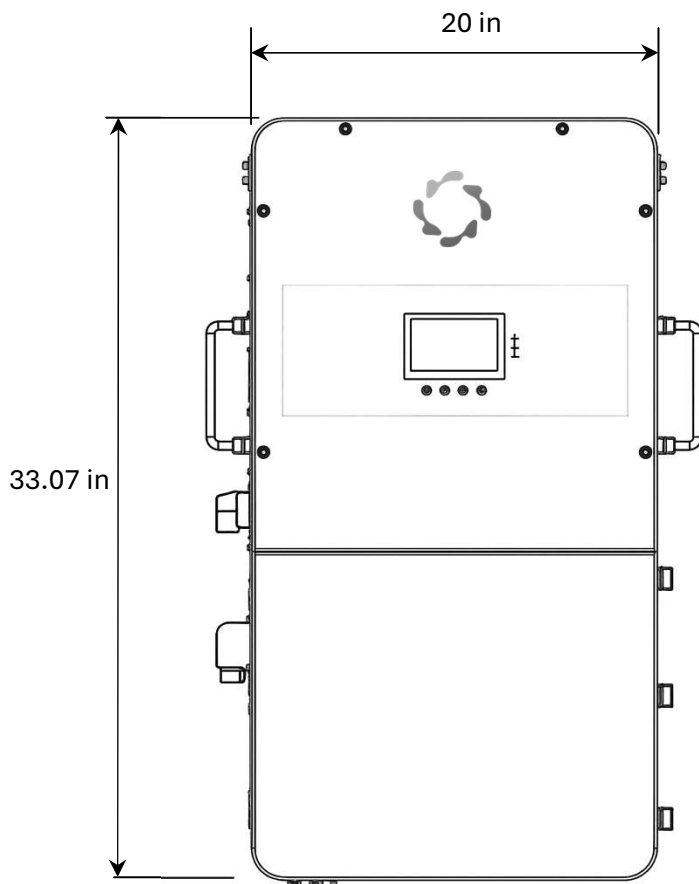




12,000 W | 120/240 Vac Split-Phase | 2 MPPT | 48 V Battery

Hybrid Grid-Interactive Inverter

Model: HS-LV12KNA



- **12,000 W Continuous Output**

18,000 W surge capacity (10 seconds)

- **Dual MPPT Design**

18,000 W max PV array (9,000 W per MPPT)

125–450 Vdc operating range

550 Vdc max open-circuit voltage

- **Grid-Forming Capability**

Seamless transition to islanded operation
(≤10 ms transfer time)

- **Integrated Rapid Shutdown**

APsystems PLC transmitter built-in (NEC 690.12
compliant with listed RSD devices)

- **Advanced Grid Support Functions**

Volt-Watt, Volt-VAR, LVRT, HVRT

IEEE 1547.1 compliant

- **High Efficiency Design**

≥97.5% maximum efficiency

≥96.5% CEC weighted efficiency

- **Robust Outdoor Construction**

IP65 enclosure rating

–13°F to 140°F operating range

- **Parallel Expansion**

Up to 6 units in parallel



GENERAL	
Manufacturer	Solara Power
Model	SP-12KLV-US
Inverter Type	Hybrid grid-interactive inverter with ESS interface
Nominal System Voltage	120/240 Vac Split-Phase
Maximum Parallel Units	6
Grid Forming Capability	Yes (islanded operation)
Intended Applications	Residential / light commercial microgrid
AC INVERTER OUTPUT	
Rated Continuous Output Power	12,000 W
Maximum Output Power	18,000 W (10 seconds)
Rated Output Voltage	120/240 Vac split-phase; 120/208 Vac (3-phase wye)
Rated Output Current	50 A
Nominal Frequency	60 Hz (50/60 Hz supported)
Output Waveform	Pure sine wave
Power Factor Range	0.8 leading to 0.8 lagging
Total Harmonic Distortion (THD)	< 3% @ rated load
Transfer Time (Grid to Island)	≤ 10 ms
AC INPUT / BYPASS	
Input Voltage Range	90–140 Vac
Nominal Input Frequency	60 Hz
Continuous Passthrough Current	180 A
Maximum Bypass Overload	200 A
Bypass Topology	Internal automatic transfer
Neutral-to-Ground Switching	Automatic PE–N switching
GRID SUPPORT & PROTECTION	
Grid Support Functions	Volt-Watt, Volt-VAR, LVRT, HVRT
Anti-Islanding	IEEE 1547.1 compliant
Arc-Fault Protection	Integrated AFCI
Rapid Shutdown Capability	Integrated APsystems PLC transmitter
Ground-Fault Monitoring	Integrated
Leakage Current Monitoring	Pole-sensitive LCMU
Reverse Polarity Protection	Integrated
System Disconnect Sizing (SDS)	Installer- and design-dependent per NEC
PV DC INPUT	
MPPT Quantity	2
Maximum PV Array Power	18,000W (9,000 W per MPPT)
MPPT Operating Voltage Range	125–450 Vdc
Maximum PV Open-Circuit Voltage	550 Vdc
Maximum PV Input Current	32 A per MPPT
PV Short-Circuit Current (Isc)	40 A per MPPT
PV DC Disconnect	Integrated per MPPT

BATTERY INTERFACE	
Nominal Battery Voltage	48 Vdc
Battery Voltage Range	40–60 Vdc
Supported Battery Chemistry	LiFePO ₄ (BMS-controlled)
Maximum Grid Charging Current	200 A
Maximum Generator Charging Current	200 A
Maximum Hybrid Charging Current	240 A
Battery Connections	2 ports (A & B), internally paralleled
BMS Communication	CAN bus / RS-485
EFFICIENCY & PERFORMANCE	
Maximum Inverter Efficiency	≥ 97.5%
CEC Weighted Efficiency	≥ 96.5%
	CEC values based on manufacturer testing.
Standby / Self-Consumption	< 100 W
Cooling Method	Heat sink with temperature-controlled fan
Acoustic Noise	< 60 dBA
MECHANICAL & ENVIRONMENTAL	
Enclosure Rating	IP65 (outdoor-rated)
Dimensions (H × W × D)	33.07 × 17.32 × 10.23 in
Weight	106 lb (48 kg)
Operating Temperature Range	–13°F to 140°F (–25°C to 60°C)
Thermal Derating	Above 113°F (45°C)
Maximum Installation Altitude	≤ 6,560 ft (2,000 m)
PROTECTION & NEC COMPLIANCE	
PV DC Disconnect (NEC 240.15)	Integrated within inverter enclosure
Ground-Fault Detection (NEC 690.5)	Integrated
PV Rapid Shutdown Control (NEC 690.12)	Integrated APsystems PLC transmitter; module-level rapid shutdown achieved when paired with listed APsystems RSD-D devices
PV Arc-Fault Protection (NEC 690.11)	Integrated AFCI
PV Input Surge Protection	Integrated (DC Type II SPD)
PV Input Reverse Polarity Protection	Integrated
AC Output Overcurrent Protection	Integrated
Battery Disconnect / Overcurrent Protection	Integrated
AC Surge Protection	Integrated (AC Type II SPD)
COMMUNICATION & COMPLIANCE	
Certifications & Listings	UL 1741 (2021); IEEE 1547.1-2020; FCC Part 15 Class B
Energy Storage Listing	System-level UL 9540 / UL 9540A compliance is dependent on the connected battery system and its applicable listings.
Communication Interfaces	RS-485, CAN, USB, Dry Contact
Optional Communication Modules	Wi-Fi / GPRS
Environmental Compliance	RoHS
NOTES & DISCLAIMERS	
Specifications are subject to change without notice.	
Performance may be reduced at temperature extremes.	