Customer's Name：

XXXXXXXXXXXXXXX

Spec.No. ：
Item Coding：
Ver： A1
Date：2021-03-09

Shenzhen Giant Power Co., Ltd.

Specification For Approval

POWER-5.5KW

Solar energy storage system

Approval	Checked	Draft
Customer Approval		

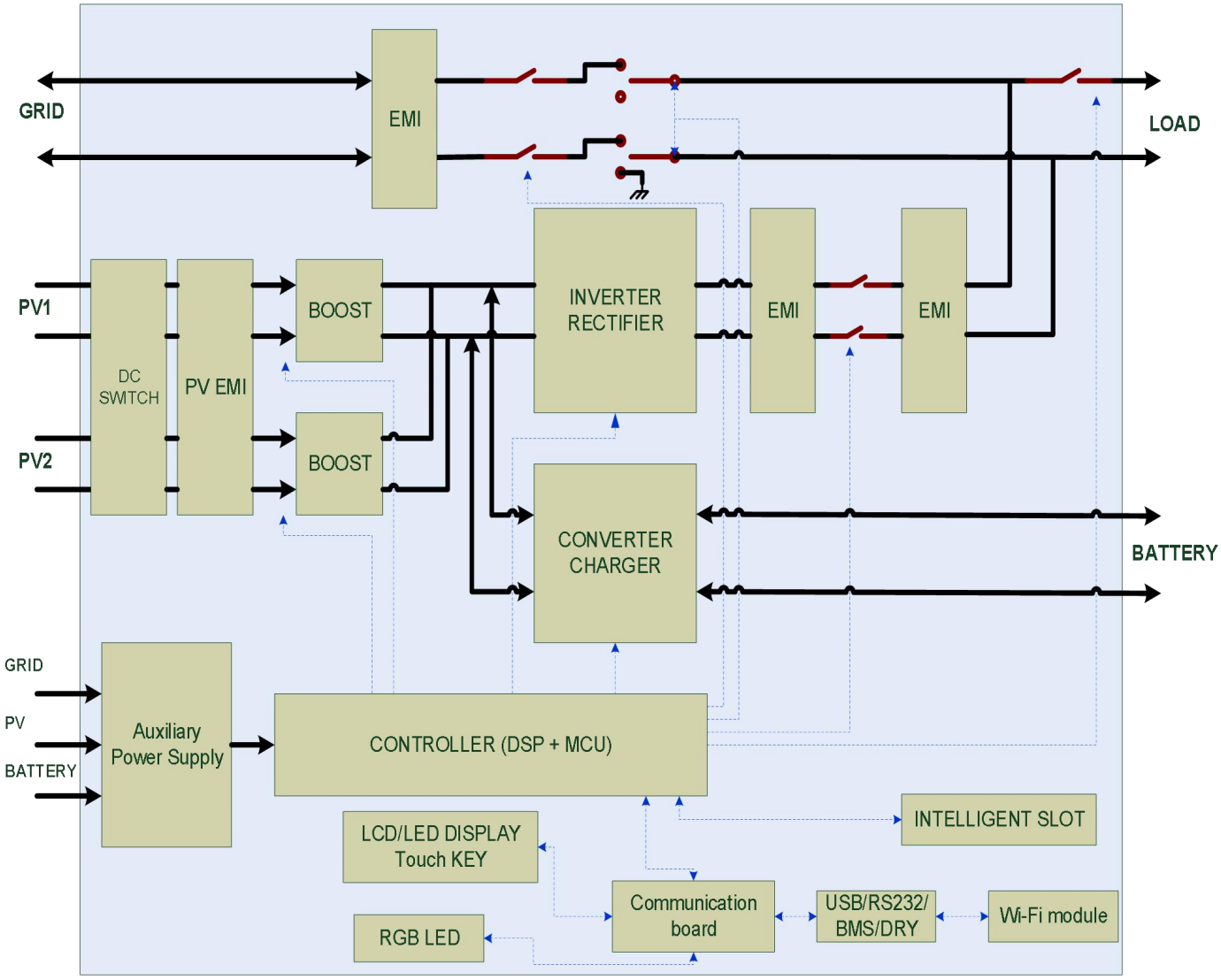
Factoryaddr：No.2 Factory Building,Baimenqian Industrial Zone, Longgang District, Shenzhen, Guangdong, China

www.szgiant-power.com

1.Product introduction

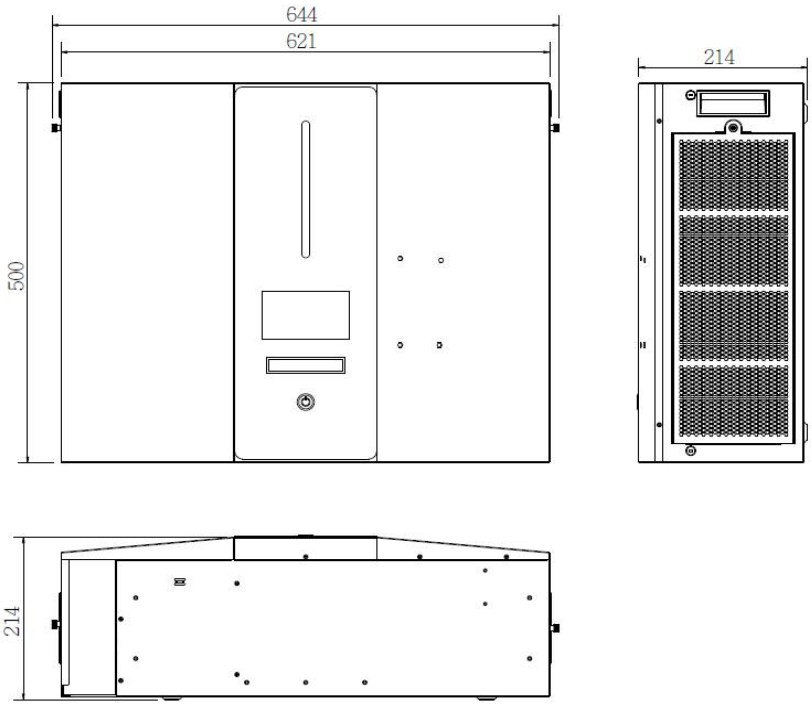
- •Pure sine wave output
- •Self-consumption and Feed-back to the Grid
- •Programmable supply priority for PV, battery or Grid
- •User-adjustable battery charging current
- •Programmable multiple operation modes: Grid-tie, off-grid and grid-tie with backup
- •Built-in timer for various mode of on/off operation
- •Multiple communication for USB, RS232, Modbus, SNMP, GPRS and Wi-Fi
- •Monitoring software for real-time status display and control
- •Enhance AC/Solar charger to 100A
- •Scalable Li-Ion battery expansion

2.System block diagram：

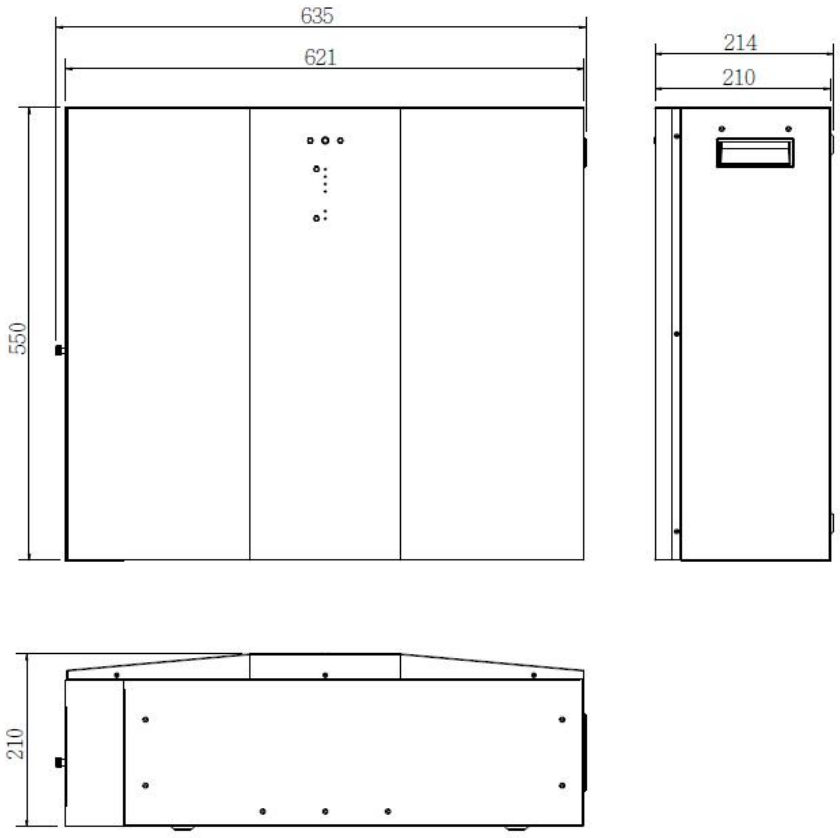


3.Figures of Unit：

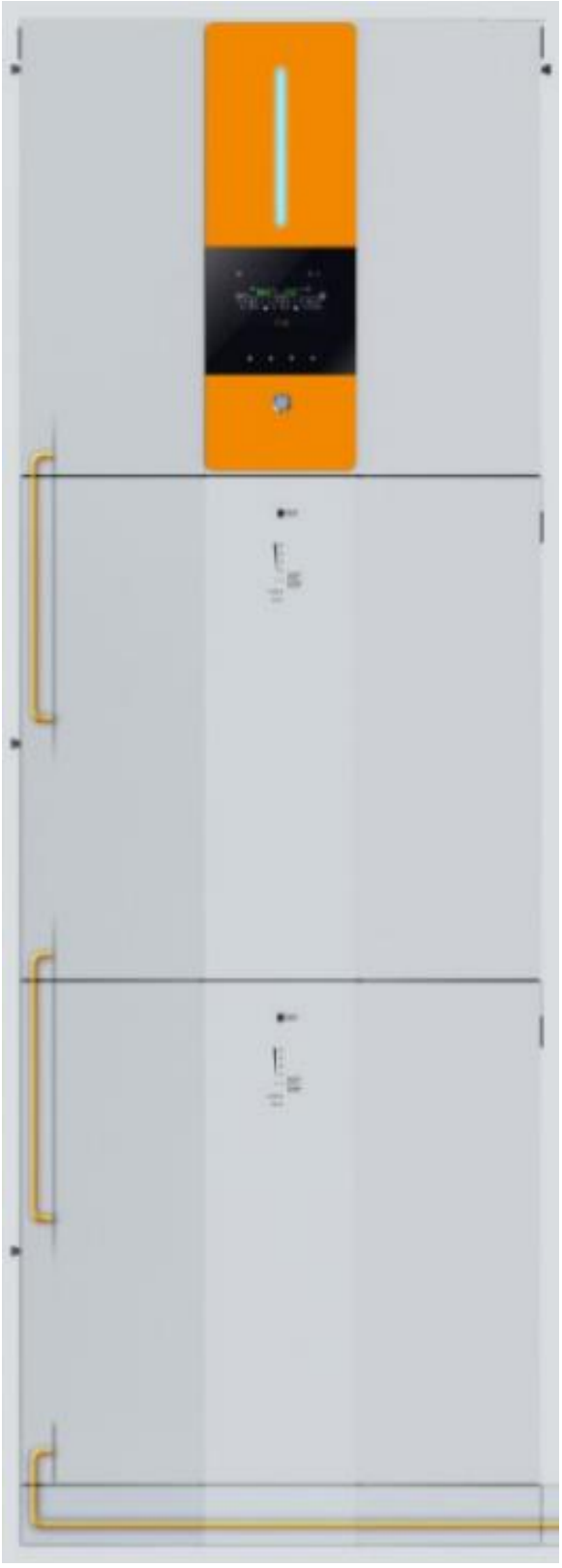
Inverter



Battery



4. POWER 5.5KW Effect picture of solar energy storage system



5.electrical Specification

PV Input Specification

It's applicable to Grid-tie & Hybrid & Off-Grid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
Max. DC Power	6500W	
Nominal DC voltage	360Vdc	
Max. Input voltage (Maximum PV open voltage)	500Vdc	
System start-up voltage	116Vdc 10Vdc	PV establish control power
Initial feeding voltage	150V 10Vdc	
Working voltage range	100Vdc (10Vdc) ~ 500Vdc (-10Vdc+0Vdc)	DC voltage range that inverter can feed power to grid
MPPT voltage range	120 ~ 450Vdc(10Vdc)	
Max. of Pi/p	Rated load	250Vdc~450Vdc
	P = 13*Vi/p	<250Vdc
	P = 28000-55*Vi/p	>450Vdc
Shutdown voltage	<70V typical	
Number of MPP Trackers	2	
Max. DC Input current / per string	13A	
Max. PV Charging current	100Amp	
Strings per MPP Tracker	A:1	

AC Input Specification

It's applicable to Hybrid & Off-Grid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
AC start voltage	120~140Vac	
Auto restart voltage	180Vac±3%	
AC input voltage range	170~280Vac	
AC input voltage comeback value	180/270Vac	
AC input frequency range	40.0~55.0Hz	For 50Hz system
	55.0~65.0Hz	For 60Hz system
AC input frequency comeback value	40.5/54.5Hz	For 50Hz system
	55.5/64.5Hz	For 60Hz system
Max. AC Input current	40A	Include Loads and Charging

Grid Feeding Specification

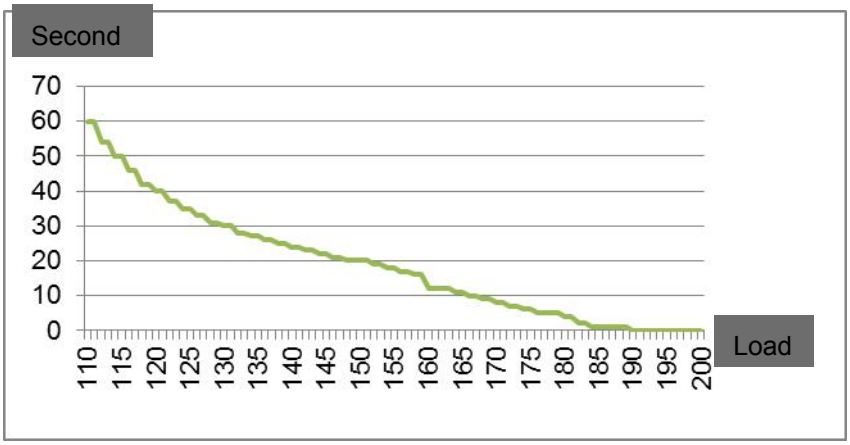
It's applicable to Grid-tie & Hybrid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
Nominal output voltage	230Vac	Optional：208/220/240Vac
Nominal output frequency	50/60Hz auto sensing	
Max feeding power	5500W	
Output voltage range	183~228Vac (±3%)	For 208Vac model (UL1741)
	182~265Vac (±3%)	For 220Vac model (Taiwan)
	189~263.5Vac (±3%)	For 230Vacmodel(VDE0126)
	184~264.5Vac (±3%)	For 230Vac model (VDE4105)
	189~271Vac (±3%)	For 230Vac model (ENEL2010)
	200.5~248Vac (±3%)	For 230Vac model (RD1663)
	212~259Vac (±3%)	For 230Vac model (G83)
	211~264Vac (±3%)	For 240Vac model (UL1741)
	205~265Vac (±3%)	For 240Vac model (AS4777)
	200~262Vac (±3%)	For 230Vac model (G59)
	184~262.2Vac (±3%)	For 230Vac model (G99)
Output voltage comeback value	188/223Vac (±3%)	For 208Vac model (UL1741)
	187/260Vac (±3%)	For 220Vac model (Taiwan)
	194/258.5Vac (±3%)	For230Vacmodel(VDE0126)
	198/250Vac (±3%)	For 230Vac model (VDE4105)
	194/266Vac (±3%)	For 230Vac model (ENEL2010)
	205.5/243Vac (±3%)	For 230Vac model (RD1663)
	217/254Vac (±3%)	For 230Vac model (G83)
	216/259Vac (±3%)	For 240Vac model (UL1741)
	210/260Vac (±3%)	For 240Vac model (AS4777)
	210/252Vac (±3%)	For 230Vac model (G59)
	194/252.2Vac (±3%)	For 230Vac model (G99)
Operational frequency range	59.3~60.5Hz(±0.1Hz)	60Hz (UL1741)
	59.5~60.5Hz(±0.1Hz)	60Hz(Taiwan)
	47.6~50.1Hz(±0.1Hz)	50Hz (VDE0126)
	47.5~51.5Hz(±0.1Hz)	50Hz(VDE4105)
	49.8~50.2Hz(±0.1Hz)	50Hz(ENEL2010)
	49.1~50.9Hz(±0.1Hz)	50Hz(RD1663)
	47.1~50.4Hz(±0.1Hz)	50Hz(G83)
	45.1~54.9Hz(±0.1Hz)	50Hz(AS4777)
	47.5~51.5Hz(±0.1Hz)	50Hz (G59)
	47.5~52.0Hz(±0.1Hz)	50Hz (G99)
Output frequency comeback value	59.4/60.4Hz(±0.1Hz)	60Hz (UL1741)
	59.6/60.4Hz(±0.1Hz)	60Hz(Taiwan)
	47.7/50.0Hz(±0.1Hz)	50Hz (VDE0126)

	47.6/50.0Hz(±0.1Hz)	50Hz(VDE4105)
	49.9/50.1Hz(±0.1Hz)	50Hz(ENEL2010)
	49.2/50.8Hz(±0.1Hz)	50Hz(RD1663)
	47.2/50.3Hz(±0.1Hz)	50Hz(G83)
	45.2/54.8Hz(±0.1Hz)	50Hz(AS4777)
	48.0/51.0Hz(±0.1Hz)	50Hz (G59)
	48.0/51.5Hz(±0.1Hz)	50Hz (G99)
Max. output current	26.4A	Under the output voltage is 208Vac
	25A	Under the output voltage is 220Vac
	23.9A	Under the output voltage is 230Vac
	22.9A	Under the output voltage is 240Vac
O/P current distortion	<3.5%	Under utility voltage THD<3% and 100% feeding power
Power Factor	>0.99	
Max. Conversion Efficiency (PV/AC)	96%	
European Efficiency @ Vnom (PV/AC)	95%	

Battery Mode Specification

It's applicable to Hybrid & Off-Grid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
Nominal output power	4800W	
Wave form	Pure sine wave	
Nominal output voltage	230Vac(±1.5%)	Optional：208/220/240Vac
Nominal output frequency	50/60Hz (auto Sensing)	50 Hz(default),Tolerance+0.1Hz
O/P voltage distortion	<3%	For linear load
	<5%	For non- linear load
O/P DC component	<150mV	
Transient O/P voltage range	Vnom+/-10%	
Transient Time	120ms	
Maximum Conversion Efficiency, DC/AC	93%	
Transfer time	<15ms	On-grid mode to off-grid mode

Overload capability Specification

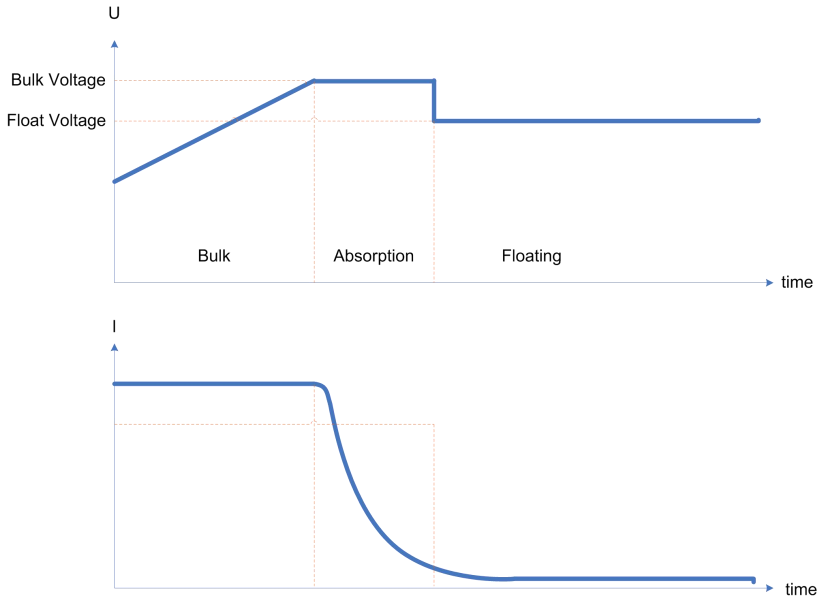
It's applicable to Hybrid & Off-Grid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
Line Mode	> 110%	Load<100%, overload released
Battery Mode	> 110%	Overload alarm for 60~20s, and then will switch to fault mode. Load <100%, overload released
	> 150%	Overload alarm for 20~0s, and then will switch to fault mode. Load <100%, overload released
	200%	Switch to fault mode immediateqly
Overload de-rating		

Output short circuit Specification

It's applicable to Hybrid & Off-Grid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
Line Mode	Fuse	
Battery Mode	Software Detection	

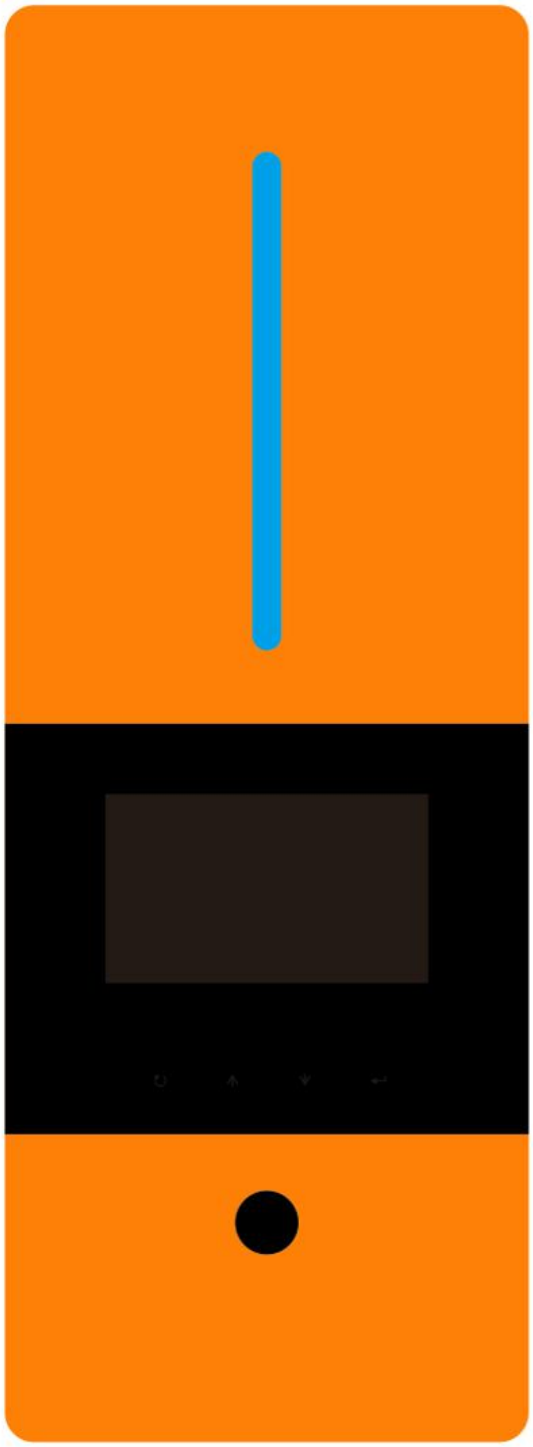
Battery & Charging Specification

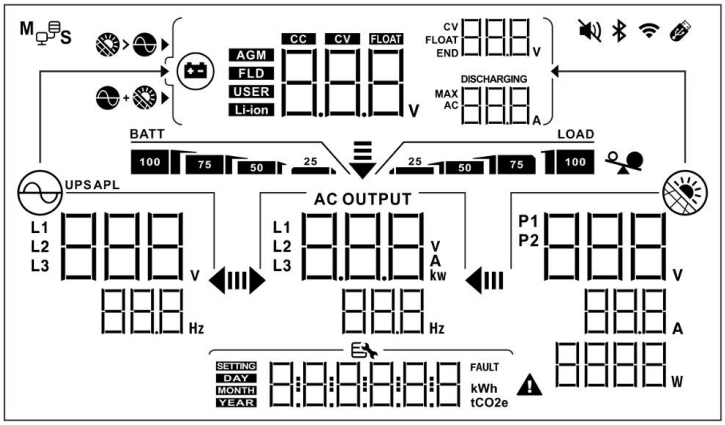
It's applicable to Hybrid & Off-Grid		
Item	**Specification**	**Comments**
Model	SZGIANT-5.5KW	
Battery		
Nominal DC voltage	48Vdc	
DC start voltage	shutdown voltage + 4Vdc	
Discharge pre-alarm battery capability	shutdown voltage + 1Vdc	
Battery shutdown voltage	42Vdc (default)	Adjustable from 40Vdc to 48Vdc.

High DC Recovery Voltage	62Vdc	
High DC Cut-off Voltage	64Vdc	
Leakage current	100uA	
Charger		
Max charging current	100A	Adjustable from 5 to 100 Amp.
Absorption charger voltage	56.0Vdc (0.5Vdc)	Adjustable from 50Vdc to 62Vdc.
Floating charger voltage	54.0Vdc (0.5Vdc)	Adjustable from 50Vdc to 62Vdc.
Battery overcharge protection	64.0Vdc (0.5Vdc)	
Charging proc based on default setting. 3 stages: First – max. charging voltage increases to 56V; Second- charging voltage will maintain at 56V until charging current is down to 5 Amp; Third- go to floating charging at 54V.		

Human Interface Specification

Item	Specification	Comments
Model	SZGIANT-5.5KW	
Local Display and switch	LCD+GRB	Refer to the “LCD Spec”
	4 switch: On/Off. Up. Down ,Enter	
Communication	Standard:RS232/USB/ Wi-Fi /BMS/DRY	
	Option: SNMP card Modbus card AS 400 Card	
DC Switch (Optional)	Yes	




CC
CV
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AGM
FLD
USER
Li-ion
CV
FLOAT
END
V
DISCHARGING
MAX
AC
A
BATT
LOAD
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25
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AC OUTPUT
L1
L2
L3
V
Hz
A
kw
P1
P2
SETTING
DAY
MONTH
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General performances

Item	Specification	Comments
Model	SZGIANT-5.5KW	
Warranty		
Standard warranty	3 years	
Protection		
AC overload protection	Yes	
AC short-circuit protection	Yes	
Ground fault monitoring	Yes	
Grid monitoring	Yes	
Battery charging management	Yes	
Anti-dust filter	Yes	
Temperature		
Storage	-15 to 60°C	
Operation temperature	-10 to 40ºC	
Humidity		
Storage	0 to 95%	
Operation	0 to 90%	
Altitude	<1000m for Nominal power	>1000m, power de-rating 1 % every 100m
Cooling & Audible noise		
Cooling	Fan	
Acoustic Noise	<55dB	

SZGIANT4815 Specification

Item	Specification	Comments
Model	SZGIANT4815	
Nominal Voltage(V)	48V	
Fully Charge Voltage(FC)	52.5V Defined in this DOC :FC＝52.5V	For battery pack
Fully Discharge Voltage(FD)	34.5V Defined in this DOC FD＝34.5V	For battery pack

Typical Capacity(Ah)	150Ah	At 0.2C discharge rate
Discharge Current	120A	700A Peak 5ms 150%*120=180A 4mins 160%*120=192A 1min
Recommend UPS Discharge Terminated Voltage	37.5V	Adjust to UPS
Recommend Charge Voltage	52.5V	When max cell voltage reaches to 3.55V, battery pack will inform charger to stop charging or the battery pack will turn off CHG after the max cell voltage over 3.55V for 20mintues
Maximum Charge Current	50A	
Recommend Charge Current (Battery Pack could also send commend to charger to adjust the charge current according to existing battery pack temperature)	20A	Battery pack at 0℃~5℃
	30A	Battery pack at 5℃~45℃
	20A	Battery pack below 45℃
Standard Charge Method	0.2C CC(constant current)charge to FC, then CV(constant voltage FC)charge till charge current decline to ≤0.05C.	
Inner Resistance	≤20mΩ	Between positive and negative polar of discharge port
Operation Environment Temperature range ℃	Charge: 0℃~50℃	Temperature Protection value is 0℃ & 60℃ on cell surface
	Discharge: 0℃~+50℃	Temperature Protection value is -20℃ & 80℃ on cell surface
	-20℃~25℃ ＜18 months	Max. 80%RH
	25℃~45℃ ＜3 months	Max. 80%RH
	45℃~60℃ ＜1 month	Max. 80%RH
	20±5℃ is the recommended storage temperature	
Shelf Life	18 months in ship mode	-20℃~25℃，Max. 80%RH
Environment humidity Range	20%RH-80%RH	
IP requirement	IP20	

6.chanical features

Item	Specification	Comments
Model	SZGIANT-5.5KW	
Connection		
AC Input/ output	Terminal	
PV input	MC4	
Battery input	Amphenol R6	
Size and weight		
Outline Dimension (W*H*D)	621x500x214	Unit：mm

Net Weight	25	Unit：Kg
Packaging Dimension (W*H*D)	840x650x330	Unit：mm
Gross Weight	30	Unit：Kg

Item	Specification	Comments
Model	SZGIANT 4815	
Connection		
Battery Input/output	Amphenol R6	
Size and weight		
Outline Dimension (W*H*D)	621x550x214	Unit：mm
Net Weight	75	Unit：Kg
Packaging Dimension (W*H*D)	840x700x330	Unit：mm
Gross Weight	80	Unit：Kg