

# ATHENA



## RESIDENTIAL ENERGY STORAGE SYSTEM



[www.magicpower.co](http://www.magicpower.co)







KEEP YOUR LIGHTS ON.

# ■ What is Athena?

Athena is a smart energy solution that manages all the smart devices in your house and uses them in efficient and profitable new ways.

Athena represents the latest innovation from MagicPower, it is a smart energy solution that manages all the smart devices in your home and utilizes them in efficient new ways through real-time strategies for ESS (Solar PV, Hybrid Inverter, Battery Storage), EV Charger, HVAC, Smart Plug, Smart Meter etc., maximizing your energy profits while embracing a greener lifestyle.

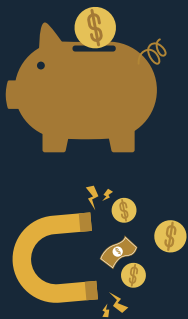
**ATHENA**  
RESIDENTIAL ENERGY STORAGE SYSTEM





# PROFITABLE

AMONG ALL OF OUR CLIENTS



**100%**  
ARE SAVING

**60%**  
ARE EARNING

**EXTRA FUNCTIONS**  
**EXTRA FEE**

PARTICIPATE IN  
**POWER TRADING**

- ✓ NORD POOL
- ✓ EPEX
- ✓ ...



## Power Trading

✓ NORD POOL

✓ EPEX

Provide real-time access to multiple day-ahead and intraday electricity markets



## Price Forecasting

Offer wholesale market forecasting services to reduce the risk caused by price fluctuations.



## Dispatch Management

Optimize power dispatch schemes across various distributed energy resources.



## Auto Bidding

Automatically use diverse strategies for selling or buying electricity to maximize profits.



## Global Protocols

OpenADR, Contributor Members  
OCPP 2.0.1; ISO 15118-20 (V2G)







“Demand fees are really expensive! Capacity expansion costs a lot too.”

**Matti Virtanen**  
Software Engineer

Family members  
**5**

**Location**  
Turku Suburb, Finland

**Main Loads**  
Heatpump, electric heater,  
household appliances, EV charging

**Installed**  
8kW PV + 20kWh ESS  
**Monthly Bill**  
€165 → €63, 62% reduced

By utilizing solar energy during the day and customized strategy, the Matti family reduced their electricity bill by 62%. Additionally, with the virtual capacity expansion feature, the electric car charger, heat pump, and induction cooker can be used at the same time.

**Athena saves you demand fees!**  
You can power multiple high-demand devices at the same time without tripping the circuit.

# INTELLIGENT

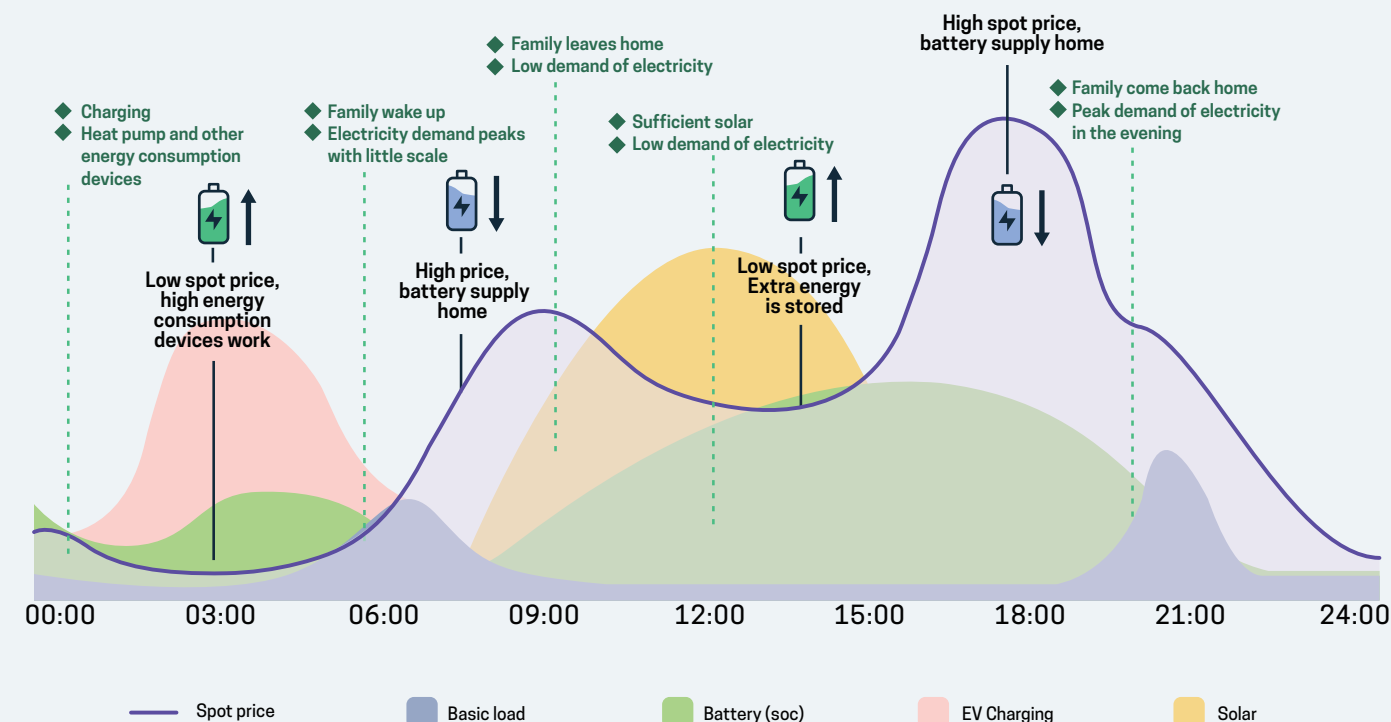


✓ **92%** LOAD PREDICTION  
ACCURACY

↑ **50%** INCREASE  
CAPACITY  
OF YOUR HOUSE  
AUTOMATICALLY

**CUSTOMIZABLE**  
MODES / STRATEGIES

## Dynamic Tariff Management by AI, navigating clean energy volatility with smart time shifting



Generate intelligent strategies based on real-time electricity prices, user configurations, user habits, and weather forecasts (photovoltaic power generation predictions) and transmit them to Athena, to control relevant devices to operate according to the strategies.

Dynamic intelligent strategies are generated at 30-minute intervals, shorter than most other products' intervals on the market.



## >> Efficient Energy Strategies

Athena helps users automatically optimize home energy use efficiently to cut grid costs.

## >> Automated Strategies

Athena optimizes the reduction and control of electricity consumption, maximizes home energy revenue by participating in the energy market, and sells excess power at high prices.

## >> Specific Devices Strategies

Athena runs strategies for electric vehicles, solar system, battery storage, heat pumps, or dynamic wholesale-based smart tariffs.



“No more midnight laundry to cut costs!”

**Anna Mäkinen**  
Retired Teacher

Family members  
**2**

**Location**  
Lappeenranta, Finland

**Main Loads**  
Heat pump, household appliances, water heater

**Installed**  
5kW PV + 10kWh ESS  
**Monthly Bill**  
€90 → €26, 70% reduced

By utilizing solar energy during the day, the Lauri and Anna household reduced their electricity bill by 70%. Anna used to decide their daily schedule based on real-time electricity prices, but with the Athena system, she no longer needs to set an alarm to do laundry at 11 PM.

Athena helps you check real-time electricity prices and automatically gives out saving tips every 30 minutes.



# WORRY-FREE

**1 APP FOR ALL**  
TO CONTROL YOUR WHOLE HOUSE

**100+**  
INTEGRATED BRANDS



**LOCAL**  
OFFICE &  
SERVICE



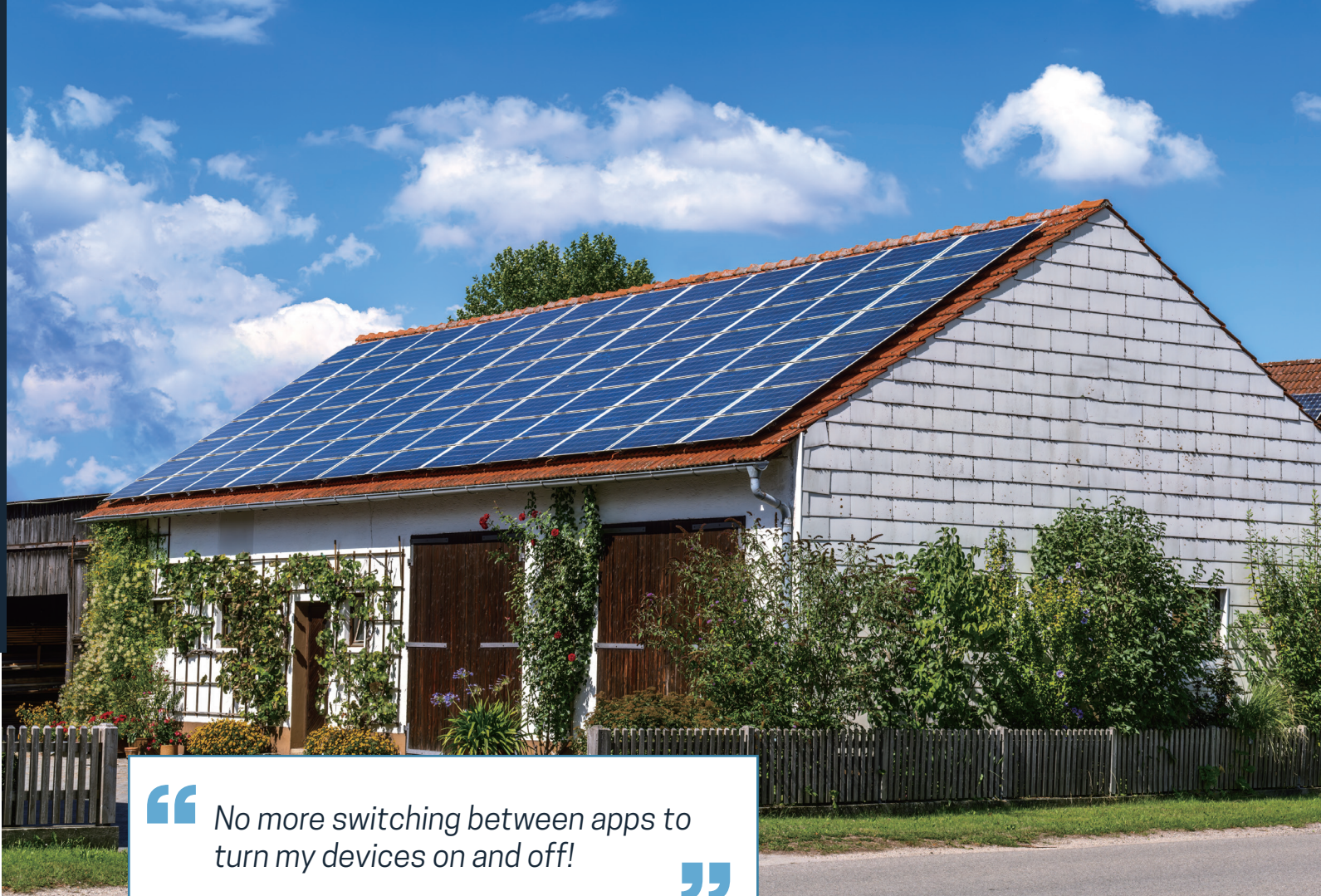
ANYTHING GOT  
FROM US IS  
**OUR DUTY**

» **High Device Compatibility**  
**Integrated 100+ Equipment Brands**

» **Connect the PV energy storage system and smart power load**

## All Smart Devices that meet the communication protocol requirements

- ◆ ESS
- ◆ Solar PV System
- ◆ Hybrid Inverter
- ◆ Battery Storage
- ◆ EV Charger
- ◆ Heat Pump (HVAC)
- ◆ Smart Plug
- ◆ Smart Meter
- ◆ ...



“ No more switching between apps to turn my devices on and off! ”

**Nina Meier**  
Financial Analyst

Family members  
**3**

**Location**  
Zurich, Switzerland

**Main Loads**  
Household appliances, heat pump, EV charging

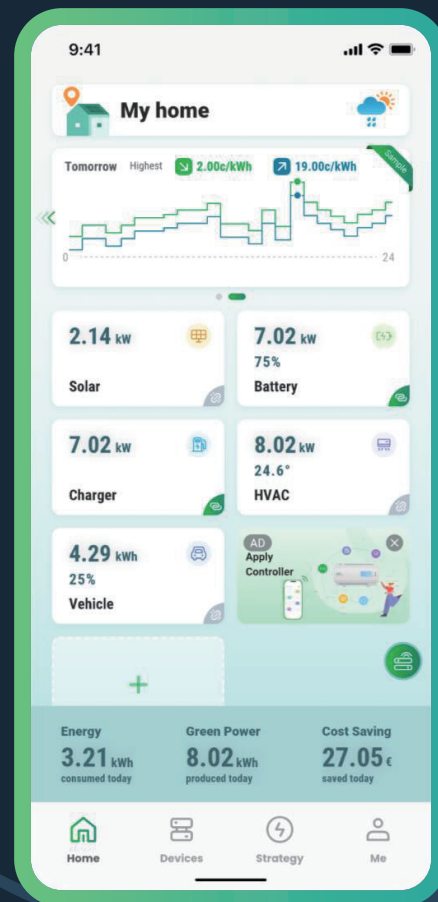
**Installed**  
6kW PV + 12kWh ESS  
**Monthly Bill**  
€93 → €21, 78% reduced

The Nina family reduced their electricity bill by 78%. With the use of the Athena system, Nina no longer needs to check various apps for the heat pump, charging station, and electricity trading platform daily to decide on the usage schedule and plan.

One app for all! With Athena, it's easy. You don't have to open one app to turn off the AC and another to turn off the heat pump.



ONE APP FOR ALL



HEAT PUMP

HVAC

SMART PLUG

EV CHARGER

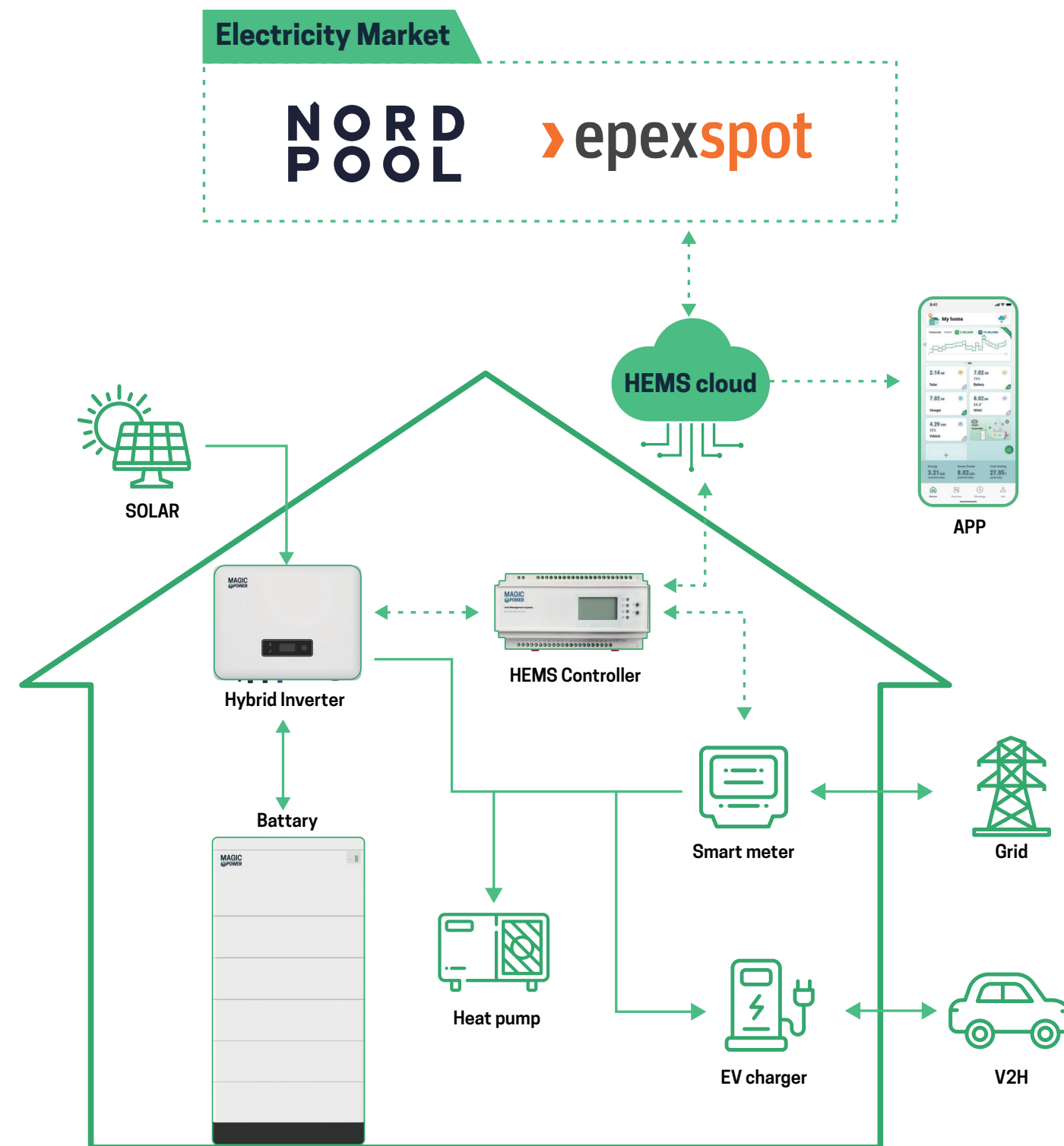
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Support multiple communication protocols

RS485  
Modbus

EEBUS  
SG ready

## How does Athena work?







## Local Controller

Edge computing enables quick system dispatch and reduces latency, creating diversified modes for each home.



## Extensibility

Athena supports multiple communication protocols, making it convenient for customers to establish the whole-house management system more quickly.



## Data Security

Athena complies with European regulations and encrypts data using proprietary protocols to safeguard customers' data security.



## Easy to Setup

Athena can easily locate users' target retailers by simply inputting the home postal code.

## Inverter Parameters

Model	MQK-E3-8k-3p	MQK-E3-10k-3p	MQK-E3-12k-3p
PV Input			
Recommended Max. input power[kW]	12.0	15.0	18.0
Start-up voltage[V]	135	135	135
Max. DC input voltage[V]	1000	1000	1000
Rated DC input voltage[V]	620	620	620
MPPT voltage range[V]	200-950	200-950	200-950
No. of MPP trackers	2	2	2
No. of DC inputs per MPPT	1/1	1/1	1/1
Max. input current	15/15	15/15	15/15
Max. short-circuit current	20/20	20/20	20/20
Battery Side			
Battery type	Lithium Battery (with BMS)		
Battery voltage range[V]	135-750		
Maximum charging/discharge current[A]	25/25		
Grid Side			
Rated output power[kW]	8.0	10.0	12.0
Max. output apparent power[kVA]	8.8	11.0	13.2
Max. input apparent power[kVA]	16.0	16.5	16.5
Max. charging power of battery[kW]	8.0	10.0	12.0
Rated AC voltage	3L/N/PE; 220/380V;230/400V;240/415V		
Rated AC frequency[Hz]	50/60	50/60	50/60
Max. output current[A]	13.3	16.5	20.0
Power factor	0.8 leading ...0.8 lagging		
Max. total harmonic distortion	<3% @Rated output power		
DCI	<0.5%In	<0.5%In	<0.5%In
Back-up Side			
Rated output power[kW]	8.0	10.0	12.0
Max. output apparent power[kVA]	8.8	11.0	13.2
Max. output current[A]	13.3	16.5	20.0
UPS switching time	<10ms	<10ms	<10ms
Rated output voltage	3L/N/PE; 220/380V;230/400V;240/415V		
Rated output frequency[Hz]	50/60	50/60	50/60
Voltage harmonic distortion	<3% @Linear load		
Efficiency			
Max. efficiency	98.2%	98.2%	98.2%
European efficiency	97.4%	97.4%	97.4%
General Data			
Over voltage category	PV: II Main: IIIYes		
Dimensions [W*H*D mm]	534×418×210		
Weight[kg]	26.0		
Protection degree	IP65		
Standby self-consumption[W]	<15		
Topology	Transformerless		
Operating Temperature Range[°C]	-30~60		
Relative Humidity[%]	0~100		
Operating Altitude[m]	3000 (>3000m derating)		
Cooling	Natural Convection		
Noise Level[dB]	<25		
Display	OLED & LED		
Communication	CAN, RS485, WiFi/LAN (Optional)		
Certification	EN 61000(Eur EMC), IEC 62109(Eur Safety), IEC 62477-1 (Safety), EN 50549-1 (Europe)		



Battery Parameters



TECHNICAL SPECIFICATIONS					
Model	204.8V, 50Ah	256V, 50Ah	307.2V, 50Ah	358.4V, 50Ah	409.6V, 50Ah
Number of layers	4 layers	5 layers	6 layers	7 layers	8 layers
Energy	10.24KWh	12.8KWh	15.36KWh	17.92KWh	20.48KWh
Operating Voltage Range	172.8V~224.64V	216V~280.8V	259.2V~336.96V	302.4V~393.12V	345.6~449.28V
Dimension (L*W*H)	600*210* 980	600*210* 1140	600*210* 1300	600*210* 1460	600*210* 1620
Net Weight(kg)	129	155.5	182	208.5	235
Recommend charge current	10~25A				
Max continue charge current	50A				
Max continue discharge current	50A				
Communication	Support RS485 / CAN				
Operating temperature	-20°C~55°C				
Environment	Indoor				
Relative humidity	5%~95%				
Life cycle	6000 times @80%DOD				
GENERAL SPECIFICATIONS					
Dimension (L*W*H)	High Voltage Box: 600*210*250 Battery Box: 600*210*160				
Battery module weight	26.5kg				
Certification	CB, EMC, UN38.3, MSDS				

About MagicPower

MagicPower specializes in the research, integration, sales, and service of new energy systems centered around energy storage devices. Our expert team spans fields such as power equipment, power grids, and artificial intelligence, covering the entire ecosystem of the energy storage industry. We are committed to delivering world-leading, one-stop clean energy solutions. Currently, our services extend across Europe, South Africa, Southeast Asia, and other countries and regions.

Our new energy solutions rely on self-developed energy storage equipment and control systems to coordinate wind, solar, and diesel power sources. These solutions cater to various user-side and renewable energy generation scenarios, with capacities ranging from 1 kWh to 2000 kWh. Currently, our clients include overseas solar power plants, photovoltaic installers, small and medium-sized commercial and industrial enterprises, new energy vehicle solar charging stations, residential projects, and individual users.





**Powering Every Need**  
**From 1 to 2000 kWh**



## ■ MagicPower's Main Business

### Residential Energy Storage Systems

We provide comprehensive whole-house energy management solutions, featuring products like hybrid inverters, stackable battery packs, and all-in-one energy solar energy storage. With energy storage as the core, our solutions adapt to the critical electricity demands of entire households.

### C&I Energy Storage Integration and Services

We specialize in integrating energy storage on both the power supply and grid sides, widely applied in scenarios such as new energy grid integration, frequency regulation, and demand-side response.


We offer C&I energy storage solutions, including container energy storage systems and outdoor energy storage systems. Simultaneously integrating solar and storage charging as a unified solution, constructing a reliable energy infrastructure.





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