SISTEMA DE PANELES SOLARES

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DM

HYBRID INVERTER >>>

GST series Single-phase

Product introduction

GST series is a new all-in-one solar charge inverter, which integrates solar energy storage & utility charging energy storage and AC sine wave output. Thanks to DSP control and advanced control algorithm, it has high response speed, high reliability and high industrial standard. Four charging modes are optional, i.e. Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging; and two output modes are available, i.e. inverter and Mains, to meet different application requirements.

Performance characteristics

Three output modes
When the grid-connected function is enabled, grid-connected power generation or anti-reverse-current can be set, and it can also be set to off-grid output mode.

Four charging modes
Mains priority charging, solar priority charging, mains solar hybrid charging and solar only charging.

Emergency function
Support battery-free output and only PV start and load, with battery activation function.

The host computer and the APP cloud communication
The host computer and the APP cloud can display the operating data and status of the system in real time and control and modify the parameters.

Parallel function
It can be flexibly combined to achieve up to 9 parallel machines, and the parallel system can output single-phase and three-phase AC voltage.

Protection function
Perfect hardware and software protection function, can display the fault type for easy removal.

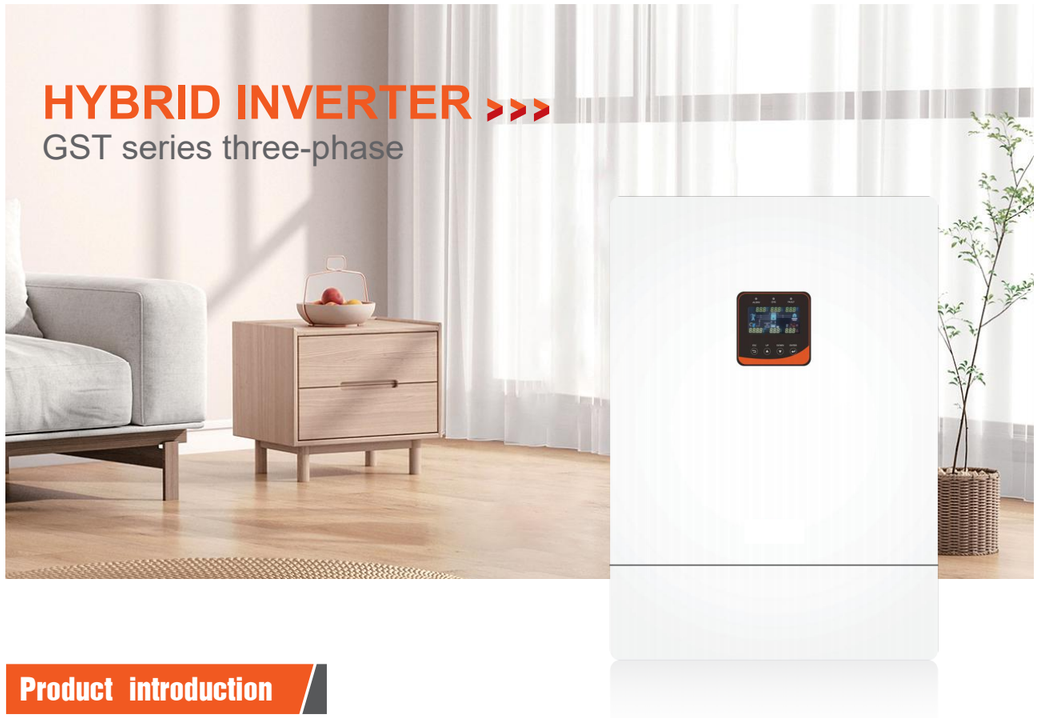
Technical parameters

MODEL	GST48-3500 VII	GST48-5500 VII	GST48-10K VII
INVERTER OUTPUT			
Rated output power (W)	3500	5500	10000
Rated output power (VA)	3500	5500	10000
Maximum Peak Power (W)	6000	10000	15000
Load Capacity with Motors (HP)	2	4	6
Rated AC Output	230 VAC (200 / 208 / 220 / 240VAC), 50 / 60Hz		
Output Voltage Waveform	Pure Sine Wave		
Inverter and Bypass Switching Time	10ms (typical)		
Parallel Capacity	9		
Maximum Battery Inverter Efficiency	93%		
Overload Protection	102%~110%，5min；110%~125%，10s；>125%，2s		
BATTERY			
Battery Type	Lithium / Lead-acid / User Defined		
Rated Battery Voltage (VDC)	48		
Battery Voltage Range (VDC)	40~60		
Max.MPPT Charging Current (A)	60	100	200
Max.Mains Charging Current (A)	60	60	120
Max.Hybrid Charging Current (A)	80	100	200
Charging current error (ADC)	±3		
Charging Short Circuit protection	Blown Fuse		
PV CHARGING			
MPPT Quantity	1		2
Max. PV array power (W)	4000	5500	5500+5500
Max. PV input current (A)	13	22	22+22
Max. Open Circuit Voltage (VAC)	500		500+500
MPPT Voltage Range (VDC)	120~450		
MPPT Tracking Efficiency	99.9%		
MAINS INPUT			
Input Voltage Range (VAC)	90~280/170~280		
Frequency Range (Hz)	50/60±0.3		
Output Short Circuit Protection	Circuit breaker		
Bypass Overload Current (A)	30	40	63
SPECIFICATIONS			
Dimensions (D*W*H)mm	130*350*455		130*445*630
Weight (kg)	11	12	27
Classification of waterproof	IP20		
Operating Temperature Range (℃)	-10~55		
Storage Temperature Range (℃)	-25~60		
Noise (dB)	<60		
Heat Dissipation	Forced air cooling (variable speed of fan)		
COMMUNICATION			
Embedded interface	RS485 / CAN / USB / Dry contact		
External module	WIFI/GPRS		
CERTIFICATION			
Safety	CE(IEC62109-1)		
EMC	EN61000		

Note: Above data are subject to change without notice. Special voltage could be customized.

HYBRID INVERTER >>>

GST series three-phase



Product introduction

GST series is a new all-in-one solar charge inverter, which integrates solar energy storage & utility charging energy storage and AC sine wave output. Thanks to DSP control and advanced control algorithm, it has high response speed, high reliability and high industrial standard. Four charging modes are optional, i.e. Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging; and two output modes are available, i.e. inverter and Mains, to meet different application requirements.

Performance characteristics

Three output modes
When the grid-connected function is enabled, grid-connected power generation or anti-reverse-current can be set, and it can also be set to off-grid output mode.

Four charging modes
Mains priority charging, solar priority charging, mains solar hybrid charging and solar only charging.

Emergency function
Support battery-free output and only PV start and load, with battery activation function.

The host computer and the APP cloud communication
The host computer and the APP cloud can display the operating data and status of the system in real time and control and modify the parameters.

Protection function
Perfect hardware and software protection function, can display the fault type for easy removal.

Technical parameters

MODEL	GST48-8K3	GST48-10K3	GST48-12K3
INVERTER OUTPUT			
Rated Output Power (W)	8000	10000	12000
Rated Output Power (VA)	8000	10000	12000
Maximum Peak Power (W)	16000	20000	24000
Load Capacity with Motors(HP)	5	6	6
Rated AC Output	400 VAC Three phase, 50 / 60Hz		
Output Voltage Waveform	Pure Sine Wave		
Inverter and Bypass Switching Time	10ms (typical)		
Maximum Battery Inverter Efficiency	≥93%		
Overload Protection	102%~110%, 5min; 110%~125%, 10s; >125%, 2s		
BATTERY			
Battery Type	Lithium / Lead-acid / User Defined		
Rated Battery Voltage(VDC)	48		
Battery Voltage Range(VDC)	40~60		
Max.Mains Charging Current(A)	100	120	120
Max.Hybrid Charging Current(A)	180	220	260
Charging current error(ADC)	±3		
Charging Short Circuit protection	Blown Fuse		
PV INPUT			
MPPT Quantity	2		
Max. PV array power(W)	6000+6000	7500+7500	9000+9000
Max. PV input current(A)	22+22		
Max. Open Circuit Voltage(VDC)	800		
MPPT Voltage Range(VDC)	200~650		
MPPT Tracking Efficiency	99.9%		
MAINS INPUT			
Input Voltage Range(VAC)	Phase Voltage170~280, Line Voltage305~485		
Frequency Range(Hz)	50/60±0.3		
Output Short Circuit Protection	Circuit breaker		
Bypass Overload Current(A)	63		
SPECIFICATIONS			
Dimensions (D*W*H)mm	130*445*630		
Weight(kg)	27		
Classification of waterproof	IP20		
Operating Temperature Range(℃)	-10~55		
Storage Temperature Range(℃)	-25~60		
Noise(dB)	<60		
Heat Dissipation	Forced air cooling (variable speed of fan)		
COMMUNICATION			
Embedded interface	RS485/CAN/USB/Dry contact		
External module	WIFI/GPRS		
CERTIFICATION			
Safety	CE(IEC62109-1)		
EMC	EN61000		

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PV INVERTER & CONTROLLER INTEGRATED MACHINE >>>

Single-phase power frequency GSA series

Product introduction

The photovoltaic control and inverter integrated machine (hereinafter referred to as the inverter control integrated machine) is a new type of photovoltaic power generation device that organically combines a photovoltaic charge controller and an inverter. It consists of a charge controller, an inverter and a protection circuit, and the output is a pure sine wave voltage. It has the advantages of small total installation space, few connection lines, safety and reliability.

Photovoltaic charge controller is a high-performance step-down device that uses MPPT (Maximum Power Point Tracking) algorithm to make full use of solar photovoltaic energy. The PV input voltage range is wide, which can charge a variety of batteries, and the three-stage charging effectively improves the life of the battery.

This series of integrated control and inverter power supplies is the first choice to solve the daily electricity consumption of residents in areas without public power grids or underdeveloped power grids.

Performance characteristics

- MPPT solar charging controller, which can make the most use of solar photovoltaic
- Three-stage charging, effectively prolonging the life of the battery
- It has the functions of power generate record, Event recording,Time switch, Auto sleep function
- Photovoltaic priority or utility power priority mode can be set by users
- Pure sine wave output & completely protection
- Low frequency circuit design,good system reliability, low breakdown rates and long life time
- Higher ability to anti-attack from the loads
- Supporting city power / Diesel generator input port(Optional)
- AC charger function (Optional)

Technical parameters

Series		GSA96	GSA192/220		
Output Power (kVA)		6/8	6	10/15	20/25/30
BATTERY					
Rated Voltage (VDC)		96	192/220		
PV INPUT					
Maximum Input Power (kWp)		6	12/24		
Maximum Charge Current (A)		50/100			
Start Voltage (VDC)		120	270		
MPPT Voltage Range (VDC)		110~280	260~450		
Maximum Open Circuit Voltage(VDC)		300	480		
Floating Voltage((VDC)	Adjustable	108.0	216.0/243.0		
Bulk Charge Voltage(VDC)	Adjustable	113.6	227.2/255.6		
AC BYPASS(OPTIONAL)					
Allowable Input Voltage Range(VAC)		220±15%/110±15% (Other input voltage can be customized)			
Input Frequency (Hz)		50/60±3%			
AC charger		Optional			
AC OUTPUT					
Output Waveform		Pure Sine Wave			
Output Voltage (VAC)		220±1%; 110±1%(Other output voltage can be customized)			
Output Frequency (Hz)		50/60±1%			
Output waveform distortion rate(THD)		≤2%(Liner Load)			
Convert Efficiency(80% Resistive load)		≥85%			
Current Peak Factor		3:1			
Overload Ability		105%~110%，10min；110%~125%，1min；>125%，1s			
Display Method		LCD+LED			
Protection		Input reverse protection, input low voltage protection, Input over voltage protection; Output overload protection; Output short circuit protection (do not recovery automatically need to restart machine); Machine over heating protection.			
Communication Function		Optional			
SURROUNDINGS					
Protectiye Level		IP20			
Applied Altitude(m)		5000(Reduce capacity for use above 2000 meters)			
Allowable relative humidity(%RH)		<95% (Non-condensing)			
Environment temperature(°C)		-10~40			
Noise(dB)		≤60			
APPEARANCE					
Dimensions(D*W*H)mm		645*305*770	585*210*565	645*305*770	700*405*980
Weight(kg)		80~85	55	90~100	135~155

The above data are for reference only and are subiect to change without prior notice. Special voltage can be customized.

PV INVERTER & CONTROLLER INTEGRATED MACHINE >>>

Three phase power-frequency GSA model series

Product introduction

The solar photovoltaic control inverter integrated power supply is a new generation of dedicated power supply for new energy power generation systems. It is mainly designed and manufactured according to the characteristics and requirements of new energy power generation systems, and is suitable for the high quality and high reliability requirements of solar photovoltaic power generation systems for power supply equipment. The system uses photovoltaic cells to convert light energy into electrical energy, and charges the battery through the charging circuit. At the same time, the battery supplies power to the inverter, and the inverter provides AC power to the AC load.

This series of control inverter integrated power supplies has a wide input DC voltage and stable output voltage and frequency. The products are widely used in homes, substations, communication service industries or comprehensive system power generation, etc., and can realize real-time and online observation of remote data through remote communication functions. They are core products in modern new energy power generation systems.

Performance characteristics

- Advanced DSP digital control technology can effectively improve product performance and system reliability
- Excellent industrial environment protection performance
- Perfect protection function to provide safe and reliable power protection for the load
- Intelligent battery management function, can effectively detect whether the battery is good or bad, prolong the battery life
- High-performance large-screen LCD interface, intuitive and convenient operation
- Powerful communication interface and network remote monitoring, etc
- A wealth of optional accessories, which can be flexibly configured according to actual needs

Technical parameters

Series	GSA/192/220/240/360/384					
Output power(kVA)	10	20	30	40	50	60
AC input						
Phase	Three phase+N+G					
Volt range(VAC)	380/400/415±20%					
Frequency range(Hz)	50/60±5%					
PV input						
MPPT volt ranget(VDC)	230~450（Rated voltage: 192/220/240)					
	450~700（Rated voltage: 360)					
	480~750（Rated voltage: 384)					
Max.Open circuit volt(VDC)	480（Rated voltage: 192/220/240)					
	800（Rated voltage: 360/384)					
Input paths	1/2（More than 360V one input)					
Max.Input power(kWp)	12/24（Rated voltage：192/220/240)					
	42（Rated voltage：360)					
	45（Rated voltage：384)					
DC						
Nominal volt(VDC)	192/220/240/360/384					
Inverter						
Phase	Three phase+N+G					
Nominal volt(VAC)	380/400/415					
Nominal frequency(Hz)	50/60					
Frequency Stability(Hz)	< ±0.05%					
Peak factor	3:1					
Output wave	Pure sine wave					
THD	Line load<3%;Non-line load<5%					
Voltage transient	<+3%(steady state load), < ±5%(dynamic load)					
Over-load ability	125% 10min，150% 1min					
System						
Communication interface	RS485(RS232、Network remote monitoring Option)					
Interface and instructions	7-inch color touch screen, LED status indication, dry contacts(optional)					
Operating environment	Temperature:-10~40℃；Relative Humidity:<95(non-condensing)；Altitude:5000m(Reduce capacity for use above 2000 meters)					
Cooling method	Forced ventilation					
Noise(dB)	((According to load size and ambient temperature)40～65					
Size(DxWxH)mm	600*600*1600			600*800*2000		

The above data are for reference only and are subject to change without prior notice. Special voltage can be customized.

PHOTOVOLTAIC MPPT CONTROLLER >>>

Low pressure system

Performance characteristics

- Memory function,save the settings、date and time、power generation etc function
- Charging mode:three-stage charging(constant current、constant voltage、float),effectively extending the battery life
- LCD and LED display various parameters, such as model,PV input voltage,the battery type,charging voltage, charging current, charging power,working condition etc
- Photovoltaic input adopts MPPT tracking technology
- Can be operated in parallel, expanding the range of use and meeting the charging requirements under high power
- Available for communication power supply field

Technical parameters

MODEL	GSM48	GSM96
Rated voltage(VDC)	48	96
Over voltage protection point (VDC)	62.0	124.0
Over voltage resumption point (VDC)	60.0	120.0
Float voltage(VDC)	54.0	108.0
Bulk voltage(VDC)	56.8	113.6
Maximum charging current(A)	60/120	(50/100) / (150/200)
Charging mode	Three-stage:constant current(MPPT)、constant voltage、float	
Maximum input power(kWp)	3.4/6.8	5.7/11.4/17.1/22.8
Starting voltage(VDC)	60	120
MPPT voltage range(VDC)	50~150	110~280
Maximum open-circuit voltage(VDC)	170	300
Maximum efficiency	>98%	
MPPT efficiency	>99%	
Noise(dB)	<55	
Display	LCD+LED	
Communication	RS485(optional)	
Working temperature(°C)	-10~40	
Relative humidity	<95 (Non-condensing)	
Altitude(m)	5000(Reduce capacity for use above 2000 meters)	
Degree of protection	IP20	
Dimension(D*W*H)mm	225*475*640(Wall-mounted type)	(225*475*640)/(530*530*1150)(vertical)
Weight(kg)	13~16	13~50
Protection	PV array reverse polarity protection; Reverse battery protection;Nighttime anti-anti-chargeprotection;Battery overcharge protection、over-discharge protection;Output overload protection,output short circuit protection	

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▲GSM192/220/240-50 ARack type（Tape screen）

▲GSM360/384-100 ARack type

▲GSM360/384-100Awall-mounted

Product introduction

MPPT series photovoltaic controller is a high-performance step-down solar power generation equipment, which adopts MPPT (Maximum Power Point Tracking) algorithm to make full use of solar photovoltaic energy. The PV input voltage range is wide, which can charge a variety of batteries, and the three-stage charging effectively improves the life of the battery. The modular design of the controller allows multiple units to be used in parallel, allowing customers to configure freely and flexibly.

PHOTOVOLTAIC MPPT CONTROLLER >>>

High pressure system

▲GSM 360/384 Series Controller Cabinet ▲GSM192/220/240Series Controller Cabinet

Performance characteristics

In order to increase reliabillty, multiple protections are used：

※ Input overvoltage protection ※ Input under voltage protection ※ Output overvoltage protection

※ Output overcurent protection ※ Stand-alone two-phase curent unoalance protection

※ Sinale-phase output overcurrent hardware protection

Display mode can be LED light or LCD screen

Support multi-module paralel work

Relevant parameters can be set freely

A controller cabinet is oplional. and control cabinets of diferent specifications can be selected according to the reauired charaing power.

The control cabinet comes standard with photovoltaic input circuit breakers, battery circuit breakers. fuses input and output terminal blocks.etc

Technical parameters

Model	GSM192	GSM220	GSM240	GSM360	GSM384
Rated volt(VDC)(Settable)	192	220	240	360	384
Float charging volt(VDC)(Settable)	216	243	270	390	416
Bulk charging volt(VDC)(Settable)	224	252	280	420	448
Maximum Charge Current (A)	wall type50/100；rack type50			wall type100；rack type100	
Charging mode	Three stage: Constant current, constant voltage,foating				
Max, Input power(kWp)	12/24			42	45
Start voltage(VDC)	240	270	300	470	500
MPPT volt range(VDC)	230~450	260~450	290~450	450~700	480~750
Max. open circuit voltage(VDC)	480			800	
Max. efficiency	>98%				
MPPT efficiency	>99%				
Noise(dB)	<65				
Display	LCD+LED				
Communication	RS485				
Working temperature	-10～40				
Relative humidity	< 95(Non-condensing)				
Altitude(m)	5000(Reduce capacity for use above 2000 meters)				
Protection level	IP20				
Protection function	PV array anti-reverse connection protection, Night anti-reverse charging protection. Battery over-charging and over-temperature protection, etc.				
Dimension(D*W*H)mm	wall type50A	470*360*100		wall type100A	490*365*202
	wall type100A	517*400*181		rack type100A	527*480*219
	rack type50A	403*482*87			
Weight(kg)	50A : 9；100A : 18			25	
Optional cabinet size (D*W*H)mm	4Modules	550*550*900		3Modules	700*550*1300
	6Modules	600*600*1600			

Note: Above data are subject to change without notice. Special voltage could be customized.

Product introduction

GSI series inverter power supply is the fourth generation power frequency intelligent inverter power supply developed with new digital technology. The system adopts SPWM pulse width modulation technology, IGBT power module and output isolation transformer, so that the output of the inverter power supply is a pure sine wave power supply with stable frequency and voltage regulation, fitering noise and low distortion. it has the characteristics of strong load capacity, good load compatibility, and wide DC input voltage range, which greatly meets the needs of various electrical environments. The perfect protection device improves the stability and reliabiily of the svstem operaion: the user-fiendly LOD iouid crvstal interface desian enables man-machine communication zero-distance.

Performance characteristics

- Pure sine wave output, sufficient power output
- Complete protection functions: output overload protection, output short circuit protection, input overvoltage and undervoltage protection, over temperature protection, etc
- Power frequency circuit design, good system stability, low failure rate and long life
- Good transient response, low waveform distorion, high inverter eficiency, stable output voltage, and excellent Ell indicators
- Strong load resistance and carrying capacity. In addition to driving various resistive loads, it can also carry various inductive devices such as motors, air conditioners, drills, gas lamps, etc

Technical parameters

Series	GSI96	GSI220		
Output power (kVA)	6/8	6	10/15	20/25/30
Battery				
Rated voltage(VDC)	96	220		
Mains bypass (optional)				
Input voltage allowable range(VAC)	220±15%			
Input frequency(Hz)	50/60±3%			
Mains charging	Optional			
AC output				
Output waveform	Pure sine wave			
Output voltage(VAC)	220±1%			
Output frequency(HZ)	50/60±1%			
Output waveform distortion rate(THD)	≤2%(Liner load)			
Inverter efficiency	≥85%			
Current peak factor	3:1			
Overload capacity	105%~110%，10min:;110%~125%，1min:>125%，1s			
Display method	LCD+LED			
Protective function	Input reverse connection protection, input undervoltage protection, input overvoltage protection, output overload protection. Output short circuit protection (not automatically restored, the machine needs to be restarted), machine overheating protection.			
Communication function	RS485/GPRS (Optional)			
Environment				
Protection level	IP20			
Operating altitude(m)	5000(Reduce capacity for use above 2000 meters)			
Allowable relative humidity(%RH)	<95(No condensation)			
Environment temperature(℃)	-10~40			
Noise((dB)	≤50			
Appearance				
Dimensions((D*W*H)mm	645*305*770	585*210*565	645*305*770	700*405*980
Weight(kg)	75~85	50	90~100	135~155

Note: Above data are subject to change without notice.

OFF GRID INVERTER >>>

GSI series three phases inverter

Product introduction

This series of three-phase off-grid inverters are high-eficiency and high-performance three-in-three-out inverter products.They are a new generation dedicated power supplies for new energy power generation systems. They integrate digitization informatization and networking. They have powerful information acquisition system, signal processing system, detection system and perfect protection svstem, They have wide input DC voltage, stable output voltage and freguency, which are mainly used in photovoltaic power stations, wind power stations, wind, light, oil, storage complementary power generaion systems ,household photovoltaic power supply system and other fields, especially places that reguire three-phase four-wire AC power.

Performance characteristics

- Advanced DSP digital control technology effectively improve the product feature and system stability
- Excellent industrial ambient protection performance, applicable to all kinds of working environment
- High performance big LCD screen, smart boot prompts and operation error alert function, operate visually and easily
- Powerful communication interfaces and network remote monitoring
- Wealth of optionas can be flexibly configured according to the actual needs
- Independent aitight duct, optimized ventlation desian, interal modular installation, all devices reguired maintenance can be maintained from the front side. Machine can be installed three faces against the wall or parallel

Technical parameters

Series	GSI					
Output Power(kVA)	10/15/20/30	40/50/60	80/100/120	160/200	250/300	400
Rated DC voltage(VDC)	192/220/360/384		360/384		384	
AC input						
Phase	three phase+N+G					
Nominal voltage(VAC)	380/400/415±20%					
Frequency Range(Hz)	50/60±5%					
Inverter						
Phase	Three phase+N+G					
Rated voltage(VAC)	380/400/415					
Rated Frequency (Hz)	50/60					
Frequency stability(Hz)	< ±0.05%					
Crest Factor	3:1					
Output waveform	Sine Wave					
Total Harmonic Distortion	Linear load <3%; non-linear load < 5%					
Voltage transients	< ±3%(steady-state load), < ±5% (dynamic load)					
Overload capacity	125% 10min，150% 1min					
system						
Communication Interface	RS485(RS232、Network remote monitoring option)					
Interface and instructions	7-inch color touch screen, LED status indicator, dry contact (optional)					
Temperature(℃)	temperature:-10~40					
Humidity(%RH)	<95(No condensation)					
Altitude(m)	5000(Reduce capacity for use above 2000 meters)					
Cooling method	Forced ventilation					
Noise(dB)	(According to the load size and ambient temperature)40～65					
Exterior						
Cabinet color	Available in different colors					
Weight(kg)	220~390	490~780	850~1050	1200~1400	1600~1800	2100
Dimensions(D*W*H)mm	600*600*1350	600*800*1350	800*805*1800	900*1005*1800	1100*1150*1920	1100*1250*1920

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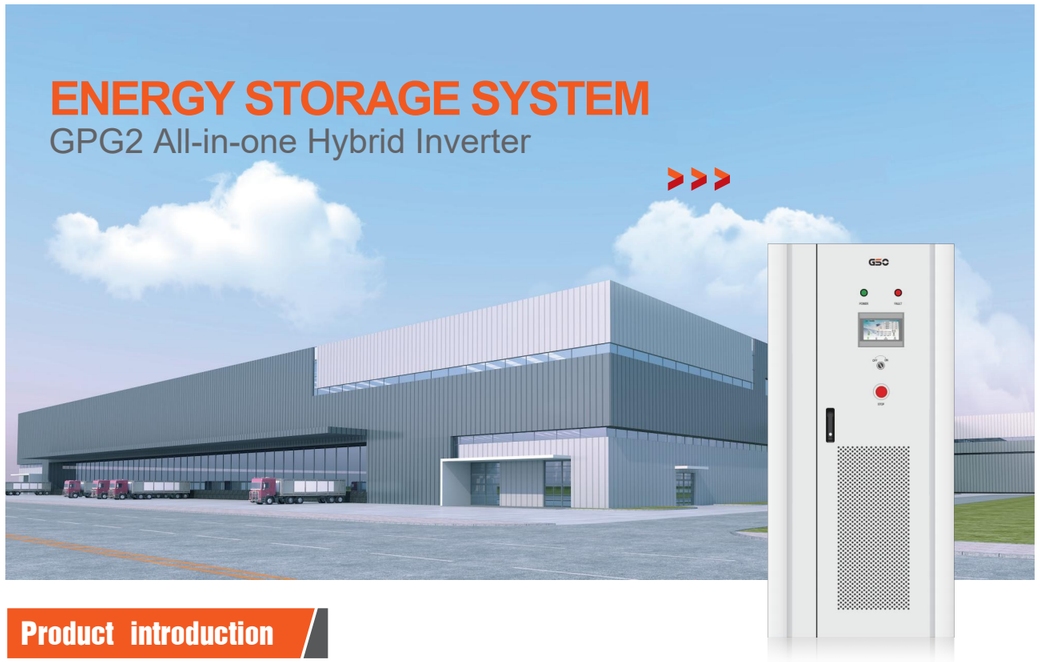

Product introduction

The all-in-one hybrid inverter integrates MPPT photovoltaic controller, energy storage bidirectional AC/DC inverter, static switch and EMS, etc., which can be connected to photovoltaic and battery to provide grid connection and backup power for load. A variety of working modes can be flexibly set, flexible support for lithium batteries and lead-acid batteries. Support load, battery, power grid or diesel generator, photovoltaic access at the same time, can be applied to new energy resource side, grid side, user side, micro-grid side and other environments, through the traditional power quality management and energy storage EMS function combination of technology innovation, implements the charge and discharge, peak cutting,valley filling, consumption, voltage support, voltage reduction, battery protection and other EMS functions. As well as power quality reactive compensation, harmonic suppression, imbalance control and other functions, etc. Power supply is safe and stable, maximizing the utilization rate of new energy resource, seamless off-grid state switching, uninterrupted supply of load, built-in isolation transformer, strong load adaptability. It has a perfect protection function, and the protection of the inverter and the battery.

Performance characteristics

- PV MPPT output automatic tracking function to improve the photovoltaic power generation of the system;
- On/off-grid operation strategy is flexible , suitable for a variety of applications;
- Integrated load and oil engine interface to facilitate system construction;
- Based on static switching technology to ensure the continuous power supply capacity of important loads;
- Has the ability of amplitude modulation and frequency modulation of mains to ensure power supply quality, power supply efficiency and automatic reactive power compensation strategy;
- Built-in automatic power dispatching management based on EMS to realize unattended operation;
- Support remote cloud intelligent integrated operation and maintenance management system;
- Wide voltage range of DC side, suitable for a variety of batteries;
- Support the parallel function of multiple machines to facilitate capacity expansion;
- The perfect protection measures, with the ability to actively monitor faults and protection;
- Intelligent multi-stage AC fan speed regulation technology to reduce the system loss;
- High / low voltage crossing function.

Technical parameters

Model	GPG2 50K	GPG2 100K	GPG2 150K	GPG2 250K	GPG2 500K
PHOTOVOLTAIC PARAMETERS					
PV rated power (kW)	55	110	165	275	550
MAX.PV power (kW)	75	150	225	375	750
MAX.PV open-circuit voltage (V)	1000	1000	1000	1000	1000
MPPT voltage range (VAC)	480~800				
MAX.PV input current (A)	135	270	405	675	1350
BATTERY PARAMETERS					
Battery voltage range (V)	352~600				
MAX.Battery charging current (A)	150	300	450	750	1500
MAX.Battery discharge current (A)	155	310	465	775	1550
MAX.Battery charging power (kW)	75	150	225	375	750
MAX.Battery discharge power (kW)	55	110	165	275	550
AC OUTPUT PARAMETERS					
Rated voltage (VAC)	400				
Rated current (A)	72	144	216	360	750
Power rating (kW)	50	100	150	250	500
Rated frequency (Hz)	50/60				
Max. AC output power(kVA)	55	110	165	275	550
Max. AC input power(kVA)	75	150	225	375	750
Power factor	0.8lagging—0.8leading				
Current harmonics THDI	<3% (full load)				
Voltage harmonic wave THDU	≤2%				
Overload Capacity	110% —— 10 min, 120% —— 1 min				
OTHER PARAMETERS					
Protection degree	IP20 (In door)				
Noise (dB)	< 65				
Heat dissipation	Intelligent air cooling				
Humidity(%RH)	< 95 (with no condensation)				
The highest altitude (m)	5000 (Reduce capacity for use above 2000 meters)				
Built-in isolation transformer	Yes				
Operating temperature range (℃)	-25~55				
LCD display	touch LCD screen				
Communication Interface	RS485/CAN				
Frequency range (Hz)	45~55/55~65				
Active anti-islanding	Disturbance output frequency without reference				

Note: Above data are subject to change without notice. Special voltage could be customized.

Product introduction

GPCS50100/150/250Kenergystorageconverter is a product developed for industrial and commercial energy storage applications, which can meet the diversified needs of users and provide assistance for comprehensive energy services.GPCS500/630Kenergystorage converter can be applied to various scenarios such as power generation side and power grid side, and can quickly realize AC/DC bidirectional energy conversion.The multi branch input technology can reduce the battery parallel numbers,reduce battery circulation,and extend the service life of battery packs.

Performance characteristics

Modular design

The product adopts the modular design concept. Each module can operate independently,providing n+1 redundancy and improving system stability.The capacity can be expanded according to the users needs.

Intelligent matching

The product is suitable for various types of batteries The system can realize different charging and discharging strategies according to different battery types, to prolong the battery life span.

Distributed in demand

The energy dispatching can be regulated, and the user can change the charging and discharging logic according to the power consumption policies in different periods of time in the region.

Independent regulation of active and reactive power

The product can realize independent regulation of active and reactive power, meet different load requirements, ensure power factor and avoid fines.

On/Off grid seamless switching

Realize seamless switching between grid and off grid connection, ensure the continuity of power consumption, and avoid economic losses caused by power failure.

Technical parameters

Model	GPCS 50kW	GPCS 100kW	GPCS 150kW	GPCS 250kW	GPCS 500kW	GPCS 630kW
DC side parameters						
DC voltage range(V)	500-850			600-900		
Maximum DC current(A)	110	220	330	550	873	958
Battery branches Number	1				1/2/4/8	1
AC grid connection parameters						
Rated output power(kW)	50	100	150	250	500	630
Rated grid voltage(V)	400±15%				380±15%	
Rated grid frequency(Hz)	50/60±2.5					
AC rated current(A)	72	144	216	360	727	916
System parameter						
Wiring mode	Three phase four wire					
Isolation	Power frequency isolation					
Cooling	Forced air cooling					
Temperature range(℃)	-20~45					
Protection level	IP20					
Size (D*W*H)mm	800*800*2160			800*1200*2160	800*1100*2260	
Communication						
Upper computer communication mode	ModBusTCP/IP					
Communication interface	Net port、RS485、CAN					

Note: Above data are subject to change without notice, Special voltage could be customized.

ENERGY STORAGE SYSTEM >>>

GDS DC converter

Product introduction

The GDS 400kW DC-DC converter converts the DC power from the PV module array into DC power that can be used to charge the batteries. The GDS400kW DC-DC converter has a single-stage topology with a wide PV voltage input range of 250-840V and an output voltage range of 600-900V to the batteries, with MPPT PV maximum power tracking.

Performance characteristics

For the DC conversion protection strategy, it meets the relevant standards and regulations of the photovoltaic industry, and has but is not limited to the following protection functions:

PV input overvoltage protection	Output current control
PV input undervoltage protection	Output short circuit protection
Over load protection	DC reverse protection

At the same time, according to the BMS requirements of different batteries, the charging status of the battery side is protected based on its control strategy, including overcharge, overdischarge, capacity protection, etc.

Technical parameters

Model	GDS
Rated power(kW)	400
Low voltage side to PV input	
High voltage DC bus voltage(V)	750[(LV side voltage+40)~850]
High voltage DC bus current(A)	67*8(maximum100*8)
DC bus power(kW)	50*8
Low-voltage charge/discharge voltage(V)	500(250~840)
Low voltage charge/discharge current(A)	100*8(maximum120*8)
Low voltage side connection battery input	
High voltage DC bus voltage(V)	750[(LV side voltage+40)~850]
High voltage DC bus current(A)	67*8(最大100*8)
DC bus power(kW)	50*8
Low-voltage charge/discharge voltage(V)	500(250~840)
Low voltage charge/discharge current(A)	100*8(maximum120*8)
System parameters	
Protection	Over-temperature protection, overload protection, emergency stop protection, fan failure protection
Maximum efficiency (refer to efficiency curve)	Maximum 98.6%
Isolation	Isolation-free
Cooling	Forced air cooling
Noise(dB)	≤70
Communication Interface	S485/Can/Ethernet network port
operating temperature(℃)	-20~45
Operating humidity(%RH)	< 95（No condensation）
Altitude(m)	5000（Reduce capacity for use above 2000 meters）
Protection level	IP20
Size(D*W*H)mm	800*1100*2060
Weight(kg)	600
Accreditation	
Certificates	UL Listed (Module)

Note: Above data are subject to change without notice, Special voltage could be customized.

ENERGY STORAGE SYSTEM >>>

PWD on-grid and off-grid switch cabinet system

Product introduction

The PWD on-grid and off-grid switch cabinet system consists of AC power distribution cabinet, photovoltaic inverter (optional),local load and energy storage converter to form a set of AC micro-grid system. The micro-grid Switching cabinet can work in different modes as required.

The PWD on-grid and off-grid switching cabinet plays a core role in the whole system, with the characteristics of energy dispatch management, fast on-grid and off-grid switching and convenient maintenance. At the same time, it has perfect protection functions, such as over temperature, AC over and under-voltage,AC reverse sequence, emergency shutdown, fan failure, output overload, etc., to meet the requirements of off-grid operation. The micro-grid switching cabinet includes one road power grid input, When the thyristor of the micro-grid switching cabinet breaks down, the bypass switch can be closed for emergency power supply. Note: the bypass switch and the grid switch cannot be closed at the same time. The micro grid switching cabinet includes a PCS switch,which is specially used to connect the energy storage converter. It is equipped with four load switches at most, and can be optionally connected to Photovoltaic grid-connected inverters, wind turbines, diesel generators and local loads. The external communication of the switching cabinet includes RS485, and the Ethernet can exchange data with the background PC to form an energy management system, which can dispatch and manage energy and switch between on-grid and off-grid.

Technical parameters

Model	PWD-800kW
Rated power(kW)	800
Rated volt(V)	400
Input voltage range	-25%~15%
Input voltage range	-25%~15%
Rated input current(A)	1155
Maximum input current(A)	1270(1.1 times)
Rated Frequency(Hz)	50/60
Frequency Range(Hz)	47~52/57~62
On and off grid switching(ms)	<20
Overall efficiency	99.5% (full load)
Protection class	IP20
Design life	10 years
Cooling method	Air cooling
Grid access	1 road
PCS/PV access	1 road(not more than 500kW)
Load access	4 road
Maximum load switching power(kW)	300(RCD load,pure capacitive or inductive load is less than 100)
Wiring	Three-phase four-wire system
Protection	System protection: over temperature, AC over and under voltage, AC reverse sequence, emergency shutdown, fan failure, output overload. The safety protection conditions can be set, and the setting parameters include: upper limit of AC voltage protection, lower limit of AC voltage protection,AC frequency protection upper limit, AC frequency protection lower limit.
Upper computer communication method	ModBus TCP/IP protocol
Communication Interface	Ethernet port/RS485
Cabinet Size((D*W*H)mm	800*800*2160
Noise(dB)	70
Temperature range(℃)	-20~45
Height(m)	5000 (use with reduced capacity above 2000 meters)
Humidity(%RH)	< 95 (No condensation)
Weight(kg)	300

Remarks : The above data are for reference only and are subject to change without prior notice.

ENERGY STORAGE SYSTEM >>>

STS Micro grid Controller

Product introduction

Rapid Grid Disconnection: The on-grid to off-grid switching time is less than 20ms, enabling swift separation and connection between the main grid and micro grid.

Active On-Grid/Off-Grid Switching: When the (PCS) detects abnormal voltage on the grid side, it controls the STS to disconnect, while simultaneously providing voltage support to the micro grid from the PCS. The system then operates in island mode. Upon detecting the grid voltage has returned to normal, the micro grid system synchronizes with the grid voltage, closes the STS to reconnect with the grid, and resumes grid-tied operation.

Passive On-grid/Off-Grid Switching: Upon receiving a command to initiate island operation, the PCS directs the STS to disconnect, with the PCS also supplying voltage support to the micro grid, entering island mode. When the PCS receives a command to exit island operation, the micro grid system synchronizes with the grid voltage and closes the STS to reestablish the connection with the grid, thus transitioning back to on-grid operation.

Technical parameters

Model	STS-100kW	STS-200kW	STS-300kW	STS-400kW	STS-800kW	Remark
Input voltage range (VAC)	340~460					
Rated output voltage(V)	400					
Rated output current(A)	144	288	433	580	1215	
Communication method	PCS control				CAN	Internal use
Size(D*W*H)mm	440*370*200				800*800*2160	
Installation method	Integrated in PCS				Single cabinet	

Remarks : The above data are for reference only and are subject to change without prior notice. Special voltage can be customized.

ENERGY STORAGE SYSTEM >>>

EMS-IMGCB01
Microgrid Controller

Product introduction

The advanced micro grid controller IMGCB01 uses ARM Cortex-A7, 4-core 1.2GHz processor as the core, adopts full industrial-grade devices, has complete interface protection functions and electrical isolation measures, can operate stably for a long time in harsh environments, and has passed the telecontrol terminal equipment type test and CE certification.The product has multiple interfaces and functions such as RS485, CAN, Ethernet, 4G, wifi, input and output, voltage and frequency direct acquisition, etc. to meet the needs of different occasions. It is mostly used for data collection, transmission and control in electrical systems, integrated energy systems, enterprise parks, etc.

Technical parameters

Model	IMGCB01
CPU	ARM Cortex-A7 4 cores 1.2GHz
RAM	DDR3 1G
ROM	eMMC 8G（Additional expansion possible）
Ethernet	2-way, standard RJ45 socket, 100Mbps
RS485	5-way, magnetically isolated; configurable baud rate; interface: 3.81mm Phoenix terminal
CAN	2-way, magnetic isolation; configurable baud rate; interface: 3.81mm Phoenix terminal
Switch output	5-way, relay isolation. Contact capacity: 5A 250VAC/30VDC Rated coil power: 180mW Action time: <10ms Return time: <5ms
Switch input	5-way, optocoupler isolation. DC 24V standard input rated current: 1.1mA
Voltage and frequency direct sampling	AC voltage 10-380V, frequency 40-70Hz
RTC	Onboard Farad capacitor can maintain running time for at least 7 days in case of power failure
4G	4G full network access, support GNSS positioning function
wifi	Supports IEEE 802.11b/g/n standards
Power supply	Rated voltage 24VDC, ±10% fluctuation allowed
Indicator Lights	The power indicator light is always on after power-on; the operation indicator light is always on when the device is running;
Screen	Supports expansion of touch screen via network port or DVI: supports 7-inch screen, 10-inch screen, 15-inch screen and other models
size(mm)	190*170*46

Note: The above data is for reference only and is subject to change without prior notice.

GSB SERIES >>>

Photovoltaic combiner box

Product introduction

For photovoltaic power generation systems, in order to reduce the connection lines between photovoltaic modules and photovoltaic controllers or inverters, facilitate maintenance and improve reliability, it is generally necessary to add a DC bus device between photovoltaic modules and photovoltaic controllers or inverters.

Performance characteristics

- Meet indoor and outdoor installation requirements
- Amaximum of 16 photovoltaic strings can be connected, with a single-channel rated
- Wide DC voltage input, the maximum input voltage of the photovoltaic array can reach
- Photovoltaic special fuse
- Photovoltaic dedicated high-voltage lightning arrester, both positive and negative poles have lightning protection function
- Easy and quick maintenance

Technical parameters

Model	GSB-A	GSB-B
Maximum open circuit voltage(VDC)	500	1000
Number of photovoltaic array input channels (N)	2~16 channels (Customizable)	
Rated current of single array(A)	20	
DC output circuit breaker	YES	
Photovoltaic lightning protection	YES	
Chassis size (D*W*H) mm	155*400*300/175*620*420	
Reference weight (kg)	15~25	
Protection level	IP65	
Operating altitude(m)	5000（Reduce capacity for use above 2000 meters）	
Working temperature(℃)	-25～65	

Note: The above data is for reference only and is subject to change without prior notice.