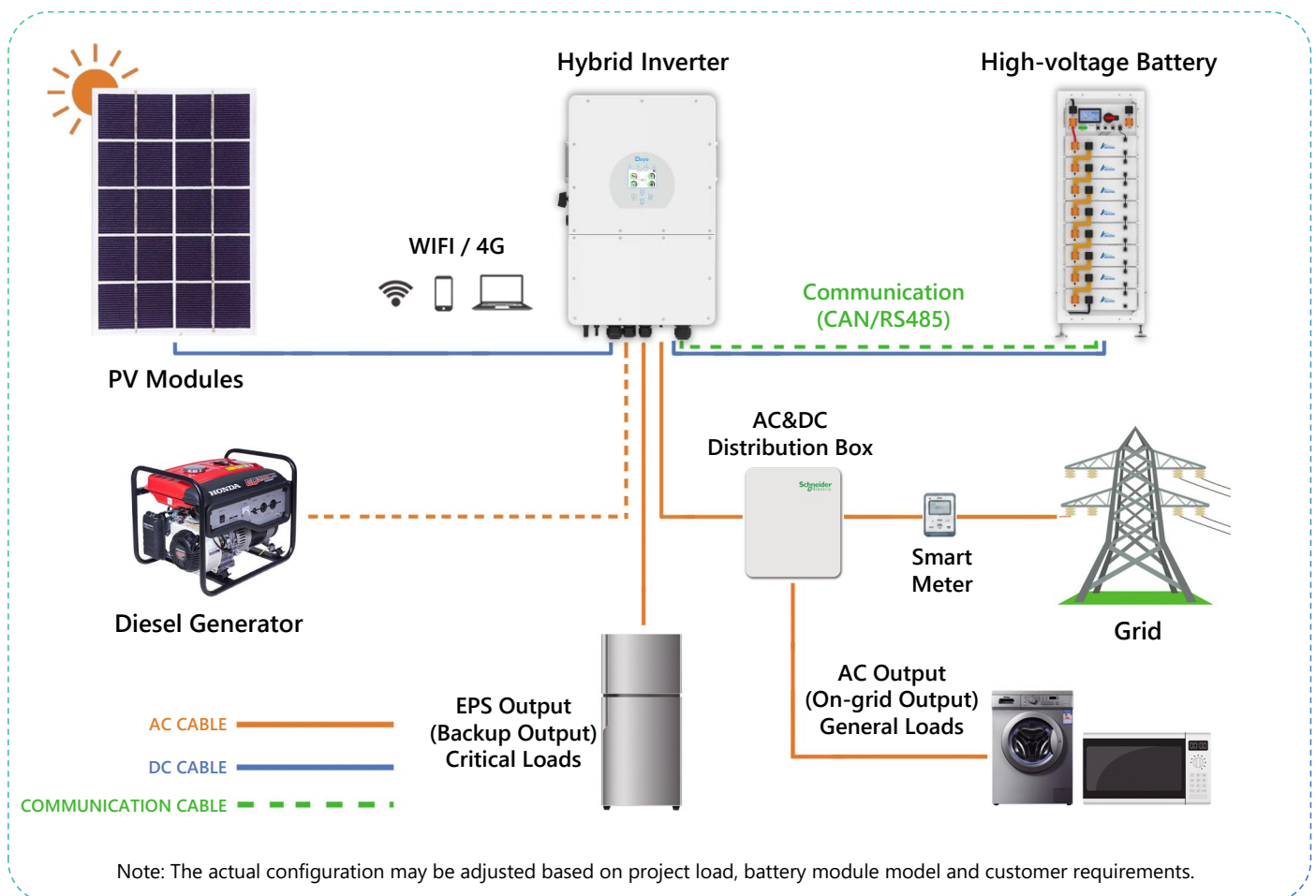


20kW/40kWh High Voltage Hybrid Energy Storage System

System Operating Modes

1. PV Priority Mode (Self-Consumption)
2. Peak Shaving & Energy Arbitrage Mode
3. Off-grid Backup Mode
4. Diesel Generator Integration Mode (Optional)

System Topology Diagram



20kW HYBRID ENERGY STORAGE INVERTER

Grid-Tied | Off-Grid | Peak Shaving | Backup Power



Model	SUN-20K-SG01 HP3-EU-AM2
Battery Input Data	
Battery Type	Lithium-ion
Battery Voltage Range (V)	160-700
Max. Charging Current (A)	37
Max. Discharging Current (A)	37
Charging Strategy for Li-ion Battery	Self-adaption to BMS
Number of Battery Input	1
PV String Input Data	
Max. PV Access Power (W)	40000
Max. PV Input Power (W)	32000
Max. PV Input Voltage (V)	1000
Start-up Voltage (V)	180
MPPT Voltage Range (V)	150-850
Rated PV Input Voltage (V)	600
Max. Operating PV Input Current (A)	26+26
Max. Input Short-Circuit Current (A)	39+39
No. of MPP Trackers/ No. of Strings MPP Tracker	2/2+2
AC Input/Output Data	
Rated AC Input/Output Active Power (W)	20000
Max. AC Input/Output Apparent Power (VA)	22000
Rated AC Input/Output Current (A)	30.4/29
Max. AC Input/Output Current (A)	33.4/31.9
Max. Continuous AC Passthrough (grid to load) (A)	80
Peak Power (off-grid) (W)	1.5 times of rated power, 10s
Power Factor Adjustment Range	0.8 leading to 0.8 lagging
Rated Input/Output Voltage/Range (V)	220/380V, 230/400V 0.85Un-1.1Un
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65
Grid Connection Form	3L+N+PE
Total Current Harmonic Distortion THDi	<3% (of nominal power)
DC Injection Current	<0.5% In
Efficiency	
Max. Efficiency	97.6%
Euro Efficiency	97.0%
MPPT Efficiency	>99%
Integrated	DC Reverse Polarity Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Arc Fault Circuit Interrupter (optional), Anti-islanding Protection, DC Switch, Insulation Impedance Detection, Residual Current Detection
General Data	
Operating Temperature Range (°C)	-40 to +60°C, >45°C Derating
Permissible Altitude	2000m
Noise (dB)	≤55
Communication Interface	RS485/RS232/CAN
Ingress Protection(IP) Rating	IP 65
Inverter Topology	Non-Isolated
Cabinet Size (WxHxD mm)	408×638×237 (Excluding Connectors and Brackets)
Weight (kg)	30.5
Type of Cooling	Intelligent Air Cooling
Warranty	5 Years/10 Years

HIGH VOLTAGE ENERGY STORAGE BATTERY SYSTEM

40.96 kWh | HBOWA-40K100

- Ultra Safe LFP Cells | Excellent Thermal Stability
- 6000+ Cycles | 15+ Years Design Life
- Expandable Design | Max 16 Units Connected in Series
- Compact Integrated Rack | Quick PCS Integration
- Wide Temperature Adaptability
- Multi Communication Ports | Compatible with Mainstream Inverters



Model	HBOWA-40K100
Battery Parameter	
Battery Type	LiFePO ₄ (Lithium Iron Phosphate)
Energy Capacity	40.96kWh (409.6V 100Ah)
Nominal Voltage	409.6V
Nominal Capacity	100Ah
Module Dimension (mm)	440*442*133*8
Dimension RACK(mm)	560*510*1638
Total Weight(kg)	420
General Parameter	
Nominal Capacity (KWH)	40.96
Discharge Cut-Off Voltage (V)	352
Charge Cut-Off Voltage (V)	454.4
Recommend Charge/Discharge Current (A)	60
Max. Charge/Discharge working Current(A)	100
Communication	RS485/RS232/CAN
Working Temperature	0°C~50°C Charge -10°C ~50°C Discharge
Transport or Storage Temperature Range	-20°C~60°C
Design Life	15years+
Cycle Life	(0.5C/0.5C-80% DOD) ≥6000 Cycles
Series Function	Support 16 units in Series
Certification	CE/IEC/UN38.3/MSDS/ROHS
Application Scenario	C&I ESS / Solar + Storage / Peak Shaving / Backup Power