Felicitysolar®

Make life full of hope



6KVA

Off-grid High-frequency Solar Inverter

AC-220V

IVEM6048-II

Features

- Supports up to 12 units in parallel (6KVA model) (Battery must be connected).
- Support parameters setting via LCD screen (input voltage/charging current/charge mode).
- Compatible with mains voltage or generator power.
- Built-in MPPT solar charge controller.
- Lithium battery activation function.
- Auto restart while AC is recovering.
- Inverter running without battery.
- Cold start function.
- Built-in WiFi for mobile monitoring, APP is required

The generator input port of IVEM6048-II that can be converted into a smart output port, allowing users to customize the output duration.（under stand-alone mode)

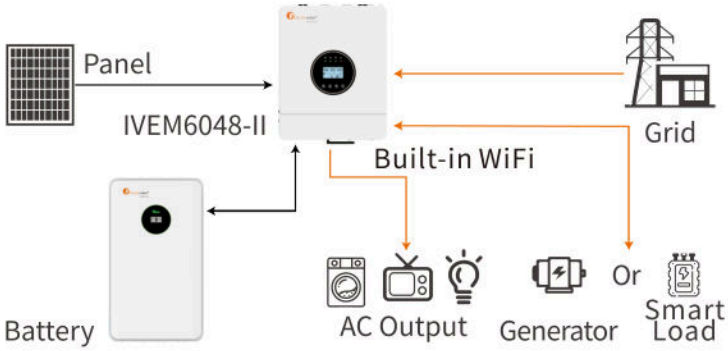
System Configuration

DC

AC

Communication





Guangzhou Felicity Solar Technology Co.,Ltd.

www.felicitysolar.com sales@felicitysolar.com

No. 2, Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, China **(Only 10 Mins from Baiyun Airport)**

Official Website

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Model	IVEM6048	IVEM6048-II
Line Mode Specifications		
Rated Output Power(VA)	6000VA	
Rated Output Power(W)	6000W	
Nominal DC Input Voltage	48V	
Nominal Input Voltage	230Vac	
Max. AC Input Voltage	280Vac	
Nominal Input Frequency	50Hz / 60Hz (Auto detection)	
Efficiency(Line Mode)	>95% (Rated R Load, Battery Full Charged)	
Pass Through Without Battery	Yes	
Utility Charge Mode Specifications		
Input Voltage Range	90~280Vac	
Max. Charge Current	100A	120A
Over Charge Protection	Yes	
Solar Charging & Grid Charging		
Max.PV Open Circuit Voltage	500V	
PV Voltage Working Range	90V-450V	
Max. Input Power	7000W	7500W
Max. Solar Charging Current	120A	
Max. Charging Current(PV+Grid)	120A	
Max. Input Current	27A	
Min. Startup Voltage	95V	
Inverter Mode Specifications		
Output Voltage Waveform	Pure Sine Wave	
Nominal Output Voltage	230Vac±5%	
Nominal Output Frequency(Hz)	50±0.3Hz/60Hz±0.3Hz(Adjustable)	
Parallel Capability	Yes, Up to 12 Units	
Peak Efficiency	93%	
Over-Load Protection(SMPS load)	5s@≥150% load; 10s @105% ~150% load	Load>200%,200ms / Load >150%,5.5s Load >120%,7.5s / Load >105% 10.5s
Surge Rating	2* Rated Power for 5s	
Capable of Starting Electric	Yes	
Output Short Circuit Protection	Yes	
General Specifications		
Operating Temperature	-10°C~50°C	
Range Storage Temperature	-15°C~60°C	
Net Weight(KG)	11.5KG	12.5KG
Product Dimension(MM)	420*335*142MM	
Package Dimension(MM)	512*417*216MM	
Certification	CE-EMC、IEC 62109-1/2、IEC 63027	

*Refer to Felicitysolar's Warranty Policy for applicable conditions.

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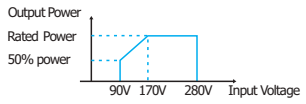
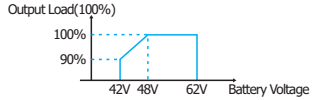
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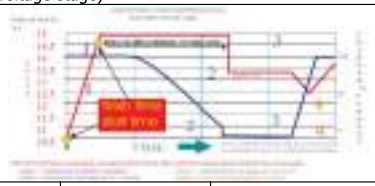
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SPECIFICATIONS

Line Mode Specifications		
Model		**IVEM6048-II**
Rated Output Power		6000VA
		6000W
Nominal DC Input Voltage		48V
Input Voltage Waveform		Sinusoidal (utility or generator)
Nominal Input Voltage		230Vac
Low Line Voltage Disconnect		170Vac±7V (UPS); 90Vac±7V (Appliances)
Low Loss Voltage Re-connect		180Vac±7V (UPS); 100Vac±7V (Appliances)
High Line Voltage Disconnect		280Vac±7V
High Line Voltage Re-connect		270Vac±7V
Max AC Input Voltage		280Vac
Nominal Input Frequency		50Hz / 60Hz (Auto detection)
Low Line Frequency Disconnect		40±1Hz
Low Line Frequency Re-connect		42±1Hz
High Line Frequency Disconnect		65±1Hz
High Line Frequency Re-connect		63±1Hz
Output Voltage Waveform		As same as input waveform
Output Short Circuit Protection		Line mode: Circuit Breaker Battery mode: Electronic Circuits
Efficiency (Line Mode)		>95% (Rated R load, battery full charged)
Transfer Time (Single unit)		10ms typical (UPS); 20ms typical (Appliances)
Transfer Time (Parallel)		50ms typical
Output power derating	When AC input voltage drops to 170V,the output power will be de-rated.	
	When DC input voltage drops to 48V,the output power will be de-rated.	
Pass Through Without Battery		Yes
Max. Bypass Overload Current		40A
Max. Inverter/Rectifier Current		40A/6000W

Utility Charge Mode Specifications	
Nominal Input Voltage	230Vac
Input Voltage Range	90~280Vac
Nominal Output Voltage	Dependent on battery type
Max. Charge Current	120A
Charge Current Regulation	10-120A (Adjustable unit is 1A)
Over Charge Protection	Yes
Solar Charging & Grid Charging	
Max. PV Open Circuit Voltage	500V
PV Voltage Working Range	90V-450V
Max. Input Power	7500W
Max. Solar Charging Current	120A
Max. Charging Current(PV+Grid)	120A
Max. Input Current	27A
Min. Startup Voltage	95V

Charge Algorithm			
Algorithm	**Three stage:** Boost CC (Constant current stage) ->Boost CV (Constant voltage stage) ->Float (Constant voltage stage)		
Charging Curve			
Battery Type Setting	Battery Type	Boost CC/CV	Float
	AGM	56.4V	54V
	Flooded	58.4V	54V
	Self - defined	Adjustable, up to 60V	
	Lithium		

Inverter Mode Specifications	
Model	**IVEM6048-II**
Rated Output Power	6000VA
	6000W
Nominal DC Input Voltage	48V
Output Voltage Waveform	Pure sine wave
Nominal Output Voltage	230Vac±5%
Nominal Output Frequency (Hz)	50±0.3Hz/60Hz±0.3Hz (Adjustable)
Parallel capability	Yes,up to 12 units
Peak Efficiency	93%
Over-Load Protection (SMPS load)	Load>200%,200ms / Load >150%,5.5s Load >120%,7.5s / Load >105% 10.5s
Surge Rating	2* rated power for 5s
Capable of Starting Electric	Yes
Output Short Circuit Protection	Yes
Cold Start Voltage	46V
Low Battery Alarm **Load < 50%** **@Load ≥ 50%**	 45.0V 44.0V
Low Battery Alarm Recovery **Load < 50%** **@Load ≥ 50%**	 47.0V 46.0V
Low DC Input Shut-down **Load < 50%** **@Load ≥ 50%**	 43.0V 42.0V
High DC Input Alarm & Fault	62V±0.4V
High DC Input Recovery	60V±0.4V
General Specifications	
Operating Temperature	-10℃~50℃
Range Storage Temperature	-15℃~60℃
Net Weight (Kg)	12.5kg
Product Size (D*W*H)	420 x 335 x 142mm
Package Dimension (D*W*H)	512 x 417 x 216mm

INSTALLATION

Safety Guidance

Warning marks inform users of conditions which can cause serious physical injury or death, or damage to the device. They also tell users how to prevent the dangers. The warning marks used in this operation manual are shown below:

	● After receiving this product, first confirm the product package is intact. If any question, contact the logistic company or local distributor immediately. ● The installation and operation of inverter must be carried out by professional technicians who have received professional trainings and thoroughly familiar with all the contents in this manual and the safety requirements of the electrical system.
	● Do not carry out connection/disconnection, unpacking inspection and unit replacement operations on the inverter when power source is applied. Before wiring and inspection, users must confirm the breakers on DC and AC side of inverter are disconnected and wait for at least 5 minutes.
	● Ensure there is no strong electromagnetic interference caused by other electronic or electrical devices around the installation site. ● Do not refit the inverter unless authorized. ● All the electrical installation must conform to local and national electrical standards
	● Do not touch the housing of the inverter or the radiator to avoid scald as they may become hot during operation.
	● Ground with proper technics before operation.
	● Do not open the surface cover of the inverter unless authorized. The electronic components inside the inverter are electrostatic sensitive. Do take proper anti-electrostatic measures during authorized operation.
	● The inverter needs to be reliably grounded.
	● Ensure that DC and AC side circuit breakers have been disconnected and wait at least 5 minutes before wiring and checking.

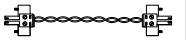
Unpacking and Inspection

Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. You should have received the following items inside of package:


Inevter unit x 1


Manual x 1


Parallel communication cable x 1


Current sharing cable x 1


U-shaped terminal x 2


RJ45 Terminal x 1


Expansion bolt x 2


Wall Hangers x 2 and Screws x 4