DATASHEET

Sol-Ark Limitless 12K Hybrid Inverter

RESIDENTIAL NORTH AMERICA

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Small Footprint. Compact Power for Every Home

All new engineered hybrid inverter for residential performance and simplicity, the 12K-2P-LL delivers 12 kW-class AC output in a remarkably compact enclosure. Its 3 MPPT architecture maximizes production on real-world roofs. The power most homes need, without the size of higher-power units.

MICROMAX
POWER DENSITY THAT MATTERS

12 kW-class AC output with 3 MPPTs packed into one of the smallest hybrid inverter enclosures in its class.

FLEXPASS 100
FULL-HOME FLEXIBILITY.

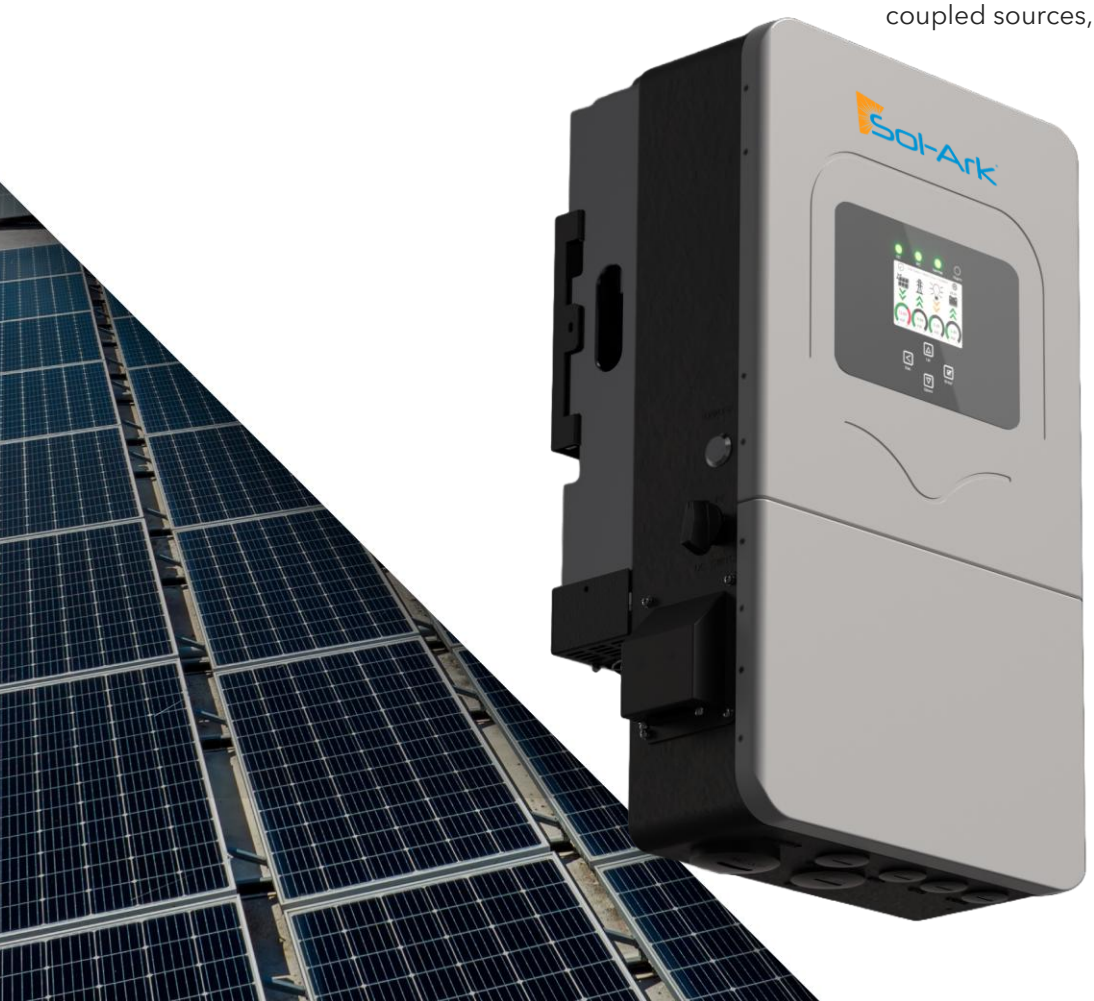
100 A continuous AC passthrough enables connection to larger backup load panels without external contactors.

MAXPV
BUILD BIGGER ARRAYS

Supports up to 19.2 kW of PV input in 3 MPPTs and compatibility with modern high-wattage modules.

GENLINK
CONNECT MORE POWER.

The GEN port supports up to 14 kW of external AC power from a generator, microinverters, or other AC-coupled sources, no transfer switch required.



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12K-2P-LL Hybrid Inverter

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SKU: 12K-2P-LL

Input Data (PV)	
Max. Allowed / Usable PV Input Power	19,200 W
Rated MPPT Voltage Range	150 – 425 V
Start-up Voltage (V) / Max. PV Input Voltage[1]	125 / 500 V
Max. Operating PV Input Current per MPPT	32 A
Max. Input Short Circuit Current per MPPT	60 A
MPPT Architecture	3 MPPTs, 2 Strings per MPPT
Max. AC Coupled Input	14,000 W
Output Data (AC)	
Nominal AC Voltage L-L	120/240 V; 208 V
Nominal AC Frequency	50 / 60 Hz
Max. Continuous AC Output Power[2]	12,000 W
Peak Surge AC Output Power (10s, off-grid)	24,000 W
Max. AC Output Current (Batteries + PV)	50 A
Max. Continuous AC Output Power (Batteries Only)	10,000 W (41 A @ 240 V)
Max. Continuous AC Passthrough (grid to load)	100 A
Max. Efficiency	97.6 %
Power Factor Adjustment Range	+/- 0.8 adjustable
Backup Transfer Time	5 ms
Design (DC to AC)	Transformerless DC
Stackable	Yes; Up to 12 units in parallel
Battery Input Data (DC)	
Battery Technologies	Lead-acid or Lithium-ion
Nominal DC Voltage	48 V
Operating Voltage Range	43 – 59 V
Battery Capacity Range	50 – 9900 Ah
Max. Battery Charge / Discharge Current	220 A
Charge Controller Type	3-Stage with Equalization
Grid to Battery Charging Efficiency	96.0 %
Automatic Generator Start (AGS)	2-Wire Start - Integrated
BMS Communication	CANBus & RS485 MODBUS
Mechanical Data	
Dimensions (H x W x D)	654 × 452 × 254 mm (25.7 x 17.8 x 10.00 in)
Weight	29.5 kg / 65 lb
Enclosure Rating	IP65 / NEMA 3R
Ambient Temperature[3]	-40 – 60°C, >45°C Derating
Idle Consumption - No Load	96 W
Communication and Monitoring	WIFI / LAN / 4G (optional)
Type of Cooling	Intelligent Air Cooling
Standard Warranty	10 Years
Protection and Certifications	
Certifications and Listings	UL1741 3rd SB, UL1741 CRD-PCS, IEEE1547-2018 and interoperability using IEEE2030.5, Hawaiian Electric SRD V2.0, UL1699B PVDC AFCI, UL1998, CSA C22.2 No. 107
Integrated Protection Systems	PV DC Disconnect (NEC 240.15), Ground Fault Detection (NEC 690.5), Rapid Shutdown Control (NEC 690.12), Arc Fault Detection (NEC 690.11), PV Input Lightning Protection, Reverse Polarity Protection, and Surge Protection (DC Type II / AC Type II)

1. Refer to the Installation Manual for PV string sizing details. Maximum input voltage is based on array open-circuit voltage at minimum design temperature.
2. Max. continuous AC output: 12,000 W (load/grid sell).
3. Derating applies above 3,000 m (9,842 ft).

Revision History		
VERSION	**DATE**	**Description**
V1.1	Mar 2026	Updated product name to "12K-2P-LL" Hybrid inverter. Adjusted MPPT maximum current to 32A, Batt voltage range 43-59V
V1.0	Jan 2026	Initial release

Specifications are subject to change. Refer to the latest version available at **www.sol-ark.com**

To learn more about Sol-Ark solutions, visit **www.sol-ark.com**

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