate			
Input polarity reverse protection	Integrate			
Anti-islanding protection	Integrate			
Residual current protection	Integrate			
Over-temperature protection	Integrate			
AC over-current protection	Integrate			
AC short-circuit protection	Integrate			
AC over-voltage protection	Integrate			
DC surge protection	Integrate			
AC surge protection	Integrate			
General data				
Dimensions (W*H*T) [mm]	520*412*172			
Weight [kg]	20			
Display	LED + OLED			
Communication mode	CAN, RS485, USB Upgrade, Optional: WiFi, 4G, Ethernet			
Ambient temperature range [°C]	-30 ~ +60			
Relative Humidity	0~100%			
Operating altitude [m]	≤ 2000			
Self-consumption at night [W]	< 15			
Topology	transformerless			
Cooling mode	Natural			
Waterproof level	IP65			
Degree of protection	I			
Over-voltage type	III (Mains) II (DC)			
Certification				
Grid connection standard	ASA7,EN 0S49 TENS G9 OR DVEROD,CEVEO EIECOERDE 6216,VDE0126, UNE 217002/RD647, CEI 0-21, C10/C11, ORDINANCE No.140			
Safety standards	IEC 62109-1, IEC 62109-2			
EMC standard	EN/IEC 61000-6-1, EN/IEC 61000-6-3			



# I1000-RH3 Series

5.0kW / 6.0kW / 8.0kW / 10.0-A kW/ 10.0kW  
Three-phase high voltage hybrid inverter, dual MPPT



Compatible with 600W  
+ large modules



Support 100% unbalanced output



< 10 ms seamless switching of  
backup power supply



Support 10 parallel inverters



Support remote upgrade  
and mode settings



Support VPP/FFR application

## Technical Parameters

Model	I1000-RH3-5K-M1	I1000-RH3-6K-M1	I1000-RH3-8K-M1	I1000-RH3-10K-A-M1	I1000-RH3-10K-M1
PV input parameters					
Max. input power [Wp]	7500	9000	12000	15000	15000
Max. input voltage [V]	1000				
MPPT voltage range [V]	160 ~ 950				
Rated input voltage [V]	600				
Starting voltage [V]	160				
Quantity of MPPT	2				
Number of input strings per MPPT	1				
Max. input current per MPPT [A]	18 / 18				
Max. short-circuit current per MPPT [A]	23 / 23				
Array feedback current [A]	0				
DC switch	Integrate				
AC output / input parameters					
Rated output power [W]	5500	6600	8800	10000	11000
Max. apparent output power [VA]	5000	6000	8000	10000	10000
Max. apparent input power	7.6	9.1	12.2	14.4	15.2
Rated output current [A]	7.2	8.7	11.5	14.4	14.4
Rated output voltage [V]	3 / N / PE, 220 / 380, 230 / 400; ±20%				
Rated grid frequency [Hz]	50 / 60; ± 5				
Power factor [cos φ]	0.8 ahead to 0.8 lagging				
Total harmonic distortion of current [rated power]	<3%				
AC input parameters					
Rated AC power [W]	10000	12000	16000	20000	20000
Max. continuous AC current [A]	15.2	18.2	24.3	28.8	30.4
Rated AC voltage/range [V]	3 / N / PE, 220 / 380, 230 / 400; ± 20%				
Grid frequency/range [Hz]	50 / 60; ± 5				
AC excitation surge current [A]	32				
Max. output over-current protection	40				
Max. AC output fault current [A]	73				
Battery Parameter					
Battery type	Lithium				
Battery voltage range [V]	160 ~ 700				
Max. charge/discharge current [A]	30 / 30				
Communication Port	CAN				
Off-grid output parameters					
Rated output power [W]	5000	6000	8000	10000	10000
Rated output voltage [V]	3 / N / PE, 220 / 380, 230 / 400				
Rated output frequency [Hz]	50 / 60				
Rated output current [A]	7.6	9.1	12.2	14.4	15.2
Total harmonic distortion of current [rated power]	<3%				
Switching time [ms]	≤ 20				
Peak output power, duration [s]	7500, 60	9000, 60	12000, 60	15000, 60	15000, 60
Efficiency					
Max. efficiency	98.00%	98.00%	98.00%	98.00%	98.00%
European efficiency	97.70%	97.70%	97.70%	97.70%	97.70%
Max. battery charge/discharge efficiency	97.60%	97.60%	97.60%	97.60%	97.60%
Protection					
DC switch	Integrated				
Input polarity reverse protection	Integrated				
Anti-islanding protection	Integrated				
Residual current protection	Integrated				
Over-temperature protection	Integrated				
AC over-current protection	Integrated				
AC short-circuit protection	Integrated				
AC over-voltage protection	Integrated				
DC surge protection	Integrated (Type II)				
AC surge protection	Integrated (Type II)				
General data					
Dimensions (W*H*T) [mm]	520 * 412 * 186				
Weight [kg]	27				
Display	LED + OLED				
Communication mode	CAN, RS485, USB Upgrade, Optional: WiFi, 4G, Ethernet				
Ambient temperature range [°C]	-25 ~ +60				
Relative Humidity	0 ~ 100%				
Operating altitude [m]	≤2000				
Self-consumption at night [W]	<15				
Topology	Transformerless				
Degree of contamination	II				
Protection Level	I				
Over-voltage type	DC II / AC III				
Environment Class	Outdoor				
Cooling mode	Natural				
Degree of protection	IP65				
Certification					
Grid connection standard	AS 4777, EN 50549-1, EN 50549-PL, EN 50549-GR, EN 50549-CZ, TOR Erzeuger, CEI 0-21, C10 / C11, VDE0126, UNE 217002/RD647				
Safety standards	IEC 62109-1, IEC 62109-2, EN 62109-1, EN 62109-2				
EMC standard	EN / IEC 61000-6-1, EN / IEC 61000-6-3				



# I1100-RH3 Series

15kW/17kW/20kW/25kW

On-grid inverter



Compatible with 600W  
+ PV modules



Wider MPPT voltage range (180 ~ 1000V)



150% DC input oversizing & 110% AC overloading



Optional AFCI & Smart PID  
recovery function



Remote firmware upgrade



Type II SPD for both DC and AC

## Technical Parameters


Model	I1100-RH3-15K-M0		I1100-RH3-17K-M0		I1100-RH3-20K-M0		I1100-RH3-25K-M0	
Max. input power [Wp]	22500		25500		30000		37500	
Max. PV power with single MPPT [Wp]	8000		10000		12000		15000	
Max. PV input voltage [V]	1100							
MPPT voltage range [V]	180~1000							
Rated input voltage [V]	600							
Starting voltage [V]	200							
Quantity of MPPT	2							
Number of input strings per MPPT	2 / 2							
Max. input current per MPPT [A]	40 / 40							
Max. short-circuit current per MPPT [A]	50 / 50							
Max. array return current [A]	0							
AC output								
Rated AC power [W]	15000		17000		20000		25000	
Max. output power [VA]	16500		18700		22000		27500	
Max. AC current [A]	25		28.3		33.4		41.7	
Rated AC voltage/range [V]	3 / N / PE, 220 / 380, 230 / 400; ±20%							
Grid frequency/range [Hz]	50 / 60 ; ±5							
Max. output fault current (peak and duration) (A)	145(8μs)							
Inrush current (peak and duration) (A)	30(3ms)							
Max. output over-current protection (A)	98							
Adjustable power factor [cos φ]	0.8 ahead to 0.8 lagging							
Total harmonic distortion of current (rated power)	<3%							
Efficiency								
Max. efficiency	98.60%							
European efficiency	98.20%							
Protection								
DC switch	Integrated							
DC monitoring	Integrated							
Input polarity reverse protection	Integrated							
Anti-islanding protection	Integrated							
Residual current monitoring	Integrated							
Over-temperature protection	Integrated							
AC over-current protection	Integrated							
AC short-circuit protection	Integrated							
Arc protection	Optional							
Inverse PDI function	Optional							
DC surge protection	Integrated (Type II)							
AC surge protection	Integrated (Type II)							
General data								
Dimensions (W*H*T) [mm]	520 * 412 * 200							
Weight [kg]	22							
Display	LED + OLED							
Communication mode	RS485, USB Upgrade, Optional: WiFi, 4G, Ethernet							
Ambient temperature range [°C]	-25 ~ +60							
Relative Humidity	0 ~ 100%							
Operating altitude [m]	≤2000							
Self-consumption in standby mode [W]	< 1							
Topology	Transformerless							
Cooling mode	Fan							
Waterproof level	IP65							
Degree of contamination	III							
Overvoltage category	DC II / AC III							
Degree of protection	I							
Certification								
Grid connection standard	NB/T 32004, ORDINANCE No.140, EN50549-1, EN50549-PL, IEC61727/IEC62116							
Safety standards	EN 62919-1, EN 62619-2,EN IEC 61000-6-1, EN IEC 61000-6-3, EN 62920, EN IEC61000-3-11, EN IEC61000-3-12							





# GS-LV-2.56P


Low-voltage battery pack (rack type)




- 

Emergency backup power supply
- 

Flexible installation
- 

Cost effectiveness
- 

Expandable
- 

Remote monitoring

## Technical Parameters

Model		GS-LV-2.56P
Total energy (kWh)		2.56
Available energy (kWh)		2.3
Max. charge/discharge current (A)		25/50
Rated current (A)		25
Dimensions (W*H*L) (mm)		490*133*500
Weight (kg)		31(±0.5)
Max. charging voltage (V)		58
Recommended max. DOD		90%
Voltage range (vd.c)		44.8-58
Rated voltage (vd.c)		51.2
Erection condition		Indoor
Operating temperature (°C)	Charging	0~50
	Battery discharge	-10~55
WiFi frequency range (MHz)		2400~2483
Ambient Humidity		20-60% (no condensation)
Cooling mode		Natural cooling
Installation Mode		Bracket
Degree of protection		IP20
Number of parallel inverters		1~16(51.2V 2.56kWh~40.96kWh)
Cycle life (25°C, 0.2C, 90%DOD)		>6000次
Communication mode		CAN/RS485
Certification		EN61000, IEC62619, IEC62477, UN38.3



# GS-LV-5.12P

Low-voltage battery pack (rack type)



Emergency backup power supply



Flexible installation



Cost effectiveness



Expandable



Remote monitoring

## Technical Parameters

Model		GS-LV-5.12P
Total energy (kWh)		5.12
Available energy (kWh)		4.6
Max. charge/discharge current (A)		50A/100
Rated current (A)		50A
Dimensions (W*H*L) (mm)		609*155*500
Weight (kg)		45.5(±0.5)
Max. charging voltage (V)		58
Recommended max. DOD		90%
Voltage range (vd.c)		44.8~58
Rated voltage (vd.c)		51.2
Erection condition		Indoor
Operating temperature (°C)	Charging	0~50
	Battery discharge	-10~55
WiFi frequency range (MHz)		2400~2483
Ambient Humidity		20~60% (no condensation)
Cooling mode		Natural cooling
Installation Mode		Bracket
Degree of protection		IP20
Number of parallel inverters		1~16(51.2V 5.12kWh~81.92kWh)
Cycle life (25°C, 0.2C, 90%DOD)		> 6,000 times
Communication mode		CAN/RS485
Certification		EN61000,IEC62619,IEC62477,UN38.3,UL1973,UL95404



GS-LV-5.12P

5.12kWh / 10.24kWh/15.36kWh / 20.48kWh  
Low-voltage battery pack (stack)



Stackable



Cost effectiveness



Flexible installation



Emergency backup power supply



Remote monitoring



Technical Parameters

Model					
Total energy (kWh)		5.12	10.24	15.36	20.48
Available energy (kWh)		4.6	9.21	13.82	18.43
Max. charge/discharge current (A)		50/100			
Rated current (A)		50			
Dimensions (W*H*L) (mm)		650*500*360	650*722*360	650*944*360	650*1166*360
Weight (kg)		92(±0.5)	152(±0.5)	212(±0.5)	272(±0.5)
Max. charging voltage (V)		58			
Recommended max. DOD		90%			
Voltage range (vd.c)		44.8-58			
Rated voltage (vd.c)		51.2			
Erection condition		Indoor			
Operating temperature (°C)	Charging	0~50			
	Battery discharge	-10~55			
WiFi frequency range (MHz)		2400~2483			
Ambient Humidity		20~60%(no condensation)			
Cooling mode		Natural cooling			
Installation Mode		Bracket			
Degree of protection		IP65			
Number of parallel inverters		1~16(51.2V 5.12kWh~81.92kWh)			
Cycle life (25°C, 0.2C, 90%DOD)		>6000 times			
Communication mode		CAN/RS485			
Certification		EN61000, IEC62619, IEC62477, UN38.3			



# GS2.56-HV Series

GS2.56-HV-10.24 / GS2.56-HV-12.8 / GS2.56-HV-15.36

GS2.56-HV-17.92 / GS2.56-HV-20.48

Low-voltage battery pack (stack)



Stackable



Cost effectiveness



Easy to install








Emergency backup power supply



Single/three-phase available



## Technical Parameters

Model					
Number of battery packs	4	5	6	7	8
Rated voltage (V)	204.8	256	307.2	358.4	409.6
Rated capacity (kWh)	10.24	12.8	15.36	17.92	20.48
Available capacity (90% DOD) (kWh)	9.22	11.52	13.82	16.13	18.43
Dimensions (W×H×D) (mm)	535*755*425	535*900*425	535*1045*425	535*1190*425	535*1335*425
Weight (kg)	123	150	177	203	230
Voltage range (V)	166.4-232.32	208-290.4	249.6-348.48	291.2-406.56	332.8-464.64
Battery cell	Lithium iron phosphate				
Degree of protection	IP54				
Cooling mode	Natural air cooling				
Rated charging/ discharging current (A)	50				
Max. continuous charge/ discharge current (A)	50				
Charge/discharge operating temperature (°C)	0~ 50 / -10~ 50				
Ambient Humidity	≤ 95% RH (no condensation)				
Cycle life (25°C, 0.2C, 90%DOD)	> 6,000 cycles				
Operating height (m)	≤2000				
Certification	EN61000, IEC62619, IEC62477, IEC62040, UN38.3				
Warranty (Years)	10				







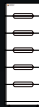
# GS3.74-HV Series

GS3.74-HV-3.74 / GS3.74-HV-7.48 / GS3.74-HV-11.22  
GS3.74-HV-14.96 / GS3.74-HV-18.7  
Low-voltage battery pack (stack)

-  Stackable
-  Flexible installation
-  IP65 protection
-  Single/three-phase available
-  Safe and economical
-  Backup power supply



## Technical Parameters

Model					
Parameters					
Number of modules	1	2	3	4	5
Rated capacity (kWh)	3.74	7.48	11.22	14.96	18.7
Available capacity (90% DOD) (kWh)	3.36	6.73	10.1	13.47	16.83
Rated voltage (V)	96	192	288	384	480
Voltage range (V)	87~108	174~216	261~324	348~432	435~540
Max. charge/discharge current (A)	30/30				
Depth of discharge	90%				
Cooling mode	Natural air cooling				
Comprehensive					
Battery cell	Lithium iron phosphate				
Dimensions (W*H*D) (mm)	561 * 576 * 217	561 * 902 * 217	561 * 1228 * 217	561 * 1554 * 217	561 * 1880 * 217
Weight (kg)	58.3	100.3	142.3	184.3	226.3
Degree of protection	IP65				
Erected by	Floor stand/indoor or outdoor				
Charge/discharge temperature (°C)	0 ~ +43/-10 ~ +53				
Communication mode	CAN / RS485 / Wifi				
Cycle life (25°C, 0.2C, 90%DOD)	> 6,000 times				
Warranty (Years)	10				
Operating height (m)	≤ 2000				
Certification					
Certification	UN 38.3, EN / IEC 62619, IEC 62477				



# GSCP-AC11 Series

GSCP-AC11-01  
GSCP-AC11-02  
GSCP-AC11-03



Innovative design



Compact structure for installation & Easy installation and maintenance



IP65, dustproof  
Waterproof level



Integrated emergency power-off (EPO)

## Technical Parameters

Model	GSCP-AC11-01	GSCP-AC11-02	GSCP-AC11-03
Using scenarios		Home/private/public parking lot	
Appearance structure			
Product Attributes	Standard version	Color screen card-free version	Color screen card-swiping version
Equipment dimensions (H*W*D)(mm)	349*254*100		
Installation Mode	Wall/floor-mounted		
Routing mode	Wire incoming and outgoing at bottom		
Weight (kg)	8		
Cable length (m)	3.5 / 4 / 5		
Electrical indicator			
Input voltage (V)	AC380		
Input frequency (Hz)	50 / 60		
Rated power(kw)	11		
Metering accuracy	I		
Output voltage (V)	AC380		
Output current (A)	16		
Standby power consumption (W)	3	5	6
Functional design			
LED indicator light	√		
Display Screen	/	4.3" color screen	4.3" color screen
Card swiping function	√	/	√
Key setting function	/	√	√
Communication Port	RS485 communication		
Safe design			
Safety standard	GB\T20234、GB\T18487、NB\T33008、NB\T33002		
Protection design	Over-voltage protection, under-voltage protection, overload protection, grounding protection, over-temperature protection, low temperature protection, lightning protection, leakage protection		
Environmental indicators			
Applied environment	Indoor/outdoor		
Operating temperature (°C)	-25~+55		
Operating humidity	5% to 95% without condensation		
Operating altitude (m)	< 2000		
Degree of protection	IP54		
Cooling mode	Natural cooling		
MTBF	100,000h		
Special protection	UV protection design		
Optional accessories			
Mounting assembly	Standard AC wall-mounted aviation socket/floor-mounted pole (optional)		



# GS-CBS-115.2kWh-F


Integrated Air-Cooled PV & Energy Storage System





## Product Features


- Three-level topology, realizing 99% conversion efficiency and better power quality
- Modular design for easier maintenance, resuming operation within 1.5 hours
- Intelligent multi-stage fan speed regulation, wide range of operating temperature, no derating at 45 °C
- Higher energy density, smaller footprint, more convenient and efficient transport, lifting and installation
- Equipped with PQ, VF, S VG, VSG and other functions, supporting high/low voltage ride-through.
- Fast power scheduling, off-grid operation and "black start", strong grid adaptability


## System characteristic


- 

Rock-level visual switch
- 

Short circuit protection
- 

Fire Suppression System
- 

Water fire protection system (optional)
- 

Intrusion detection system
- 

Golden shield controller

# Technical Parameters

Model	GS-CBS-115.2kWh-F
Project	System Parameter
Total energy	115.2kWh, rated at 25°C@0.5c
Rated DC side voltage	768V
DC side operating voltage	672~864V
Nominal capacity	150Ah (25°C, 0.5C)
Rated AC power of the system	50KW (off-grid load < 50KW)
AC incoming mode	3P+N+PE
Rated AC voltage	230/400Va.c
Rated frequency	50Hz/60Hz
Power Factor	0.8cap~0.8ind
Output harmonics	≤5%
Max. AC discharge current	86A
Unbalanced load carrying capacity	100%
Overload Capability	110% load: running time ≥ 10 min, 120% load: running time ≥ 1 min
On/off-grid mode	Automatic switching (STS)
Thermal management	HVAC 3.5kW forced air cooling
Fire extinguishing method	Automatic fire extinguishing with aerosol
Auxiliary control system	Temperature, humidity, flooding
External communication coupling	RS485、LAN、CAN
External communication mode	ModBus TCP
Photovoltaic input power	60kW (optional)
PV max. open-circuit voltage	630Vd.c (optional)
MPPT voltage range	200~630Vd.c (optional)
PV starting voltage	290Vd.c (optional)
PV max. output current	200Ad.c (optional)
Operating Temperature	-20 °C to 55 °C (derating if above 45 °C)
Storage temperature	-25°C ~ 45°C
Relative Humidity	5% RH-85% RH, no condensation
Working altitude	At 45 °C, unnecessary to derate if used at 2,000 m, but derated if used at 2,000m to 4,000 m
Noise	68dB (test distance ≥ 1 m)
Dimensions	Approx. 1,150mm(W)*2,300mm(H)*870mm(D) - without air deflector
Weight	Approx. 1.8T
System protection level	IP54 (battery compartment)
Display interface	Chinese-English



# GS-CBS-233kWh-Y

Integrated Liquid-Cooled PV & Energy Storage System

## Product Features

- Three-level topology, realizing 99% conversion efficiency and better power quality
- Modular design for easier maintenance, resuming operation within 1.5 hours
- Intelligent multi-stage fan speed regulation, wide range of operating temperature, no derating at 45 °C
- Higher energy density, smaller footprint, more convenient and efficient transport, lifting and installation
- Equipped with PQ, VF, S VG, VSG and other functions, supporting high/low voltage ride-through.
- Fast power scheduling, off-grid operation and "black start", strong grid adaptability

## System characteristic



Rock-level visual switch



Short circuit protection



Fire Suppression System



Water fire protection system (optional)



Intrusion detection system



Golden shield controller



## Technical Parameters

Model	GS-CBS-233kWh-Y
Project	System Parameter
Total energy	232.96kWh, rated at 25°C@0.5c
Rated DC side voltage	832V
DC side operating voltage	728~923V
Nominal capacity	280Ah (25°C, 0.5C)
Rated AC power of the system	100KW (off-grid load < 100KW)
AC incoming mode	3P+N+PE
Rated AC voltage	230/400Va.c
Voltage range	-15% ~ +15%
Rated frequency	50Hz/60Hz
Frequency Range	Rated frequency ± 3Hz
Power Factor	-1~1
Output harmonics	≤5%
Unbalanced load carrying capacity	100%
Overload Capability	110% load: running time ≥ 10 min, 120% load: running time ≥ 1 min
On/off-grid mode	Automatic switching (STS)
Thermal management	5kW liquid-cooled
Fire extinguishing method	Automatic fire extinguishing with aerosol
Auxiliary control system	Temperature, humidity, flooding
External communication coupling	RS485、LAN、CAN
External communication mode	ModBus TCP
Photovoltaic input power	60kW (optional)
PV max. open-circuit voltage	900Vd.c (optional)
MPPT voltage range	200-800Vd.c (optional)
PV starting voltage	\
PV max. output current	110Ad.c (optional)
Operating Temperature	-20 °C to 55 °C (derating if above 45 °C)
Storage temperature	-25°C ~ 45°C
Relative Humidity	5% RH-85% RH, no condensation
Working altitude	At 45 °C, unnecessary to derate if used at 2,000 m, but derated if used at 2,000m to 4,000 m
Noise	68dB (test distance ≥ 1 m)
Dimensions	Approx. 1,550mm(W)*2,200mm(H)*1,350mm(D) (tentative)
Weight	Approx. 2.5T
System protection level	IP54 (IP67 for cell subrack)
Display interface	Chinese-English



## Household Storage Cases



📍 Lebanon



📍 Czech



📍 USA



📍 South Africa



# Global Distribution

Global Coverage, Fast Response

