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YOUR TRUSTWORTHY SOLAR INVERTER AND STORAGE ODM PARTNER



COMPANY MILESTONES

Parent Company

APD

A Leader in Power Electronics and Renewable Energy Technology

For over two decades, APD Group has been cultivating its business in the power industry, upholding core values of R&D innovation and expanding its business horizon with the goal of becoming a leader in power electronics and renewable energy.

APD has two business groups: Power Systems and Renewable Energy, focusing on power supply and PV inverter products respectively.

Subsidiary

Senergy

A Leading ODM Service Supplier of PV Inverters and Energy Storage Solutions

Shenzhen Senergy Technology Co., Ltd., a wholly-owned subsidiary of Asian Power Devices Inc. (APD), is a leading high-tech solar energy company, specializing in ODM service for PV grid-tied and hybrid inverters. Empowered by the parent company's 35 years of expertise in electronic power industry, Senergy has garnered 20 years of dedicated experience in inverter R&D and manufacturing. Its products find a wide range of applications across residential, industrial & commercial, large-scale ground stations and energy storage power stations worldwide. With an expanded manufacturing capacity reaching 10GW, Senergy is equipped with enhanced R&D and manufacturing capabilities, ensuring the delivery of cutting-edge inverter products and solutions to meet the dynamic needs of the evolving energy landscape.

2023

- ▶ Continuous investment: Bao'an R&D Center tripled in size
- ▶ PrimeVOLT shipments ranked first in Taiwan for 3 consecutive years

2022

- ▶ U.S. model product launched
- ▶ New Pingshan factory established with 10GW manufacturing capacity

2021

Manufacturing capacity expanded to 3GW in Shenzhen and Taipei

2020

- ▶ Energy storage system launched
- ▶ 1GW inverters delivered annually

2017

- ▶ Obtained CMMI 2 Product Engineering Management Certification
- ▶ Certified as China's "National High-Tech Enterprise"

2016

New generation of grid-tied PV inverters launched

2015

- ▶ Senergy Technology founded
- ▶ Certified as CQC type A enterprise

2011

2nd plant (DK) established in Shenzhen

2010

Renewable Energy Business set up

1997

1st plant (YM) established in Shenzhen

1994

APD Group founded in Taipei



OUR COMPETITIVE ADVANTAGES



R&D

- ▶ Pioneers and experts of Chinese string inverter technology
- ▶ Dual research centers in Taipei and Shenzhen
- ▶ Integrated Product Development (IPD) process
- ▶ DFMEA & PFMEA-guaranteed product reliability



Quality Control

- ▶ Comprehensive QC and GP systems throughout product development and production processes
- ▶ Certified by reputable international organizations



Manufacturing

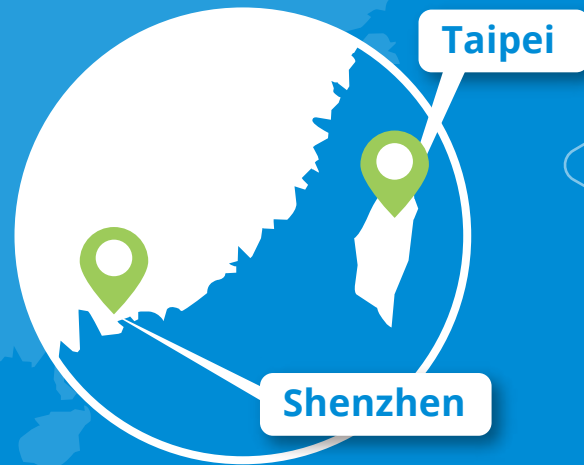
- ▶ Dual manufacturing bases in Taipei and Shenzhen
- ▶ Full industry process ranging from PCBA manufacturing to burn-in tests
- ▶ Highly-automated production equipment and flexible production line

10GW
Manufacturing Capacity

110+
Patents

3
Factories (Shenzhen & Taipei)

3
R&D Centers



YOUR TRUSTWORTHY ODM PARTNER



35 Years of ODM Expertise in Power Electronic Products



Rapid Customization Management System



Flexible and Diverse ODM Cooperation Process



Customized Product Design and Accessories

QUALITY CONTROL IN MANUFACTURING PROCESS

01 3D Solder Paste Thickness Testing

03 2nd Optical Detection for PCBA

05 Conformal Coating

07 Automatic Burn-In

09 Tightness Test

02 1st Auto-Optical Detection for SMD

04 Functional Circuit Test

06 Hi-Pot Testing & ATE Testing before Burn-In

08 ATE Test after BI

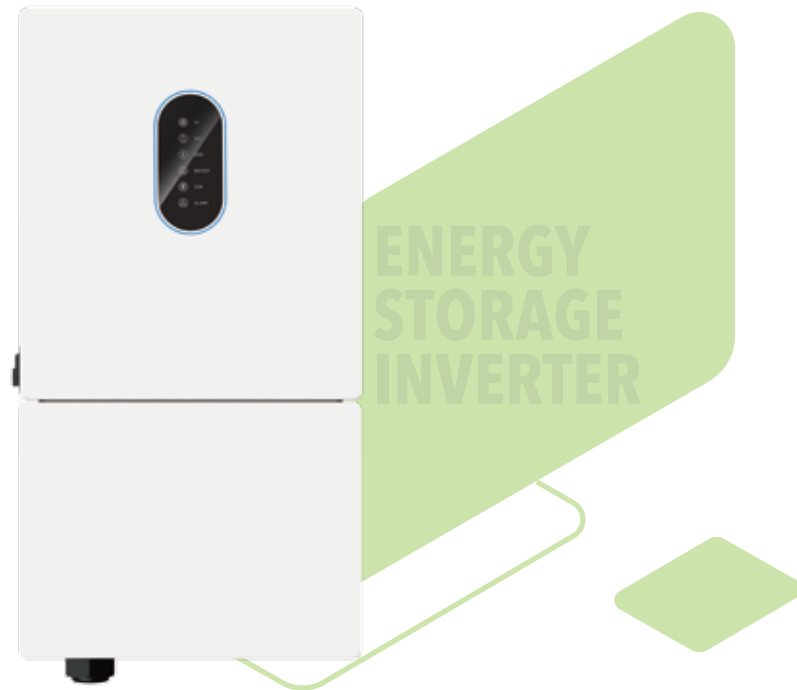
SHIPMENT



SPLIT PHASE HYBRID INVERTER

SE 5/6/7.6/10/11.4KHB-UL

Application: Residential Use



MAXIMIZE PV INPUT POWER

- Up to 200% oversizing allowed with 3 MPPTs
- Support high power module with 30A PV input current
- Support AC coupled solar input
- Integrated arc fault circuit interrupter (AFCI) and rapid shutdown



VERSATILE APPLICATIONS

- Stackable up to 9 units
- Standby generator connection for whole-home back up
- Four application modes, mixed with time control
- Remote configuration and upgrade



FLEXIBLE BATTERY CONFIGURATION

- Built-in DC Breaker for safety and reliability
- Support 40-64V Lithium or Lead-acid battery
- Maximum battery charge/discharge current of 210A



STABLE OUTPUT POWER

- Continuous 110% of nominal AC power
- Support 120/240/208V connections
- Seamless backup transition (<10ms)

Model	SE 5KHB-130-D2/UL	SE 6KHB-130-D2/UL	SE 7K6HB-180 T2/UL	SE 10KHB-210-T2/UL	SE 11K4HB-210 T2/UL
Efficiency					
Max. Efficiency (PV to AC)	98.0%				
Max. Efficiency (BAT to AC)	94.5%				
CEC. Efficiency	96.5%				
Input (PV)					
Max. PV Input Power	7,500W	9,000W	12,000W	15,000W	15,000W
Max. PV Voltage	600V				
Start-up Voltage	90V				
MPPT Operating Voltage Range	70V-540V				
Max. Input Current per MPPT	30A/22A		30A/22A/22A		
Max short current per MPPT	40A/30A		40A/30A/30A		
String per MPPT	2/2		2/2/2		
Nos. of MPPT	2		3		
Input/Output (BAT)					
Battery Type	Lithium-ion/Lead-acid				
Nominal Battery Voltage	48V				
Battery Voltage Range	40V-64V				
Max. Charge/Discharge Current	210A/130A	210A/130A	210A/180A	210A/210A	210A/210A
Max. Charge/Discharge Power	10,000W/5,000W	10,000W/6,000W	10,000W/7,600W	10,000W/10,000W	10,000W/10,000W
Output (Grid)					
Nominal AC Output Power	5,000W	6,000W	7,600W	10,000W	10,000W
Max. AC Output Apparent Power	5,500VA	6,600VA	7,600VA	11,000VA	11,400VA
Max. AC Output Power (PF=1)	5,500W	6,600W	7,600W	11,000W	11,400W
Nominal AC Output Current	20.9A	25A	31.7A	41.7A	41.7A
Max. AC Output Current	22.9A	27.5A	34.8A	45.8A	47.5A
Nominal Grid Voltage	120V/240V (Split phase) / 208V (2/3 phase)				
Nominal Grid Frequency	50Hz /60Hz				
Grid Frequency Range	45Hz-55Hz/55Hz-65Hz (Adjustable)				
Power Factor	> 0.99 @rated power (Adjustable 0.8 LD - 0.8 LG)				
THDI	<3% (Rated Power)				
Output (Back up)					
Nominal Output Power	5,000W	6,000W	7,600W	10,000W	10,000W
Max. AC Output Power (PF=1)	5,500W	6,600W	7,600W	11,000W	11,400W
Nominal Output Current	20.9A	25A	31.7A	41.7A	41.7A
Peak Power (1s)	10,000VA	12,000VA	15,200VA	20,000VA	20,000VA
Nominal Output Voltage	120V/240V (Split phase) / 208V (2/3 phase)				
Nominal Output Frequency	50Hz/60Hz				
Transfer Time	< 10ms (typical)				
THDV	<3% @100% R Load				
Protection					
Protection Category	Class I				
DC Switch	Yes				
Anti-islanding Protection	Yes				
AC Overcurrent Protection	Yes				
DC/AC Overvoltage Protection	DC Type II, AC Type III				
AC Short Circuit Protection	Yes				
DC Reverse Protection	Yes				
Surge Arrester	DC Type II, AC Type II				
Insulation Resistance Detection	Yes				
Leakage Current Protection	Yes				
AFCI	Yes				
RSD	Yes				
Generator	Yes				
General					
Max. Operation Altitude	2000m				
Ingress Protection Degree	IP65/NEMA 3R				
Operating Temperature Range	-25 C ~60 C (>45 C derating)				
Relative Humidity	0~100%				
Cooling Method	Fan Cooling				
Mounting	Wall bracket				
Dimensions (W*H*D)	16.5*31.5*9.4 inch (420mm*800mm*240mm)				
Weight	40Kg/88lb				
PV Connection Way	Terminals				
HMI & COM					
Display	Wireless & APP + LED, LCD (optional)				
Communication Interface	RS485/CAN (for BMS), DRM/RS485 (for meter), RS485, Optional: Wi-Fi/LAN				
Certification					
Safety	UL 1741/CSA C22.2/UL 1699B				
Grid	UL1741SB, IEE1547: 2018, HECO SRD 2.0				
EMC	FCC Part 15 Class B				
Warranty	5 Years				

Remarks: · The range of output voltage and frequency may vary depending on different grid codes.
· Specifications are subject to change without advanced notice.