

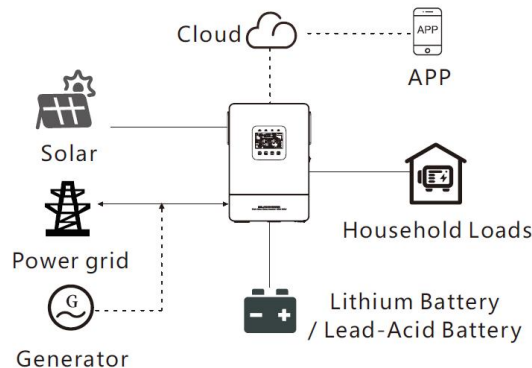
Magic-Kepler series

Hybrid solar inverter with charger



Overview

This is a multifunctional solar inverter that integrates an MPPT solar charge controller, a highfrequency pure sine wave inverter, and a UPS function module into one unit. It can also operate without a battery configured.



Hybrid Solar Storage System

This equipment, along with other power supply equipment such as photovoltaic modules, generators, utility mains, and storage batteries, constitutes an electrical system. Please consult your system integrator regarding other possible system architectures based on your requirements. The WiFi/GPRS module is a plug-and-play monitoring device that can be installed on the inverter. Using this device, users can monitor the status of the photovoltaic system anytime, anywhere via a mobile website.

- PV, utility mains, and the battery can power the load simultaneously.
- MPPT range: 60V~450VDC.
- After configuring the WiFi module, operating parameters can be monitored remotely.
- Primary and secondary AC outputs, allowing differentiation based on the importance of the electrical loads.
- Equipped with CAN/RS485 for BMS communication, facilitating storage battery management.
- High-frequency inverter: compact size, lightweight.
- Pure sine wave AC output.
- Can operate without batteries.
- MKH6500-42P inverter: 9 units for parallel operation.

Technical Data

1. Utility power parameters

Item	Mode	MKH5000-22	MKH6500-42 Series	Note
Input Voltage	Main Input	L+N+PE		
	Input Voltage	230Vac		Adjustable 208/220/230/240Vac
	Input Voltage Range	90~280Vac		
	Input Low Loss	154Vac(Default) Adjustable: 90~154Vac		APP/GEN mode
		185Vac(Default) Adjustable: 170~200Vac		UPS mode
	Input Low Recovery	Low Loss Voltage+9V		
	Input High Loss	264Vac(Default) Adjustable: 264~280Vac		APP/GEN mode
		264Vac		UPS mode
	Input High Recovery	High Loss Voltage-9V		
Input Frequency	Rated Frequency	50/60Hz		
	Frequency Low Loss /Recovery	40/43.5Hz@50Hz(UPS mode) 50/53.5Hz@60Hz(UPS mode) 40/43.5Hz@60Hz(APP/GEN mode)		
	Frequency High Loss /Recovery	60/56.5Hz@50Hz(UPS mode) 70/66.5Hz@60Hz(UPS mode) 70/69.5Hz@60Hz(APP/GEN mode)		
Input Current	Rated Current	21.7A	26A	Vrms=230V, Line mode at 100% capacity. Excluding the charger.
	Max. Current	40A		Bypass Current

Note: When the external circuit breaker specification exceeds 40A, the maximum input current is 40A. When the external circuit breaker specification is less than 40A, the maximum input current depends on the external circuit breaker specification.

2. Battery parameters

Item	Mode	MKH5000-22	MKH6500-42 Series	Note
Battery Information	Number of Batteries	2Pcs	4Pcs	12V/Pcs
	Automatic Start Function	Yes		
	Battery Test Function	No		
	Battery Type	AGM/FLD/LIB/FEL/CUS		
	Rated Battery Voltage	N*12V		@25°C
	Battery Management	Yes		
Battery Protection	Battery Overvoltage	30.5V	61V	
	Battery Undervoltage	10.5V*N		Adjustable: 10*N~11*N
	Battery Low Voltage Alarm	10.8V*N		Adjustable: 10.3*N~11.3*N
	Overcurrent Protection	Fuse		Fast Acting

Note: N=Number of batteries.

3. Charging parameters

Item	Mode	MKH5000-22	MKH6500-42 Series	Note
Charging (Utility Mode)	Charging Voltage	FV mode: 27V; CV mode: 28.2V	FV mode: 54V; Adjustable: 53.2~55.6V CV mode: 56.4V; Adjustable: 56~58V	
	Temperature Compensation	No		
	Charging Current	2~160A	2~120A	Adjustable
	Default Charging Current	80A	60A	
	Charging Method	Two/Three/Auto Adjustable		Three states: CC/CV/Float Two states: CC/Float
	Charging Voltage Accuracy	±5%		Calibrated via RS232
Charging (PV Mode)	PV Charging Method	MPPT		
	Max. PV Input Power	27A/9000W		
	Efficiency	99.5%(Max.)		
	MPPT	60~450Vdc		
	Min. PV Voltage	80V		
	Max. PV Voltage	500Vdc		
Max. Charging Current	/	160A	120A	
		160A(Max.allowable value) Default: 120A	120A(Max.allowable value) Default: 100A	Adjustable

Technical Data

4. Output parameters

Item	Mode	MKH5000-22	MKH6500-42 Series	Note
Output Power Rating	Output	L1+N1+L2+N2+PE		
	Max. Output Power	5000W	6500W	Power reduction when powered by battery only.
Output Voltage	Rated Voltage	230Vac		Adjustable:208/220/230/240Vac, Manually set via RS232 or LCD.
	Waveform	Sine Wave		
	Voltage Regulation	±5%		
	DC Offset	±100mV(Battery mode)		No-load and Linear load mode
Output Frequency	Rated Frequency	50/60Hz		50/60Hz Auto-Select(Default On)
	Battery Mode	50/60Hz		
	Frequency Regulation	0.1%		
	Utility Mode	50Hz:(40~60)Hz(UPS mode) (40~70)Hz(APP/GEN mode)	50Hz: (43.5~56.5)Hz(UPS mode) (40~70)Hz(APP/GEN mode)	
		60Hz: (50~70)Hz(UPS mode) (40~70)Hz(APP/GEN mode)	60Hz: (53.5~66.5)Hz(UPS mode) (40~70)Hz(APP/GEN mode)	
Overload Capacity	1 minute@102%~120% load,10 seconds > 120% load.(Battery mode)			
Output Short Circuit Protection	Battery Mode	Current Limiting		
	Utility Mode	Circuit Breaker(40A)		

5. Transfer time parameters

Item	Mode	Parameters	Note
Transfer Time	Utility Mode to Battery Mode	10ms(Typical Value)	UPS mode
		10ms(Typical Value)	Appliance(APP)Mode
		20ms(Typical Value)	Generator(GEN)Mode

6. Efficiency parameters

Item	Mode	MKH5000-22	MKH6500-42 Series	Note
Efficiency	Utility Mode	> 99.5%@6KVA		Full R Load:Efficiency vs. Load Curve at Different Input Voltages; No Battery Connection Required.
	Battery Mode	93.5%(Max)	94%(Max)	Full R Load: Efficiency vs.Load Curve at Different Input Voltages.
	Standby Power	< 35W	< 30W	No Load/Battery Mode