ENERGY STORAGE SOLUTIONS

Specialized in R&D and Manufacturing of Energy Storage Inverters

Shenzhen SOSEN Innovation Technology Co., Ltd.

+86-0755-27332754/27332631 market@sosen.com www.soseninverter.com

Building A, Block 1, Pengzhanhui No. 233 Zhongxin Road, Xinqiao Community Xinqiao Street, Bao'an District Shenzhen China 518104

Disclaimer:

This document may contain forward-looking statements, including but not limited to information about product lines, operations, and technologies. Due to various uncertainties in actual practice, the final results may differ significantly from the information presented herein. Therefore, the content of this document is for reference only and does not constitute any offer, commitment, or acceptance. SOSEN reserves the right to update or modify the information in this document at any time without prior notice.

Stock Code: 301002.SZ

Your Trusted Inverter Partner

Catalog 2026 V1.0

CONTENT

ABOUT SOSEN

60%+
R&D Staff

15+ years
Manufacturing Experience

25%+
R&D Investment

70,000m²
Production Area

Shenzhen SOSEN Innovation Technology Co., Ltd. (hereinafter referred to as "SOSEN Innovation") is a global leader in the research, design, manufacturing, and sales of energy storage inverters. As a subsidiary of SOSEN Group—a Shenzhen Stock Exchange-listed company (stock code: 301002) founded in 2011—SOSEN Innovation builds on a strong legacy of power electronics expertise and continues to drive innovation in smart energy technologies.

Headquartered in Shenzhen, China, SOSEN Innovation operates a 70,000 m² cutting-edge production facility equipped with automated manufacturing lines and precision testing platforms. The company is dedicated exclusively to energy storage inverter technologies, offering a comprehensive product portfolio ranging from 1kW to 500kW, including single-phase, split-phase, and three-phase models. These solutions meet the diverse needs of residential, commercial & industrial (C&I), and microgrid applications across Europe, North America, Asia-Pacific, Africa, and Latin America.

All core products are certified with CE, TUV, UL, NRS, CGC, EMC, and comply with relevant grid-connection standards, ensuring global market compatibility, safety, and performance.

Backed by a world-class R&D team—90% of whom have extensive backgrounds in leading power electronics and energy enterprises—SOSEN Innovation provides both standardized solutions and customized ODM services for global strategic partners.

Guided by the mission of “Specialist in Energy Storage Inverters,” SOSEN Innovation is committed to delivering high-performance, future-ready, and cost-effective energy storage solutions to power a sustainable, low-carbon future.

Shenzhen
Headquarter / R&D Center

Zhongshan
Production Base

- Specialist in energy storage inverter technology with full-spectrum product coverage from 1kW to 500kW
- Tailored solutions for residential, microgrid, and C&I applications
- Driven by advanced R&D and a 70,000 m² smart manufacturing base SOSEN Innovation is committed to delivering high-performance, future-ready, and cost-effective energy storage solutions to power a sustainable, low-carbon future.

DEVELOPMENT PATH

2011

Founded SOSEN, entered LED driver power supply and overseas markets

2013

Set up R&D center and manufacturing facility

2017

Listed on NEEQ
(Stock Code: 871785)

2019

Expanded factory and upgraded production capacity

2021

Listed on Shenzhen Stock Exchange
(Stock Code: 301002)

2022

- Built a 70,000 m^2 R&D and manufacturing base in Zhongshan
- Established SOSEN Innovation, focusing on high-performance energy inverter solutions

2025

- Driving global expansion
- Launched 1–500kW full-range energy storage inverter solutions for all applications

COMPANY CERTIFICATES

Management System Certifications

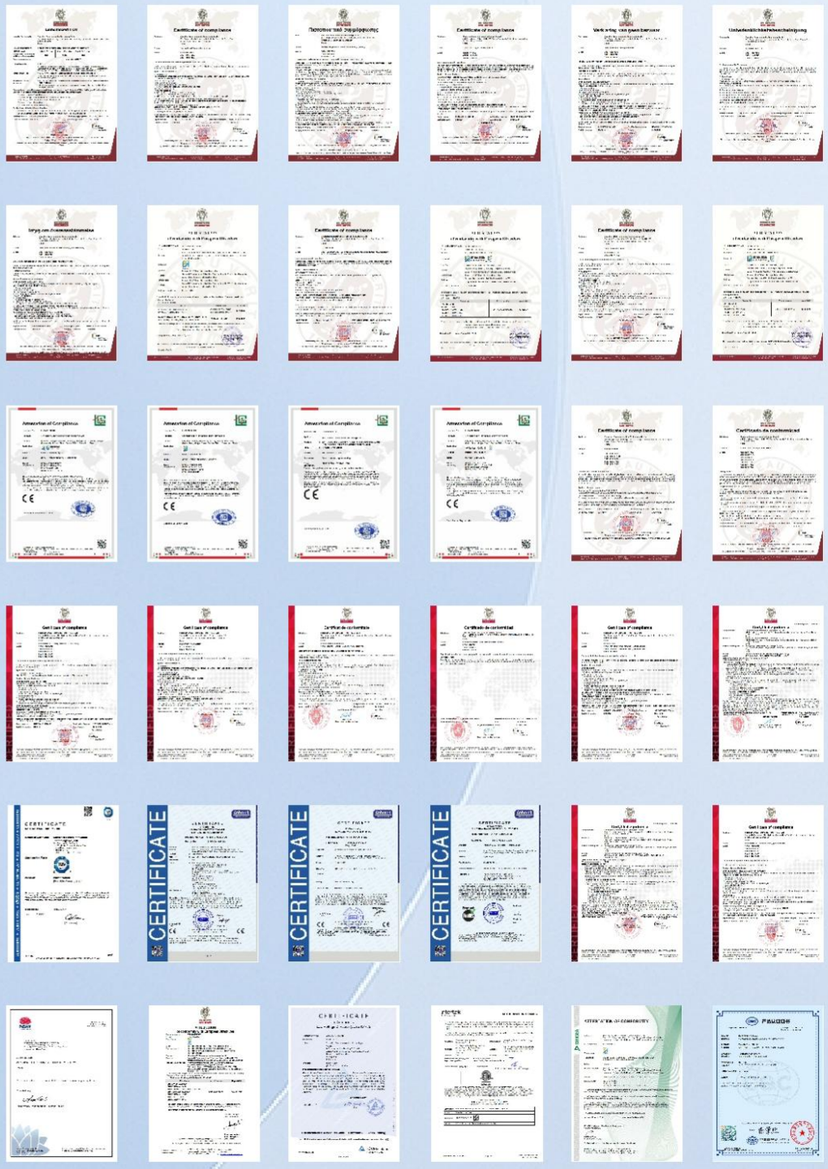
Certified under ISO 9001, ISO 14001, and ISO 45001 for quality, environmental, and occupational health & safety management

Intellectual Property

SOSEN Innovation holds key patents and proprietary technologies in high-power modular inverters, AC/DC parallel systems, seamless grid/off-grid switching, and intelligent monitoring platforms, driving continuous innovation for efficient and reliable energy storage solutions.

Product Certifications

All core products are certified under CE, TUV, UL, NRS, CGC, and EMC standards, fully compliant with relevant grid-connection requirements to ensure global market compatibility, safety, and performance excellence.



R&D INVESTMENT

Continuous investment in R&D excellence and advanced testing facilities

Full coverage of core technologies leading industry standards in energy storage inverters

60% | Of our employees are R&D professionals, including 200+ energy storage experts, with 32+ senior hardware, 26+ senior software, and 10+ senior testing engineers.

220+ | Authorized patents owned by SOSEN Innovation, demonstrating our leading innovation in energy storage inverter technology.

2 R&D Labs | Equipped with precision instruments for comprehensive testing of performance, safety, reliability, and environmental adaptability.

15+ Years | Average industry experience of our core R&D team, with most engineers coming from top global companies,driving innovation and setting industry standards.

CORE GROUP

Wayne Wang

Vice President & Software Expert

Wayne Wang holds both Bachelor's and Master's degrees from Harbin Institute of Technology, graduating in 2010. With extensive experience in embedded systems and software engineering, he has held key R&D leadership positions at renowned companies such as Emerson and Kehua.

Mr. Wang has served as R&D Director and R&D Manager, leading software development and engineering management for a wide range of power electronics products, including UPS systems, photovoltaic (PV) inverters, and energy storage inverters. He is highly skilled in system architecture design, control algorithms, and embedded firmware development.

Cheng Qin

Chief Technology Engineer

With 16 years of experience in the power electronics industry, Cheng Qin holds a Master's degree from Central South University (graduated in 2008). He has worked with several leading inverter manufacturers, including Santak, INVT, and Moso Power, and brings a strong track record in R&D and project leadership.

Mr. Qin has served as project manager for major three-phase inverter programs ranging from 5kW to 500kW. He led the development of next-generation 10kW and 36kW on-grid inverters, and successfully brought a 500kW North American on-grid PV inverter to mass production and market launch. His experience also includes participation in the development of single-phase 3kW/5kW hybrid inverters, power optimizers, and off-grid storage solutions.

Ethan Liu

R&D Director

Ethan Liu Holds a Master’ s Degree in Power Electronics and Electric Drive, with 13 years of experience in hardware development for photovoltaic (PV) and energy storage converters. He led the development of multi-branch modular PV and energy storage converters ranging from 30kW to 500kW, and currently oversees the hardware development of single-phase and split-phase residential energy storage converter systems.

Eric Song

VP of Manufacturing Center

Eric Song leads SOSEN Innovation’ s Manufacturing Center with a proven track record of operational excellence. Hailing from Huawei, Eric brings over two decades of experience in supply chain management. Eric leverages deep industry knowledge to drive advanced manufacturing processes, quality assurance, and supply chain optimization.

With extensive experience in large-scale production environments, Eric specializes in implementing lean manufacturing principles, automation integration, and continuous process improvement to boost productivity and reduce costs without compromising quality.

Lynn

Software Director

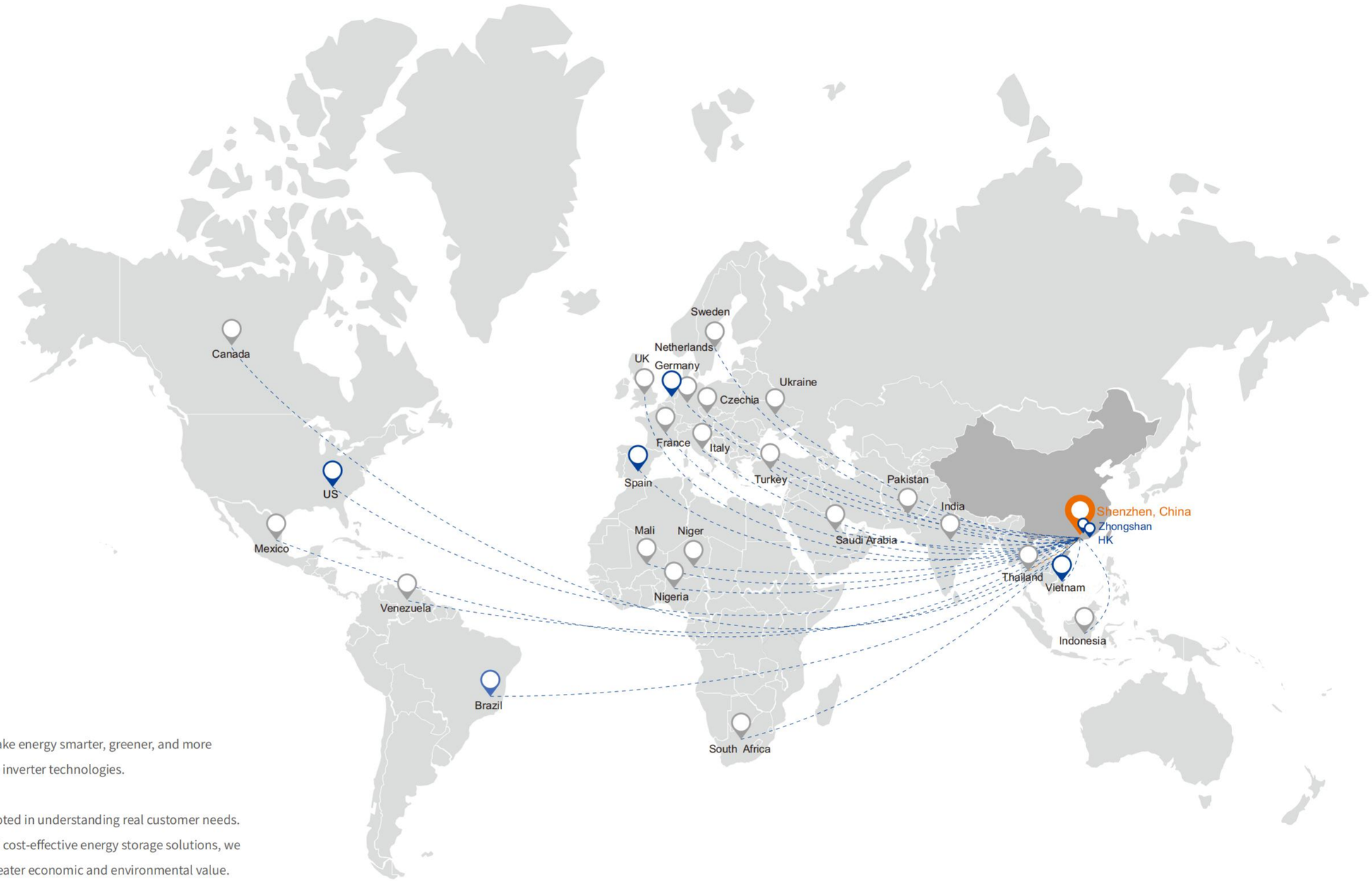
Lynn Earned his bachelor’ s and master’ s degrees from South China University of Technology. With 14 years of professional experience, he has previously worked at companies including Huawei, MOSO, and Infinergreen. His product development portfolio includes UPS modules, three-phase grid-tied photovoltaic (PV) inverters (ranging from 5kW to 500kW), and single-phase V2G (Vehicle-to-Grid) modules. Currently, he is dedicated to developing single-phase high-voltage hybrid energy storage inverters.

Martin Meng

Chief Software Engineer

Martin Meng holds a Master’ s degree in Electrical Engineering from Harbin Institute of Technology and has over 10 years of DSP software R&D experience in the power electronics industry. He specializes in software development and architecture design for energy storage inverters and UPS systems, and has led the full software design of the company’ s residential three-phase inverter platforms, including high-voltage (8~12 kW, 30~60 kW) and low-voltage (8~24 kW) systems, supporting European certifications and contributing significantly to system stability and product competitiveness.

Global Footprint



- Headquarter
- Branch
- Product coverage area

At SOSEN Innovation, our mission is to make energy smarter, greener, and more reliable through advanced energy storage inverter technologies.

We are committed to deep innovation, rooted in understanding real customer needs. By delivering safe, high-performance, and cost-effective energy storage solutions, we help partners across the globe achieve greater economic and environmental value.

Focusing exclusively on the R&D and manufacturing of energy storage inverters, we aim to drive the global energy transition and build lasting partnerships built on trust, performance, and sustainability.

40+
Countries and regions served

500+
Serving 500+ renowned companies worldwide

Top 20
Trusted by the world's top 20 brands

PRODUCTION CAPABILITY

SOSEN Innovation runs a smart, digitalized manufacturing system powered by WMS, MES, SAP, PLM, and other advanced platforms, enabling precise control of the entire supply chain and production process.

With ISO-certified quality systems, ESD protection, and industry-leading automation, we deliver standardized and customized energy storage solutions from kW to MW scale.

180,000 units
Residential energy storage annual production capacity

5.6GW
C&I energy storage annual production capacity

600MWh
System integration annual production capacity


Conformal Coating


ATE

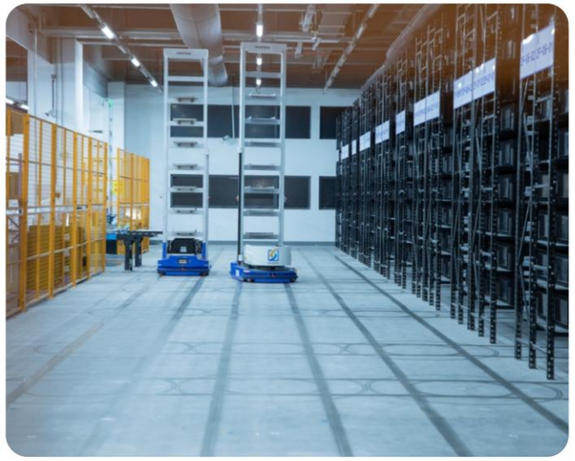

Aging Test


SMT


Automatic Insertion


Automatic Aging

Intelligent Storage


Intelligent Warehouse


Packing

COMPATIBLE BATTERY BRANDS

CORE PRODUCT LINE

Residential Inverters

1.2~12kW Off-grid Inverter
3~16kW Single-phase Hybrid Inverter
8~24kW Three-phase Hybrid Inverter
8~15kW Split-phase Hybrid Inverter

Commercial & Industrial Inverters

29.9~60kW Three-phase Hybrid Inverter
(EU / US / SA Version)

All-in-One PV-Storage System

125~500kW All-in-One PV-Storage System

Power Conversion Systems(PCS)

125kW DC-DC Converter
100~125kW PCS (IP66)
100~125kW PCS (IP20)
200~235kW PCS (IP66)

Product Coding System

Residential Inverter

SS E- H H 6K- P1 EU -S

1 2 3 4 5 6 7 8

No.	Meaning
1	SOSEN
2	A: Alone Inverter (Off grid inverter) ; E: Energy Inverter (Hybrid Inverter) P: PV Inverter
3	B: Battery Inverter (Battery-powered converter) H: Hybrid Inverter
4	H: High-voltage Battery, generally refers to >48V L: Low-voltage Battery, generally refers to ⩽48V
5	Rated AC Output (e.g., 3.6K for 3.6kW, 30K for 30kW)
6	P1: Single Phase; P2: Split Phase; P3: Three Phase
7	Applicable Country and Region EU: Europe (Standard version) AU: Australia US: United States
8	AA: Rounded-edge design B: Chamfered-edge design DO: Dual AC Output S: Display Screen

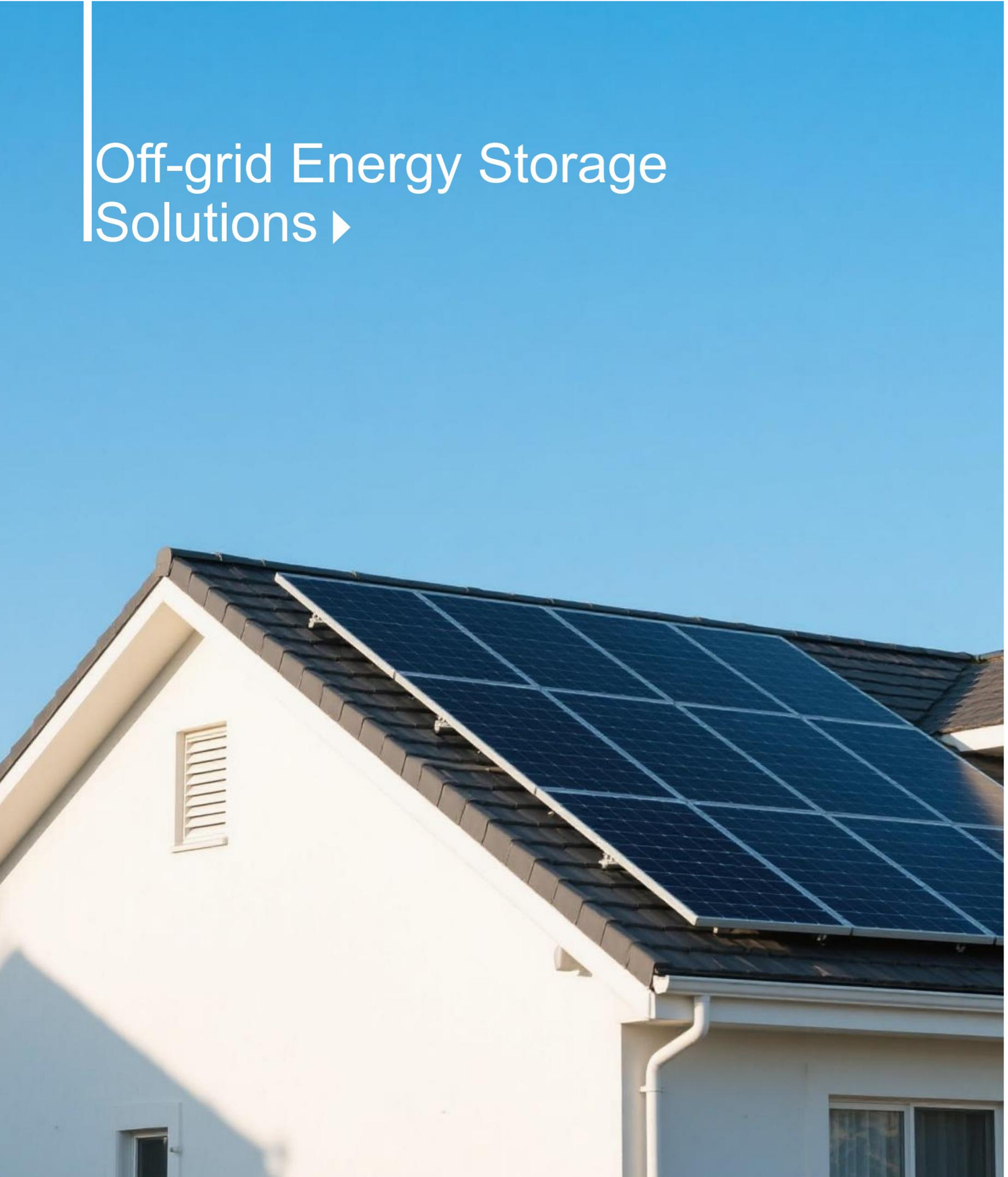
C&I Inverter

SS D- H H 125K- D2 CN

1 2 3 4 5 6 7

No.	Meaning
1	SOSEN
2	E: Energy Inverter (PCS) D: DC Converter M: Solar-Plus-Storage System
3	B: Basic configuration, IP20-rated H: High configuration, IP66-rated
4	H: High-voltage Battery, generally refers to >60V L: Low-voltage Battery, generally refers to ≤60V
5	Rated AC Output (e.g., 125K for 125kW, 235K for 235kW)
6	P1: Single Phase; P2: Split Phase; P3: Three Phase D: Double bridge arm, bidirectional buck–boost supported S: Single bridge arm, unidirectional buck–boost supported
7	Applicable Country and Region EU: Europe (Standard version) AU: Australia US: United States SA: South America CN: China

Off-grid Energy Storage Solutions



Flexible. Scalable. Resilience

SOSEN SSA-HL series inverter is designed for residential and light commercial off-grid systems in regions with unstable or no grid power. It supports operation with or without batteries, supplying power to loads and charging batteries through PV, grid, or generator sources.

The product offers flexible energy input options and multiple working modes to suit a wide range of off-grid scenarios. Up to 9 units can be connected in parallel to form a single-phase system up to 45kW, making it ideal for remote homes, small commercial sites, and backup power systems in harsh environments.

Models:

SSA-HL1.2~5.5K-P1EU

SSA-HL5K-P1US

SSA-HL5~6.5K-P1EU_DO

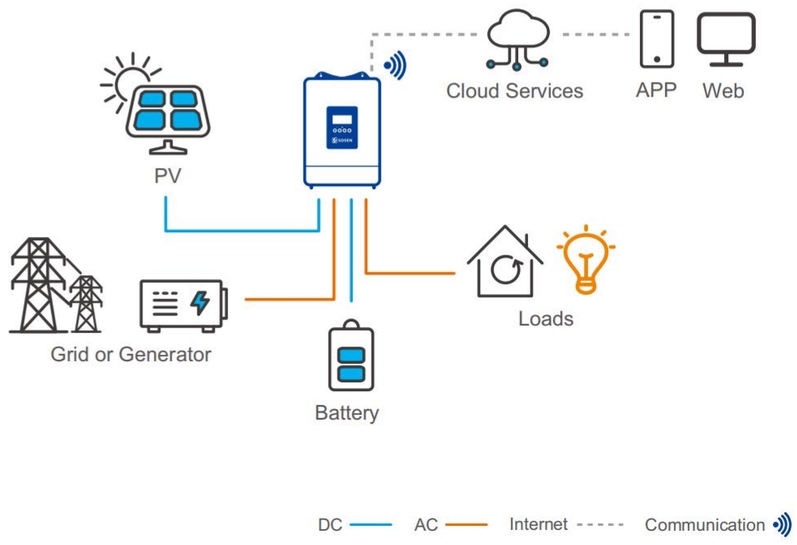
SSA-HL5~6.5K-P1EU_DO Pro

SSA-HL12K-P1EU_DO

Output:

1.2-12 kW

Off-grid Energy Storage Solution



SSA-HL1.2~5.5K-P1EU

Single Phase Hybrid Inverter (LV)

2-Year Warranty

KEY STRENGTHS

- Integrated MPPT Controller
- 6kW Maximum PV Input Power
- Up to 9 Parallel Units
- Combined PV and Utility Load
- Optional WiFi for Remote Monitoring
- Work with or Without Battery

TECHNICAL SPECIFICATION					
Model	SSA-HL1K2-P1EU	SSA-HL3K6-P1EU	SSA-HL5K-P1EU	SSA-HL5K5-P1EU	SSA-HL5K-P1EU_DO[1]
AC INPUT					
Rated Voltage (V a.c.)	208 /220 / 230 / 240,L+N+PE				
Rated Frequency (Hz)	50 / 60				
Current (Maximum Continuous) (A a.c.)	10	20	40	40	40
INVERTER OUTPUT					
Rated Power (kW)	1.2	3.6	5	5.5	5
Rated Voltage (V a.c.)	208 / 220 / 230 / 240,L+N+PE				L1+N1+L2+N2+PE
Power Factor	1				
Wave Form	Pure Sine Wave				
Switch Time (ms)	<10 (Typical)				
Inverter Efficiency (Peak)	90.5%@12V d.c.	92.7%@24V d.c.	94%@48V d.c.	94%@48V d.c.	94%@48V d.c.
Current (Maximum Continuous) (A a.c.)	5.2	15.6	22.7	25	22.7
Maximum Output Overcurrent Protection	102%~110% 1min / 110%~130% 10s / 130%~150% 3s / 150% 0.2s				
BATTERY					
Battery Type	Lithium / Lead-acid				
Rated Battery Voltage (V d.c.)	12	24	48	48	48
Battery Voltage Range (V d.c.)	10~15	21~30.2	42~56.4	42~56.4	42~56.4
Max.Charge Current (A d.c.)	120	100	80	100	80
PV INPUT					
No of MPPT Tracker / Strings	1 / 1				
Max. PV Array Power (kW)	1	5	6	6	6
Max. DC Voltage (V d.c.)	125	500	500	500	500
MPPT Voltage Range (V d.c.)	15~100	40~450	120~430	120~430	120~430
Start-up Voltage (V d.c.)	20	60	120	120	120
MPPT Maximum Charge Current (A d.c.)	60	100	80	100	80
Max. Input Current (A d.c.)	14	18	18	18	18
Isc PV (Absolute Maximum) (A d.c.)	15	22	22	22	22
PROTECTION & FEATURE					
Parallel Function	No	No	Yes (up to 9pcs,optional)	No	Yes (up to 9pcs,optional)
Protection Degree	IP20, Indoor only				
Certifications	IEC 62109-1/2, EN IEC 61000-6-1, EN IEC 61000-6-3				
Other Protection	Overload, Over temperature, Short circuit				
GENERAL PARAMETER					
Storage Temperature	-15℃~+60℃				
Operating Temperature	-10℃~+50℃				
Humidity	20%～95% (Non-condensing)				
Operating Altitude (m)	4000 (>1000 Derating)				
Noise (dB)	<50				
Warranty (year)	2				
Machine Dimensions (W*H*D) (mm)	330*228*90	285*435*100	315*470*120	315*470*120	315*528*120
Machine Weight / N.W. (kg)	3.2	6.5	8.6	8.6	9.6
DISPLAYAND COMMUNICATION					
Display	LCD Display (Display Running Mode, Loads / Input / Output etc.)				
Interface	RS485 / CAN / Dry Contact / WiFi (Optional)				

- Please note that all specifications are subject to change without prior notice.

[1]: SSA-HL5K-P1EU_DO is a dual output model with two output ports.

SSA-HL5K-P1US

120V Single Phase Hybrid Inverter (LV)

- 2-Year Warranty

KEY STRENGTHS

- Max. 500V PV Input for Longer and Flexible Strings
- Operates with or without Battery for Flexible System
- Supports PV, Battery, Grid and Diesel Generator Input
- Built-in MPPT Controller for Efficient Solar Charging
- Optional WiFi for Real-time Remote Monitoring
- Multiple Operating Modes for Diverse Off-Grid Needs

TECHNICAL SPECIFICATION	
Model	SSA-HL5K-P1US
AC INPUT	
Rated Voltage (V a.c.)	120, L+N+PE
Rated Frequency (Hz)	50 / 60
Current (Maximum Continuous) (A a.c.)	41.7
INVERTER OUTPUT	
Rated Power (kW)	5
Rated Voltage (V a.c.)	120, L+N+PE
Power Factor	1
Wave Form	Pure Sine Wave
Switch Time (ms)	<10 (Typical Value)
Inverter Efficiency (Peak)	92%
Current (Maximum Continuous (A a.c.)	41.7
Maximum Output Overcurrent Protection	105%~130% 10s / 130% 5s / 200% 0.2s
BATTERY	
Battery Type	Lithium / Lead-acid
Rated Battery Voltage (V d.c.)	48
Battery Voltage Range (V d.c.)	42~60
Max.Charge Current (A d.c.)	100
PV INPUT	
No.of MPPT Tracker / Strings	1 / 1
Max.PV Array Power (kW)	5.5
Max.Dc Voltage (V d.c.)	500
MPPT Voltage Range (V d.c.)	120~450
Start-up Voltage (V d.c.)	150
MPPT Maximum Charge Current (A d.c.)	100
Max.Input Current (A d.c.)	22
Isc PV (Absolute Maximum) (A d.c.)	26
PROTECTION & FEATURE	
Parallel Function	NO
Protection Degree	IP20, Indoor Only
Other Protection	Overload, Over temperature, Short circuit
GENERAL PARAMETER	
Storage Temperature	-10℃~+60℃ (+14°F~+140°F)
Operating Temperature	-10℃~+55℃ (+14°F~+122°F)
Humidity	5%～95% (Non-condensing)
Operating Altitude (m)	4000 (>1000 Derating)
Noise (dB)	<50
Warranty (year)	2
Machine Dimensions (W*H*D) (mm)	350*440.6*124.6 (13.78*17.35*4.91in)
Machine Weight / N.W. (kg)	13 (28.66 lbs)
DISPLAY & COMMUNICATION	
Display	LCD Display (Display Running Mode,Loads / Input / Output etc.)
Interface	RS485 / CAN / Dry Contact / WiFi (Optional)

- Please note that all specifications are subject to change without prior notice.

SSA-HL5~6.5K-P1EU_DO

Single Phase
Hybrid Inverter (LV)

2-Year Warranty

KEY STRENGTHS

High PV Input Capacity
Supports up to 9kW solar input, with 500V max voltage and 27A max current

Multi-Power & Dual AC Output
Supports grid, generator, battery or battery-less; Dual AC outputs with intelligent load prioritization

Intelligent MPPT & Priority
Smart MPPT control with configurable PV/grid priority settings

Remote Monitoring & Display
Built-in WiFi for remote monitoring and LCD screen for real-time data

Compact Size with Higher Power
6.5kW output in a smaller, lighter chassis for flexible installation

Extreme Temperature Tolerance
Reliable operation from -10°C to +60°C

TECHNICAL SPECIFICATION		
Model	SSA-HL5K-P1EU_DO-E	SSA-HL6.5K-P1EU_DO
AC INPUT		
Rated Voltage (V a.c.)	220 / 230 / 240,L+N+PE	
Rated Frequency (Hz)	50 / 60	
Current (Maximum Continuous) (A a.c.)	40 (Bypass mode)	
INVERTER OUTPUT		
Rated Power (kW)	5	6.5
Rated Voltage (V a.c.)	220 / 230 / 240,L1+N1+L2+N2+PE	
Power Factor	1	
Wave Form	Pure Sine Wave	
Switch Time (ms)	<10	
Inverter Efficiency (Peak)	93.5% (Max)	94%@48V d.c.
Current (Maximum Continuous (A a.c.)	22.7	27.3
Maximum Output Overcurrent Protection	102%~120% 60s, >120% 10s	
BATTERY		
Battery Type	Li-ion/Lead-acid	
Rated Battery Voltage (V d.c.)	24	48
Battery Voltage Range (V d.c.)	21~30.2	42~56.4
Max.Charge Current (A d.c.)	160	120
PV INPUT		
No.of MPPT Tracker / Strings	1	
Max.PV Array Power (kW)	9	
Max.Dc Voltage (V d.c.)	500	
MPPT Voltage Range (V d.c.)	60~450	
Start-up Voltage (V d.c.)	80	
MPPT Maximum Charge Current (A d.c.)	160	120
Max.Input Current (A d.c.)	27	
Isc PV (Absolute Maximum) (A d.c.)	30	
PROTECTION & FEATURE		
Parallel Function	NO	Yes (up to 9pcs,optional)
Protection Degree	IP20, Indoor Only	
Certifications	IEC 62109-1/2, EN IEC 61000-6-1, EN IEC 61000-6-3	
Other Protection	Over voltage Protection; Over load protection; Short circuit protection; Over temperature protection; Surge protection	
GENERAL PARAMETER		
Storage Temperature	-15°C ~ +60°C	
Operating Temperature	-10°C ~ +60°C	
Humidity	5%~95% (Non-condensing)	
Operating Altitude (m)	4000 (>1000 Derating)	
Noise (dB)	<55	
Warranty (year)	2	
Machine Dimensions (W*H*D) (mm)	334*413*116	
Machine Weight / N.W. (kg)	8.8	
DISPLAY AND COMMUNICATION		
Display	LCD Display (Display Running Mode,Loads / Input / Output etc.)	
Interface	RS485 / CAN / WiFi (Optional)	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSA-HL5~6.5K-P1EU_DO Pro

Single Phase
Hybrid Inverter (LV)

2-Year Warranty

KEY STRENGTHS

High PV Input Capacity
Supports up to 9kW solar input, with 500V max voltage and 27A max current

Multi-Power & Dual AC Output
Supports grid, generator, battery or battery-less; Dual AC outputs with intelligent load prioritization

Intelligent MPPT & Priority
Smart MPPT control with configurable PV/grid priority settings

Remote Monitoring & Display
Built-in WiFi for remote monitoring and LCD screen for real-time data

Compact Size with Higher Power
6.5kW output in a smaller, lighter chassis for flexible installation

Rugged IP54 Design
Dust- and splash-resistant for long-lasting outdoor performance

TECHNICAL SPECIFICATION		
Model	SSA-HL5K-P1EU_DO Pro	SSA-HL6.5K-P1EU_DO Pro
AC INPUT		
Rated Voltage (V a.c.)	220 / 230 / 240,L+N+PE	
Rated Frequency (Hz)	50 / 60	
Current (Maximum Continuous) (A a.c.)	40 (Bypass mode)	
INVERTER OUTPUT		
Rated Power (kW)	5	6.5
Rated Voltage (V a.c.)	220 / 230 / 240,L1+N1+L2+N2+PE	
Power Factor	1	
Wave Form	Pure Sine Wave	
Switch Time (ms)	<10	
Inverter Efficiency (Peak)	93.5% (Max)	94% (Max)
Current (Maximum Continuous) (A a.c.)	22.7	27.3
Maximum Output Overcurrent Protection	102%~120% 60s, >120% 10s	
BATTERY		
Battery Type	Li-ion / Lead-acid	
Rated Battery Voltage (V d.c.)	24	48
Battery Voltage Range (V d.c.)	21~30.2	42~56.4
Max.Charge Current (A d.c.)	160	120
PV INPUT		
No.of MPPT Tracker / Strings	1	
Max.PV Array Power (kW)	9	
Max.Dc Voltage (V d.c.)	500	
MPPT Voltage Range (V d.c.)	60~450	
Start-up Voltage (V d.c.)	80	
MPPT Maximum Charge Current (A d.c.)	160	120
Max.Input Current (A d.c.)	27	
Isc PV (Absolute Maximum) (A d.c.)	30	
PROTECTION & FEATURE		
Parallel Function	NO	Yes (up to 9pcs,optional)
Protection Degree	IP54	
Certifications	IEC 62109-1/2, EN IEC 61000-6-1, EN IEC 61000-6-3	
Other Protection	Over voltage Protection; Over load protection; Short circuit protection; Over temperature protection; Surge protection	
GENERAL PARAMETER		
Storage Temperature	-15°C ~ +60°C	
Operating Temperature	-10°C ~ +60°C	
Humidity	5%~95% (Non-condensing)	
Operating Altitude (m)	4000 (>1000 Derating)	
Noise (dB)	<60	
Warranty (year)	2	
Machine Dimensions (W*H*D) (mm)	347*487*122	
Machine Weight / N.W. (kg)	11.8	
DISPLAY AND COMMUNICATION		
Display	LCD Display (Display Running Mode,Loads / Input / Output etc.)	
Interface	RS485 / RS232 / CAN / WiFi (Optional)	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSA-HL12K-P1EU_DO

230V Single Phase Hybrid Inverter (LV)

2-Year Warranty

KEY STRENGTHS

- 60-500V Wide PV Input for Longer and Flexible strings
- Dual MPPT input Maximizes Energy Yield
- Max. 160A Solar and Utility/Generator Charging
- Dual AC output for Flexible Load Management
- 5-inch display screen clear and easy operation
- Optional WiFi for Real-time Remote Monitoring

TECHNICAL SPECIFICATION	
Model	SSA-HL12K-P1EU_DO
AC INPUT	
Rated Voltage (V a.c.)	220 / 230 / 240,L+N+PE
Rated Frequency (Hz)	50 / 60
Current (Maximum Continuous) (A a.c.)	70
INVERTER OUTPUT	
Rated Power (kW)	12
Rated Voltage (V a.c.)	220/230/240, L1+N1+L2+N2-PE
Power Factor	1
Wave Form	Pure Sine Wave
Switch Time (ms)	<10 (Typical)
Inverter Efficiency (Peak)	94%@48V d.c.
Current (Maximum Continuous (A a.c.)	52.5
Maximum Output Overcurrent Protection	1min@102%~125%Load10s@>125%Load
BATTERY	
Battery Type	Lithium / Lead-acid
Rated Battery Voltage (V d.c.)	48
Battery Voltage Range (V d.c.)	42~56.4
Max.Charge Current (A d.c.)	160
PV INPUT	
No.of MPPT Tracker / Strings	2 / 2
Max.PV Array Power (kW)	Using One MPPT 9KW Using Two MPPTs: 15KW/Total
Max.Dc Voltage (V d.c.)	500
MPPT Voltage Range (V d.c.)	60~450
Start-up Voltage (V d.c.)	80
MPPT Maximum Charge Current (A d.c.)	160
Max.Input Current (A d.c.)	Using One MPPT:27A Using Two MPPTs:22.5A/PerMPPT
Isc PV (Absolute Maximum) (A d.c.)	30
PROTECTION & FEATURE	
Parallel Function	NO
Protection Degree	IP20, Indoor Only
Certifications	CE (IEC62109-1), EN61000 NRS
Other Protection	Overload, Over temperature, Short circuit
GENERAL PARAMETER	
Storage Temperature	-15℃ ~ +60℃
Operating Temperature	-10℃ ~ +60℃
Humidity	20%~95% (Non-condensing)
Operating Altitude (m)	4000 (>1000 Derating)
Noise (dB)	<60
Warranty (year)	2
Machine Dimensions (W*H*D) (mm)	420*500*130
Machine Weight / N.W. (kg)	15.8
DISPLAY AND COMMUNICATION	
Display	LCD Display (Display Running Mode,Loads / Input / Output etc.)
Interface	RS485 / CAN / WiFi (Optional)

- Please note that all specifications are subject to change without prior notice.

Residential Energy Storage Solutions

Flexible. Scalable. Resilience

SOSEN residential hybrid inverters deliver smart and efficient energy solutions for a wide range of homes — from city apartments to large villas. Supporting single-phase, split-phase, and three-phase systems, compatible with both low- and high-voltage batteries, the series meets diverse residential storage needs. With power ratings from 3kW to 24kW, the lineup supports PV oversizing, high charge/discharge currents, and UPS-level switching (<10ms) for uninterrupted power. The inverters also feature AC coupling, generator input or smart load management, parallel operation— enabling safe, flexible, and scalable systems.

Designed with durable, weatherproof enclosures, compact form factors, and wide temperature tolerance, SOSEN inverters deliver reliable performance even in harsh environments. Seamless access to the SOSEN Energy Cloud platform provide smart monitoring and control anytime, anywhere.

From daily energy optimization to full-home backup, SOSEN empowers homeowners with clean, reliable, and easy-to-manage energy — today and into the future.

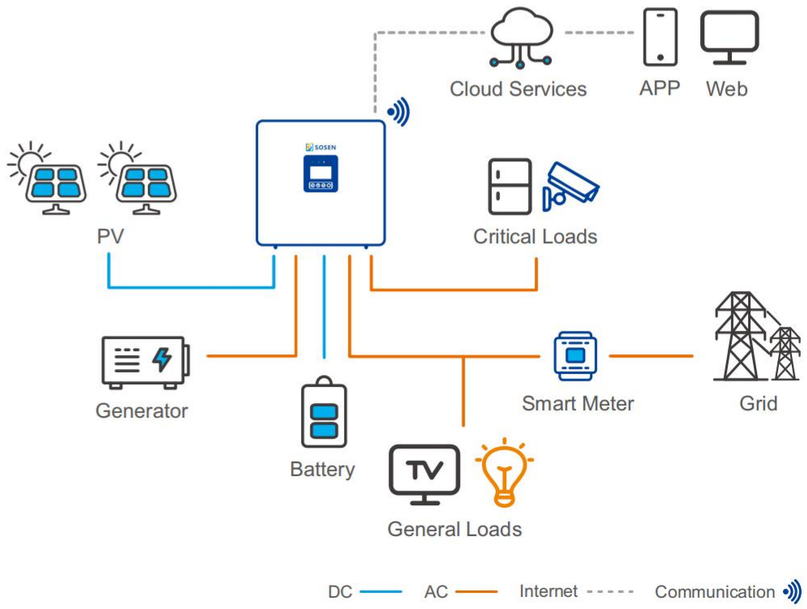
Models:

SSE-HL3~8K-P1EU
SSE-HH3~6K-P1-EU
SSE-HL8~15K-P2SA
SSE-HL8~10K-P1EU
SSE-HH8~12K-P3EU
SSE-HL8~15K-P2US
SSE-HL10~16K-P1EU
SSE-HL8~24K-P3EU

Output:

3-24 kW

Residential Energy Storage Solution



SSE-HL3~8K-P1EU Series

Single Phase
2 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

- AC/DC Coupling & Generator Compatible
- Up to 8 Units Parallel Flexible Expansion
- <10ms UPS Function for Uninterrupted Power
- 160A High-Capacity Battery Support
- Smart Load Management for Energy Optimization
- IP65 Rated with Silent Operation

TECHNICAL SPECIFICATION								
Model	SSE-HL3K-P1EU/ SSE-HL3K-P1EU-S	SSE-HL3K6-P1EU/ SSE-HL3K6-P1EU-S	SSE-HL4K-P1EU/ SSE-HL4K-P1EU-S	SSE-HL4K6-P1EU/ SSE-HL4K6-P1EU-S	SSE-HL5K-P1EU/ SSE-HL5K-P1EU-S	SSE-HL6K-P1EU/ SSE-HL6K-P1EU-S	SSE-HL7K-P1EU/ SSE-HL7K-P1EU-S	SSE-HL8K-P1EU/ SSE-HL8K-P1EU-S
INVERTER INPUT/OUTPUT (GRID)								
Rated Power (kW)	3	3.6	4	4.6[1]	5[2]	6	7	8
Rated Voltage (V a.c.)	220 / 230 / 240, L+N+PE							
Rated Frequency (Hz)	50 / 60							
Power Factor Range	0.8 leading ~ 0.8 lagging							
Switch Time (ms)	＜10							
Current (Maximum Continuous) (A a.c.)	13	16	17	20	21	26	30.4	34.8
Max Output Overcurrent Protection	250 V a.c. / 60 A a.c.							
BATTERY								
Battery Type	Lithium / Lead-acid							
Battery Voltage Range (V d.c.)	45~58							
Rated Battery Voltage (V d.c.)	51.2							
Max Charge Current (A d.c.)	60	70	80	90	100	110	140	160
Max Discharge Current (A d.c.)	60	70	80	90	100	110	140	160
Reverse Connect Protection	Yes							
PV INPUT								
No. of MPPT Tracker/Strings	2 / 1+1							
Max. PV Array Power (kW)	4.5	5.4	6	6.9	7.5	9	10.5	12
Max DC Voltage (V d.c.)	550							
MPPT Voltage Range (V d.c.)	120~500							
Start-up Voltage (V d.c.)	120							
Max. Input Current (A d.c.)	16 / 16						18 / 18	
Isc PV (Absolute Maximum) (A d.c.)	24 / 24							
AC OUTPUT (EPS) / GENERATOR								
EPS Rated Output Voltage (V a.c.)	220 / 230 / 240, L+N+PE							
EPS Rated Output Frequency (Hz)	50 / 60							
EPS Rated Output Active Power (kW)	3	3.6	4	4.6	5	6	7	8
EPS Rated Output Apparent Power (kVA)	3	3.6	4	4.6	5	6	7	8
EPS Rated Output Current (A a.c.)	13	16	17	20	21	26	30.4	34.8
Overload Capacity (Off Grid)	120% 10s / 150% 200ms							
EFFICIENCY								
MPPT Efficiency	99.20%							
Euro-efficiency	95.30%							
Max. Efficiency	96.50%							
PROTECTION & FEATURE								
Insulation Monitoring	Yes							
Residual Current Monitoring	Yes							
Parallel Function	Yes,up to 8pcs							
Protection Degree	IP65							
Certifications	IEC 62109-1/2, IEC 62477-1, IEC 61000-6-1, IEC 61000-6-3, EN 50549-1&-10, G99/G98, NRS 097-2-1, UNE 217001&2/NTS 631 etc.							
Other Protection	Overload, Over temperature, Short circuit , Active anti-islanding method etc.							
GENERAL PARAMETER								
Storage Temperature	-25°C ~ +60°C							
Operating Temperature	-25°C ~ +60°C (Linely derating to 60% when exceed +45°C ~ +60°C)							
Humidity	0-100% (Non-condensing)							
Altitude (m)	<2000							
Noise (dB)	<35						<56	
Warranty (year)	5							
Machine Dimension(W*H*D) (mm)	506*556*206							
Machine Weight / N.W. (kg)	25						30.6	
DISPLAY & COMMUNICATION								
Display	App+ LED / LCD (-S version)							
Interface	CAN / RS485 / Bluetooth / WiFi (Optional: 4G / DRM)							

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

[1]: The grid feed in power for VDE-AR-N 4105 is limited 4600VA & 20A.
[2]: The grid feed in power for AS/NZS 4777.2 is limited 4999VA & 21.7A.

SSE-HL8~10K-P1EU-S

Single Phase
2 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

- 1.5× PV Oversizing, Supports Battery Charging at Full Load
- Dual MPPTs with 4 PV Strings, Up to 550V per String
- <10 ms On-grid/Off-grid Switching for Backup Power
- Max. 200A Charge/Discharge for High-capacity Battery Cells
- 150% Peak Load Capability for Demanding Applications
- IP65-rated LCD, Supports Real-time Monitoring via App

TECHNICAL SPECIFICATION		
Model	SSE-HL8K-P1EU-S	SSE-HL10K-P1EU-S
INVERTER INPUT/OUTPUT (GRID)		
Rated Power (kW)	8	10
Rated Voltage (V a.c.)	220 / 230 / 240, L+N+PE	
Rated Frequency (Hz)	50 / 60	
Power Factor Range	0.8 leading ~ 0.8 lagging	
Switch Time (ms)	＜10	
Current (Maximum Continuous) (A a.c.)	34.8	43.5
Max Output Overcurrent Protection	250 V a.c. / 100 A a.c.	
BATTERY		
Battery Type	Lithium / Lead-acid	
Battery Voltage Range (V d.c.)	45 ~ 58	
Rated Battery Voltage (V d.c.)	51.2	
Max Charge Current (A d.c.)	180	200
Max Discharge Current (A d.c.)	180	200
Reverse Connect Protection	Yes	
PV INPUT		
No. of MPPT Tracker/Strings	2 / 2+2	
Max. PV Array Power (kW)	12	15
Max DC Voltage (V d.c.)	550	
MPPT Voltage Range (V d.c.)	120 ~ 500	
Start-up Voltage (V d.c.)	120	
Max. Input Current (A d.c.)	26 / 26	
Isc PV (Absolute Maximum) (A d.c.)	34 / 34	
AC OUTPUT (EPS) / GENERATOR		
EPS Rated Output Voltage (V a.c.)	220 / 230 / 240, L+N+PE	
EPS Rated Output Frequency (Hz)	50 / 60	
EPS Rated Output Active Power (kW)	8	10
EPS Rated Output Apparent Power (kVA)	8	10
EPS Rated Output Current (A a.c.)	34.8	43.5
Overload Capacity (Off Grid)	110%, 600s/ 120%, 10s/ 150%, 0.02s	
EFFICIENCY		
MPPT Efficiency	99.20%	
Euro-efficiency	96.50%	
Max. Efficiency	97.00%	
PROTECTION & FEATURE		
Insulation Monitoring	Yes	
Residual Current Monitoring	Yes	
Parallel Function	Yes	
Protection Degree	IP65	
Other Protection	Over voltage, Over current, Over temperature, Short circuit, Active anti-islanding etc.	
GENERAL PARAMETER		
Storage Temperature	-25°C ~ +60°C	
Operating Temperature	-25°C ~ +60°C (Linely derating to 10% when exceed +45°C ~ +60°C)	
Humidity	0-95% (Non-condensing)	
Altitude (m)	2000 (>2,000 Derating)	
Noise (dB)	<60	
Warranty (year)	5	
Machine Dimension(W*H*D) (mm)	361*545*222	
Machine Weight / N.W. (kg)	25	
DISPLAY & COMMUNICATION		
Display	LCD + APP	
Interface	RS485 / CAN / WiFi / Bluetooth	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HL10~16K-P1EU-S

Single Phase
3 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

- Max. 275A Charge/Discharge for High-Rate Battery Support
- 3 MPPTs with 150% PV Oversizing for Higher Yield
- Wide MPPT Range (120–480V) for Complex Rooftop Design
- Supports Generator & Smart load, Parallel up to 6 Units
- <10ms UPS-Level Switching for Critical Load Continuity
- AC Coupling Ready for Easy Retrofit and System Upgrade

TECHNICAL SPECIFICATION				
Model	SSE-HL10K-P1EU-S	SSE-HL12K-P1EU-S	SSE-HL14K-P1EU-S	SSE-HL16K-P1EU-S
INVERTER INPUT/OUTPUT (GRID)				
Rated Power (kW)	10	12	14	16
Rated Voltage (V a.c.)	220 / 230 / 240, L+N+PE			
Rated Frequency (Hz)	50 / 60			
Power Factor Range	0.8 leading ~ 0.8 lagging			
Switch Time (ms)	<10			
Current (Maximum Continuous) (A a.c.)	43.5	52.2	60.9	69.6
Max Output Overcurrent Protection (A a.c.)	100			
BATTERY				
Battery Type	Lithium / Lead-acid			
Battery Voltage Range (V d.c.)	40 ~ 60			
Rated Battery Voltage (V d.c.)	51.2			
Max Charge Current (A d.c.)	220	250	275	275
Max Discharge Current (A d.c.)	220	250	275	275
Reverse Connect Protection	Yes			
PV INPUT				
No. of MPPT Tracker / Strings	3 / 2+2+2			
Max. PV Array Power	15	18	21	22.5
Max DC Voltage (V d.c.)	550			
MPPT Voltage Range (V d.c.)	120~480			
Start-up Voltage (V d.c.)	120			
Max. Input Current (A d.c.)	3*26			
Isc PV (Absolute Maximum) (A d.c.)	3*39			
AC OUTPUT (EPS)				
EPS Rated Output Voltage (V a.c.)	220 / 230 / 240, L+N+PE			
EPS Rated Output Frequency (Hz)	50 / 60			
EPS Rated Output Active Power (kW)	10	12	14	16
EPS Rated Output Apparent Power (kVA)	10	12	14	16
EPS Rated Output Current (A a.c.)	43.5	52.2	60.9	69.6
Overload Capacity (Off Grid)	200% (<10s) / 150% (<60s)			
EFFICIENCY				
MPPT Efficiency	99.90%			
Euro-efficiency	96.50%			
Max. Efficiency	97.30%			
PROTECTION & FEATURE				
Insulation Monitoring	Yes			
Residual Current Monitoring	Yes			
Parallel Function	Yes			
Protection Degree	IP65			
Certifications	IEC 62109-1/2, IEC 62477-1, IEC 61000-6-1, IEC 61000-6-3,EN 50549-1&-10, NRS 097-2-1, ABNT NBR 16149, IEC 61727, IEC61683, IEC62116 etc.			
Other Protection	Output over voltage, Output over current, Short circuit, Surge, Temperature			
GENERAL PARAMETER				
Storage Temperature	-25°C ~ +60°C			
Operating Temperature	-25°C ~ +60°C (Linely derating to 60% when exceed +45°C ~ +60°C			
Humidity	0-100% (Non-condensing)			
Altitude (m)	4000 (>2000 Derating)			
Noise (dB)	<50			
Warranty (year)	5			
Machine Dimension(W*H*D) (mm)	466*600*252			
Machine Weight / N.W. (kg)	40			
DISPLAY & COMMUNICATION				
Display	LCD + APP			
Interface	RS485 / WiFi / CAN / Bluetooth (Optional: LAN / Meter)			

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HH3~6K-P1-EU

Single Phase
2 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

- Compatible with HV Battery for Higher Efficiency
- <15ms Seamless Switching for Uninterrupted Power
- Inverter + Grid Bypass Supports up to 2× Total Load Capacity
- IP65 Rated, Ultra-silent Operation below 25dB
- Full Output at 4000m Altitude With No Derating Required
- Compact Design for Fast Easy Installation

TECHNICAL SPECIFICATION					
Model	SSE-HH3K-P1-EU	SSE-HH3K7-P1-EU	SSE-HH4K6-P1-EU	SSE-HH5K-P1-EU	SSE-HH6K-P1-EU
INVERTER INPUT / OUTPUT(GRID)					
Rated Power (kW)	3+3 (bypass)	3.68+3.68 (bypass)	4.6[1]+4.6 (bypass)	5[2]+5 (bypass)	6+6 (bypass)
Rated Voltage (V a.c.)	220/230/240,L+N+PE				
Rated Frequency (Hz)	50 / 60				
Power Factor Range	0.8 leading~0.8 lagging				
Switch Time (ms)	< 15				
Max.Continuous Current (Input/Output)(A a.c.)	13	16	20	21.7	26.1
Max.Output Overcurrent Protection	250 V a.c. / 60 A a.c.				
BATTERY					
Battery Type	Lithium				
Battery Voltage Range (V d.c.)	85~480				
Rated Battery Voltage (V d.c.)	300				
Max.Charge Current (A d.c.)	35				
Max.Discharge Current (A d.c.)	35				
Reverse Connect Protection	Yes				
PV INPUT					
No.of MPPT Tracker / Strings	2 / 1+1				
Max.PV Input Power (kW)	3 / 3	3.68 / 3.68	4.14 / 4.14	4.5 / 4.5	4.5 / 4.5
Max.DC Voltage (V d.c.)	600				
MPPT Voltage Range (V d.c.)	80~550				
Start-up Voltage (V d.c.)	120				
Max.Input Current / string (A d.c.)	16+16				
Isc PV (Absolute Maximum) / string (A d.c.)	24+24				
AC OUTPUT(EPS)					
EPS Rated Output Voltage (V a.c.)	220 / 230 / 240,L+N+PE				
EPS Rated Output Frequency (Hz)	50 / 60				
EPS Rated Output Active Power (kW)	3	3.68	4.6	5	6
EPS Rated Output Apparent Power (kVA)	3	3.68	4.6	5	6
EPS Rated Output Current (A a.c.)	13	16	20	21.7	26.1
Overload Capacity (Off Grid)	110% 30s / 120% 10s / 150% 0.2s				
EFFICIENCY					
MPPT Efficiency	99.90%				
Euro-efficiency	97.00%				
Max.Efficiency	97.8%				
PROTECTION & FEATURE					
Insulation Monitoring	Yes				
Residual Current Monitoring	Yes				
Parallel Function	Yes				
Protection Degree	IP65				
Certifications	IEC 62109-1/2, IEC 62477-1, IEC 62040-1, IEC 61000-6-1, IEC 61000-6-3, EN 50549-1&-10, G99/G98,CEI 0-21, UNE 217001&2/NTS 631, VDE-AR-N 4105, AS/NZS 4777.2 etc.				
Other Protection	Ground fault current monitoring, Earth fault detection, Residual current(RCD)Detection etc.				
GENERAL PARAMETER					
Storage Temperature	-25℃~+60℃				
Operating Temperature	-25℃ ~ +60℃ (Linely derating to 60% when exceed +45℃ ~ +60℃)				
Humidity	0%~100% (Non-condensing)				
Max.operating altitude (m)	<4000				
Noise (dB)	<25				
Warranty (year)	5				
Machine Dimensions(W*H*D) (mm)	480*480*180				
Machine Weight / N.W. (kg)	20				
DISPLAY & COMMUNICATION					
Display	LED+APP				

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

[1]: The grid feed in power for VDE-AR-N 4105 is limited 4600VA & 20A.
[2]: The grid feed in power for AS/NZS 4777.2 is limited 4999VA & 21.7A.

SSE-HH8~12K-P3EU

Three Phase
2 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

- <10ms UPS Function for Uninterrupted Power
- 100% Unbalanced Load Support
- Flexible 125-800V Battery Input
- Smart Energy Management & Multiple Operating Modes
- 1.5x PV Oversizing
- IP65-rated Fanless Outdoor-ready Design

TECHNICAL SPECIFICATION			
Model	SSE-HH8K-P3EU	SSE-HH10K-P3EU	SSE-HH12K-P3EU
INVERTER INPUT / OUTPUT(GRID)			
Rated Power (Input/Output)(kW)	12 / 8	14 / 10	16 / 12
Rated Voltage (V a.c.)		380 / 400 ,3W+N+PE	
Rated Frequency (Hz)		50 / 60	
Power Factor Range		0.8 leading~0.8 lagging	
Switch Time (ms)		<10	
Max.Continuous Current (Input/Output)(A a.c.)	17.4 / 11.6	20.3 / 14.5	23.2 / 17.4
Max.Output Overcurrent Protection (A a.c.)		400 / 60	
BATTERY			
Battery Type		Lithium / Lead-acid	
Battery Voltage Range (V d.c.)		125~800	
Rated Battery Voltage (V d.c.)	200	250	300
Max.Charge Current (A d.c.)		40	
Max.Discharge Current (A d.c.)		40	
Reverse Connect Protection		Yes	
PV INPUT			
No.of MPPT Tracker / Strings		2 / 1+1	
Max.PV Input Power (kW)	12	15	18
Max.DC Voltage (V d.c.)		1000	
MPPT Voltage Range (V d.c.)		150~950	
Start-up Voltage (V d.c.)		200	
Max.Input Current / string (A d.c.)		2*16	
Isc PV (Absolute Maximum) / string (A d.c.)		2*24	
AC OUTPUT(EPS) / GENERATOR			
EPS Rated Output Voltage (V a.c.)		380 / 400,3W+N+PE	
EPS Rated Output Frequency (Hz)		50 / 60	
EPS Rated Output Active Power (kW)	8	10	12
EPS Rated Output Apparent Power (kVA)	8	10	12
EPS Rated Output Current (A a.c.)	11.6	14.5	17.4
Overload Capacity (Off Grid)		110% 30s / 120% 10s / 150% 0.2s	
EFFICIENCY			
MPPT Efficiency		99.90%	
Euro-efficiency		97.50%	
Max.Efficiency		98%	
PROTECTION & FEATURE			
Insulation Monitoring		Yes	
Residual Current Monitoring		Yes	
Parallel Function		Yes	
Protection Degree		IP65	
Certifications		IEC 62109-1/2, IEC 62477-1, IEC 61000-6-1, IEC 61000-6-3, EN 50549-1, VDE-AR-N 4105, OVE R25, NA/EEA-NE7-CH UNE 217001&2/NTS 631, etc.	
Other Protection		Ground fault current monitoring, Earth fault detection, Residual current(RCD)Detection etc.	
GENERAL PARAMETER			
Storage Temperature		-25°C~+60°C	
Operating Temperature		-25°C ~ +60°C (Linely derating to 60% when exceed +45°C ~ +60°C)	
Humidity		0%~100% (Non-condensing)	
Max.operating altitude (m)		4000 (>2000 Derating)	
Noise (dB)		<35	
Warranty (year)		5	
Machine Dimensions(W*H*D) (mm)		530*600*210	
Machine Weight / N.W. (kg)		35	
DISPLAY & COMMUNICATION			
Display		LED+APP	
Interface		RS485 / WiFi / CAN / DRM (Optional:Bluetooth / LAN / Meter)	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HL8~24K-P3EU-S

Three Phase
2 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

Extreme Climate Adaptability
Full-load operation, 45°C without derating

High Battery Compatibility
Max. 415A charge/discharge, supports three battery inputs

Wide Grid Adaptability
154V–286V phase voltage input, 50/60Hz auto-adaptation, built-in SPD

High Surge & Unbalanced Output
2× load surge for 10s, 150% three-phase unbalanced output

Flexible System Expansion
Up to 8 units parallel, supports AC coupling for retrofit

SiC + Full Aluminum + IP66
High efficiency, lightweight, IP66 protection

TECHNICAL SPECIFICATION							
Model	SSE-HL8K-P3EU-S	SSE-HL10K-P3EU-S	SSE-HL12K-P3EU-S	SSE-HL15K-P3EU-S	SSE-HL18K-P3EU-S	SSE-HL20K-P3EU-S	SSE-HL24K-P3EU-S
INVERTER INPUT / OUTPUT (GRID)							
Rated Power (kW)	8 / 8	10 / 10	12 / 12	15 / 15	18 / 18	20 / 20	24 / 24
Rated Voltage (V a.c.)	380 / 400, 3W+N+PE						
Rated Frequency (Hz)	50 / 60						
Power Factor Range	0.8 leading ~ 0.8 lagging						
Switch Time (ms)	<20						
Current (Maximum / Continuous) (A a.c.)	24 / 12	29 / 15	35 / 17	43 / 22	52 / 26	58 / 29	60 / 35
Max Output Overcurrent Protection	400 V a.c. / 100 A a.c.						
BATTERY							
Battery Type	Lithium / Lead-acid						
Battery Voltage Range (V d.c.)	40 ~ 60						
Rated Battery Voltage (V d.c.)	51.2					48	
Max Charge Current (A d.c.)	180	220	250	315	375	390	415
Max Discharge Current (A d.c.)	180	220	250	315	375	390	415
PV INPUT							
No. of MPPT Tracker / Strings	2 / 2+2						
Max. PV Array Power (kW)	16	20	24	30	36	40	48
Max DC Voltage (V d.c.)	1000						
MPPT Voltage Range (V d.c.)	150 ~ 950 V d.c.						
Start-up Voltage (V d.c.)	180						
Max. Input Current (A d.c.)	4*20						
Isc PV (Absolute Maximum) (A d.c.)	4*30						
AC OUTPUT (EPS)							
EPS Rated Output Voltage (V a.c.)	380 / 400, 3W+N+PE						
EPS Rated Output Frequency (Hz)	50 / 60						
EPS Rated Output Active Power (kW)	8	10	12	15	18	20	24
EPS Rated Output Apparent Power (kVA)	8	10	12	15	18	20	24
EPS Rated Output Current (A a.c.)	12	15	17	22	26	29	35
Overload Capacity (Off Grid)	110% 600s / 120% 300s / 150% 60s / 200% 10s						
EFFICIENCY							
MPPT Efficiency	99.90%						
Euro-efficiency	97.00%			97.20%			
Max. Efficiency	97.50%			98.00%			
PROTECTION & FEATURE							
Insulation Monitoring	Yes						
Residual Current Monitoring	Yes						
Parallel Function	Yes						
Protection Degree	IP66						
Certifications	IEC 62109-1/2, IEC 62477-1, IEC 61000-6-1, IEC 61000-6-3, EN 50549-1&-10, NRS 097-2-1, IEC 61727, IEC 61683, IEC 62116						
Other Protection	Output over voltage, Output over current, Short circuit, Surge, Temperature, Anti-islanding						
GENERAL PARAMETER							
Storage Temperature	-25℃ ~ +60℃						
Operating Temperature	-25℃ ~ +60℃ (Linely derating to 60% when exceed +45℃ ~ +60℃)						
Humidity	0-95% (Non-condensing)						
Altitude (m)	4000 (>2000 Derating)						
Noise (dB)	<65			<75			
Warranty (year)	5						
Machine Dimension(W*H*D) (mm)	448*660*265						
Machine Weight / N.W. (kg)	45			48			
DISPLAY & COMMUNICATION							
Display	LCD + APP						
Interface	RS485 / WiFi / CAN / DRM (Optional:Bluetooth / LAN / Meter)						

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HL8~15K-P2SA Series

Split Phase
3 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

- 275A Max Charge/Discharge for Heavy Loads
- <10ms UPS-Level Switching for Backup Power
- Dual AC Ports: Grid & Generator / Smart Load
- AC-Coupling Ready Retrofit Without Rebuild
- 3-Phase Support Parallel up to 6 Units
- Rugged NEMA 4X Enclosure for Enhanced Durability

TECHNICAL SPECIFICATION				
Model	SSE-HL8K-P2SA/ SSE-HL8K-P2SA-S	SSE-HL10K-P2SA/ SSE-HL10K-P2SA-S	SSE-HL12K-P2SA/ SSE-HL12K-P2SA-S	SSE-HL15K-P2SA/ SSE-HL15K-P2SA-S
INVERTER INPUT / OUTPUT (GRID)				
Rated Power (kW)	8	10	12	15
Rated Voltage (V a.c.)	120 / 240 (Split Phase),208 (2/3Phase)			
Rated Frequency (Hz)	60			
Power Factor Range	0.8 leading~0.8lagging			
Switch Time (ms)	<10			
Max. Input Current (A a.c.)	50			62.5
Max. Output Current (A a.c.)	33.4	41.7	50	62.5
Max Output Overcurrent Protection	250 V a.c. / 125 A a.c.			
GEN Rated Power (kW)	8	10	12	15
BATTERY				
Battery Type	Lithium / Lead-acid			
Battery Voltage Range (V d.c.)	40~60			
Rated Battery Voltage (V d.c.)	51.2			
Max Charge Current (A d.c.)	167	210	250	275
Max Discharge Current (A d.c.)	167	210	250	275
Reverse Connect Protection	Yes			
PV INPUT				
No. of MPPT Tracker / Strings	3 / 2+2+2	3 / 2+2+2	3 / 2+2+2	3 / 2+2+2
Max. PV Array Power (kW)	12	15	18	22.5
Max DC Voltage (V d.c.)	550			
MPPT Voltage Range (V d.c.)	100~500			
Start-up Voltage (V d.c.)	120			
Max. Input Current (A d.c.)	26+26+26			
Isc PV (Absolute Maximum) (A d.c.)	39			
AC OUTPUT (EPS)				
EPS Rated Output Voltage (V a.c.)	120 / 240 (Split Phase),208 (2/3Phase)			
EPS Rated Output Frequency (Hz)	60			
EPS Rated Output Active Power (kW)	8	10	12	15
EPS Rated Output Apparent Power (kVA)	8	10	12	15
EPS Rated Output Current (A a.c.)	33.4	41.7	50	62.5
Overload Capacity (Off Grid)	200% 10s			
EFFICIENCY				
MPPT Efficiency	99.50%			
California-eficiency	96.50%			
Max. Eficiency	97.50%			
PROTECTION & FEATURE				
Insulation Monitoring	Yes			
Residual Current Monitoring	Yes			
Parallel Function	Yes			
Protection Degree	NEMA 4X			
Certifications	UL1741, FCC Part 15B, UL1547, UL1998, UL1699B, HECO SRD 2.0, CEC efficiency			
Other Protection	Overload, Over temperature, Short circuit, Anti-islanding			
GENERAL PARAMETER				
Storage Temperature	-25℃~+60℃ (-13℉~+140℉)			
Operating Temperature	-25℃~+60℃ (-13℉~+140℉), >+45℃ (+113℉) Derating to 60%			
Humidity	0~95% (Non-condensing)			
Operating Altitude (m)	4000 (>2000 Derating)			
Noise (dB)	<45			
Warranty (year)	5			
Machine Dimensions(W*H*D) (mm)	466*756*242 (18.35*29.76*9.35 in)			
Machine Weight / N.W. (kg)	45 (99.21 lbs)			
DISPLAY & COMMUNICATION				
Display	App+ LED / LCD (-S version)			
Interface	RS485 / WiFi / CAN (Optional: Bluetooth / LAN / 4G / Meter)			

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HL8~15K-P2US Series

Split Phase
3 MPPTs Hybrid Inverter

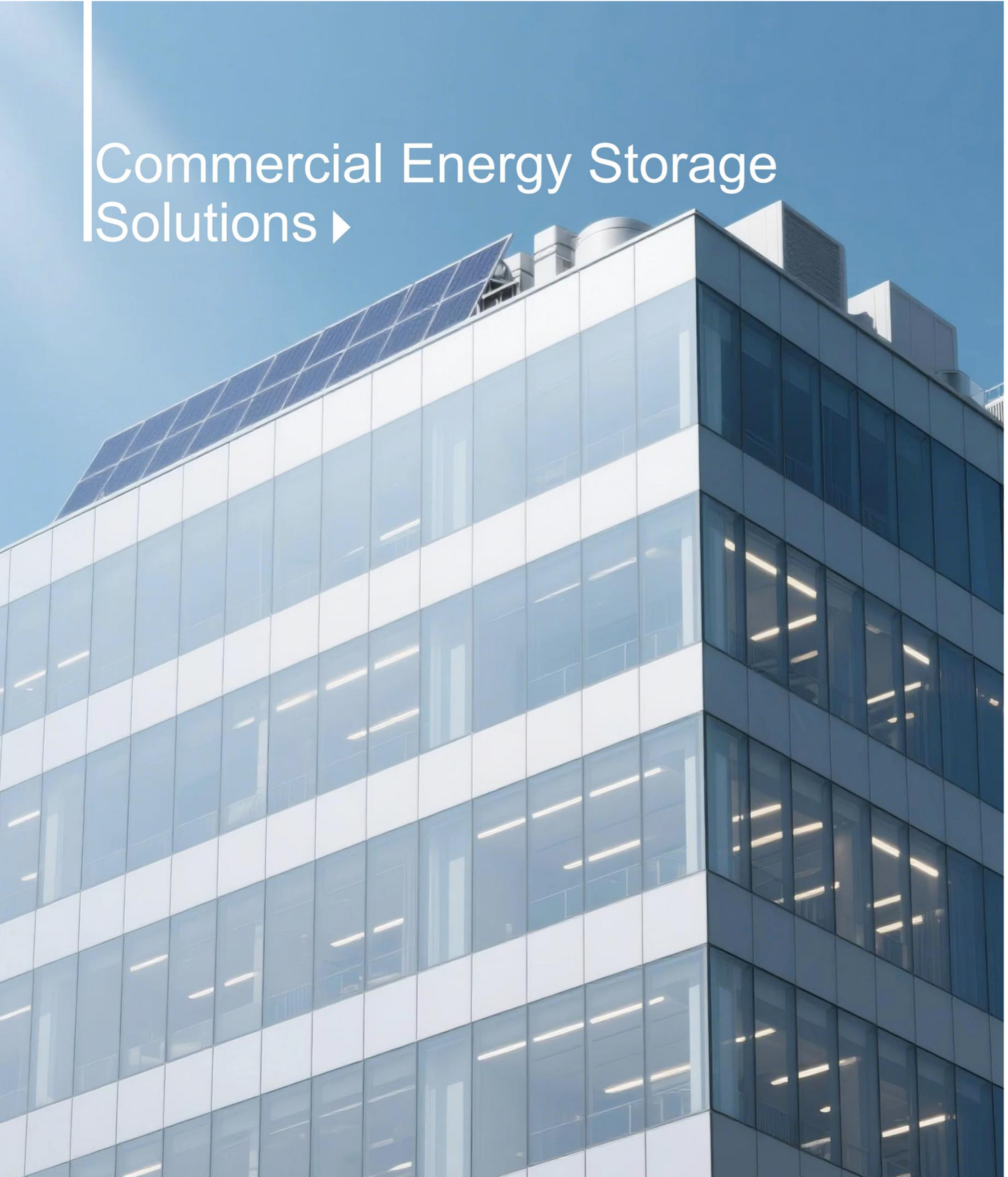
5-Year Warranty

KEY STRENGTHS

- 275A Max Charge/Discharge for Heavy Loads
- <10ms UPS-Level Switching for Backup Power
- Dual AC Ports: Grid & Generator / Smart Load with Programmable Control
- AC-Coupling Ready Retrofit Without Rebuild
- 3-Phase Support Parallel up to 8 Units
- 200A Bypass Current Ensures Safe Peak Load Use

TECHNICAL SPECIFICATION				
Model	SSE-HL8K-P2US/ SSE-HL8K-P2US-S	SSE-HL10K-P2US/ SSE-HL10K-P2US-S	SSE-HL12K-P2US/ SSE-HL12K-P2US-S	SSE-HL15K-P2US/ SSE-HL15K-P2US-S
INVERTER INPUT / OUTPUT (GRID)				
Rated Power (kW)	8	10	12	15
Rated Voltage (V a.c.)	120 / 240 (Split Phase),208 (2/3Phase)			
Rated Frequency (Hz)	60			
Power Factor Range	0.8 leading~0.8lagging			
Switch Time (ms)	<10			
Max. Input Current (A a.c.)	200			
Max. Output Current (A a.c.)	33.4	41.7	50	62.5
Max Output Overcurrent Protection	250 V a.c. / 250 A a.c.			
GEN Max. Input Current (A a.c.)	80			
BATTERY				
Battery Type	Lithium / Lead-acid			
Battery Voltage Range (V d.c.)	40~60			
Rated Battery Voltage (V d.c.)	51.2			
Max Charge Current (A d.c.)	167	210	250	275
Max Discharge Current (A d.c.)	167	210	250	275
Reverse Connect Protection	Yes			
PV INPUT				
No. of MPPT Tracker / Strings	3 / 2+2+2	3 / 2+2+2	3 / 2+2+2	3 / 2+2+2
Max. PV Array Power (kW)	12	15	18	22.5
Max DC Voltage (V d.c.)	550			
MPPT Voltage Range (V d.c.)	100~500			
Start-up Voltage (V d.c.)	120			
Max. Input Current (A d.c.)	26+26+26			
Isc PV (Absolute Maximum) (A d.c.)	39			
AC OUTPUT (EPS)				
EPS Rated Output Voltage (V a.c.)	120 / 240 (Split Phase),208 (2/3Phase)			
EPS Rated Output Frequency (Hz)	60			
EPS Rated Output Active Power (kW)	8	10	12	15
EPS Rated Output Apparent Power (kVA)	8	10	12	15
EPS Rated Output Current (A a.c.)	33.4	41.7	50	62.5
Overload Capacity (Off Grid)	200% 10s			
Smart Load Rated Output Power (kW)	8	10	12	15
EFFICIENCY				
MPPT Efficiency	99.50%			
California-eficiency	96.50%			
Max.Eficiency	97.50%			
PROTECTION & FEATURE				
Insulation Monitoring	Yes			
Residual Current Monitoring	Yes			
Parallel Function	Yes			
Protection Degree	NEMA 4X			
Certifications	UL1741, FCC Part 15B, UL1547, UL1998, UL1699B, HECO SRD 2.0, CEC efficiency			
Other Protection	Overload, Over temperature, Short circuit, Anti-islanding			
GENERAL PARAMETER				
Storage Temperature	-25°C~+60°C (-13°F~+140°F)			
Operating Temperature	-25°C~+60°C (-13°F~+140°F), >+45°C (+113°F) Derating to 60%			
Humidity	0~95% (Non-condensing)			
Operating Altitude (m)	4000 (>2000 Derating)			
Noise (dB)	<45			
Warranty (year)	5			
Machine Dimensions(W*H*D) (mm)	522*826*265.5			
Machine Weight / N.W. (kg)	50			
DISPLAY & COMMUNICATION				
Display	App+ LED / LCD (-S version)			
Interface	RS485 / WiFi / CAN (Optional: Bluetooth / LAN / 4G / Meter)			

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.



Commercial Energy Storage Solutions

Reliable. Scalable. Future-Ready.

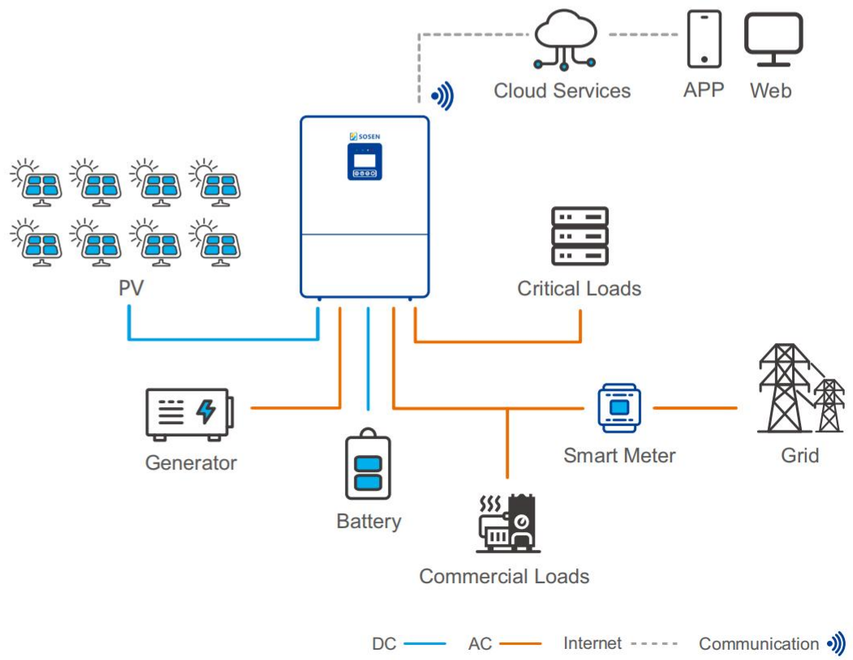
The SOSEN commercial hybrid inverter series delivers advanced three-phase energy storage solutions for commercial and small industrial applications. Built with cutting-edge SiC (Silicon Carbide) technology and a dual independent battery design, the series supports up to 200A total current, enabling seamless integration with large battery systems — while simplifying system architecture and reducing overall costs.

With 4 MPPTs, high string current, and 1.67× PV oversizing, the inverters adapt easily to complex rooftops and high-power PV modules. Can operate in parallel, supporting flexible system scaling. The series also supports ACcoupling, generator input or smart load and open API for smooth EMS/BMS integration. A compact, IP66 weatherproof design with built-in protections ensures long-term stability in harsh environments.

From peak shaving and load shifting to backup power and renewable integration, SOSEN offers a robust and intelligent energy backbone for future-ready commercial systems.

Models:	Output:
SSE-HH29.9~60K-P3EU	29.9-60kW
SSE-HH30~60K-P3US	
SSE-HH30K-P3SA	

C&I Energy Storage Solution



SSE-HH29.9~60K-P3EU Series

Three Phase
4 MPPTs Hybrid Inverter

5-Year Warranty

KEY STRENGTHS

Superior Performance & Efficiency
- 100% three-phase unbalanced output
- 4 MPPTs, efficiency up to 99.9%
- 1.67x PV oversizing

Flexible Expansion & Compatibility
- Supports up to 8 units in parallel
- Enables AC coupling for system retrofit
- Compatible with mainstream Li-ion batteries

Intelligent Energy Management
- Integrated local and remote EMS
- Support diesel generator
- Provides open API for system integration

Dual Battery Inputs & High Current
- Dual independent battery inputs, 100A charge/discharge per port
- Up to 200A parallel current

High Safety & Reliability
- All-SiC technology for higher efficiency
- IP66 protection
- Compact design, plug & play installations

System Intelligence & Upgradability
- Supports intelligent module integration
- Modular design for easy expansion

TECHNICAL SPECIFICATION					
Model	SSE-HH29.9K-P3EU/ SSE-HH29.9K-P3EU-S	SSE-HH30K-P3EU/ SSE-HH30K-P3EU-S	SSE-HH40K-P3EU/ SSE-HH40K-P3EU-S	SSE-HH50K-P3EU/ SSE-HH50K-P3EU-S	SSE-HH60K-P3EU/ SSE-HH60K-P3EU-S
INVERTER INPUT / OUTPUT(GRID)					
Rated Power (kW)	29.9	30	40	50	60
Rated Voltage (V a.c.)	380 / 400 ,3W+N+PE				
Rated Frequency (Hz)	50 / 60				
Power Factor Range	0.8 leading~0.8 lagging				
Max.Continuous Current (Input/Output)(A a.c.)	90.8 / 45.4	91.2 / 45.6	121.6 / 60.8	152 / 76	182.4 / 91.2
Max.Output Overcurrent Protection (A a.c.)	68.1 / 64.7	68.4 / 65	91.2 / 86.6	114 / 108.3	136.7 / 129.9
BATTERY					
Battery Type	Lithium / Lead-acid				
Battery Voltage Range (V d.c.)	135~850				
Rated Battery Voltage (V d.c.)	150	150	200	250	300
Max.Charge Current (A d.c.)	2*100				
Max.Discharge Current (A d.c.)	2*100				
Reverse Connect Protection	Yes				
PV INPUT					
No.of MPPT Tracker / Strings	4 / 2+2+2+2				
Max.PV Input Power (kW)	59.8	60	80	100	
Max.DC Voltage (V d.c.)	1000				
MPPT Voltage Range (V d.c.)	150~850				
Start-up Voltage (V d.c.)	200				
Max.Input Current / sring (A d.c.)	8*20				
Isc PV (Absolute Maximum) / sring (A d.c.)	8*30				
AC OUTPUT(EPS) / GENERATOR					
EPS Rated Output Voltage (V a.c.)	380 / 400,3W+N+PE				
EPS Rated Output Frequency (Hz)	50 / 60				
EPS Rated Output Active Power (kW)	29.9	30	40	50	60
EPS Rated Output Apparent Power (kVA)	29.9	30	40	50	60
EPS Rated Output Current (A a.c.)	45.4 / 43.2	45.6 / 43.3	60.8 / 57.7	76 / 72.2	91.2 / 86.6
Overload Capacity (Off Grid)	110% 30s / 120% 10s / 150% 0.2s				
EFFICIENCY					
MPPT Efficiency	99.90%				
Euro-efficiency	97.50%				
Max.Efficiency	98.50%				
PROTECTION & FEATURE					
Insulation Monitoring	Yes				
Residual Current Monitoring	Yes				
Parallel Function	Yes,up to 8pcs				
Protection Degree	IP66				
Certifications	IEC 62109-1/2, IEC 62477-1, IEC 61000-6-2, IEC 61000-6-4, EN 50549-1&-10, NRS 097-2-1 etc.				
Other Protection	Ground fault current monitoring, Earth fault detection, Residual current(RCD)Detection etc.				
GENERAL PARAMETER					
Storage Temperature	-25℃~+60℃				
Operating Temperature	-25℃ ~ +60℃ (Linely derating to 60% when exceed +45℃ ~ +60℃)				
Humidity	0%~100% (Non-condensing)				
Max.operating altitude (m)	4000				
Noise (dB)	<65				
Warranty (year)	5				
Machine Dimensions(W*H*D) (mm)	544*880*278				
Machine Weight / N.W. (kg)	88				
DISPLAY & COMMUNICATION					
Display	App+ LED / LCD (-S version)				
Interface	RS485 / WiFi / CAN / DRM (Optional:Bluetooth / LAN / Meter)				

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HH30~70K-P3US Series

Three Phase
4 MPPTs Hybrid Inverter
US Standard

5-Year Warranty

KEY STRENGTHS

Native Compatibility with US Grids
- 120/208V & 277/480V for all commercial needs
- Supports mixed single and three-phase loads
- Simplifies wiring and lowers cost

Seamless On/Off-Grid Operation
- Smooth grid/off-grid switching
- Operates reliably with or without batteries
- Grid & generator inputs, 2× bypass current

Dual Battery Ports, 200A Total Output
- 2 high-voltage battery inputs, 100A per port
- Up to 200A total charge/discharge current
- Flexible with high-capacity battery systems

Exceptional Energy Conversion
- 100% unbalanced three-phase output
- 4 MPPTs with up to 99.9% efficiency
- 2× PV oversizing, up to 100kW

Durable & All-Weather Ready
- Advanced SiC for peak efficiency
- IP66-rated for harsh outdoor use
- Compact, plug-and-play installation

Scalable & Smart Energy Control
- Up to 8 in parallel for system expansion
- AC-coupling for easy system upgrades
- Built-in EMS and cloud monitoring & OTA

TECHNICAL SPECIFICATION		
Model	SSE-HH30K-P3US / SSE-HH30K-P3US-S	SSE-HH70K-P3US / SSE-HH70K-P3US-S
INVERTER INPUT / OUTPUT(GRID)		
Rated Power (Input/Output) (kW)	60 / 30	140 / 70
Rated Voltage (V a.c.)	120 / 208, 3W+N+PE	277 / 480, 3W+N+PE
Rated Frequency (Hz)	50 / 60	
Power Factor Range	0.8 leading~0.8 lagging	
Switch Time (ms)	<20	
Max.Continuous Current (Input/Output) (A a.c.)	166.6 / 83.3	168.6 /84.3
Max.Output Overcurrent Protection (A a.c.)	124.9	126.5
BATTERY		
Battery Type	Lithium / Lead-acid	
Battery Voltage Range (V d.c.)	150~700	300~800
Rated Battery Voltage (V d.c.)	150	300
Max.Charge Current (A d.c.)	2*100	
Max.Discharge Current (A d.c.)	2*100	
Reverse Connect Protection	Yes	
PV INPUT		
No.of MPPT Tracker / Strings	4 / 2+2+2+2	
Max.PV Input Power (kW)	60	100
Max.DC Voltage (V d.c.)	1000	
MPPT Voltage Range (V d.c.)	150~850	
Start-up Voltage (V d.c.)	200	
Max.Input Current / sring (A d.c.)	8*20	
Isc PV (Absolute Maximum) / sring (A d.c.)	8*30	
AC OUTPUT(EPS) / GENERATOR		
EPS Rated Output Voltage (V a.c.)	120 / 208, 3W+N+PE	277 / 480, 3W+N+PE
EPS Rated Output Frequency (Hz)	50 / 60	
EPS Rated Output Active Power (kW)	30	70
EPS Rated Output Apparent Power (kVA)	30	70
EPS Rated Output Current (A a.c.)	83.3	84.3
Overload Capacity (Off Grid)	110% 30s / 120% 10s / 150% 0.2s	
EFFICIENCY		
MPPT Efficiency	99.90%	
Euro-efficiency	97.00%	
Max.Efficiency	98.00%	
PROTECTION & FEATURE		
Insulation Monitoring	Yes	
Residual Current Monitoring	Yes	
Parallel Function	Yes,up to 8pcs	
Protection Degree	IP66	
Certifications	UL1741, FCC Part 15B, UI1547, UL1998, UL1699B, HECO SRD 2.0, CEC efficiency	
Other Protection	Ground fault current monitoring, Earth fault detection, Residual current(RCD)Detection etc.	
GENERAL PARAMETER		
Storage Temperature	-25℃~+60℃	
Operating Temperature	-25℃~+60℃ (>+45℃ Derating)	
Humidity	0%~95% (Non-condensing)	
Max.operating altitude (m)	4000 (>2000 Derating)	
Noise (dB)	<75	
Warranty (year)	5	
Machine Dimensions(W*H*D) (mm)	544*953*278	
Machine Weight / N.W. (kg)	90	
DISPLAY & COMMUNICATION		
Display	App+ LED / LCD (-S version)	
Interface	RS485 / WiFi / CAN / DRM / Bluetooth (Optional: LAN / Meter)	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HH30K-P3SA Series

Three Phase
4 MPPTs Hybrid Inverter
127/220V

5-Year Warranty

KEY STRENGTHS

Superior Performance & Efficiency
- 100% unbalanced three-phase output
- 4 MPPTs, up to 99.9% efficiency
- Supports 1.67× PV oversizing

Dual AC Input for Grid & Generator
- Supports grid and diesel generator
- Automatic seamless input switching
- Stable power in weak grids

2X Enhanced Bypass Capability
- Bypass current up to 60kW (2× rating)
- Handles high inrush loads easily
- Stable during peak demand

Native 127/220V Grid Compatibility
- For LATAM and Caribbean split-phase grids
- No external transformers needed
- Meets local standards efficiently

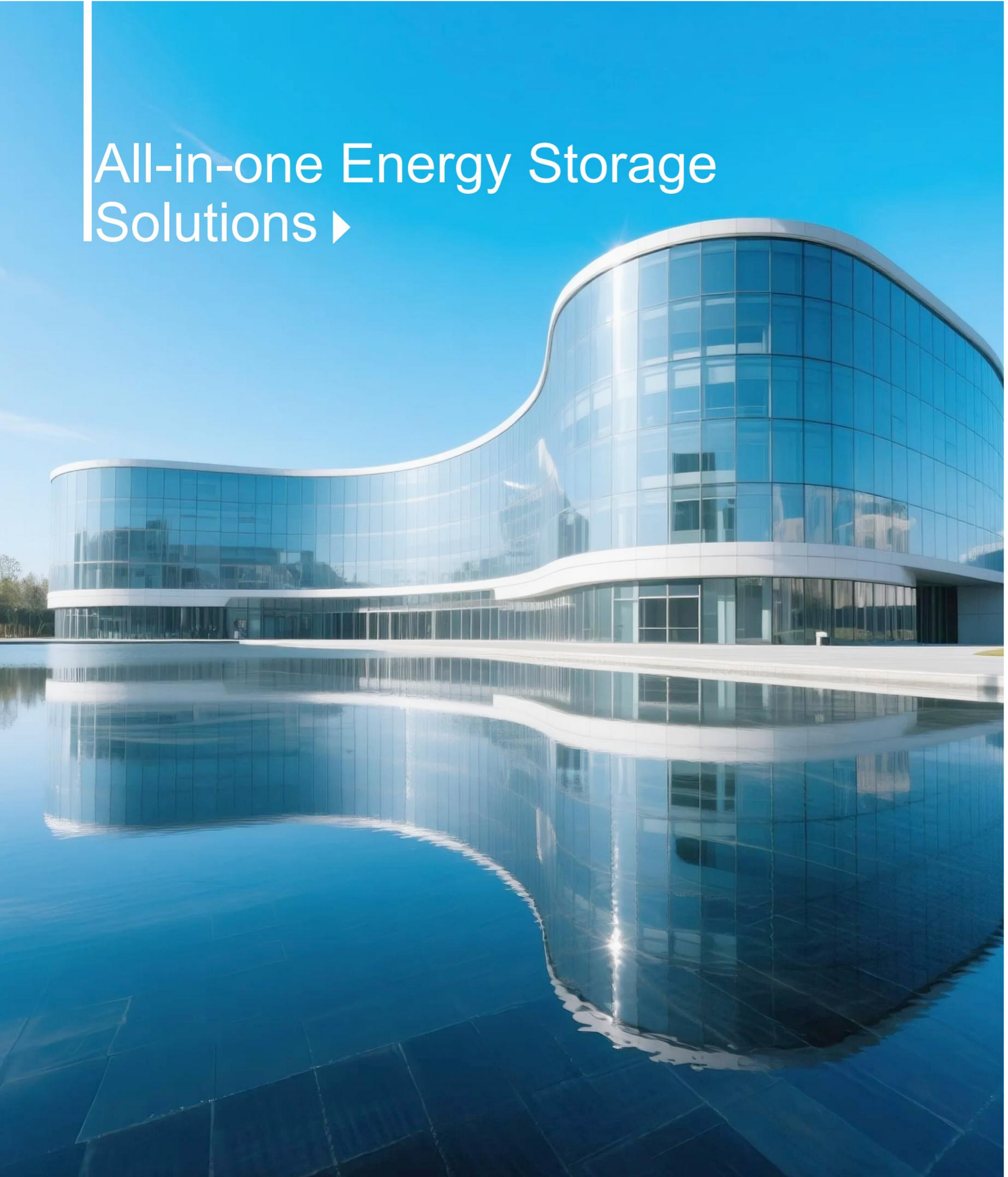
Dual Battery Inputs & High Current
- 2 independent HV battery inputs
- 100A charge/discharge per port
- Ready for large LFP battery systems

Robust Safety & Outdoor Durability
- All-SiC tech for better efficiency
- IP66-rated for harsh outdoors
- Compact, plug & play design

TECHNICAL SPECIFICATION	
Model	SSE-HH30K-P3SA / SSE-HH30K-P3SA-S
INVERTER INPUT / OUTPUT(GRID)	
Rated Power (Input/Output) (kW)	60 / 30
Rated Voltage (V a.c.)	127/220, 3W+N+PE
Rated Frequency (Hz)	50 / 60
Power Factor Range	0.8 leading~0.8 lagging
Switch Time (ms)	<20
Max.Continuous Current (Input/Output) (A a.c.)	157.4 / 78.7
Max.Output Overcurrent Protection (A a.c.)	118.1
BATTERY	
Battery Type	Lithium / Lead-acid
Battery Voltage Range (V d.c.)	150~700
Rated Battery Voltage (V d.c.)	150
Max.Charge Current (A d.c.)	2*100
Max.Discharge Current (A d.c.)	2*100
Reverse Connect Protection	Yes
PV INPUT	
No.of MPPT Tracker / Strings	4 / 2+2+2+2
Max.PV Input Power (kW)	60
Max.DC Voltage (V d.c.)	1000
MPPT Voltage Range (V d.c.)	150~950
Start-up Voltage (V d.c.)	200
Max.Input Current / sring (A d.c.)	8*20
Isc PV (Absolute Maximum) / sring (A d.c.)	8*30
AC OUTPUT(EPS) / GENERATOR	
EPS Rated Output Voltage (V a.c.)	127 / 220, 3W+N+PE
EPS Rated Output Frequency (Hz)	50 / 60
EPS Rated Output Active Power (kW)	30
EPS Rated Output Apparent Power (kVA)	30
EPS Rated Output Current (A a.c.)	78.7
Overload Capacity (Off Grid)	110% 30s / 120% 10s / 150% 0.2s
EFFICIENCY	
MPPT Efficiency	99.90%
Euro-efficiency	97.00%
Max.Efficiency	98.00%
PROTECTION & FEATURE	
Insulation Monitoring	Yes
Residual Current Monitoring	Yes
Parallel Function	Yes,up to 8pcs
Protection Degree	IP66
Certifications	UL1741, FCC Part 15B, UI1547, UI1998, UL1699B, HECO SRD 2.0, CEC efficiency
Other Protection	Ground fault current monitoring, Earth fault detection, Residual current(RCD)Detection etc.
GENERAL PARAMETER	
Storage Temperature	-25℃~+60℃
Operating Temperature	-25℃~+60℃ (>+45℃ Derating)
Humidity	0%~95% (Non-condensing)
Max.operating altitude (m)	4000 (>2000 Derating)
Noise (dB)	<65
Warranty (year)	5
Machine Dimensions(W*H*D) (mm)	544*880*278
Machine Weight / N.W. (kg)	88
DISPLAY & COMMUNICATION	
Display	App+ LED / LCD (-S version)
Interface	RS485 / WiFi / CAN / DRM / Bluetooth (Optional: LAN / Meter)

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

All-in-one Energy Storage Solutions



Integrated. Scalable. Smart.

SOSEN all-in-one energy storage cabinets deliver high-capacity, fully integrated hybrid power for commercial and industrial applications. By combining PCS, EMS, and BMS into a single unit, the system simplifies deployment, reduces footprint, and lowers integration costs — ideal for scalable, high-efficiency projects.

Supporting both on- and off-grid operation with seamless switching under 20ms, the system adapts to diverse use cases such as self-consumption, peak shaving, backup, and energy dispatch. With up to 8 MPPTs and 110A per string input, it' s built to support high-power PV modules and complex layouts.

Each cabinet delivers up to 500kW and supports parallel connection of up to 10 units, allowing expansion to 5MW. A modular, hot-swappable design ensures ease of maintenance and high system uptime, while a wide DC voltage range (150V–1000V) offers maximum design flexibility.

With high power density, intelligent control, and fast installation, SOSEN all-in-one energy storage solution is a reliable energy backbone for tomorrow' s commercial energy systems.

Models:

SSM-HH125K-P3

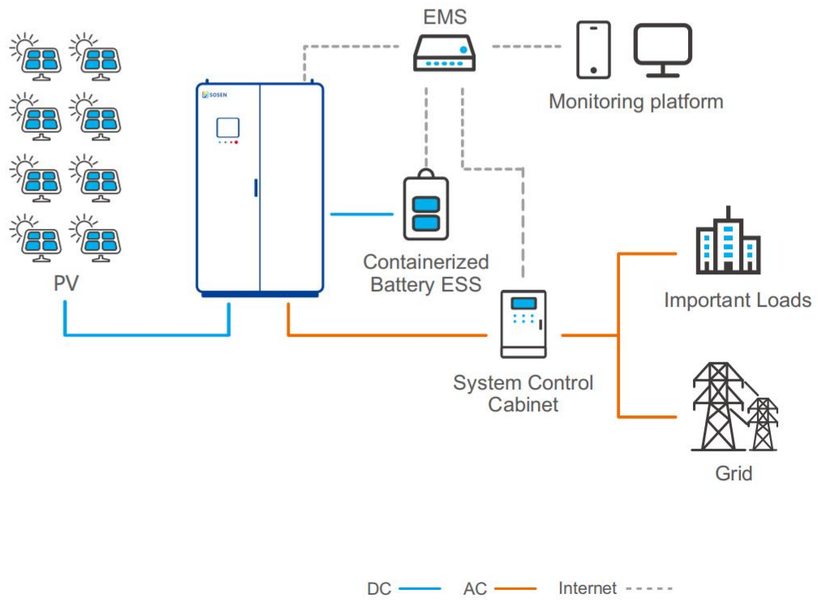
SSM-HH250K-P3

SSM-HH500K-P3

Output:

125-500 kW

All-in-one Energy Storage Solution



SSM-HH125K-P3

125kW All-in-One Hybrid Inverter
Integrated EMS · PCS · BMS

5-Year Warranty

KEY STRENGTHS

All-in-One Hybrid Cabinet
Integrates PCS, EMS, and BMS;
supports PV, battery, load, and grid for full-scenario energy storage

Multiple DC Inputs with High Current
2 MPPT-enabled DC inputs, each up to 110A, compatible with high-power PV and multiple strings

Wide DC Voltage Range
150V to 1000V DC range supports various PV and battery setups for greater design flexibility

Hot-Swappable Modular Design
Hot-swappable modules with compact, footprint for easy O&M and high power density

Smart Versatility
Seamless on/off-grid switching, adaptable to self-consumption, power dispatch, backup power, and more

Flexible Expansion & Fast Grid Transfer
Supports up to 10 units in parallel, expandable to 1.25MW; seamless on/off-grid switch within 20ms

TECHNICAL SPECIFICATION	
Model	SSM-HH125K-P3
DC (PV)	
Max PV Voltage (V)	1000
MPPT Voltage Range (V)	150-950
MPPT Number	2
Max Input Current (A)	2×110
DC (BATTERY)	
Battery Voltage Range (V)	600-1000V (for 3P3W) / 680-1000V (for 3P4W)
Rated Battery Voltage (V)	830
Max Charging Current (A)	220
Max Discharging Current (A)	220
Battery Type	Lithium / Lead-Acid
AC (ON-GRID)	
Rated Power (kW)	125
Max Power (kVA)	137.5
Rated Voltage (V)	380 / 400
Rated Frequency (Hz)	50 / 60
Frequency Range (Hz)	45~55 / 55~65
Power Factor Range	1 Leading~1 Lagging
THDi	<3%
Rated Current (A)	180
AC (OFF-GRID)	
Rated Voltage (V)	380 / 400
THDu	<2% (Linear Load)
Rated Frequency (Hz)	50 / 60
Overload Capacity	110%
GENERAL PARAMETER	
Machine Dimensions (W*H*D) (mm)	750*1200*1377
Weight (kg)	300
Temperature Range (°C)	-35 ~ +55(Derating above 45)
Parallel Function	Yes, up to 10pcs
Protection Degree	IP20
Humidity	0~95%
Noise (dB)	<80
Warranty (year)	5
Altitude Derating (m)	⩽4000
Cooling Method	Air-Cooled
DISPLAY & COMMUNICATION	
Display	LCD
BMS Communication	RS485, CAN
EMS Communication	RS485, TCP / IP
Certifications	IEC 62109; IEC 61000

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSM-HH250K-P3

250kW All-in-One Hybrid Inverter
Integrated EMS · PCS · BMS

5-Year Warranty

KEY STRENGTHS

All-in-One Hybrid Cabinet
Integrates PCS, EMS, and BMS;
supports PV, battery, load, and grid for full-scenario energy storage

Multiple DC Inputs with High Current
4 MPPT-enabled DC inputs, each up to 110A, compatible with high-power PV and multiple strings

Wide DC Voltage Range
150V to 1000V DC range supports various PV and battery setups for greater design flexibility

Hot-Swappable Modular Design
Hot-swappable modules with compact, footprint for easy O&M and high power density

Smart Versatility
Seamless on/off-grid switching, adaptable to self-consumption, power dispatch, backup power, and more

Flexible Expansion & Fast Grid Transfer
Supports up to 10 units in parallel, expandable to 2.5MW; seamless on/off-grid switch within 20ms

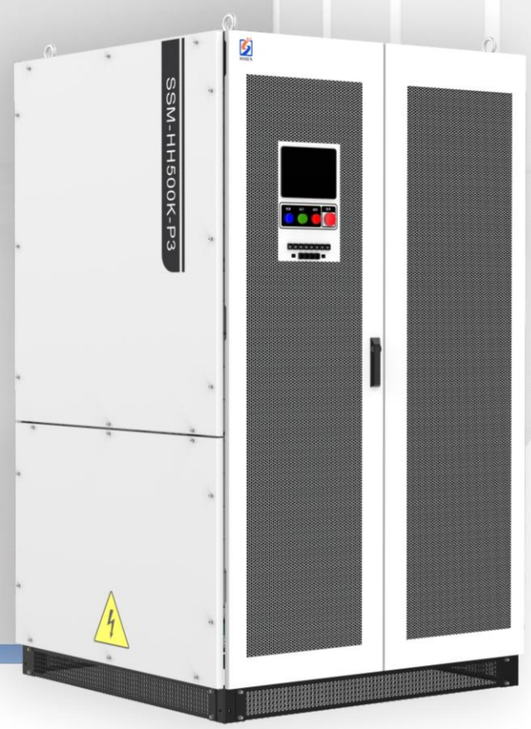
TECHNICAL SPECIFICATION	
Model	SSM-HH250K-P3
DC (PV)	
Max PV Voltage (V)	1000
MPPT Voltage Range (V)	150-950
MPPT Number	4
Max Input Current (A)	4×110
DC (BATTERY)	
Battery Voltage Range (V)	600-1000V (for 3P3W) / 680-1000V (for 3P4W)
Rated Battery Voltage (V)	830
Max Charging Current (A)	2x220
Max Discharging Current (A)	2x220
Battery Type	Lithium / Lead-Acid
AC (ON-GRID)	
Rated Power (kW)	250
Max Power (kVA)	275
Rated Voltage (V)	380 / 400
Rated Frequency (Hz)	50 / 60
Frequency Range (Hz)	45~55 / 55~65
Power Factor Range	1 Leading~1 Lagging
THDi	<3%
Rated Current (A)	360
AC (OFF-GRID)	
Rated Voltage (V)	380 / 400
THDu	<2% (Linear Load)
Rated Frequency (Hz)	50 / 60
Overload Capacity	110%
GENERAL PARAMETER	
Machine Dimensions (W*H*D) (mm)	750*1200*1950
Weight (kg)	700
Temperature Range (℃)	-35 ~ +55 (Derating above 45)
Parallel Function	Yes,up to 10pcs
Protection Degree	IP20
Humidity	0~95%
Noise (dB)	<80
Warranty (year)	**5**
Altitude Derating (m)	⩽4000
Cooling Method	Air-Cooled
DISPLAY & COMMUNICATION	
Display	LCD
BMS Communication	RS485, CAN
EMS Communication	RS485, TCP / IP
Certifications	IEC 62109; IEC 61000

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSM-HH500K-P3

500kW All-in-One Hybrid Inverter
Integrated EMS · PCS · BMS

5-Year Warranty



KEY STRENGTHS

All-in-One Hybrid Cabinet
Integrates PCS, EMS, and BMS; supports PV, battery, load, and grid for full-scenario energy storage

Multiple DC Inputs with High Current
8 MPPT-enabled DC inputs, each up to 110A, compatible with high-power PV and multiple strings

Wide DC Voltage Range
150V to 1000V DC range supports various PV and battery setups for greater design flexibility

Hot-Swappable Modular Design
Hot-swappable modules with compact <2㎡ footprint for easy O&M and high power density

Smart Versatility
Seamless on/off-grid switching, adaptable to self-consumption, power dispatch, backup power, and more

Flexible Expansion & Fast Grid Transfer
Supports up to 10 units in parallel, expandable to 5MW; seamless on/off-grid switch within 20ms

TECHNICAL SPECIFICATION	
Model	SSM-HH500K-P3
DC (PV)	
Max PV Voltage (V)	1000
MPPT Voltage Range (V)	150-950
MPPT Number	8
Max Input Current (A)	8×110
DC (BATTERY)	
Battery Voltage Range (V)	600-1000V (for 3P3W) / 680-1000V (for 3P4W)
Rated Battery Voltage (V)	830
Max Charging Current (A)	4x220
Max Discharging Current (A)	4x220
Battery Type	Lithium / Lead-Acid
AC (ON-GRID)	
Rated Power (kW)	500
Max Power (kVA)	550
Rated Voltage (V)	380 / 400
Rated Frequency (Hz)	50 / 60
Frequency Range (Hz)	45~55 / 55~65
Power Factor Range	1 Leading~1 Lagging
THDi	<3%
Rated Current (A)	722
AC (OFF-GRID)	
Rated Voltage (V)	380 / 400
THDu	<2% (Linear Load)
Rated Frequency (Hz)	50 / 60
Overload Capacity	110%
GENERAL PARAMETER	
Machine Dimensions (W*H*D) (mm)	1200*2050*1200
Weight (kg)	1500
Temperature Range (°C)	-35 ~ +55 (Derating above 45)
Parallel Function	Yes,up to 10pcs
Protection Degree	IP20
Humidity	0~95%
Noise (dB)	<80
Warranty (year)	5
Altitude Derating (m)	⩽4000
Cooling Method	Air-Cooled
DISPLAY & COMMUNICATION	
Display	LCD
BMS Communication	RS485, CAN
EMS Communication	RS485, TCP / IP
Certifications	IEC 62109; IEC 61000

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

Power Conversion System (PCS) Solutions

Utility-Ready. Future-Proof. Highly Efficient.

SOSEN PCS and DC-DC solutions deliver advanced power conversion capabilities for utility-scale and commercial energy storage systems. Designed to meet the demands of next-generation battery technologies and hybrid architectures, they provide smarter, more flexible energy control across a wide range of applications.

Featuring 1500V system architecture, high-efficiency three-level topologies, and wide voltage adaptability, the solutions support large-capacity cells (300+Ah) while reducing system losses and improving integration efficiency. Intelligent four-quadrant control enables dynamic grid interaction.

Rugged outdoor enclosures (IP66/IP20) ensure safe, stable operation in harsh environments. Modular design, multiple operating modes (voltage, current, power), and flexible DC configurations enable seamless integration with PV, battery, and grid assets — making the system ideal for energy shifting, renewable smoothing, and backup power.

SOSEN PCS solutions empower energy storage projects with the performance, reliability, and future compatibility needed to support the evolving power landscape.

Models:

SSD-HH125K-D2CN

SSE-HH100~125K-P3EU

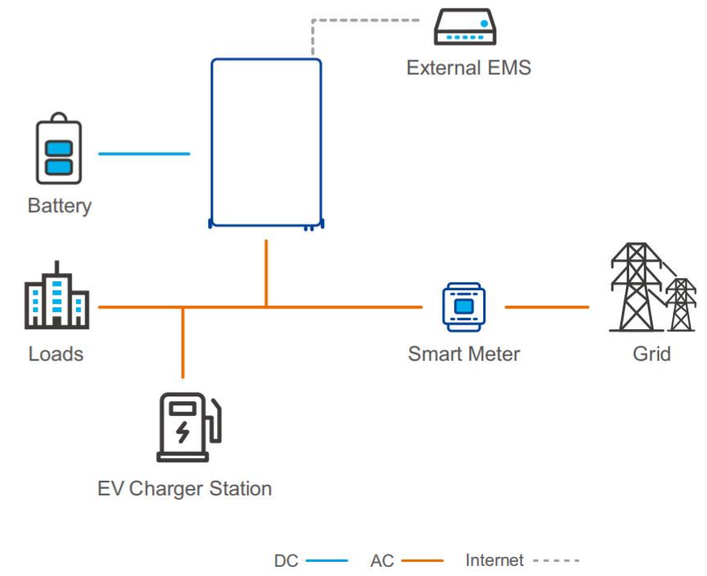
SSE-BH100~125K-P3EU

SSE-HH200~235K-P3EU

Output:

100-235 kW

PCS Energy Storage Solution



SSD-HH125K-D2CN

125kW DC-DC Converter
Dual MPPTs

5-Year Warranty

KEY STRENGTHS

- Bidirectional Buck-Boost with Dual MPPT Inputs
- Ultra-Wide Voltage Range: 300–950V
- IP65 for Harsh Environments (–30°C to +55°C)
- Multi-Battery Compatibility with Full Protection
- SiC MOSFET for High Efficiency and Compact Size
- Flexible Control with Voltage Current, and Power modes

TECHNICAL SPECIFICATION	
Model	SSD-HH125K-D2CN
Product Type	DC-DC Converter
COWER SPECIFICATIONS	
Rated Power (kW)	125
BUS	
Maximum DC Voltage (V)	950
Operating Voltage Range (V)	500~950
Maximum Operating Current (A)	220
Number of Power Input	1
EFFICIENCY	
Maximum Efficiency	99.00%
PROTECTION	
Reverse Polarity Protection	Yes
Surge Protection	Yes
Insulation Monitoring	Yes
Overtemperature Protection	Yes
PV (BATTERY)	
Maximum DC Voltage (V)	950
Operating Voltage Range (V)	300~950
Maximum Operating Current (A)	110 / 110
Power Input	2
MPPT Function	Available
GENERAL PARAMETER	
Cooling	Intelligent air cooling
Relative Humidity	0~95% (Non-condensing)
Operating Altitude (m)	4000 (>3000 ,Derating)
Ingress Protection	IP65
Ambient Temperature	-30°C~+55°C (>+45°C,Derating)
Protective Class	I
Over Voltage Category	II (DC)
Inverter Topology	Non-isolated
Warranty (year)	**5**
Machine Dimensions (W*H*D) (mm)	540*240*930
Machine Weight/N.W. (kg)	65
DISPLAY & COMMUNICATION	
Communication Interface	RS485 / CAN / Ethernet

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HH100~125K-P3EU

100~125kW PCS

1000V-DC

5-Year Warranty

KEY STRENGTHS

HV DC Protection: Fuse + Relay
Quick fault isolation enhances safety and reduces fire and equipment damage risk

IP66 & Integrated HV Isolation
Sealed design with integrated high-voltage switch simplifies installation and supports safe maintenance

Wide DC Voltage Input (580–1000V)
Compatible with various air-cooled battery for flexible integration and better performance

Flexible for All Scenarios
Adaptable to various application needs including energy storage, peak shaving, and backup

4-Quadrant Active/Reactive Control
Enables ±P/±Q power adjustment with constant power, current, and voltage modes

Unbalanced Load & Off-Grid
Seamless transition with support for unbalanced 3-phase loads in off-grid or weak grid conditions

TECHNICAL SPECIFICATION		
Model	SSE-HH100K-P3EU	SSE-HH125K-P3EU
Product Type	Power Conversion System (PCS)	
AC (ON-GRID)		
Rated Power (kW)	100	125
Rated Voltage (V a.c.)	380 / 400, 3W+N+PE	
Rated Frequency (Hz)	50	
Power Factor Range	1.0 leading~1.0 lagging	
Overload Capacity	110% long-term	
Max.Apparent Output Power (kVA)	110	137.5
AC Output Rated Current (A a.c.)	144	181
Max.Output Current (A a.c.)	159	200
THDi	<3%	
AC (OFF-GRID)		
Rated Output Voltage (V a.c.)	380 / 400, 3W+N+PE	
Rated Output Frequency (Hz)	50	
Max.Apparent Output Power (kVA)	110	137.5
THDU (Linear Load)	<3%	
DC (BATTERY)		
Battery Type	Lithium / Lead-acid	
Battery Voltage Range (V d.c.)	580~1000	
Max.Charging/Discharging Power (kW)	110	137.5
Max.Charging/Discharging Current (A d.c.)	159	200
GENERAL PARAMETER		
Cooling	Intelligent air cooling	
Relative Humidity	0~95% (Non-condensing)	
Operating Altitude (m)	4000 (>3000 ,Derating)	
Ingress Protection	IP66	
Certifications	IEC 62477-1, IEC 61000-6-2, IEC 61000-6-4, EN 50549-1&-10,VDE-AR-N 4105,VDE-AR-N 4110GB/T 34120,GB/T 34133 etc.	
Ambient Temperature	-35°C~+55°C (>+45°C,Derating)	
Protective Class	I	
Over Voltage Category	III (AC),II (DC)	
Inverter Topology	Non-isolated	
Warranty (year)	5	
Machine Dimensions (W*H*D) (mm)	520*280*850	
Machine Weight/N.W. (kg)	85	
DISPLAY & COMMUNICATION		
Communication Interface	RS485 / CAN / Ethernet	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-BH100~125K-P3EU

100~125kW PCS

1000V-DC

5-Year Warranty

KEY STRENGTHS

Compact Cabinet Integration
Slim form factor designed for standard indoor cabinets and centralized battery racks

Wide DC Voltage Range 580–1000V
Compatible with a broad range of air-cooled battery configurations for flexible system design

Four-Quadrant Power Control
±P/±Q full-range regulation supports grid interaction and industrial load response

Flexible for All Scenarios
Adaptable to various application needs including energy storage, peak shaving, and backup

Unbalanced Load & Off-Grid
Seamless transition with support for unbalanced 3-phase loads in off-grid or weak grid conditions

Smart Energy Management
Optimizes local energy use with intelligent scheduling and time-of-use control

TECHNICAL SPECIFICATION		
Model	SSE-BH100K-P3EU	SSE-BH125K-P3EU
Product Type	Power Conversion System (PCS)	
AC (ON-GRID)		
Rated Power (kW)	100	125
Rated Voltage (V a.c.)	380 / 400, 3W+N+PE	
Rated Frequency (Hz)	50	
Power Factor Range	1.0 leading~1.0 lagging	
Overload Capacity	110% long-term	
Max.Apparent Output Power (kVA)	110	137.5
AC Output Rated Current (A a.c.)	144	181
Max.Output Current (A a.c.)	159	200
THDi	<3%	
AC (OFF-GRID)		
Rated Output Voltage (V a.c.)	380 / 400, 3W+N+PE	
Rated Output Frequency (Hz)	50	
Max.Apparent Output Power (kVA)	110	137.5
THDU (Linear Load)	<3%	
DC (BATTERY)		
Battery Type	Lithium / Lead-acid	
Battery Voltage Range (V d.c.)	580～1000	
Max.Charging/Discharging Power (kW)	110	137.5
Max.Charging/Discharging Current (A d.c.)	159	200
GENERAL PARAMETER		
Cooling	Intelligent air cooling	
Relative Humidity	0~95% (Non-condensing)	
Operating Altitude (m)	4000 (>3000 ,Derating)	
Ingress Protection	IP20	
Certifications	IEC 62477-1, IEC 61000-6-2, IEC 61000-6-4, EN 50549-1&-10,GB/T 34120,GB/T 34133	
Ambient Temperature	-35°C~+55°C (>+45°C,Derating)	
Protective Class	I	
Over Voltage Category	III (AC),II (DC)	
Inverter Topology	Non-isolated	
Warranty (year)	5	
Machine Dimensions (W*H*D) (mm)	440*265*700	
Machine Weight/N.W. (kg)	65	
DISPLAY & COMMUNICATION		
Communication Interface	RS485 / CAN / Ethernet	

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

SSE-HH200~235K-P3EU

200~235kW PCS
1500V-DC

5-Year Warranty

KEY STRENGTHS

Future-Proof: 300+Ah Cell Ready
Optimized for high-capacity cells to ensure long-term flexibility

1500V HV System Architecture
Higher throughput, lower BOS cost, greater efficiency for utility-scale deployments

3-Level Topology for Higher Efficiency
Advanced design significantly reduces switching losses and enhances system reliability

All-Weather IP66 Outdoor Design
Fully sealed enclosure with integrated HV switchgear for harsh outdoor environments

Four-Quadrant ±P/±Q Control
Meets dynamic grid support needs, including reactive power compensation,

Flexible for All Scenarios
Adaptable to various application needs including energy storage, peak shaving, and backup

TECHNICAL SPECIFICATION			
Model	SSE-HH200K-P3EU	SSE-HH215K-P3EU	SSE-HH235K-P3EU
Product Type	Power Conversion System (PCS)		
AC (ON-GRID)			
Rated Power (kW)	200	215	235
Rated Voltage (V a.c.)	400 / 690, 3W+N+PE		
Rated Frequency (Hz)	50 / 60		
Power Factor Range	1.0 leading~1.0 lagging		
Max.Apparent Output Power (kVA)	220	236.5	258.5
AC Output Rated Current (A a.c.)	167.3	180.0	196.6
Max.Output Current (A a.c.)	184.0	197.9	216.3
THDi	<3%		
DC (BATTERY)			
Battery Type	Lithium / Lead-acid		
Battery Voltage Range (V d.c.)	1000～1500		
Max.Charging/Discharging Power (kW)	220	236.5	258.5
Max.Charging/Discharging Current (A d.c.)	204	220	240
GENERAL PARAMETER			
Cooling	Intelligent air cooling		
Relative Humidity	0~95% (Non-condensing)		
Operating Altitude (m)	4000 (>3000 ,Derating)		
Ingress Protection	IP66		
Ambient Temperature	-35°C~+55°C (>+45°C,Derating)		
Protective Class	I		
Over Voltage Category	III (AC),II (DC)		
Inverter Topology	Non-isolated		
Warranty (year)	5		
Machine Dimensions (W*H*D) (mm)	600*900*300		
Machine Weight/N.W. (kg)	100		
DISPLAY & COMMUNICATION			
Communication Interface	RS485 / Ethernet / CAN (Optional)		

- The AC voltage and frequency range can differ according to the grid standards of each country.
- Please note that all specifications are subject to change without prior notice.

MONITORING
APP & ACCESSORY

SOSEN Data Loggers

Wi-Fi / 4G / Bluetooth / Ethernet / RS485

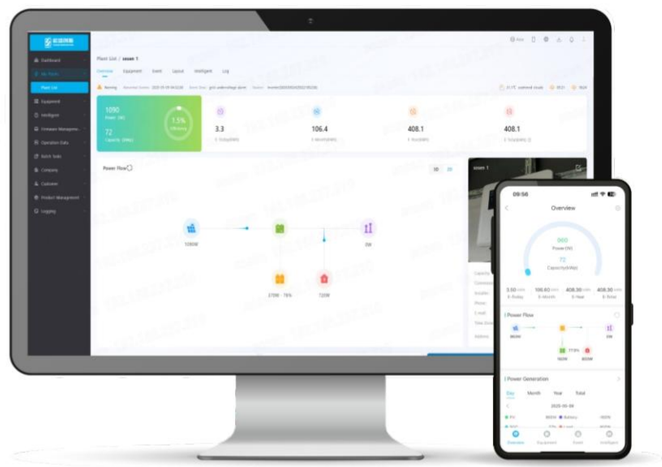
Utilize the RS485 communication protocol to interconnect the inverters, allowing for the simultaneous connection of the required number of units. Implement data communication with the monitoring system via a wireless WiFi network or a Local Area Network (LAN). This setup enables remote control and monitoring capabilities.
The network facilitates the transmission of clear and intuitive data, providing customers with the convenience to monitor the system at any time and from any location.

Features

- Support WiFi and LAN communication
- Plug and play, quick installation
- Status indicator, easy to display working status
- RESET button, one key to send data, convenient debugging
- Fault alarm, real-time monitoring

SOSEN Cloud

New generation SOSEN PV monitoring platform



SOSEN Cloud is an advanced PV system monitoring solution that offers you real-time control and insights from anywhere. With customizable fault alerts and a user-friendly interface, it simplifies O&M by displaying all installations and live power flows. The intelligent alarm system provides quick repair recommendations, ensuring you have full command over your solar and storage systems.

Features

• Advanced cloud services
Data security, reliability, real-time efficiency. Able to fully display equipment data and set and manage equipment on the line, including power station information, energy flow, electricity statistics, weather information and so on.

• Multi-power station management
Supports account management of multiple power stations and multi-level management rights division management.

• Intelligent diagnosis
It can scan data curves and diagnose the system by recording system running status and faults.

• Full screen mode
Display the statistics and map location information of all devices in the system on the large screen to clearly obtain energy saving and carbon emission.

Download on the App Store

ANDROID APP ON Google play

Scan QR code to download

PROJECT CASES

Residential Power Plant Case Study

Ecuador

30kW/60kWh

Self-consumption

SSE-HL15K-P2SA

In Ecuador, where power outages and grid instability are common, SOSEN' s SSE-HL15K-P2SA hybrid inverter paired with 30kWh of battery storage enables stable and scalable residential energy systems. Adopting a "self-use with surplus export" model, the project helps homeowners reduce grid reliance, cut diesel costs, and generate income by selling excess energy back to the grid.

With <10ms UPS-level switching, high 275A charge/discharge, and dual AC input for grid and generator, the system ensures reliable backup during extended outages. Its NEMA 4X-rated design and flexible AC-coupling support make it ideal for challenging environments and future expansion.

This deployment enhances energy independence while promoting clean, sustainable power for local communities.

(SSE-HL8~15K-P2SA)

PROJECT CASES

RESIDENTIAL ENERGY STORAGE

South Africa
5kW SSE-HL5K-P1EU

Vietnam
8kW SSE-HL8K-P1EU

Kenya
6kW SSE-HL6K-P1EU

Spain
6kW SSE-HH6K-P1EU

Greece
12kW SSE-HH12K-P3EU

Germany
24kW SSE-HH12K-P3EU

Pakistan
8kW SSE-HL8K-P1EU

Ecuador
15kW SSE-HL15K-P2SA

PROJECT CASES

C&I Power Plant Case Study

South Africa

150kWp | 120kW/215kWh | 100kW | SSE-HH60K-P3EU

South Africa Energy Storage Project

This 120kW/215kWh energy storage project was implemented at a factory site in South Africa, powered by two sets of SOSEN SSE-HH60K-P3EU hybrid inverters. The system was designed to support stable power supply for factory operations, helping mitigate the impact of grid outages and voltage fluctuations, and reduce operational risks.

Myanmar

460kWp | 480kW/800kWh | 480kW | SSE-HH60K-P3EU

Myanmar Energy Storage Project

A 480kW/800kWh solar storage system was successfully implemented at a local garment factory in Myanmar. This system is powered by SOSEN's eight parallel-connected 60 kW energy storage inverters, ensuring stable operation even under nonlinear loads. It provides reliable power while significantly reducing electricity costs and operational expenses for the factory.