ISO9001 RoHS E-MARK

WEB : www.zaterenergy.com

ZAFER ENERGY SYSTEMS IND.&FOREIGN TRADE CO.LTD.
Beylikdüzü O.S.B Mermerciler San. Sitesi
9. Cadde No:18 Beylikdüzü
+90(212)632 05 35

LITHIUM
Product & Solutions

Provide Reliable
and Innovative Power Supply

DIRECTORY

MKS SVA Series

1.6KW /3.2KW/4KW /6KW 230V

MPPT
Pure sine wave MPPT solar inverter
Built-in 80/120A MPPT solar charger

Battery
Battery equalization function extends the life cycle
Reserved communication ports (RS485,CAN) for BMS

Off-grid
This series is suitable for off-grid applications.

Easy access
High PV input voltage range
With touchable buttons
Two outputs for smart load management (4/6KW OPT)

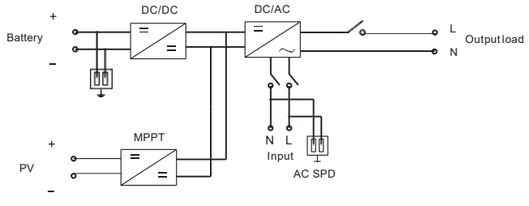
Product application diagram

● With battery connected

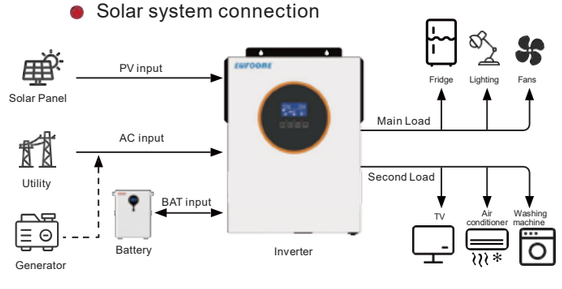
● Without battery connected

Product application diagram

● Schematic diagram



● Solar system connection



EUROONE

Product Model	MKS-LW1K6-SVA	MKS-LW3K2-SVA	MKS-LW4K-SVA	MKS-LW6K-SVA
Rated power	1600VA/W	3200VA/W	4000VA/W	6000VA/W
Input				
Voltage	230VAC			
Selectable voltage range	170-280VAC(For personal computers);90-280VAC(For home appliances)			
Frequency range	50Hz/60Hz (Auto sensing)			
Output				
AC voltage regulation(Batt.mode)	230VAC± 5%			
Surge power	3200VA/W	6400VA/W	8000VA/W	12000VA/W
Efficiency (peak)	93%			
Transfer time	10ms(For personal computers); 20ms(For home appliances)			
Waveform	Pure sine wave			
Battery				
Battery voltage	12VDC	24VDC		48VDC
Floating charge voltage	13.5VDC	27VDC		54VDC
Overcharge protection	16VDC	33VDC		63VDC
Solar charger & AC charger				
Solar charger type	MPPT			
Maximum PV array open circuit voltage	500VDC			
Maximum PV array power	2000W	3500W	5000W	7000W
MPPT range @operating voltage	30-450VDC		60-450VDC	
Maximum solar charge current	80A		120A	
Maximum AC charge current	60A		100A	
Maximum charge current	80A		120A	
General parameters				
Weight(kgs)	5	5.5	8.5	9
Size D * W * H(mm)	348*270*95		400*300*115	
Degree of protection	IP20			
Humidity	5% to 95% Relative humidity(Non-condensing)			
Operating temperature	-10℃ to 50℃			
Communication				
Communication interface	Standard:RS232,USB; CAN&RS485; Optional: WiFi, Bluetooth			
Safety standard	EN/EC62109-1,EN/EC62109-2			

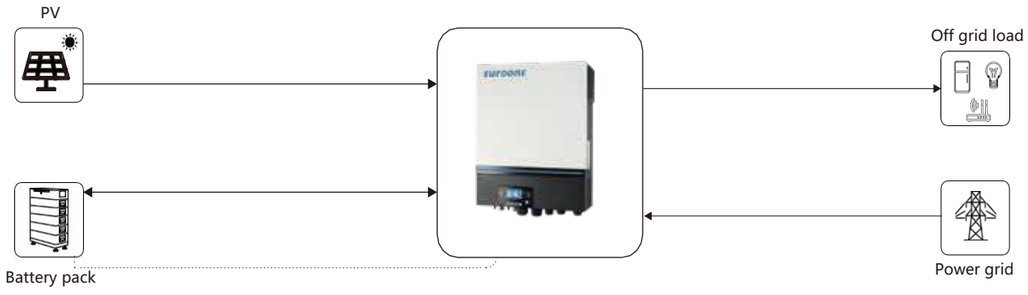
MKS VMA Series

8KW/11KW 230V

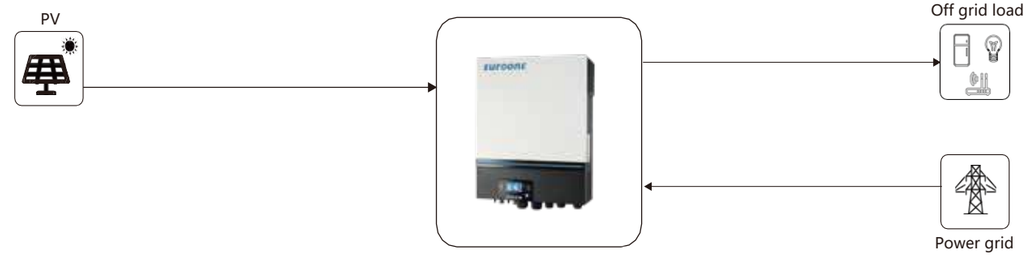
Features

- Status indication with RGB lights
- Built-in Wi-Fi for mobile monitoring (Android/iOS App is available)
- Supports USB On-the-Go function
- Reserved communication port for BMS
- Replaceable fan design for ease of maintenance
- Battery independent design
- Configurable AC/PV output usage timer and prioritization
- Selectable high power charging current
- Selectable input voltage range for home appliances and personal computers
- Compatible to utility mains or generator input
- Built-in anti-dust kit
- Parallel operation with 6 units

Product application diagram



Product application diagram



EUROONE

Product Model	MKS-LW8K-VMA	MKS-LW11K-VMA
Rated output power	8KW	11KW
Parallel capability	Yes, 6 units	
Input		
Voltage	230 VAC	
Selectable voltage range	170-280 VAC (For personal computers); 90-280 WAC (For home appliances)	
Frequency range	50 Hz/60 Hz (Auto sensing)	
Output		
AC voltage regulation(Batt. mode)	230VAC±5%	
Surge power	16000VA%	22000VA
Efficiency (peak)	90%-93%	93%
Transfer time	10 ms (For personal computers), 20ms(For home appliances)	
Waveform	Pure sine wave	
No load power consumption	<70W	
DC voltage	12VDC±5%, 100W	
Battery		
Battery voltage	48 VDC	
Floating charge voltage	54 VDC	
Overcharge protection	66 VDC	
Solar charger & AC charger		
Solar charger type	MPPT	
Maximum PV array power	8000W (4000W x 2)	11000W
MPPT Range @Operating voltage	90~ 450 VDC	90~450 VDC
Maximum PV array open circuit voltage	500 VDC	500 VDC
Maximum solar charge current	120A	150A
Maximum AC charge current	120A	150A
Maximum charge current	120A	150A
Physical		
Dimension, D x W x H (mm)	147.4 x 432.5 x553.6	
Net weight (kgs)	18.4	
Communication intarface	USB/RS232/RS485/WiFi/Dry-Contact	
Operating enviroment		
Humidity	5% to 95 % Relative humidity(Non-Condensing)	
Operating temperature	-10°C to 50°C	
Storage temperature	-15°C to 60°C	
Standard		
Compliance safaty	CE	
Degree of protection	IP20	

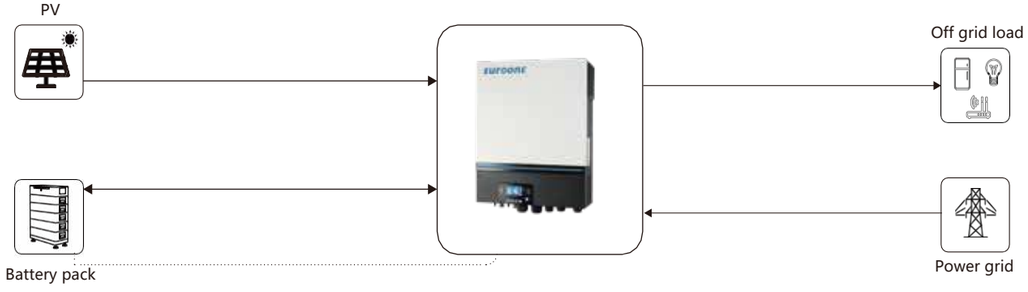
MKS VMA Series

6.5KW 120V

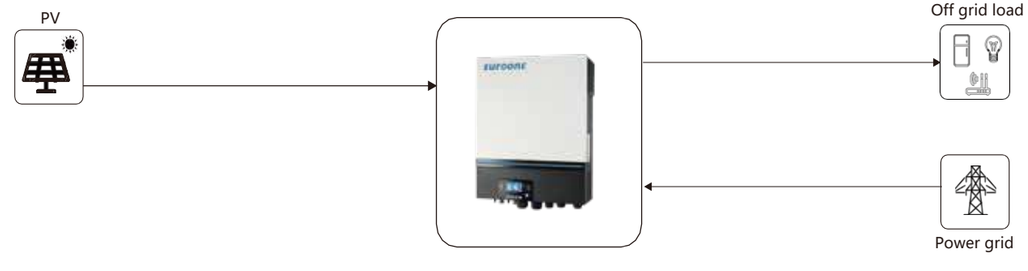
Features

- Status indication with RGB lights
- Built-in Wi-Fi for mobile monitoring (Android/iOS App is available)
- Supports USB On-the-Go function
- Reserved communication port for BMS
- Replaceable fan design for ease of maintenance
- Battery independent design
- Configurable AC/PV output usage timer and prioritization
- Selectable high power charging current
- Selectable input voltage range for home appliances and personal computers
- Compatible to utility mains or generator input
- Built-in anti-dust kit
- Parallel operation with 6 units

Product application diagram



Product application diagram



EUROONE

Product Model	MKS-LW6K5-VMA
Rated output power	6.5KW
Parallel capability	Yes, 6 units
Input	
Voltage	120 VAC
Selectable voltage range	90-140 VAC (For computers); 80-140 VAC (For home appliances)
Frequency range	50 Hz/60 Hz (Auto sensing)
Output	
AC Voltage regulation(Batt.mode)	120VAC ±5%
Surge power	13000VA
Efficiency (peak)	91%
Transfer time	10 ms (For personal computers), 20ms(For home appliances)
Waveform	Pure sine wave
No load power consumption	< 75W
DC voltage	12VDC±5%，100W
Battery	
Battery voltage	48 VDC
Floating charge voltage	54 VDC
Overcharge protection	66 VDC
Solar charger & AC charger	
Solar charger type	MPPT
Maximum PV array power	8000W (4000W x 2)
MPPT range @ operating voltage	90~230VDC
Maximum PV array open circuit voltage	250 VDC
Maximum solar charge current	120A
Maximum AC charge current	120A
Maximum charge current	120A
Physical	
Dimension, D x W x H (mm)	158.4 x 503.6 x 530.8
Net weight (kgs)	20
Communication intarface	USB/RS232/RS485/WiFi/Dry-Contact
Operating environment	
Humidity	5 % to 95 %Relative humidity(Non-Condensing)
Operating temperature	-10°C to 50°C
Storage temperature	-15°C to 60°C
Standard	
Compliance safaty	UL
Degree of protection	IP20

MKS SVM Series

4KW/6KW/8KW/11KW 230V

On-Grid and Off-Grid
This series is suitabie for on-grid and off-grid application

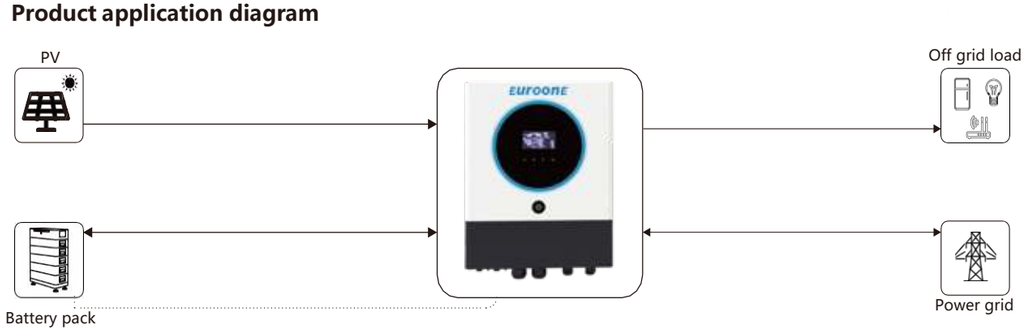
Easy access
Accessible through a LCD touch screen and through the web
Two outputs for smart load management

BMS
BMS communication for lithium battery

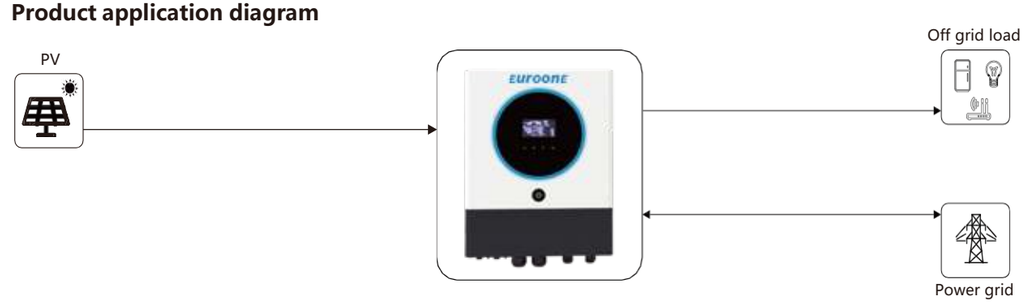
Remote monitoring
Charge from the grid at off-peak time when energy is cheaper and discharge at peak time when energy is more expensive

Safe
Built-in anti-dust kit for harsh environment
AC overcurrent, AC overvoltage, overtemperature protection

Product application diagram



Product application diagram



Product Model	MKS-HW4K-SVM	MKS-HW6K-SVM	MKS-HW8K-SVM	MKS-HW11K-SVM
Rated power	4KW	6KW	8KW	11KW
AC Input				
Nominal voltage(VAC)	230			
Voltage range(VAC)	170-280			
Frequency range(Hz)	50/60			
AC Output				
Surge power	8000	12000	16000	22000
Output voltage(VAC)	220/230/240			
Output waveform	Pure sine wave			
Rated frequency (Hz)	50/60			
Efficiency	Up to 93.5%			
Transfer time	10ms typical (Narrow range); 20ms typical(Wide range)			
Solar charger & AC charger				
Max. PV array open circuit voltage(VDC)	500			
Max. PV array power(W)	5000	8000	11000	13000
MPPT input valtage range@operating(VDC)	60-450			
Max. input current(A)	27	15*2	27*2	
Max. solar charging current(A)	120			
Max. AC charging current(A)	120			
Max. charging curent(A)	120			
Battery				
Nominal DC voltage(VDC)	24	48		
Floating charge voltage(VDC)	27	54		
Overcharge protection(VDC)	31	63		
Battery type	Lithium & Lead-acid			
Display & Interface				
Parallel function	Up to 6 units			
Communication	RS232&USB(Optional)&(RS485,CAN)(Optional)&WIFI(Optional)&Bluetooth(Optional)			
Display	5' colorful LCD			
Environment				
Humidity	0 - 90% RH(No condensing)			
Operating temperature	0 to 50°C			
Net weight(kgs)	9	18	18.8	20
Dimensions D x W x H (mm)	434*311*126.5	500*440*136	420*561*152.4	
Degree of protection	IP20			

MKS SHM Series

4KW/6KW 230V

On-Grid and Off-Grid
This Series is suitabie for on-grid and off-grid application

Easy access
Accessible through a LCD touch screen and through the web
Two outputs for smart load management

BMS
BMS communication for lithium battery

Remote monitoring
Charge from the grid at off-peak time when energy is cheaper and discharge at peak time when energy is more expensive

Safe
Built-in anti-dust kit for harsh environment
AC overcurrent, AC overvoltage, overtemperature protection

Product application diagram

Product application diagram

Product Model	MKS-HW4K-SHM	MKS-HW6K-SHM
Rated power	4000VA/4000W	6000VA/6000W
AC input		
AC voltage	230VAC	
Voltage range	70-280VAC(For personal computers);90-280VAC (For home appliances)	
Frequency range	50Hz/60 Hz(Auto sensing)	
AC output		
Surge power	8000VA	12000VA
Voltage regulation(Battery mode)	230VAC+5%	
Rated frequency	50/60Hz	
Efficiency(peak)	up to 93.5%	
Transfer time	10ms (For personal computers);20ms (For home appliances);	
Solar Charger &AC charger		
Maximum PV array open voltage(V)	500VDC	
Maximum PV array power	5000W	6000W
MPPT voltage range(V)	60~450VDC	
Maximum input current	27A	
MPPT tracker/strings	1	
Maximum solar charge current	120A	
Maximum AC charge current	100A	
Maximum charge current	120A	
Battery		
Battery voltage	24VDC	48VDC
Floating charge voltage	27VDC	54VDC
Overcharge protection	33VDC	63VDC
Battery type	Lithium/Lead-acid	
Protection & Feature		
AC overcurrent	Yes	
AC overvoltage	Yes	
Over temperature protection	Yes	
Smart load management	Yes	
On grid	Yes	
Parallel function	Yes(Optional)	
General paramter		
Operation temperature	0°C~50°C	
Relative humidity	0-95%(Non-condensing)	
Altitude	(>2,000m Derating)	
Dimensions D x W x H (mm)	434*311*126.5	
Net weight(kgs)	8.5	9
Display and communication		
Display	Touch bottons	
Interface	Standard:RS485,RS232,CAN;Optional: WiFi ,Bluetooth	
Safety standard	EN/IEC 62109-1,EN/IEC 62109-2	
Degree of protection	IP20	

MKS SHE Series

6KW 230V

On-Grid and Off-Grid
This Series is suitabie for on-grid and off-grid application

Easy access
Accessible through a LCD touch screen and through the web
Two outputs for smart load management

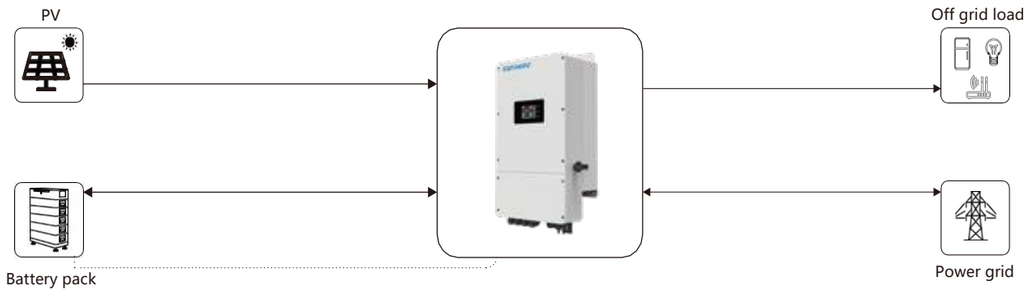
BMS
BMS communication for lithium battery

Flexible rate tariff
Charge from the grid at off-peak time when energy is cheaper and discharge at peak time when energy is more expensive

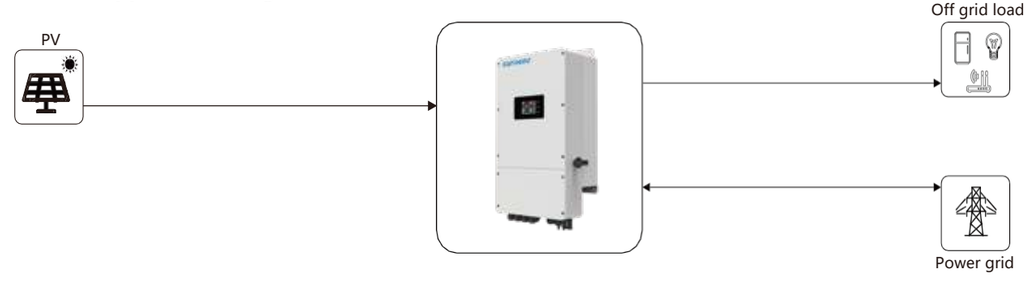
Remote monitoring
Charge from the grid at off-peak time when energy is cheaper and discharge at peak time when energy is more expensive

Safe
Built-in anti-dust kit for harsh environment
AC overcurrent, AC overvoltage, overtemperature protection

Product application diagram



Product application diagram



EUROONE

Product Model	MKS-HW6K-SHE
Rated output power	6KW
Input(PV)	
Max. power	7.5KW
Max. DC voltage(V)	550
MPPT voltage range(V)	90~450
Max. short circuit current(A)	30
MPPT number/Max. input strings number	1/2
AC output	
Grid voltage/range(V)	230/176~270
Frequency(Hz)	50/60
PF	0.8lagging-0.8leading
THDi	<3%
AC output topology	L+N+PE
Battery	
Battery voltage range(V)	40~58
Max. charging voltage(V)	58
Max. charge/discharge current(A)	100/140
Battery type	Lithium /Lead-acid
UPS output	
Rated power	6KW
Rated output voltage(V)	230
Rated output current(A)	27
Rated frequency(Hz)	50/60
Transfer time(ms)	<10
General paramter	
Efficiency(Peak)	94%
Degree of protection	IP65
Operation temperature	-25°C~60°C,>45°C derating
Cooling	Smart cooling
Relative humidity	0~95%(Non-condensing)
Altitude	(>2,000m derating)
Dimensions W x D x H(mm)	360*195*660
Net weight(kgs)	22.5
Degree of protection	IP65
Isolation transformer	No
Self-consumption(W)	<5
Interface	Standard:RS485,RS232,CAN,Optional: Lan,4G, Bluetooth, WiFi
Safety standard	EN/IEC 62109-1,EN/IEC 62109-2

MKS SIE Series

5KW/6KW 230V

On-Grid and Off-Grid
This Series is suitabie for on-grid and off-grid application

Easy access
Accessible through a LCD touch screen and through the web
Two outputs for smart load management

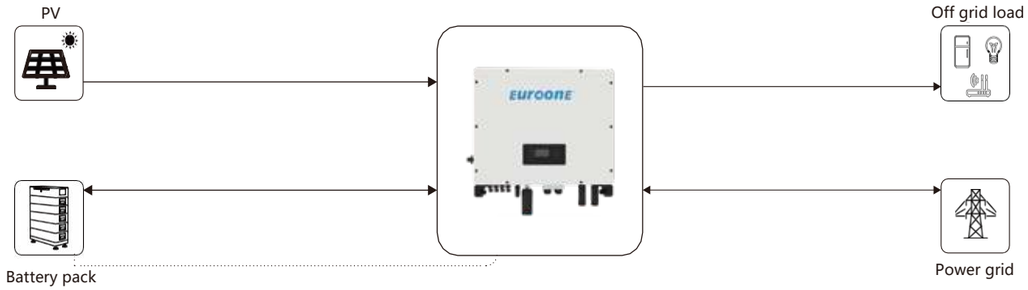
BMS
BMS communication for lithium battery

Flexible rate tariff
Charge from the grid at off-peak time when energy is cheaper and discharge at peak time when energy is more expensive

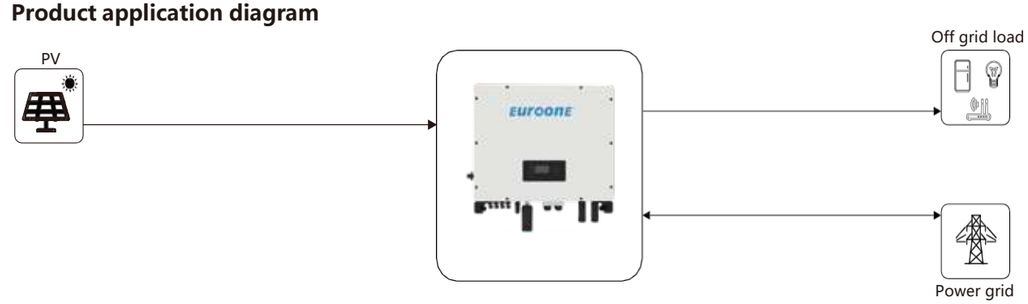
Remote monitoring
Charge from the grid at off-peak time when energy is cheaper and discharge at peak time when energy is more expensive

Safe
Built-in anti-dust kit for harsh environment
AC overcurrent, AC overvoltage, overtemperature protection

Product application diagram



Product application diagram



Product Model	MKS-HW5K-SIE	MKS-HW6K-SIE
Rated output power	5KW	6KW
Efficiency		
DC max.efficiency	97.50%	
Europe efficiency	97%	
Input(PV)		
Max.power	8KW	9.6KW
Max.DC voltage(V)	550	
MPPT voltage range(V)	90-500	
Max.input current of single MPPT(A)	16/16	
MPPT tracker/strings	2/1	
AC output		
Max.output current(A)	21.7	26
Grid voltage/range(V)	230/176-270	
Frequency(Hz)	50 /60	
PF	0.8lagging-0.8leading	
THDi	<3%	
AC output topology	L+N+PE	
Battery		
Battery voltage range(V)	40~58	
Max. charging voltage(V)	58	
Max. charge/discharge current(A)	100/110	
Battery type	Lithium /Lead-acid	
UPS output		
Rated power	5KW	6KW
Rated output voltage(V)	230	
Rated output current(A)	21.7	26
Rated frequency(Hz)	50/60	
Transfer time(ms)	<10	
General paramter		
Degree of protection	IP65	
Operation temperature	-25°C~ 60°C	
Cooling	Natural	
Relative humidity	0~95%(Non-condensing)	
Altitude	(>2,000m Derating)	
DimensionsWxDxH(mm)	480*210*495	
Net weight(kgs)	25	25
Isolation transformer	No	
Self-consumption(W)	<5	
Display and communication		
Display	LCD	
Interface	Standard:RS485,CAN,DRM;Optional:Lan,WiFi,4G,Bluetooth	
Safety standard	CE-EMC/ENIEC 61000-6-3:2021,ENIEC61000-6-1:2019:CEVOCEC62109-1-2010,1EC62109-2-2011,EC62477-1:2022COCNDE4105:2018,VDE0124:2020:COC/CE10-21:2022;COCTORTPeAB:2022,OVER25:2020;G98:2022,G99:2022	
Degree of protection	IP65	

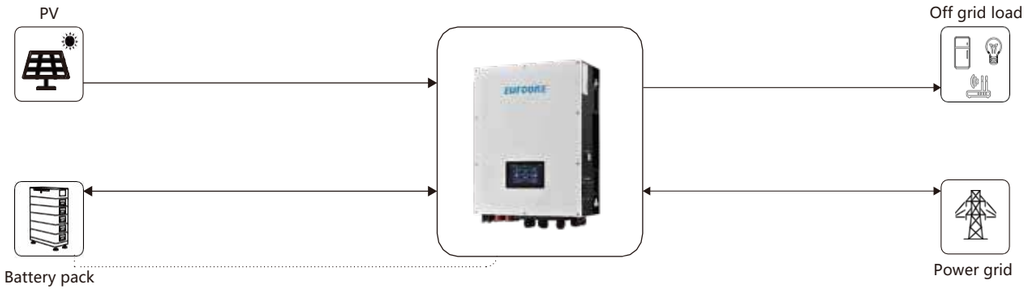
MKS VPE Series

8KW/10KW/12KW 230V/400V

Features

- User-friendly HMI design and easy configuration
- Dual output for smart load control
- Two independent AC power sources connected and switched automatically
- Built-in Wifi for mobile monitoring (App is available)
- 150% unbalanced load support
- User-adjustable charging current and voltage
- Reserved communication port for BMS (RS485)
- Parallel operation up to 6 units

Product application diagram



Product application diagram

Product Model	MKS-HW8K-VPE	MKS-HW10K-VPE	MKS-HW12K-VPE
Rated output power	8KW	10KW	12KW
Input(PV)			
Max. Power	12KW	15KW	18KW
Nominal DC voltage / maximum DC voltage	720Vdc/900Vdc		
MPPT voltage range(V)	150-850Vdc		
Full MPPT voltage range	400-850Vdc	420-850Vdc	400-850Vdc
Number of MPP Trackers / Maximum Input Current	2/A: 15A,B: 15A	2/A: 18A,B: 18A	2/A: 18A,B: 18A
AC output			
Max.output current(A)	20	21.7	26
Grid voltage/range(V)	230 VAC (P-N)/400 VAC (P-P)/176-270		
Output voltage range	184-265 VAC* per phase		
Frequency(Hz)	50/60		
PF	0.9 lagging-0.9 leading		
EFFICIENCY			
Maximum conversion efficiency (DC/AC)	>96%		
European efficiency@ vnominal	>95%		
BATTERY & CHARGER			
Maximum charging power	8KW	10KW	12KW
Battery voltage range(V)	40~60 Vdc		
Max. charge/discharge current(A)	160/200	200/220	240/250
Battery type	Lithium/Lead-acid		
UPS output			
Rated power	8KW	10KW	12KW
Rated output voltage(V)	230 VAC (P-N)/ 400 VAC (P-P)		
Rated frequency(Hz)	50/60		
Efficiency (DC to AC)	>93%		
General paramter			
Degree of protection	IP65		
Operation temperature	-25°C~60°C		
Cooling	Natural		
Relative humidity	0~95%(Non-condensing)		
Altitude	0-1000m		
Dimensions(W*D*H)(mm)	500*247*650		
Net weight(kgs)	50		54
Display and communication			
Display	LCD		
Interface	RS-232,RS-485, USB, CAN and Wi-Fi		
Intelligent slot	Optional for SNMP and Modbus cards		
Safety standard	IEC 62116,IEC 62727,IEC 61683,IEC 62109,IEC 61000-6-2:2019,IEC 61000-6-4:2019.IEC 61000-3-11:2019.EN 61000-3-12:2011		
Grid connection standard	NRS097-2-1:2017,VDE-AR-N4105		

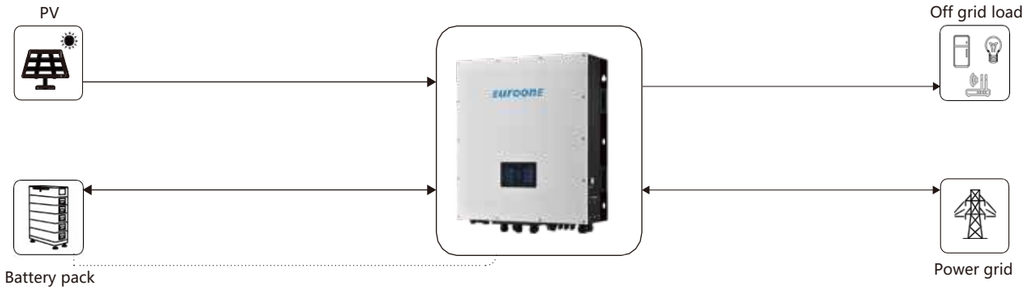
MKS VPT Series

12KW/15KW 230V/400V

Features

- IP65 certified enclosure
- User-friendly HMI LCD design for easy configuration
- Built-in WiFi for mobile monitoring(App is available)
- 150% unbalanced load support
- 26A maximum PV input current
- Dual outputs for smart load management
- User-adjustable charging current
- Reserved communication port for BMS (RS485)
- Parallel operation up to 6 units

Product application diagram



Product application diagram

Product Model	MKS-HW12K-VPT	MKS-HW15K-VPT
Rated output power	12KW	15KW
Input(PV)		
Max. Power	16KW	22.5KW
Nominal DC voltage / maximum DC voltage	720Vdc/1000Vdc	
MPPT voltage range(V)	350-950Vdc	
Full MPP voltage range	400-850Vdc	400-850Vdc
Number of MPP trackers / maximum input current	2/A: 26A,B: 26A	2/A: 26A,B: 26A
AC output		
Max. output current(A)	40	40
Grid voltage/range(V)	230 VAC (P-N)/400 VAC (P-P)/176-270	
Output voltage range	184-265 VAC* per phase	
Frequency(Hz)	50 /60	
PF	0.9lagging-0.9leading	
EFFICIENCY		
Maximum conversion efficiency (DC/AC)	>96%	
European efficiency@ vnominal	>95%	
BATTERY & CHARGER		
Maximum charging power	12KW	15KW
Battery voltage range(V)	40~60 Vdc	
Max. charge current(A)	250	300
Battery type	Lithium /Lead-acid	
UPS output		
Rated power	12KW	15KW
Rated output voltage(V)	230 VAC (P-N)/ 400 VAC (P-P)	
Rated frequency(Hz)	50/60	
Efficiency (DC to AC)	>93%	
General Parameter		
Degree of protection	IP65	
Operation temperature	-25°C~ 60°C	
Cooling	Natural	
Relative humidity	0~100%(Non-condensing)	
Altitude	0-1000m	
Dimensions(W*D*H)(mm)	660*255*750	
Net weight(kgs)	75	78
Display and communication		
Display	LCD	
Interface	RS-232,RS-485, USB, CAN and Wi-Fi	
Safety standard	IEC 62116,IEC 62727,IEC 61683,IEC 62109,IEC 61000-6-2:2019,IEC 61000-6-4:2019.IEC 61000-3-11:2019.EN 61000-3-12:2011	
Grid connection standard	NRS097-2-1:2017,VDE-AR-N4105，G99	

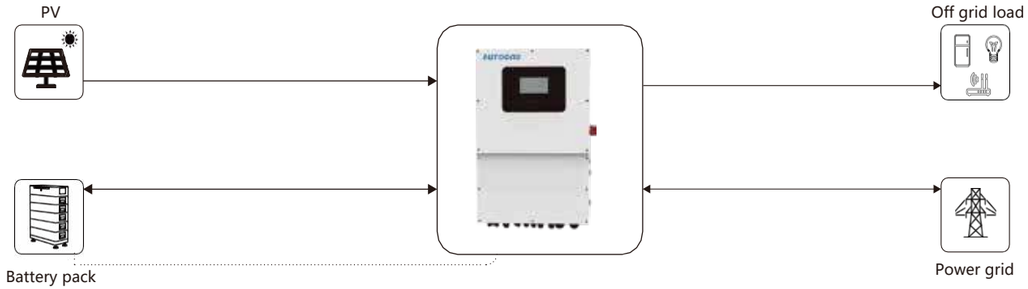
MKS VLV Series

6KW/10KW 120/240V

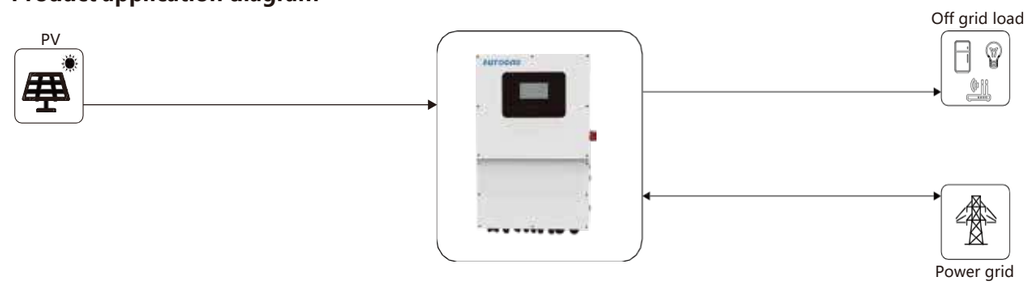
Features

- IP65 waterproof and dustproof for various working conditions
- Support multiple input & output split Phase 208/240VAC , Built-in AC coupled function
- Built-in WiFi for mobile monitoring (APP is available)
- Accepts second input power source , generator input compatible
- Optional extemnal CT sensor to guarantee 100% self- consumption
- Built-in communication port for BMS (RS485)
- User-adjustable charging current and voltage
- Parallel operation up to 6 units.

Product application diagram



Product application diagram



EUROONE

Product Model	MKS-HW6K-VLV	MKS-HW10K-VLV
Rated output power	6000VA/6KW	10000VA/10KW
Phase	120/240v Split phase, 120V/208v Split phase	
PV input (DC)		
Maximum DC voltage	600 VDC	600 VDC
Start up voltage / initial feeding vcltage	125 VDC /160 VDC	125 VDC / 160 VDC
MPPT voltage range	120 VDC-550 VDC	120 VDC-550 VDC
Number of MPP trackers / maximum input curpent	2/15A	2/18A
AC input		
AC start-up voltage / auto restart voltage	85 VAC (per phase) / 90 VAC (per phase)	
Acceptable input voltage range	85-140 VAC (per phase)	
Frequency range	50 Hz/60 Hz (auto sensing)	
Maximum AC input current	40A per phase	
Battery mode output (AC)		
Nominal output voltage	120 VAC (P-N), 208 VAC (P-P), 240 VAC (P-P)	
Outout waveforn	Pure sine wave	
Efficiency (DC to AC)	91%	
Grid output(AC)		
Nominal output voltage	120 VAC (P-N), 208 VAC (P-P), 240 VAC (P-P)	
Outout voltage range	105.5 VAC -132 VAC (per phase)	
Nominal output current	25A per phase	41.5 A per phase
Maximum conversion efficiency (DC/AC)	96%	96%
Battery & Charge		
Nominal DC voltage	40-62 VDC	40-62 VDC
Maximum solar charging current	120 A	200A
Maximum AC charging current	120 A	200A
Maximum charging current	120 A	200A
General		
Dimension, D x W x H (mm)	215.5 x515x700	215.5 x515 x715
Net weight (kgs)	41	45
Parallel function	Yes, 6 units	
Communication port	RS232, RS485, WIFI, USB	
Degree of protection	IP 65	

High Efficiency
Max efficiency 95%

Eco-Friendly
Clean energy

Long Lifespan
Sustainable long cycles

Built-in BMS
Charge & discharge protection

Product Introduction

- Up to 15 groups of parallel connections, fexible capacity expansion
- Compatible with mainstream inverters in the market, providing more options
- LED display for voltage, current, temperature, convenient for users to query
- Built-in BMS provides multiple protection functions

Item	Parameters				
Model	MKS-HR24100	MKS-HR24200	MKS-HR51100	MKS-HR51150	MKS-HR51200
Nominal voltage/V	25.6		51.2		
Rated capacity (5HR)/Ah	100	200	100	150	200
Cell type	LFP(LiFePO4)				
Energy/kWh	2.56	5.12	5.12	7.68	10.24
Maximum charge current/A	100				150
Maximum discharge current/A	100				150
Discharge voltage/Maximum charge voltage/V	21.6/29.2		43.2/58.4		
Weight/Kgs	26	43	43	64	82
Dimensions(W*D*H)(mm)	442 *350 *177	442 *450 *177	442 *431 *177	442 *550 *198	442 *550 *244
Cycle life	≥6000 cycles @ 80% DOD				
Max number of parallel connections	15				
Display	With display screen				
BMS communication types	RS485/RS232/CAN				
IP class	IP31				
Design life	15 years				
Operate temperature	Charging: 0 to 45℃ Discharging: -10 to 55℃				
Optional function	WiFi/Bluetooth				

High Efficiency
Max efficiency 95%

Eco-Friendly
Clean energy

Long Lifespan
Sustainable long cycles

Built-in BMS
Charge & discharge protection

Product Introduction

- Up to 15 groups of parallel connections, fexible capacity expansion
- Compatible with mainstream inverters in the market, providing more options
- LED display for voltage, current, temperature, convenient for users to query
- Built-in BMS provides multiple protection functions

Item	Parameters				
Model	MKS-HW24100	MKS-HW24200	MKS-HW51100	MKS-HW51150	MKS-HW51200
Nominal voltage/V	25.6		51.2		
Rated capacity (5HR)/Ah	100	200	100	150	200
Cell type	LFP(LiFePO4)				
Energy/KWh	2.56	5.12	5.12	7.68	10.24
Maximum charge current/A	100				
Maximum discharge current/A	100				
Discharge voltage/Maximum charge/V	21.6/29.2		43.2/58.4		
Weight/kgs	29	52	50	67	94
Dimensions(W*D*H)(mm)	375 *500 *165	510 *400 *240	450 *500 *140	400 *600 *200	500 *620 *245
Cycle life	≥6000 cycles @ 80% DOD				
Max number of parallel connections	15				
Display	With display screen				
BMS communication types	RS485/RS232/CAN				
IP class	IP31				
Design life	15 years				
Operate temperature	Charging: 0 to 45℃ Discharging: -10 to 55℃				
Optional function	WiFi/Bluetooth				

Residential Energy Storage Battery (Floor-mounted)

High Efficiency
Max efficiency 95%

Eco-Friendly
Clean energy

Long Lifespan
Sustainable long cycles

Built-in BMS
Charge & discharge protection

Product Introduction

- Up to 15 groups of parallel connections, fexible capacity expansion
- Compatible with mainstream inverters in the market, providing more options
- LED display for voltage, current, temperature, convenient for users to query
- Built-in BMS provides multiple protection functions

Residential Energy Storage Battery (Floor-mounted)

Item	Parameters			
Model	MKS-HF24200	MKS-HF24300	MKS-HF51200	MKS-HF51300
Nominal voltage/V	25.6		51.2	
Rated capacity (5HR)/Ah	200	300	200	300
Cell type	LFP(LiFePO4)			
Energy/kWh	5.12	7.68	10.24	15.36
Maximum charge current/A	100	150	100	200
Maximum discharge current/A	100	150	100	200
Discharge voltage/Maximum charge/V	21.6/29.2		43.2/58.4	
Weight/kgs	52	68	92	123
Dimensions(W*D*H)(mm)	442 *452 *240	442 *542 *240	460 *610 *240	540 *700 *240
Cycle life	≥6000 cycles @ 80% DOD			
Max number of parallel connections	15			
Display	With display screen			
BMS communication types	RS485/RS232/CAN			
IP class	IP31			
Design life	15 years			
Operate temperature	Charging: 0 to 45℃ Discharging: -10 to 55℃			
Optional function	WiFi/Bluetooth			

High Efficiency
Max efficiency 95%

Easy Installation
50Kg battery modules

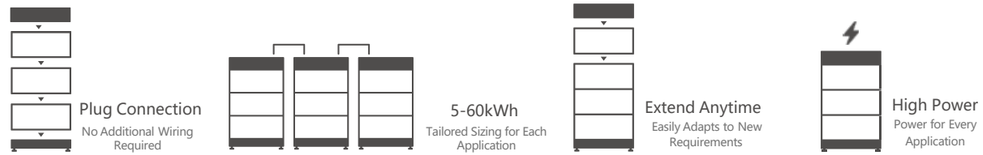
Safe and Reliable
Lithium-Ion phosphate battery cells

Perfect Compatibility
Work with leading branded inverters

Product Introduction

- Scalable from 5 kWh to 60 kWh
- Compatible with a variety of mainstream inverter
- Maximum flexibility for any applications with up to 12 modules connected in parallel
- LFP battery, safest and long cycle life
- Stackable design, effortessly installation
- Capable of high-powered emergency-backup and off-grid function

Flexible, Effcient, Simple



Item	Parameters			
Model	MKS-10L-B	MKS-15L-B	MKS-20L-B	MKS-30L-B
Combination method (single battery pack)	16S1P			
Rated capacity /Ah	200	300	400	600
Rated voltage /V	51.2			
Limited discharge voltage /V	43.2			
Limited charging voltage /V	57.6			
Internal resistance (single battery pack)	≤20mΩ			
Max continuous charging current /A	100			
Max continuous discharging current /A	100			
Operation temperature range	Charge:0~50℃/ Discharge: -10~50℃			
Storage temperature range	- 20~+60℃,Recommend: ≤60±25%RH storage humidity			
Single module size/weight	680*429*215mm /50Kg±1Kg			
Overall size /mm	680*429*540	680*429*750	680*429*970	680*429*1380
Weight /kgs	115±1	165±1	215±1	315±1
Compatible inverters	PYLON, Sacolar, Deye, Growatt, Sofar, Voltronic, LUX, Schneider, Afore, Sinexcel, SUNGROW, Sorotec, GoodWe, KSTAR, Srne, Must, Megarevo, Sol-Ark, INVT, Aiswei, TBB, SAKO, Solis, SMA, Victron, SMK, BlueSun			

High Efficiency
Max efficiency 95%

Easy Installation
50Kg battery modules

Safe and Reliable
Lithium-ion phosphate battery cells

System Integration
Integrated design, plug and play, no compatibility issues

Product Introduction

- Scalable from 5 kWh to 60 kWh
- Self-consumption optimization
- Maximum flexibility for any applications with up to 12 modules connected in parallel
- Integrated with inverter to avoid the compatibility problem
- LFP battery, safest and long cycle life
- Stackable design, effortessly installation
- Capable of high-powered emergency-backup and off-grid function

Flexible, Effcient, Simple

Item	Parameters			
Model	MKS-10-5.6LS	MKS-15-5.6LS	MKS-20-5.6LS	MKS-30-5.6LS
Inverter	MKS-5.6KL-S			
Rated power	5600W			
Maximum pv array open circuit voltage	500VDC			
MPPT voltage range	120-450V			
Nomial output voltage	220/230/240VAC			
Output voltage range	184-265VAC			
Nominal output current	25.5A/24.3A/23.3A			
Efficiency	Up to 95%			
Grid output voltage range	120-280VAC			
Grid frequency	50/60Hz(Auto Sensing)			
Maximum AC charge current	120A			
Maximum solar charge current	120A			
Nominal DC voltage	48VDC			
Battery model	MKS-51.2/100-L (*2)	MKS-51.2/100-L (*3)	MKS-51.2/100-L (*4)	MKS-51.2/100-L (*6)
Rated capacity/Ah	200	300	400	600
Rated voltage /V	51.2			
Limited discharge voltage /V	43.2			
Limited charging voltage /V	57.6			
Internal resistance (single battery pack)	≤20mΩ			
Max continuous charging current /A	100			
Max continuous discharging current /A	100			
Operation temperature range	Charge:0~50℃/ Discharge: -10~50℃			
Storage temperature range	- 20~+60℃,Recommend: ≤60±25%RH storage humidity			
Single module size/weight	680*429*215mm /50Kg±1Kg			
Overall size /mm	680*429*750	680*429*980	680*429*1185	680*429*1605
Weight /kgs	135±1	185±1	235±1	335±1

High Efficiency
Max efficiency 95%

EasyInstallation
50Kg battery modules

Safe and Reliable
Lithium-Ion phosphate battery cells

System Integration
Integrated design, plug and play, no compatibility issues

Product Introduction

- LFP battery，safe and long cycle life
- Stackable design，easy installation
- Compatible with a variety of mainstream inverter
- Supports off-grid and grid-connected scenarios
- High voltage solution makes higher conversion efficiency

Residential Energy Storage System(Stackable Solutions)

Flexible, Effcient, Simple

Plug Connection
No Additional Wiring Required

Extend Anytime
Easily Adapts to New Requirements

High Power
Power for Every Application

Item	Parameters		
Model	MKS-20H-B	MKS-25H-B	MKS-30H-B
Usable energy /kWh	20.48	25.6	30.72
Number of modules	4	5	6
Cell type	LFP(LiFePO4)		
Nominal voltage /V	204.8	256	307.2
Operating voltage range /V	179.2～233.6	224～292	268.8～350.4
Nominal Dis- / charge current (A)*2	50		
Operating temperature range	Charge: 0°C ~ 50°C; Discharge: -10°C ~ 50°C		
Communication	CAN/RS485		
Weight /Kg	230±1	280±1	330±1
Dimensions (W×D×H) /mm	680*425*860	680*425*1035	680*425*1210
Ingress protection rating	IP55		
Round-Trip efficiency	≥95%		
Applications	On/off-grid energy storage/off-grid power backup		
Compatible inverters	PYLON, Sacolar, Deye, Growatt, Sofar, Voltronic, LUX, Schneider, Afore, Sinexcel, SUNGROW, Sorotec, GoodWe, KSTAR, Srne, Must, Megarevo, Sol-Ark, INVT, Aiswei, TBB, SAKO, Solis, SMA, Victron, SMK, BlueSun		

Outdoor Cabinet Energy Storage System(All In One)

100kW/215kWh

- Small Industrial and Commercial Energy Storage
- Platform Energy Storage
- Optical Storage Charging Station
- Emergency Standby Power

- All-in-one design,simple installation, easy maintenance, saves space and costs
- Provide multiple parallel，provide grid or off-grid
- Multiple fire protection design, aerosol fire protection system
- Peak-load shifting, virtual power plant, intelligent switching of multi-mode energy control strategy

System model	MKS-S100/215-W
DC side parameters	
Cell type	LFP3.2V/280Ah
Configuration	1P24S
Cluster configuration	1P240 /10 modules
System configuration	1*1P240S
Nominal capacity	215Wh
Battery voltage range	648~864V
Charge and discharge rate	0.5C
AC side parameters	
Rated power	100kW
AC voltage	400VAC
Grid frequency	50/60Hz
AC method	3P4W
Power factor	-1~1
Maximum THD	<3%(@rated power)
System parameters	
Dimension (W*D*H)	1500*1400*2048mm
Weight	2.5t
IP level	IP54
Altitude	No derating below 2000m
Operating temperature	-20℃ -55℃
Operating noise	≤ 75dB
Cooling mode	Intelligent air cooling
Fire fighting system	Aerosol fire protection system
Protocol	LAN、RS485
Standards	GB/T36276, GB/T34131

100kW/215kWh&100kW/232kWh

Small Industrial and Commercial Energy Storage

Platform Energy Storage

Optical Storage Charging Station

Emergency Standby Power

All-in-one design,simple installation, easy maintenance, saves space and costs

Muitipie fire protection design, Aerosol/ Perfuorohexanone/Optional

Precise liquid cooling temperature control, temperature ≤ 3 ° C

Peak-load shifting, virtual power plant, inteligent switching of multi-mode energy control strategy

System model	MKS-S100/215-L	MKS-S100/232-L
DC side parameters		
Cell type	LFP3.2V/280Ah	LFP3.2V/280Ah
Configuration	1P48S	1P525
Cluster configuration	1P240S	1P260S
System configuration	1*1P240S	1*1P260S
Nominal energy	215.04kWh	232.96kWh
Battery voltage range	672-876VDC	650-936VDC
Charge and discharge rate	0.5C	0.5C
AC Parameters(Grid mode)		
Rated power	100kW	100kW
Rated voltage	400V	400V
Grid frequency	50/60Hz self-adaption	50/60Hz self-adaption
AC method	3P4W	3P4W
Power factor	-1~1	-1~1
Current distortion rate	<3%(@ratedpower)	
System parameters		
Dimension (W*D*H)	1550*1400*2100mm	1000*1350*2300mm
IP level	IP54	IP54
Altitude	No derating below 2000m	No derating below 2000m
Operating temperature	-20℃ -50℃	-20℃ -55℃
Operating noise	≤ 65dB	≤ 75dB
Cooling mode	Liquid cooling	
Fire fighting system	Aerosol/Perfluorohexanone/Optional	
Protocol	LAN、RS485、Ethernet	
Standards	GB/T36276，GB/T34131	

30kW/50kWh&50kW/100kWh&100kW/215kWh

Small Industrial and Commercial Energy Storage

Platform Energy Storage

Optical Storage Charging Station

Emergency Standby Power

System response time < 100ms full power and auxiliary service demand

Adopting an aerosol automatic fire extinguishing system with multiple layers of protection to enhance safety and reliability

Modular design, simple and fast operation and maintenance, improve thesystem utilization

Support energy control strategy, support grid-connected or off-grid operation, optional photovoltaic, diesel generators, etc.

System model	MKS-S30/50/42-W	MKS-S50/100/70-W	MKS-S100/215/140-W
DC side parameters			
Cell type	LFP100	LFP100	LFP280
Module model	1P32S	1P32S	1P60S
System confiquration	1P160S	1P160S*2	1P120S*2
Battery capacity (BOL)	51.2kWh	102.4kWh	215kWh
Battery voltage range	400V~584V	400V~584V	300V~432V
Rated power	30kW	50kW	100kW
Rated grid voltage		400VAC	
Rated grid frequency		50Hz+5HZ	
Grid type		3P4W	
Power factor		0.8 (Leading)~0.8 (Lagging)	
Output harmonics		<3%(@Rated power)	
System parameters			
Dimension(W*D*H)	1850*1000*2330mm	1700*1400*2300mm	1700*1450*2300mm
Max weight	550KG	1250KG	2500KG
IP level	IP54		
Altitude	No derating below 2000m		
Operating temperature	-20℃ ~60℃		
Operating noise	≤ 75B		
Cooling mode	Air cooling		
Fire fighting system	Automatic fire extinguishing		
Communication protocols	CAN，RS485		
Standards	GB/T36276，GB/T34131		
PV side parameters	(Optional)		
Maximum input power	42kW	70kW	140KW
MPPT voltage range	150V~850V	150V~850V	150V~850V
Number of MPPT paths	3	4	8
Number of PV input channels	3/6	4/8	8/16
Maximum input current	3*40A	4*40A	8*40A

2.236MWh&4.073MWh&5.015MWh

- Industrial and Commercial Energy Storage
- Platform Energy Storage
- Optical Storage Charging Station
- Emergency Standby Power

- System response time < 100ms full power and auxiliary service demand
- Adopting automatic fire extinguishing system with multiple layers of protection to enhance safety and reliability
- Modular design, simple and fast operation and maintenance, improve the system utilization
- Support parallel operation of multiple machines, grid connected or off grid operation, with optional AC side grid connected operation of photovoltaic, diesel generators, etc.

System model	MKS-B2236-20L	MKS-B4073-20L	MKS-B5015-20L
DC side parameters			
Cell type	LFP280	LFP306	LFP314
Configuration	1P52S	1P104S	1P104S
Custer configuration	1P416S/6Modules	1P416S /4Modules	1P416S /4Modules
System configuration	6*1P416S	10*1P416S	12*1P416S
Nominal capacity	2236kWh	4073kWh	5015kWh
Battery voltage range	1164.8~1497.6V	1040~1497.6V	1040~1518.4V
Charge and discharge rate	0.5C	0.5C	0.5C
DOD	90%	90%	90%
System parameters			
Dimension(W*D*H)	7810*1720*2645mm	6058*2438*2896mm	6058*2438*2896mm
Weight	22.5t	35t	43t
IP level	IP55	IP55	IP54
Anticorrosive leve	C4	C4	C4
Altitude	No derating below 3000m	No derating below 3000m	No derating below 3000m
Operating temperature	-20℃ ~55℃	-30℃ ~60℃	-30℃~50
Operating noise	≤ 75dB	≤ 75dB	≤75dB
Cooling mode	Liquid cooling	Liquid cooling	Liquid cooling
Fire fighting system	Automatic aerosol-based fire suppression system	Automatic aerosol-based fire suppression system	Cabin level aerosol+water spray fire protection
Protocol	CAN、Modbus TCP/IP	CAN、Modbus TCP/IP	CAN、Modbus TCP
Standards	IEC62619,IEC62933,IEC63056,UN38.3/UN3536,IEC62477,UL1973,UL9540,UL9540A		GB/T36276, GB/T34131，UN38.3/ UN3536，UL1973，UL9540，UL9540A

3.354MWh

- Industrial and Commercial Energy Storage
- Platform Energy Storage
- Optical Storage Charging Station
- Emergency Standby Power

- System response time < 100ms full power and auxiliary service demand
- Adopting automatic fire extinguishing system with multiple layers of protection to enhance safety and reliability
- Modular design, simple and fast operation and maintenance, improve the system utilization
- Support parallel operation of multiple machines, grid connected or off grid operation, with optional AC side grid connected operation of photovoltaic, diesel generators, etc.

System model	MKS-B3354-20L
DC side parameters	
Cell type	LFP280
Configuration	1P52S
Custer configuration	1P416S /8Modules
System configuration	9*1P416S
Nominal capacity	3354kWh
Battery voltage range	1040~1497.6VDC
Charge and discharge rate	0.5C
DOD	90%
System parameters	
Dimension(W*D*H)	6500*2600*2896mm
Weight	32t
IP level	IP54
Anticorrosive leve	C4
Altitude	No derating below 3000m
Operating temperature	-20℃ ~50℃
Operating noise	≤ 75dB
Cooling mode	Liquid cooling
Fire fighting system	Aerosol/Perfluorohexanone(optional)
Protocol	RS485、Ethernet
Standards	GB/T36276,GB/T34131,CE,UN38.3/UN3536

Containerized Energy Storage System

0.5MW/1MWh

- Large Wind and; Light Power Station
- Frequency Modulation Of; Thermal Power Station
- Power Grid Side Independent Energy Storage
- Large Microgrid
- Large User Side Energy Storage

- Safe and reliable battery module IP67 protection level design
- Air cooling temperature control system, real-time, balanced, efficient, energy-saving
- Modular design, simple and fast operation and maintenance, improve the system utilization
- Support parallel operation of multiple machines, grid connected or off grid operation, with optional AC side grid connected operation of photovoltaic, diesel generators, etc.

System model	MKS-S500/1000-20W
DC side parameters	
Cell type	LFP280
Configuration	1P16S
Cluster configuration	1P224S /14Modules
System configuration	5*1P224S
Nominal capacity	1000kWh
Battery voltage range	604.8 ~ 817.6V
Charge and discharge rate	0.5C
AC side parameters	
Rated power	500kW
AC voltage	380/400V
Grid frequency	50/60Hz±3Hz
AC method	3P4W+PE
Power factor	-1~1
Maximum THD	<3%(@ratedpowe)
System parameters	
Dimension(W*D*H)	6058*2600*2896mm
Weight	16t
IP level	IP54
Anticorrosive level	C4
Altitude	No derating below 3000m
Operating temperature	-20℃ ~50℃
Operating noise	≤ 75dB
Cooling mode	Air cooling
Fire fighting system	Aerosol Fire Protection System
Protocol	RS485、Ethernet
Standards	GB/T36276, GB/T34131,CE,UN38.3/UN3536

Containerized Energy Storage System

2.58MW/5.015MWh

- Large Wind and Light Power Station
- Frequency Modulation Of Thermal Power Station
- Power Grid Side Independent Energy Storage
- Large Microgrid
- Large User Side Energy Storage

- Battery module IP67 protection level design, liquid cooling temperature control system, real-time, balanced, efficient, energy-saving, longer battery life, safety
- Strong Applicability
  IP54 protection, C4 anticorrosive grade, various cabinet design to meet various complex application scenarios
- Integrated, simple installation, easy operation and maintenance, AC/DC integrated compartment design
- Support parallel operation of multiple machines, grid connected or off grid operation, with optional AC side grid connected operation of photovoltaic, diesel generators, etc.

System model	MKS-S2580/5015-40L
DC side parameters	
Cell type	LFP314
Configuration	1P104S
Cluster configuration	1P416S /4Modules
System configuration	12*1P416S
Nominal capacity	5015kWh
Battery voltage range	1040~1518.4VDC
Charge and discharge rate	0.5C
AC side parameters	
Rated power	2580kW
AC voltage	690VAC/586~759VAC
Grid frequency	50/60Hz±3Hz
AC method	3P4W+PE
Power factor	-1~1
MaximumTHD	<3%(@rated power)
System parameters	
Dimension(W*D*H)	12192*2438 *2896
Weight	43t
IP level	IP54
Anticorrosive level	C4
Altitude	No derating below 3000m
Operating temperature	-20℃~55
Operating noise	≤ 75dB
Cooling mode	Liquid cooling
Fire fighting system	Cabin level aerosol+water spray fire protection
Protocol	CAN、Modbus TCP/IP
Standards	GB/T36276,GB/T34131,IEC ,UN38.3/UN3536, IEEE I547.1, UL 1973,UL1741,UL9540A