EN

DATASHEET

LIMITLESS 12K

12K-2P-LL

HYBRID INVERTER - RESIDENTIAL NORTH AMERICA

Compact and Affordable Power, for Every Home.

Built for budget-conscious projects, the **Limitless 12K Hybrid Inverter** delivers resilient backup power and advanced energy management in one compact, powerful platform. Capable of delivering **12kW to the grid** or **10kW of continuous backup power** from batteries, it easily supports loads such as mini-split A/C systems, well pumps, kitchen appliances, furnace blowers, and lighting.

Designed for flexibility and maximum solar utilization, the Limitless 12K supports both **DC and AC solar coupling**, making it ideal for new installations and retrofit applications alike. With **100A grid passthrough**, plus integrated **Smart Load** control, and generator support through the multifunction **GEN port**, the Limitless 12K provides a reliable foundation for energy independence and dependable home backup power.

Energy Management
Multi-Season Time-of-Use
Zero Meter
Self-Consumption

Backup Resilience
5ms Transfer Time
Auto Generator Start
Smart AC Load Control

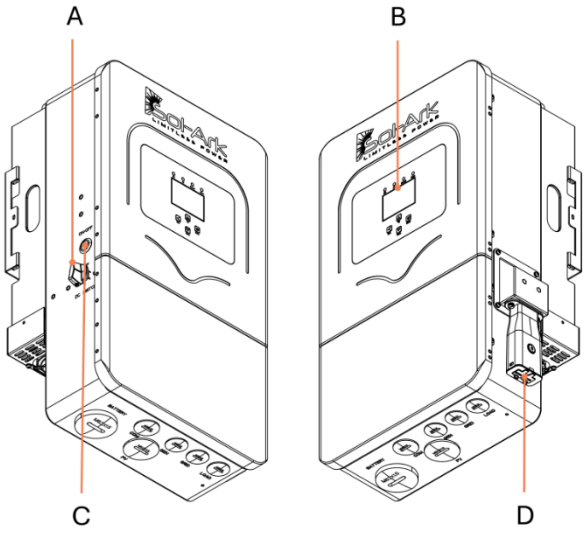
U.S. Company - Non-FEOC
Manufacturing & Inventory
Firmware and Data Hosting
7-Days-a-Week Support

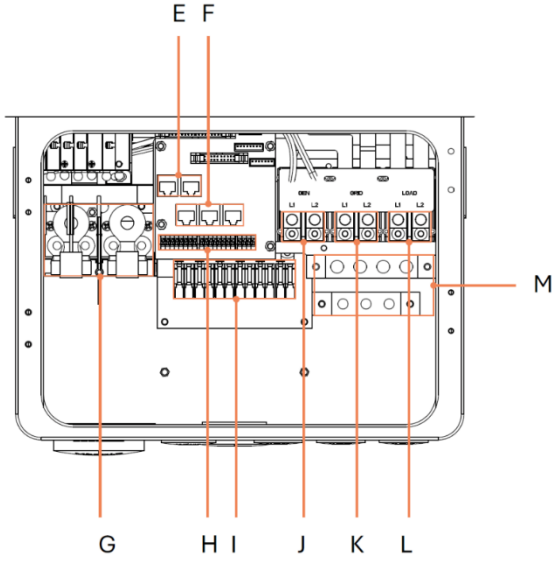
Grid Interaction
NEM - Grid Sell
Peak Shaving
VPP Ready

New Installs or Retrofits
AC and DC Solar Coupling
All-in-One PCS platform – No MID

Battery Choice
Multiple UL 9540 Certifications

MySolArk V2 Monitoring App
Monitoring & Performance Insights
VPP Enrollment & Participation





Component	Description	Component	Description
A	PV DC Disconnect	H	Input pinouts for sensors and accessories
B	LCD Touch Screen	I	3 MPPT inputs
C	ON / OFF Button	J	(60A) GEN terminal
D	Wi-Fi / Bluetooth / Ethernet Dongle	K	(100A) LOAD terminal
E	BMS RJ45 ports (RS485 / CAN)	L	(100A) GRID terminal
F	Parallel RJ45 ports	M	Ground / Neutral Busbars
G	Battery terminal		

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Model: 12K-2P-LL

Specification	Unit	Rating
PV (DC)		
Max. STC Rated PV Power	W	19,200
Max. Usable Combined MPPT PV Power	W	12,000
Rated MPPT Operating Voltage Range	V	150 - 425
Startup Voltage	V	125
Max. Input Voltage[1]	V	500
Max. Operating PV Input Current	A	32 (per MPPT)
Max. Input Short Circuit Current	A	60 (per MPPT)
Number of MPPT / Strings per MPPT		3/2
Grid (AC)		
Nominal Voltage (L-N/L-L)	V	120/240, 120/208
Nominal Frequency	Hz	50 / 60
Nominal Voltage Range	V	185 - 275
Nominal Frequency Range	Hz	55 - 65
Max. Passthrough Current (Grid to Load)	A	100
Max. Input Short Circuit Current (100ms)	A	100
Nominal Real Power (240V)	W	12,000
Max. Output Current, Batteries + PV	A	50
THDi	%	2.5
Power Factor Adjustment Range	+/-	0.9
Efficiency		
Max	%	97.6
Grid to Battery - Charge	%	92.7
Mechanical and Environment		
Dimensions, H x W x D	mm (in)	653 x 421.4 x 249.5 (25.7 x 16.59 x 9.8)
Weight	kg (lbs.)	29.5 (65)
Ambient Temperature / De-rated	°C (°F)	-40 to 60 (-40 to 140) / +45 (+113))
Operating Altitude	m (ft)	> 3,000 (9843)
Idle Consumption - No Load	W	96
Noise (@ 25°C / 77°F)	dB	< 30
Humidity non-condensing	%	0 - 100
Mounting (hanging bracket included)		Wall
Enclosure Rating		IP65 / NEMA 3R
Cooling		Intelligent Fan
Display		LCD

Specification	Unit	Rating		
Battery (DC)				
Compatible Technology		Lead-acid[3] or Lithium		
Nominal DC Voltage	V	48		
Operating Voltage Range	V	43 – 59		
Number of Inputs[4]		1		
Terminal Current Rating	A	300		
Max. Charge / Discharge Current	A	220 / 220		
BMS Communication		CANbus / RS485 / MODBUS RTU		
Charge Controller Type		3-Stage with Equalization[3] / CC/CV - BMS Controlled		
Backup – Off-Grid (AC)				
Rated Voltage (L-N, L-L)	V	120/240	120/208	
Rated Frequency	Hz	50 / 60		
Max. Continuous Power	W	10,000	8,660	
Peak Surge Power (10s)	W	24,000	20,800	
Backup Transfer Time	ms	5		
Max. Load Imbalance Ratio	%	50		
THDv	%	1.6		
GEN Port (AC)[2]				
Max. AC Coupled PV Power (240V)	W	14,000	12,410	
Max. Generator Power[2] (240V)	W	14,000	12,410	
Max. Current	A	60		
Protection - Integrated				
PV DC Disconnect Switch — NEC 240.15	PV Arc Fault Detection — NEC 690.11			
Ground Fault Detection — NEC 690.5	PV Input Lightning Protection			
PV Rapid Shutdown — NEC 690.12	PV String Input Reverse Polarity Protection			
	Surge Protection - DC Type II / AC Type III			
General				
Warranty Years	10			
Parallel Units	12			
Automatic Generator Start (AGS)	2-Wire Start - Integrated			
Communication	WIFI / Bluetooth / LAN			
Monitoring Platform	MySolArk Mobile and Web Apps			
Options				
Optional Accessories	4G Dongle, Wireless CT			

Compliance and Certification	
Safety Certification	UL1741 3rd SB, UL1741 CRD-PCS[5], UL1699B PVDC AFCI, UL1998, CSA C22.2 No. 107
Interconnection Compliance	IEEE1547- 2018 and interoperability using IEEE2030.5, Hawaiian Electric SRD V2.0
EMC	FCC Part 15 Class B
Listings	CEC, SGIP

[1]The highest input voltage is based on the open-circuit voltage of the array at the minimum design temperature (See Installation Manual for more details).

[2] Bidirectional AC port for AC fuel generator input, AC coupled PV input or AC load (EV Charger, etc.)

[3] Lead-acid charge settings limited to: Capacity AH, Absorption V, Float V, (Equalization: V + Time).

[4] Utilization of only a single battery input will derate inverter and charger output.

[5] UL1741-CRD-PCS Open Loop Response Time (OLRT): Less than 10 seconds, per CA Rule 21.

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