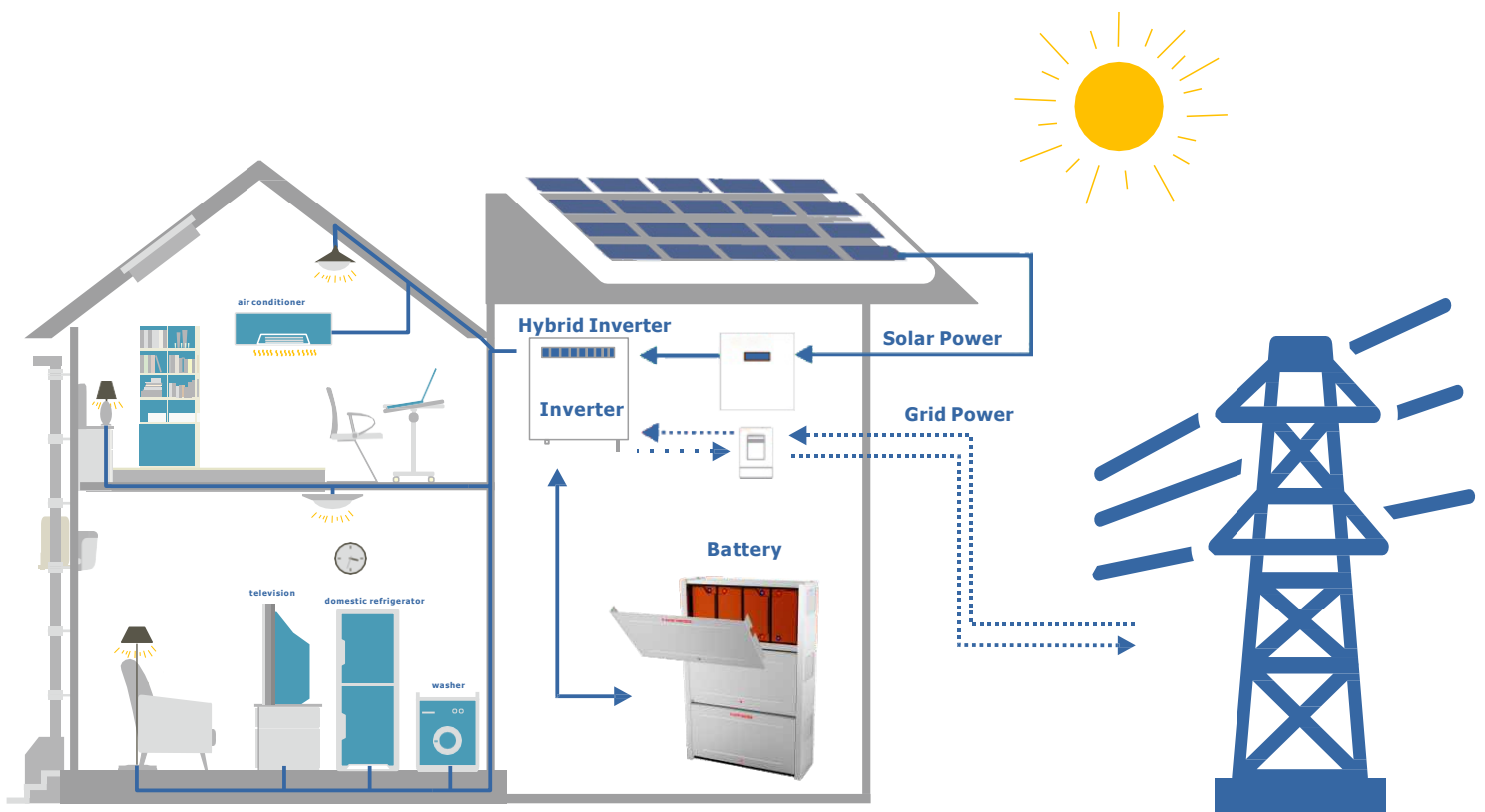


SOLAR ENERGY SOLUTIONS

Gel Battery & High Efficiency

Hybrid Inverter charger



👍 3500 cycles Extra Long Life

👍 7.62Kwh~132Kwh SES Scale

👍 Up to 96% efficiency

👍 Integrated both Solar and Battery Inverter

👍 Special lead paste formula, good cycle, charging ability

👍 Over 10 years design life

👍 Intelligent EMS and Remote Monitoring

👍 On/Off Grid Mode could be Customized as Requirement

Configuration of SES System

System Model	Energy & Configuration	
Battery Model	OT200-12	OT250-12
SES-3K-H	48V/3KW/7.62KWh	—
SES-5K-H	48V/5KW/15.00KWh	—
SES-10K-H	48V/10KW/35.00KWh	—
SES-20K-H	48V/20KW/70.00KWh	—
SES-30K-H	—	48V/30KW/88.00KWh
SES-50K-H	—	48V/50KW/132.00KWh

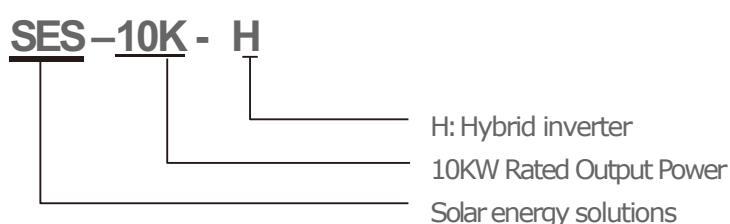
Specifications of Battery and Optional Cabinet

Batter Model	Rated Voltage(v)	Capacity (Ah)	Dimensions [mm]				Weight(Kg)
			Length	Width	Height	Overall Height	
OT200-12	12	200	522.0	239.0	217.0	222.0	60.2
OT250-12	12	250	5200	269.0	220.0	225.0	72.3
Cabinet Model	Allowable Battery		Dimensions [mm]				Weight [Kg]
			Length.	Width	Height	Overall Height	
HES10	48V/OT200-12		945.0	311.5	\	385.0	20.0
HES11	48V/OT200-12, 48V/OT250-12		1124.0	361.5	\	539.0	43.0

General Parameters of System

Heat Dissipation	Controlled air cooling
Humidity	<90%
Altitude [m]	< 1000 (no derating)
Communication	USB/RS232
Customized components	Designed as customer requirements
Standard	ISO9001, ISO14001, OHSAS18001
Hazard Substance Restriction	Complied with RoHS

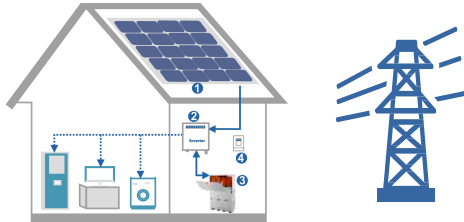
Naming Rule



Specification of Hybrid Inverter

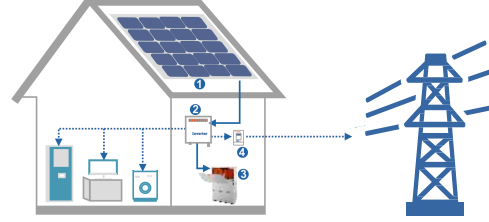
MODEL	2KW	3KW	5KW	10KW
PHASE	1-phase in / 1-phase out			3-phase in / 3-phase out
MAXIMUM PV INPUT POWER	2250 W	4500 W	10000 W	14850 W
RATED OUTPUT POWER	2000 W	3000 W	5000 W	10000 W
MAXIMUM CHARGING POWER	1200 W		4800 W	9600 W
GRID-TIE OPERATION				
PV INPUT (DC)				
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350VDC	360 VDC / 500 VDC	720 VDC / 900 VDC	720 VDC / 900 VDC
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120VDC	116 VDC / 150 VDC	225 VDC / 250 VDC	320 VDC / 350 VDC
MPP Voltage Range	120 VDC ~ 320VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC
Number of MPP Trackers / Maximum Input Current	1 / 1 x 15 A	1 / 1 x 18 A	2 / 2 x 10 A	2 / 2 x 18.6A
GRID OUTPUT (AC)				
Nominal Output Voltage	101/110/120/127 VAC	208/220/230/240 VAC		230 VAC (P-N) / 400 VAC (P-P)
Output Voltage Range	88 - 127 VAC*	184 - 265 VAC*		184 - 265 VAC* per phase
Nominal Output Current	18 A	13 A	21 A	14.5A per phase
Power Factor	> 0.99			
EFFICIENCY				
Maximum Conversion Efficiency (DC/AC)	95%	96%		
European Efficiency@ Vnominal	94%	95%		
OFF-GRID OPERATION				
AC INPUT				
AC Start-up Voltage/Auto Restart Voltage	60 - 70 VAC / 85 VAC	120 - 140 VAC / 180 VAC		120 - 140 VAC per phase / 180 VAC per phase
Acceptable Input Voltage Range	80 - 130 VAC	170 - 280 VAC		170 - 280 VAC per phase
Maximum AC Input Current	30 A		40 A	
PV INPUT (DC)				
Maximum DC Voltage	350 VDC	500 VDC	900 VDC	900 VDC
MPP Voltage Range	150 VDC ~ 320VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC
Number of MPP Trackers / Maximum Input Current	1 / 1 x 15 A	1 / 1 x 18 A	2 / 2 x 10A	2 / 2 x 18.6A
BATTERY MODE OUTPUT (AC)				
Nominal Output Voltage	101/110/120/127 VAC	202/208/220/230/240 VAC	202/208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-P)
Output Waveform	Pure Sinewave			
Efficiency (DC to AC)	90%	93%		91%
HYBRID OPERATION				
PV INPUT (DC)				
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350VDC	360 VDC / 500 VDC	720 VDC / 900 VDC	720 VDC / 900 VDC
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120 VDC	116 VDC / 150 VDC	225 VDC / 250 VDC	320 VDC / 350 VDC
MPP Voltage Range	150 VDC ~ 320VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC
Number of MPP Trackers / Maximum Input Current	1 / 1 x 15 A	1 / 1 x 18 A	2 / 2 x 10A	2 / 2 x 18.6A
GRID OUTPUT (AC)				
Nominal Output Voltage	101/110/120/127 VAC	202/208/220/230/240 VAC	202/208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-P)
Output Voltage Range	88-127 VAC*	184 - 264.5 VAC*		184 - 264.5 VAC* per phase
Nominal Output Current	18 A	13 A	21 A	14.5 A perphase
AC INPUT				
AC Start-up Voltage / Auto Restart Voltage	60 - 70 VAC / 85 VAC	120 - 140 VAC / 180 VAC		120 - 140 VAC per phase / 180 VAC per phase
Acceptable Input Voltage Range	80 - 130 VAC	170 - 280 VAC		170 - 280 VAC per phase
Maximum AC Input Current	30 A		40 A	
BATTERY MODE OUTPUT (AC)				
Nominal Output Voltage	101/110/120/127 VAC	202/208/220/230/240 VAC	202/208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-P)
Efficiency (DC to AC)	90%	93%		91%
BATTERY & CHARGER				
Nominal DC Voltage	48 VDC			
Maximum Charging Current	Default 25A, 5A - 25A (Adjustable)		Default 60A, 5A - 100A (Adjustable)	Default 60A, 10A - 200A (Adjustable)
GENERAL				
PHYSICAL				
Dimension, D X W X H (mm)	107 x 438 x 480		204.2 x 460 x 600	167.5 x 500 x 622
Net Weight (kgs)	15.5		29	45
INTERFACE				
Communication Port	RS-232/USB		RS-232/USB and CAN Interface	
Intelligent Slot	Optional SNMP, Modbus and AS-400 cards available			
ENVIRONMENT				
Humidity	0 ~ 90% RH (No condensing)			
Operating Temperature	0 to 40°C		-10 to 55°C	
Altitude	0 ~ 1000 m**			

Application Mode of SES System



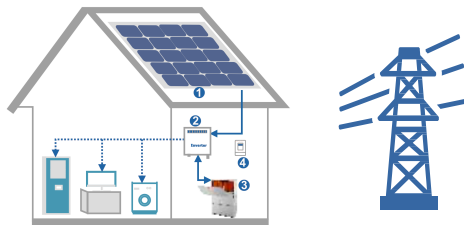
Morning

The power for home consumption come from PV and any surplus energy will be stored by our SES system. If the weather is bad, the power come from SES system.



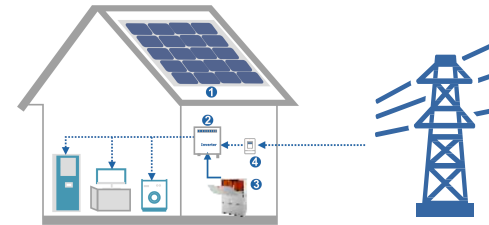
Afternoon

When the power come from PV can meet the home consumption and the SES been charged fully, the excess power will be fed to the grid.



Evening

The energy from PV will be stored by SES. The SES system switch to battery energy after sundown to supply home consumption.



Late at night

If the residual power from SES is shortage, the power supply will be obtained from grid automatic.



- ① PV Module
- ② Hybrid Inverter
- ③ Energy storage battery
- ④ Electric meter

Note: 1. If the PV is available, the inverter will charge battery and power the load.
2. When the power or capacity of PV energy/SES is shortage, the power will be automatic obtained from grid.

Case References



- PV Generation: 3KWp
- Storage Capacity: 7.2KWh Battery
- Type: OT200-12
- Project Location: Buenos Aires, Argentina
- Project Date: 2016.10



- PV Generation: 5KWp
- Storage Capacity: 15KWh Battery
- Type: OT200-12
- Project Location: Phnom Penh, Cambodia
- Project Date: 2017.12



ISO 9001
ISO 14001
OHSAS 18001



All the specifications and information are given with good intent, errors are possible and products may be subject to change without notice. Pictures may differ from actual products depending on local market requirements and regulations.