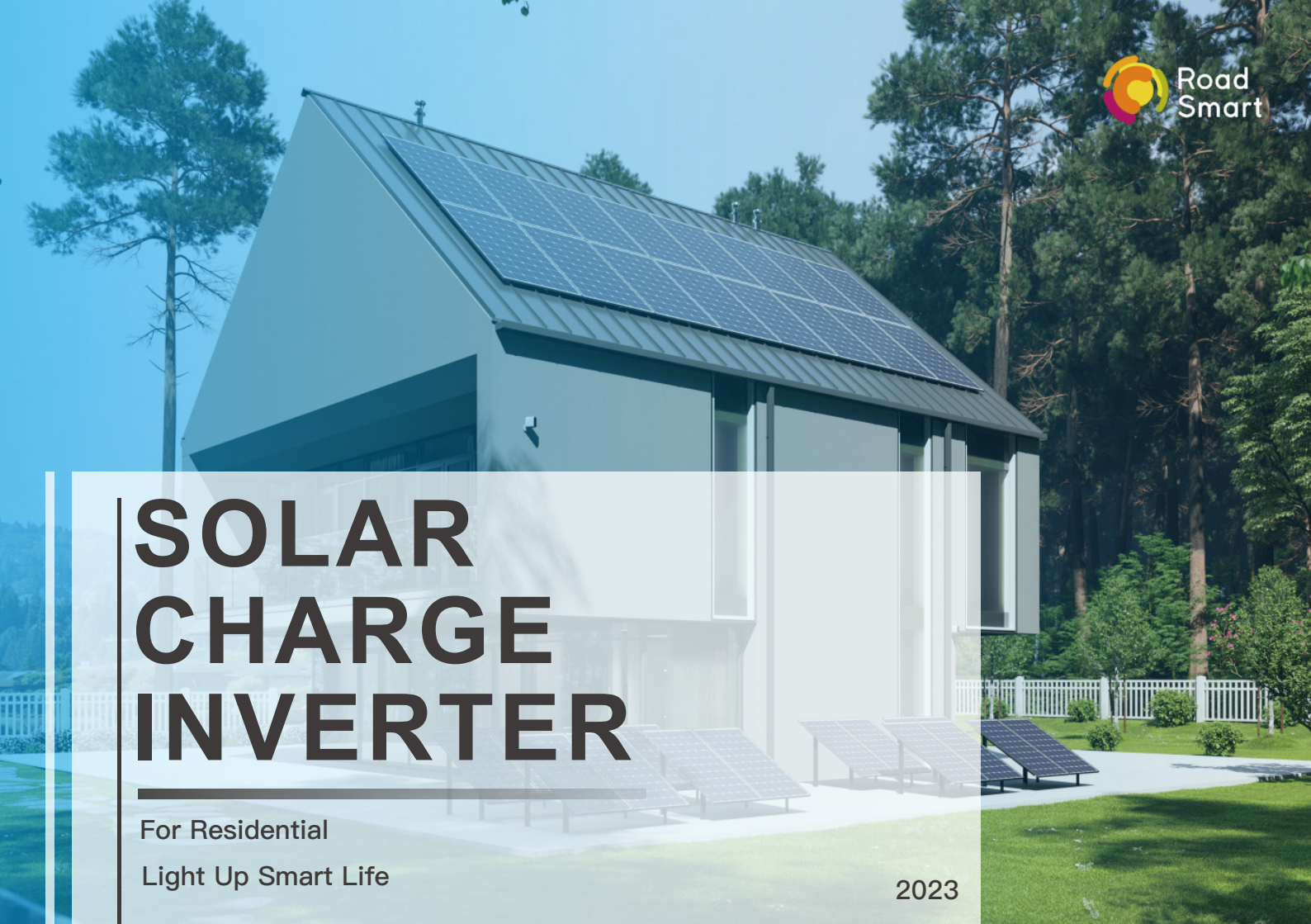

Road Smart

SOLAR CHARGE INVERTER

For Residential

Light Up Smart Life

2023

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Brief Introduction

02

Selection Guide

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Product Parameter

About Road Smart

Road Smart Global Headquarter / Shenzhen , China

RoadSmart founded in 2013, headquarter in Shenzhen and factory in Dongguan. Road Smart is a photovoltaic application high-tech enterpris integrates research, production and sales.

Relying on strong design and technology R&D capabilities, Roadsmart provides excellent solar products and solutions for partners around the world.

Now have major product lines: Household energy storage systems, Solar inverter for residental and Photovoltaic modules.

Our Vision

Devote to become a world-class photovoltaic application pioneer brand

Our Core Values

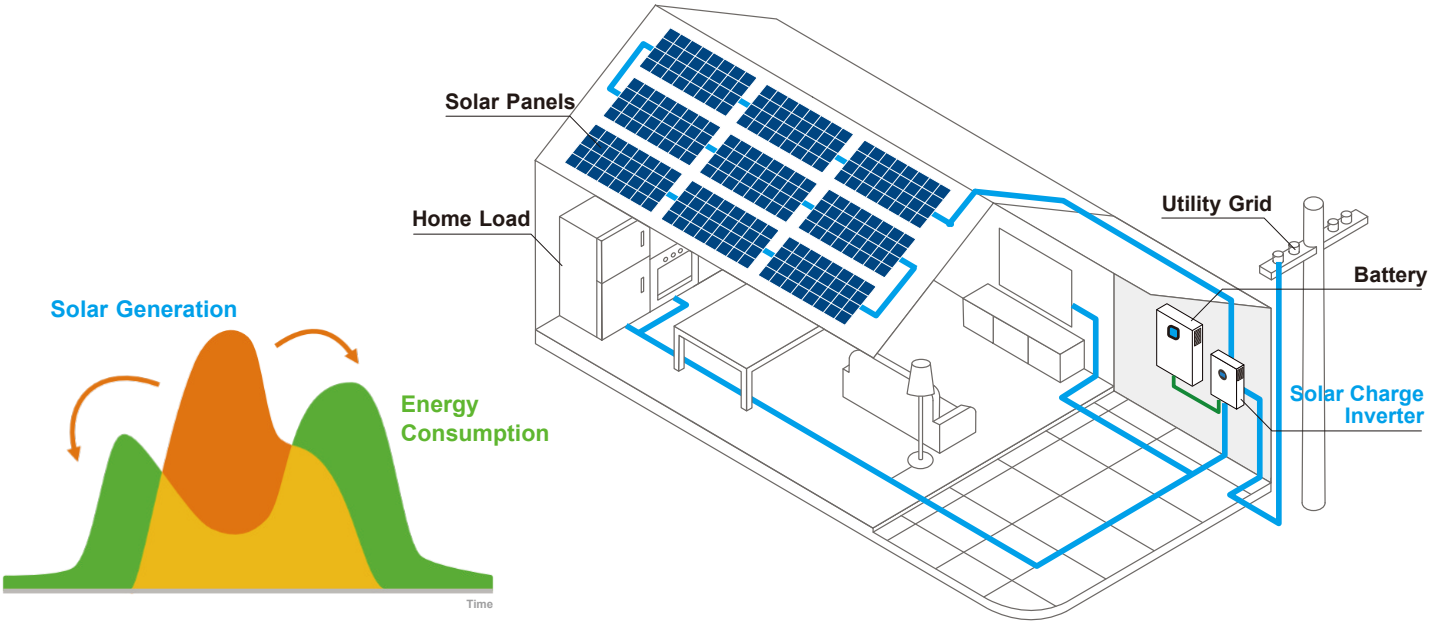
Provide a platform for customers, employees, shareholders and partners to create and realize dreams, respect and encourage everyone's ability and creativity

Our Mission

We are on a mission to:

- Promoting the use of solar energy
- Light Up Smart Life

Connection Diagram



Safe

Plug & play

Uninterrupted

Scalable

Efficiency

Solar energy is volatile and does not match the daily peak of electricity consumption, so we need Solar Energy Storage System to regulate the energy distribution and convert solar energy into stable AC energy.

System Connection

Solar panels

Solar modules convert light energy into DC electrical energy by means of the photovoltaic effect. And it's the energy source of entire system.

Utility Grid (AC input)

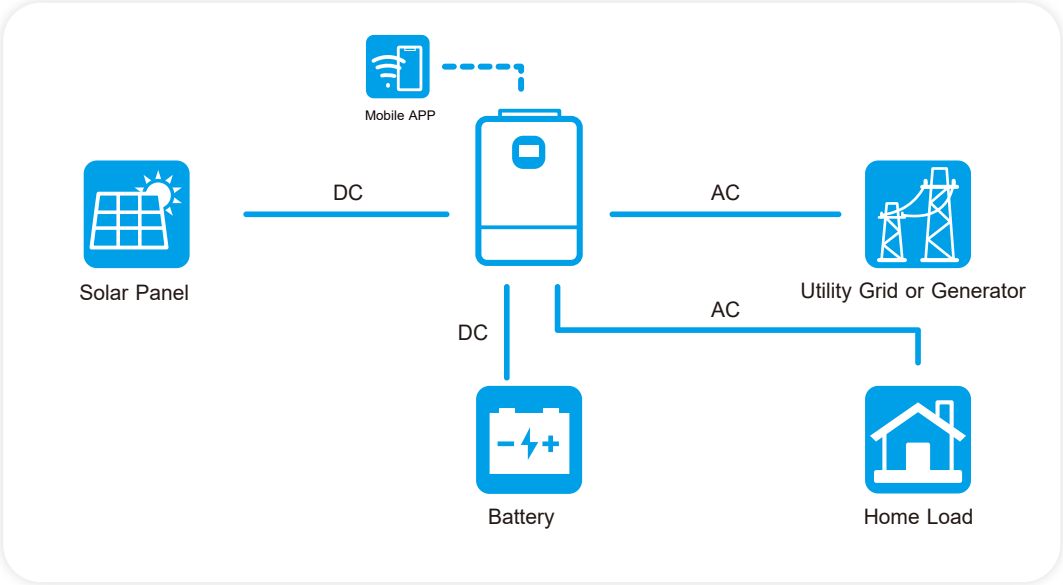
The mains electricity or generator can be used as an energy supplement to the PV system, charging the batteries or supplying the load when there is a lack of solar energy, and some models support the feeding of excess power back into the grid.

Battery

Batteries are used to store energy, for example to store photovoltaic energy generated during the day for use at night, or to provide emergency power for households in the event of a mains power failure.

Home Load (AC output)

For electrical equipment throughout the home, please select the appropriate model according to the power used



Solar Charge Inverter

The solar charge inverter is the energy conversion control centre for the entire system.The solar charging inverter is the energy conversion control centre of the whole system. Its most basic function is to collect unstable photovoltaic electricity and convert it into stable alternating current to be supplied to home loads or to be stored in batteries

The user can set a variety of operating modes according to their needs, select the priority of energy use, maximize the use of electricity, and monitor the operating status of the equipment through the mobile phone APP

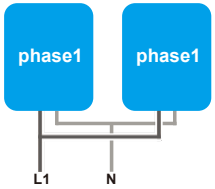
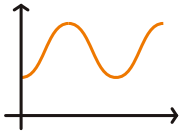
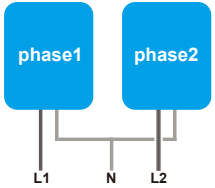
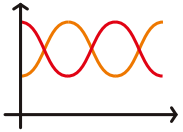
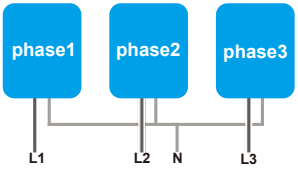
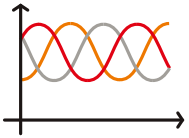
Residential Solutions

Series	Power Range
HSI series	
SYP series (parallel)	
SPI series	
SEI series	

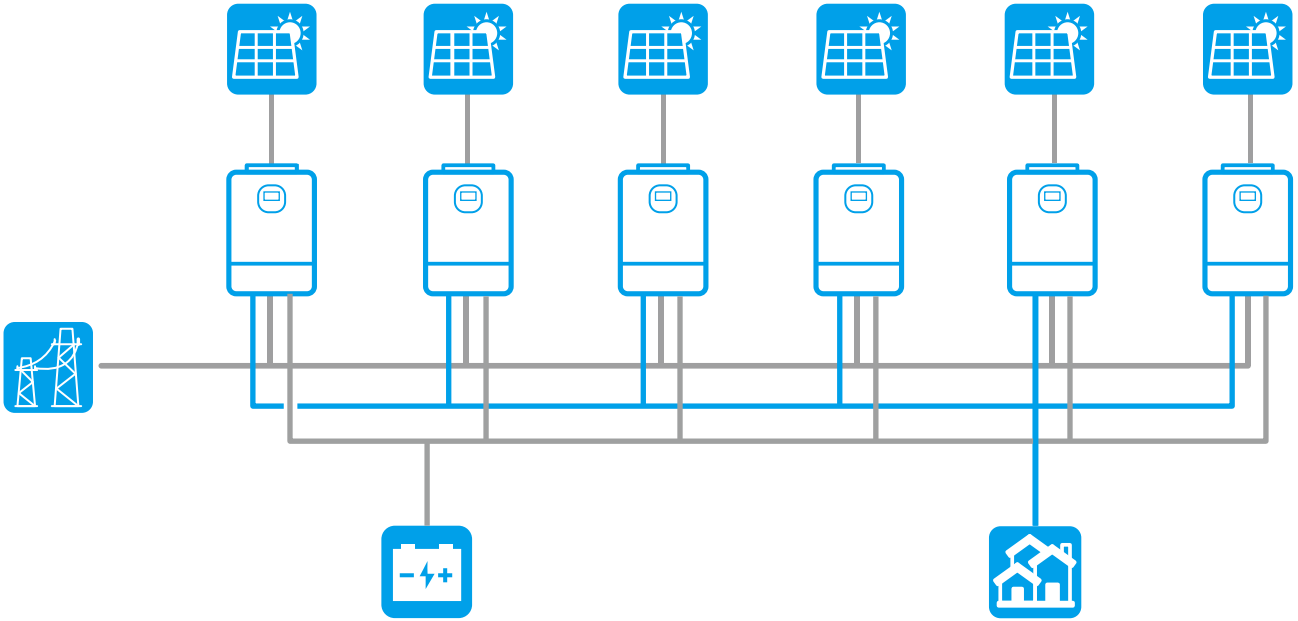
3KW 5KW 10KW 30KW 36KW 60KW

Parallel Connection

Suitable for models that support parallel use（Please refer to the list on pages 11-12）

Output plan	Output phase	Description
	 Single phase output	Supports parallel connection of 1 to 6 inverters, each with the same phase output, for a single-phase output with power stacking Eg. 5kW per inverter, 3 inverters in parallel can output 15kW
	 Split phase output	Supports 2 to 6 inverters connected in parallel, with L1 and L2 consisting of at least one inverter to form a split phase output (US voltage models only)
	 Three phase output	Supports 3 to 6 inverters in parallel, with L1, L2 and L3 each consisting of at least one inverter to form a three-phase output

Flexible & Stable



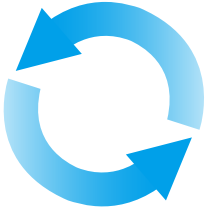
Up to 6 units in parallel connection

Quick Selection Guide – EU model

EU voltage models

Series	Models	Output			Battery		Solar Panel	Output mode		
		Rated Power	Output Phase	Canbe parallel	Battery Voltage	Max. Charging Current	Max.Open circuit voltage	Self-use	Without battery	On-grid
HSI	HSI 3000S	3kW	Single-phase		24V	140A	100V	√		
	HSI 5500P	5kW	Single-phase/ Three-phase（Parallel）	√ 1～6 units	48V	80A	500V	√		
SYP	SYP 5K-S	5kW	Single-phase/ Three-phase（Parallel）	√ 1～6 units	48V	80A	500V	√	√	
SEI	SEI-6K-SP	6kW	Single-phase/ Three-phase（Parallel）	√ 1～6 units	48V	100A	500V+500V	√	√	√
	SEI-10K-S	10kW				200A				
SPI	SPI-10K-SP	10kW	Single-phase/ Three-phase（Parallel）	√ 1～6 units	48V	200A	500V+500V	√	√	

Output Mode – EU model



Self-use

In self-consumption mode, the inverter can store solar or utility grid electricity in the battery to meet the household's electricity needs. The user can also adjust the priority of different energy source to maximize electricity use.

For customers who wish to have a stable power supply.

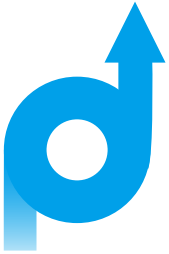
Supported on all models

Hybrid

In the hybrid mode(anti-backflow), where storage batteries are not required, the mains electricity will be used to supplement the solar power to power the household load.

For customers who want to use clean energy to reduce their electricity costs.

Supported on selected models only



On-grid

In on-grid mode, the inverter can feed excess power back into the grid, helping users to gain revenue from the sale of electricity.

For customers who want to use clean energy to reduce their electricity costs.

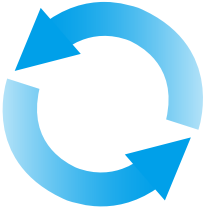
Supported on selected models only

Quick Selection Guide – US model

USvoltagemodels

Series	Models	Output			Battery		Solar Panel	Output mode		
		Rated Power	Output Phase	Can be parallel	Battery Voltage	Max. Charging Current	Max.Open circuit voltage	Self-use	Without battery	On-grid
HSI	HSI 3000U	3kW	Single-phase		24V	140A	100V	√		
	HSI 5000U	5kW	Single-phase		48V	80A	800V	√		
SYP	SYP 5K-U	5kW	Single-phase Split-phase（Parallel） Three-phase（Parallel）	√1～6 units	48V	100A	500V	√	√	
SPI	SPI-10K-U	10kW	Single/Split-phase		48V	200A	500V	√	√	

Output Mode – US model



Self-use

In self-consumption mode, the inverter can store solar or utility grid electricity in the battery to meet the household's electricity needs. The user can also adjust the priority of different energy source to maximize electricity use.

For customers who wish to have a stable power supply.

Supported on all models

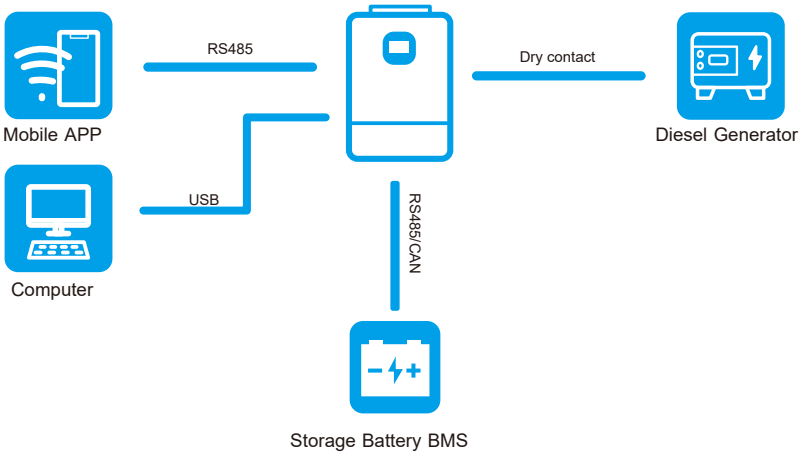
Hybrid

In the hybrid mode (anti-backflow), where storage batteries are not required, the mains electricity will be used to supplement the solar power to power the household load.

For customers who want to use clean energy to reduce their electricity costs.

Supported on selected models only

Communication Function



Mobile App

The user can view the inverter's power generation curve and parameters in real time on a mobile app and also receive alerts when the inverter is faulty.

Mobile App

The user communicates with the inverter using specific PC host software, which enables software upgrades firmware to the inverter as well as the modification and reading of operating parameters, suitable for professional commissioning.

Diesel Generator

The diesel generator can be used as the AC output source for the PV system and the inverter supports automatic start/stop control of the generator via a dry contact port. which requires the generator to be equipped with an ATS, please read the product brochure for details.

Storage Battery BMS

The inverter supports communication with the BMS (battery managment system) of the storage battery via RS485 or CAN protocol (some models) After the BMS communication is completed, the inverter can collect the battery parameters to achieve more accurate and efficient control of charging and discharging, which is conducive to maintaining the life of the battery and also to ensure safety.

Mobile APP (Wi-Fi)

Connection of the specified type of external module (optional) via the dedicated data interface on the inverter, the user can view the inverter's power generation curve and parameters in real time on a mobile app and receive alerts when the inverter is faulty.

GET IT ON Google play

Download on the App Store

HSI24 Series

HSI 3000S
HSI 3000U

- IP65 protection grade for outdoor use
- Up to 6 units in parallel for 36kW
- Single phase/ three phase outputs available
- Time-slot charging & discharging for peak and valley price
- Support self-use/hybrid/on-grid output mode
- Support BMS communication

EU/US voltage

MODEL	HSI 3000S	HSI 3000U	CAN BE SET
INVERTER OUTPUT			
Rated Output Power	3,000W	3,000W	
Max.Peak Power	6,000VA	6,000VA	
Rated Output Voltage	230Vac (single phase)	120Vac (single phase)	√
Load Capacity of Motors	2HP		
Rated AC Frequency	50/60Hz		
BATTERY			
Battery Type	Li-ion / Lead-Acid / User Defined		√
Rated Battery Voltage	24Vdc		
Max.MPPT Charging Current	60A		√
Max.Mains/Generator Charging Current	80A	40A	√
Max.Hybrid Charging Current	140A	100A	√
PV INPUT			
Num.of MPP Trackers	1		
Max.PV Array Power	1600W		
Max.Input Current	40A		
Max.Voltage of Open Circuit	100Vdc		
MAINS/GENERATOR INPUT			
Input Voltage Range	170~280Vac	90~140Vac	
Frequency Range	50/60Hz		
Bypass Overload Current	30A	40A	
GENERAL			
Dimensions	378*280*103mm		
Weight	6.2kg		
Protection Degree	IP20, Indor Only		
Operating Temperature Range	-15℃~55℃ (5℉~55℉)		
Noise	<60dB		
Cooling Method	Internal Fan		

HSI48 Series

HSI 5500P
HSI 5000U

- Suitable for off-grid applications
- Single phase / three phase outputs available
- Support BMS communication
- Multiple charge and discharge modes are available
- UP to 6 units in parallel for 30kw

EU/US voltage

MODEL	HSI 5500P	HSI 5000U	CAN BE SET
INVERTER OUTPUT			
Rated Output Power	5,000W	5,000W	
Max.Peak Power	10,000VA	10,000VA	
Rated Output Voltage	230Vac, single phase/three phase(Parallel)	120Vac (single phase)	√
Load Capacity of Motors	4HP	4HP	
Rated AC Frequency	50/60Hz		
Parallel Capacity	1～6 units	/	
BATTERY			
Battery Type	Li-ion / Lead-Acid / User Defined		√
Rated Battery Voltage	48Vdc		
Max.MPPT Charging Current	80A		√
Max.Mains/Generator Charging Current	60A	40A	√
Max.Hybrid Charging Current	80A		√
PV INPUT			
Num.of MPP Trackers	1		
Max.PV Array Power	5,500W	5,200W	
Max.Input Current	22A	18A	
Max.Voltage of Open Circuit	500Vdc		
MAINS/GENERATOR INPUT			
Input Voltage Range	170～280Vac	90~140Vac	√
Frequency Range	50/60Hz		
Bypass Overload Current	40A		
GENERAL			
Dimensions	426*322*124mm		
Weight	10.8kg		
Protection Degree	IP20, Indor Only		
Noise	<60dB		
Cooling Method	Internal Fan		

SYP Series

SYP 5K-S

SYP 5K-U

- Up to 6 units in parallel for 30kW
- Time-slot charging & discharging for peak and valley price
- Support self-use/without battery output mode
- Single phase / split phase / three phase outputs available
- Support BMS communication

EU/US voltage

MODEL	SYP 5K-S	SYP 5K-U	CAN BE SET
INVERTER OUTPUT			
Rated Output Power	5,000W	5,000W	
Max.Peak Power	10,000VA	10,000VA	
Rated Output Voltage	230Vac, Single-phase /Three-phase (Parallel)	120Vac, single phase/split phase(Parallel)/ three phase(Parallel)	√
Load Capacity of Motors	4HP		
Rated AC Frequency	50/60Hz		
Parallel Capacity	1～6 units		
BATTERY			
Battery Type	Li-ion / Lead-Acid / User Defined		√
Rated Battery Voltage	48Vdc		
Max.MPPT Charging Current	100A		√
Max.Mains/Generator Charging Current	60A	40A	√
Max.Hybrid Charging Current	100A		√
PV INPUT			
Num.of MPP Trackers	1		
Max.PV Array Power	5,500W		
Max.Input Current	22A		
Max.Voltage of Open Circuit	500Vdc		
MAINS/GENERATOR INPUT			
Input Voltage Range	170~280Vac	90～100Vac	√
Frequency Range	50/60Hz		
Bypass Overload Current	63A	40A	
GENERAL			
Dimensions	446.9*350*133mm		
Weight	13kg		
Protection Degree	IP20, Indor Only		
Noise	<60dB		
Cooling Method	Internal Fan		

SPI 48 Series

SPI-10K-SP
SPI-10K-U

- Rated output power up to 8-10kw
- 2 MPPT strings input
- Time-slot charging & discharging for peak and valley price
- Support self-use/without battery output mode
- Support BMS communication

US/EU voltage

MODEL	SPI-10K-SP	SPI-10K-U	CAN BE SET
INVERTER OUTPUT			
Rated Output Power	10,000W	10,000W	
Max.Peak Power	15,000W	20,000W	
Rated Output Voltage	230Vac, Single-phase /Three-phase (Parallel)	120Vac (Single-phase) /240Vac (Split-phase)	√
Load Capacity of Motors	6HP		
Rated AC Frequency	50/60Hz		
Parallel Capacity	1～6 units	/	
BATTERY			
Battery Type	Li-ion / Lead-Acid / User Defined		
Rated Battery Voltage	48Vdc		
Max.MPPT Charging Current	200A	200A	√
Max.Mains/Generator Charging Current	120A	120A	√
Max.Hybrid Charging Current	200A	200A	√
PV INPUT			
Num.of MPP Trackers	2		
Max.PV Array Power	5,500W+5,500W		
Max.Input Current	22A+22A		
Max.Voltage of Open Circuit	500Vdc+500Vdc		
MAINS/GENERATOR INPUT			
Input Voltage Range	90～275Vac	90～140Vac	
Frequency Range	50/60Hz		
Bypass Overload Current	63A		
GENERAL			
Dimensions	620*435*130mm (2*1.46*0.4ft)		
Weight	27kg (59.5lb)		
Protection Degree	IP20, Indoor Only		
Operating Temperature Range	-15~55℃,>45℃ derated (5~131℉, >113℉ derated)		
Cooling Method	Internal Fan		

SEI Series

SEI-6K-SP

SEI-10K-S

- IP65 protection grade for outdoor use
- Time-slot charging & discharging for peak and valley price
- Support self-use/hybrid/on-grid output mode
- Support BMS communication
- Up to 6 units in parallel for 36kW
- Adopt dual MPPT technology

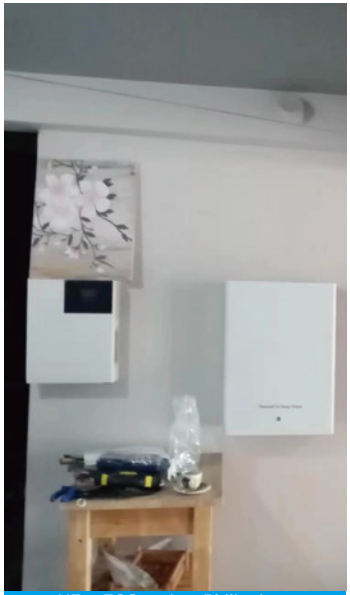
EU voltage

MODEL	SEI-6K-SP	SEI-10K-S	CAN BE SET
INVERTER OUTPUT			
Rated Output Power	6,000W	10,000W	
Max.Peak Power	12,000W	20,000W	
Rated Output Voltage	230Vac, Single-phase /Three-phase (Parallel)	230Vac (Single-phase)	√
Load Capacity of Motors	4HP	6HP	
Rated AC Frequency	50/60Hz		
Parallel Capacity	1～6 units	/	
BATTERY			√
Battery Type	Li-ion / Lead-Acid / User Defined		
Rated Battery Voltage	48Vdc		
Max.MPPT Charging Current	100A	200A	√
Max.Mains/Generator Charging Current	60A	120A	√
PV INPUT			
Num.of MPP Trackers	2		
Max.PV Array Power	4,500W+4,500W	5,500W+5,500W	
Max.Input Current	16A+16A	22A+22A	
Max.Voltage of Open Circuit	500Vdc+500Vdc		
MAINS/GENERATOR INPUT			
Input Voltage Range	170～280Vac	90～275Vac	
Frequency Range	50/60Hz		
Bypass Overload Current	63A		
GENERAL			
Dimensions	556*345*182mm	556*345*182mm	
Weight	20kg (59.5lb)	37kg	
Protection Degree	IP65		
Operating Temperature Range	-25~55℃,>45℃ derated		
Cooling Method	Internal Fan		

Applications

SPI + EOS series–Micronesia

HF + EOS series–Micronesia


HF + EOS series–Philippines


SPI + EOS series–China

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