DC TO AC POWER

Pure Sine Wave Inverter

SKU: IU24-3KW

12 V / 24 V DC INPUT



Product shown: IU24-3KW / high-frequency pure sine wave inverter

24 V DC
RATED BATTERY VOLTAGE
Input range: 21.6-32 V DC

3,000 W
CONTINUOUS OUTPUT
IU24-3kW

6,000 W
PEAK OUTPUT
Duration not specified

Series features at a glance

- ✓ **Pure sine wave output** — Advanced SPWM modulation.
- ✓ **Sustained full-power operation** — High power density, long-life components.
- ✓ **ON / OFF / ECO modes** — Three operating modes to save energy.
- ✓ **Bluetooth app monitoring** — View device operating parameters.

ELECTRICAL RATINGS

Electrical specifications

Model-specific input, output, efficiency and current ratings.

PARAMETER	I2V-1kW	12V-2kW	12V-3kW	24V-3kW
DC INPUT				
Rated battery voltage		12 V DC		24 V DC
Battery voltage range		10.8-16 V DC		21.6-32 V DC
AC OUTPUT				
Rated output power	1,000 W	2,000 W	3,000 W	3,000 W
Peak power	2,000 W	4,000 W	6,000 W	6,000 W
Rated output voltage		100 / 110 / 115 / 120 V AC (±3%)		
Rated output frequency		50 / 60 Hz		
Output waveform		Pure sine wave		
Total harmonic distortion (THD)		THD <4% (purely resistive load)		
Power factor		0.2-1 (load power ≤ continuous output power)		
EFFICIENCY				
Rated output efficiency	>87.5%	>89%	>90%	>90%
Maximum output efficiency (at 30% load)	>91.5%	>92%	>91.5%	>93.5%
BATTERY CURRENT				
Standby current (OFF mode)	<0.26 A	<0.24 A	<0.24 A	<0.13 A
No-load current (ON mode)	<0.8 A	<1.0 A	<1.45 A	<1.2 A

RATING NOTES

Peak-power duration is not stated in the supplied specification. Maximum efficiency is specified at 30% load.

MECHANICAL & SYSTEM DATA

Physical specifications

Dimensions, cooling, operating environment and protection functions.

PARAMETER	12V-1kW	12V-2kW	12V-3kW	24V-3kW
Dimensions	344 x 188 x 88 mm		409 x 249 x 120 mm	
Net weight	3.2 kg	6.5 kg	8.0 kg	6.5 kg

COMMON SPECIFICATIONS	
Noise	<60 dB
Cooling method	Natural cooling + smart fan cooling
Ingress protection	IP20
Operating ambient temperature	-20 °C to +60 °C
Listed certifications & standards	CE, RoHS IEC 62109-1/2 EN 61000-6-2/4

PROTECTION FUNCTIONS	
Battery over-voltage	Yes
Battery over-discharge	Yes
Output overload	Yes
Output short circuit	Yes
Over-temperature	Yes

NO REVERSE-POLARITY PROTECTION

Do not reverse the battery connections.

Designed for reliable DC-to-AC power

RELIABLE

Advanced SPWM modulation delivers pure sine wave AC with high power quality. High power density, long-life components support sustained full-power operation.

EFFICIENT

High conversion efficiency, low losses and low harmonic distortion. ON/OFF/ECO modes help save energy.

SMART

Standard Bluetooth enables app access to operating data. Multiple expansion interfaces support different user needs.

LITHIUM BATTERY COMPATIBILITY

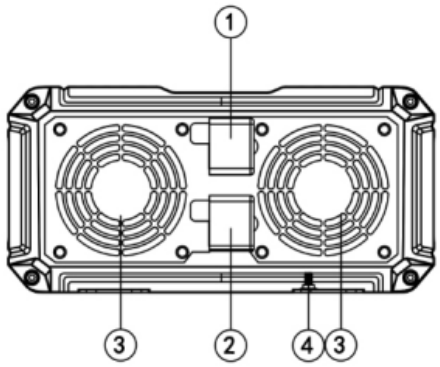
Surge-resistant design for lithium battery power systems.

CONNECTIONS & INTERFACES

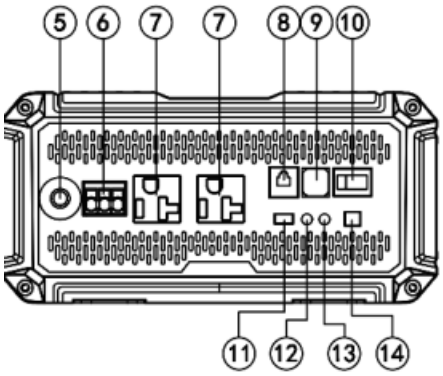
Interfaces & system overview

Numbered connection panels, controls and a reference system schematic.

DC CONNECTION PANEL



AC / CONTROL PANEL

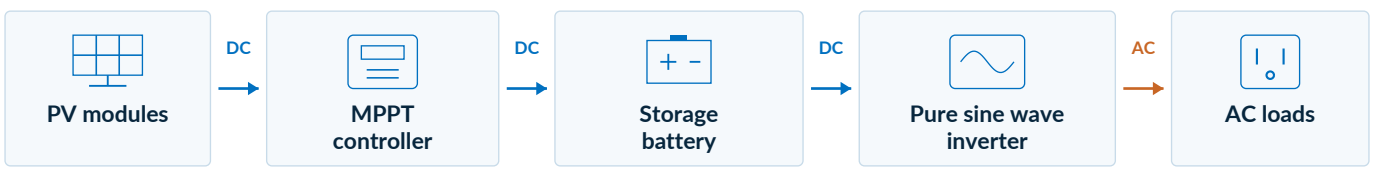


NO.	INTERFACE / CONTROL
1	Battery positive
2	Battery negative
3	Cooling fan
4	Grounding terminal
5	Output overload protector
6	AC output 1 (terminal block)
7	AC output 2 (GB-standard socket)

NO.	INTERFACE / CONTROL
8	RS-485 communication port
9	USB charging ports x 2 5 V / 2 A
10	ON / OFF / ECO mode switch
11	TTL communication port
12	Operating indicator
13	Fault indicator
14	External switch interface

Interface drawings and numbering are reproduced from the supplied specification. AC output 2 is identified as a GB-standard socket in that document.

Reference system connection



For more detailed specifications, refer to the product manual.