RAYSTECH

Home Battery Backup RT-1KW LFP

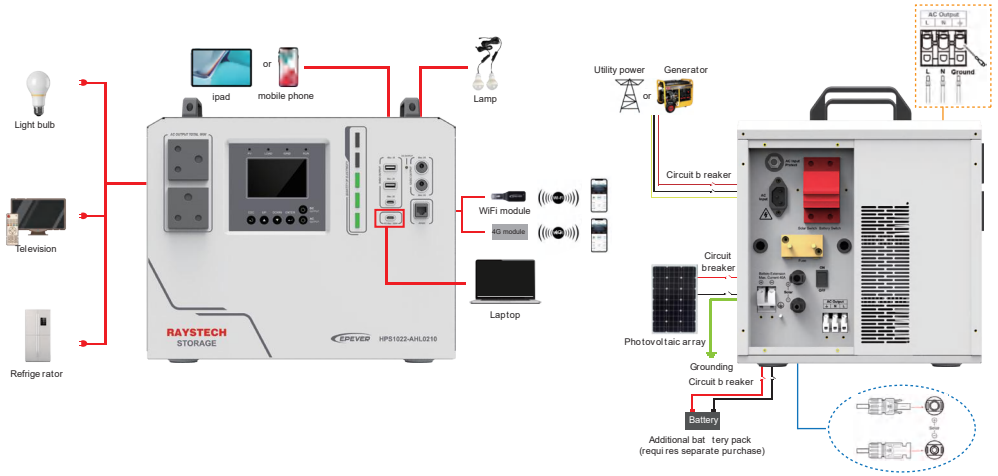
Main Feature

- Excellent dust-proof performance with separate compartment design.
- Built-in LiFePO4 lithium battery.
- Intuitive display of battery SOC via 5-bar indicator lights.
- Multiple DC output ports (5VDC/3A ports, 12VDC/2A ports, Type C ports).
- Build-in bluetooth module.
- Large-sized LCD screen to monitor and modify system parameters.
- Optional 4G or WiFi module to remote control the inverter/charger by the RS485 com. port.
- AC input overload relay for disconnecting from the grid when the fault occurs.
- Circuit breaker on PV input for equipment safety.
- Circuit breaker on battery output for battery safety.
- AC charging with PFC technology, high power factor for efficient energy consumption.
- Bidirectional high-frequency transformer isolation topology.
- Advanced MPPT technology: maximum tracking efficiency≥99.5%.
- EMC design on AC output to avoid interference with AC load.
- Long-term continuous operation at full power.
- Pure sine wave output.
- Comprehensive electronic protection.

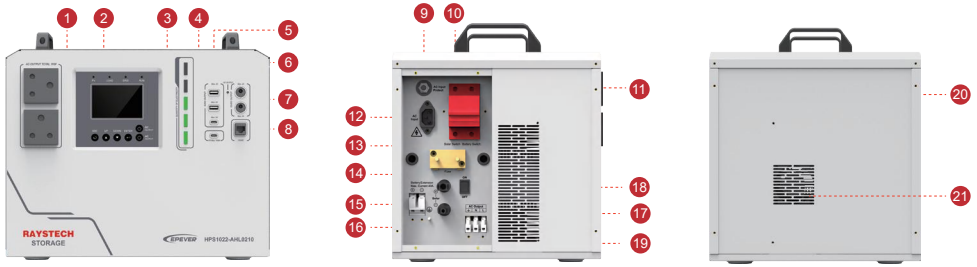
Technical Data

Work Temperature Range	20℃~50℃ (when the environment temperature exceeds 30℃, the charging power and load power will be reduced appropriately; working of full load is not supported.)
Enclosure	IP30
Communication Method	Bluetooth, RS485 (WiFi optional)
LCD	Monochrome LCD, English interface
Warranty	Two years
Dimension (Length x Width x Height)	385x307x345mm (with floor mats and handles)
Net Weight	20.0kg

Solar System Connection



Product Information

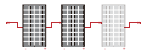
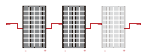
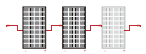
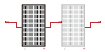
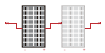
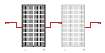
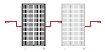


1. AC outlet
2. LCD
3. Battery SOC indicator
4. Type C port (Type C-100W)
5. 5VDC/3A output port *3
6. DC output indicator
7. 12VDC/2A output port *2
8. RS485 com. port
9. Utility bypass overload relay
10. PV input circuit breaker
11. Battery output circuit breaker
12. AC input port
13. Extension battery fuse
14. Outlet holes
15. Extension battery terminal
16. Grounding terminal
17. PV input terminals
18. Inverter/charger switch
19. AC Output
20. Battery container
21. Cooling fan

Technical Data

Model		RT102422 Li
Utility Input	Utility Rated Voltage	220VAC
	Utility Voltage	200~240VAC
	Failure Voltage	290VAC
	Utility Frequency	50Hz/60Hz
	Utility Maximum Work Current (Charging + Bypass)	7A@220VAC
	Switch Response Time	Switch Response Time-Utility to Inverter: ≤20ms Switch Response Time-Inverter to Utility: ≤20ms
	AC Input Overload Relay	HAVE
Inverter Output	Inverter Rated Power (@25℃)	1000W
	4-second Transient Surge Output Power	1800W
	Inverter Output Voltage	220VAC±3%
	Inverter Frequency	50Hz/60Hz±0.2%
	Output Voltage Waveform	Pure sine wave
	Output Voltage Harmonic Distortion Rate	≤3% (Resistive load)
	Output Gradual Start	HAVE
Solar Controller	PV Maximum Input Withstand Voltage	95VDC
	Solar Controller Type	MPPT
	MPPT Maximum Efficiency	≥99.5%
	MPPT Voltage Range	24~76VDC
	MPPT Input Channels	One way
	PV Maximum Charging Current	20A
Battery	Battery Type	LFP8S
	Battery Rated Voltage	25.6VDC
	Battery Work Voltage Range	21.0VDC~30.0VDC
	Battery Work Temperature Range	Discharging Mode: -20℃~50℃ Charging Mode: 0℃~50℃
	Battery Capacity	40Ah
DC Output	12V DC Output (x2)	12V=2A, Max. 24W/port, Total 48W
	USB-A Output (x2)	5V=3A, Max. 15W/port, Total 30W
	USB-C Output (x1)	5V=3A, Max. 15W
	USB-C Output (x1)	5/9/12/15V =3A, 20V=5A, Max. 100W
	DC Output Switch	HAVE

Recommended Component Configuration Table

Specifications	Size	Efficiency	Recommended components	Photovoltaic voltage access range	Recommended photovoltaic access	
Polycrystalline	1470x670x28mm	165~170W		30VDC~95VDC	Two in series	45VDC
					Three in series	68VDC
Monocrystalline	1580x710x28mm	220~235W		30VDC~95VDC	Two in series	53VDC
					Three in series	80VDC
Monocrystalline	1570x765x28mm	250~260W		30VDC~95VDC	Two in series	53VDC
					Three in series	80VDC
Polycrystalline	1640x992x30mm	270~280W		30VDC~95VDC	One in series	38VDC
					Two in series	76VDC
Polycrystalline	1956x992x30mm	330~350W		30VDC~95VDC	One in series	45VDC
					Two in series	90VDC
Monocrystalline	1755x1038x30mm	370~380W		30VDC~95VDC	One in series	45VDC
					Two in series	90VDC
Monocrystalline	2094x1038x30mm	450~470W		30VDC~95VDC	One in series	53VDC
Monocrystalline	1722x1134x28mm	400~415W		30VDC~95VDC	One in series	40VDC
					Two in series	80VDC
Monocrystalline	2279x1134x30mm	540~555W		30VDC~95VDC	One in series	53VDC
Monocrystalline	2204x1303x35mm	590~600W		30VDC~95VDC	One in series	53VDC
Monocrystalline	2384x1303x35mm	650~670W		30VDC~95VDC	One in series	53VDC

*This table should be validated based on the limit open-circuit voltage at the lowest temperature of 5 degrees Celsius, and it i allowed to exceed 95VDC under any conditions.

Portable Power Station

Macbook 13 7105mAh ≈**42+**times	iphone XR 2942mAh ≈**105+**times
coffee maker 900W≈**1.1+**hours	impact drill 1100W≈**0.9+**hours
rice cooker 600W≈**1.6+**hours	television set 100W ≈**10+**hours
electric oven/ toaster oven 800W≈**1.3**hours	car refrigerator 62W≈**16+**hours

Notes

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