

YOUR GREEN ENERGY MANUFACTURER



Residential Series (for US)

Energy Storage Solution



KOWINT ENERGY

Kowint Energy (Shenzhen) Co., Ltd.

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KOWINT

YOUR GREEN ENERGY MANUFACTURER

Established in 2014, KOWINT ENERGY is a high-tech enterprise focusing on the R&D, design, production, and sales of lithium battery energy storage systems, BMS, EMS, and lithium battery modules.

We have continuous independent innovation capabilities, excellent lithium battery module development & design abilities, and advanced manufacturing technology. Our products have passed UL, CE, ROHS, TUV, PSE, and other related certifications. Our factory has passed ISO9001 and ISO14000 system certifications.

Our products are designed to meet the needs of a wide range of applications, from residential and commercial buildings to industrial facilities and utility-scale projects. Whether you're looking to reduce your energy bills, increase your energy independence, or support your sustainability goals, KOWINT has the right solution for you.

10⁺

Years Experience
in the energy storage

4

Countries with
warehouse deployment

3GWh/year

Global
Production Capacity

MAIN BUSINESS



Residential Solution



C&I Solution



UPS Solution



CONTENTS

To produce world-class energy storage products.
To serve the consumers in the global market.



01

LV Battery Storage System

R5000	_____	01
R20KL	_____	03
R40KL	_____	05
W5000 & W16K	_____	07
S40K	_____	09

02

HV Battery Storage System

Power Matrix	_____	11
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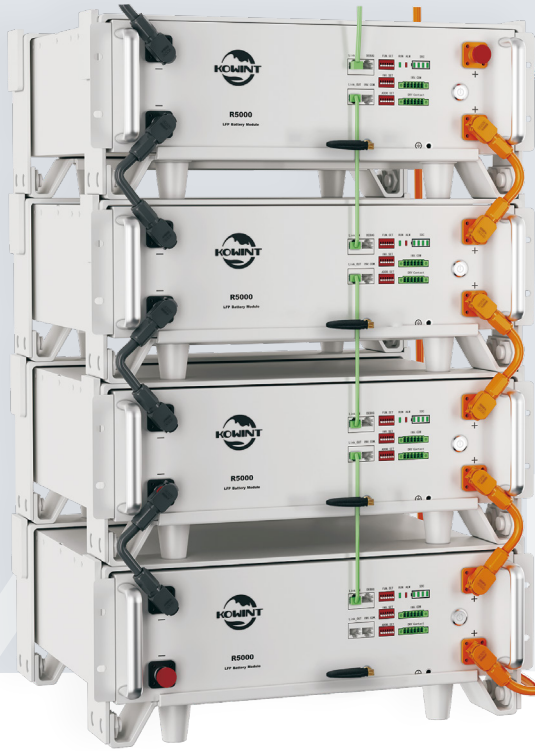
03

INVERTER

KSL 12	_____	13
KSL-12KU-B	_____	15

Rack-Mount ESS R5000

5.12 — 158.72kWh



☀️ HIGH PERFORMANCE

- >6000 Life Cycles.
- Max. 31 units in parallel.

☰ USER FRIENDLY SETUP

- RS485 and CAN compatible.
- Cloud platform / APP remote monitor.

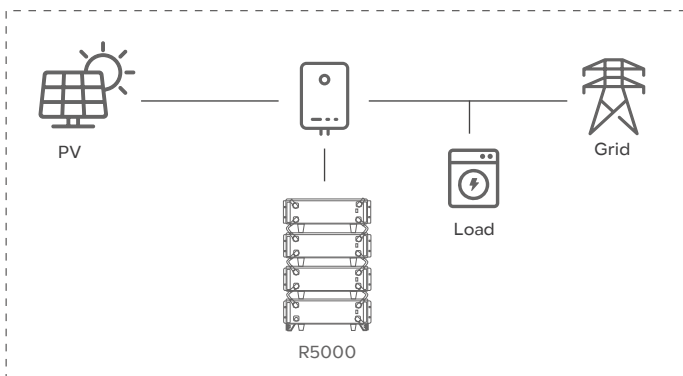
💡 SAFE AND RELIABLE

- Intelligent BMS protecting battery cells.
- Advanced safety mechanisms ensure reliable operation.

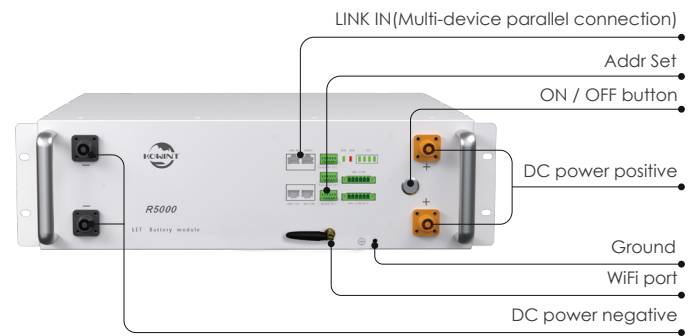
⚙️ EASY INSTALLATION

- Rack mount design.
- Lightweight and convenient , single person installation.

● System Layout



● System Demonstration



● Product Specifications

Battery Parameters

Nominal Energy(kWh)	5.12
Max. Continuous Charging / Discharging(A)	95
Nominal Capacity(Ah)	100
Nominal Voltage(V)	51.2
Recommend Charging Voltage(V)	56.8
Max. Charging Voltage(V)	58.4
Discharge Cut-off Voltage(V)	43.2
Cell Model	3.2V 100Ah
Combination Mode	1P16S
Initial Internal Resistanc (mΩ)	<50
Standard Charging Current(A)	50
Standard Discharging Current(A)	50

System Characteristics

BESS Certifications	UKCA, UL1973, CE, UN 38.3, IEC62619
Emission	FCC Part 15 Class B
Surge Protection	DC Type II
Warranty(Years)	10

General Parameters

Dimensio (W*H*D)(mm)	440*132*420(Standard 3U Size)
Net Weigh (Approximate)(kg)	45
Enclosure	IP20
Operating Temperature(°C)	Discharging -20 ~ 50, Charging 0 ~ 50
Relative Humidity Range(RH)	Up to 95 %, non-condensing
Cooling	Natural Cooling
Communication	CAN, RS485, WiFi

Rack-Mount ESS

R20KL



HIGH PERFORMANCE

- Max.15 units in parallel / 307.2 kwh.
- >6000 Life Cycles.



DUAL PROTECTION

- Intelligent BMS protecting battery cells.
- EMS protecting battery system.



USER FRIENDLY SETUP

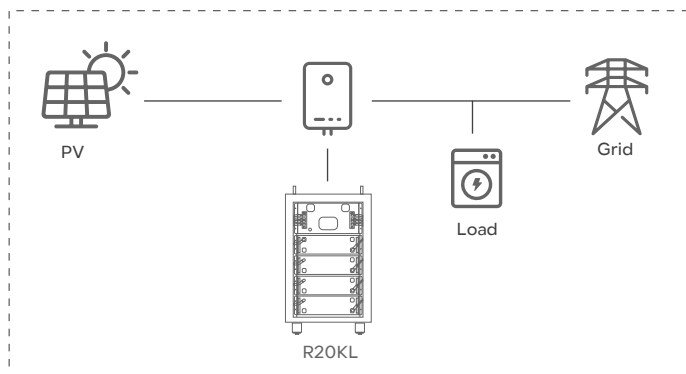
- Display Screen allows for real-time monitoring.
- Cloud platform / APP remote monitor.



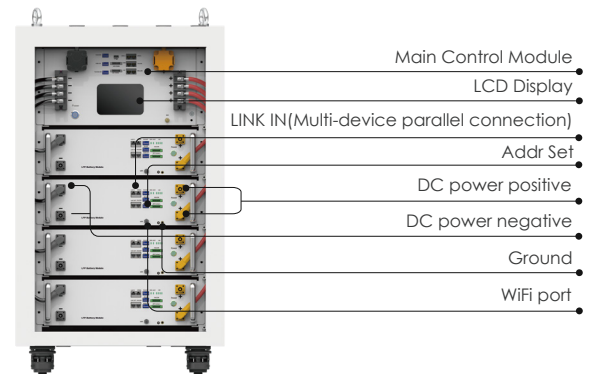
EASY INSTALLATION

- Rack mount design.
- Convenient and easy installation.

System Layout



System Demonstration



● Product Specifications

Model

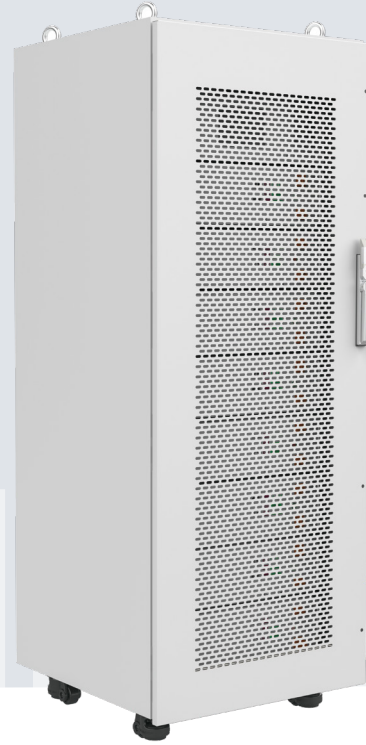
Battery Module Type	R5000		
Main Control Module	CM300-R40K		
Battery Module QTY	2	3	4
Usable Energy(kwh)	10.24	15.36	20.48
Max. Charging / Discharging Current(A)	190	285	300
Max Output Power(kw)	9.7	14.5	15
Nominal Voltage(V)	51.2		
Open Circuit Voltage(V)	43.2 ~ 58.4		

General Parameters

Dimensions(L*W*H)(mm)	600*600*920		
Net weight(kg)	155	200	248
Communication	CANRS, 485, WiFi		
Protection Level	IP20		
Cycle LifeScalability	26000 times@25°C		
Scalability	Max.15 Units in Parallel / 307.2 kwh		
Operating Temperature(°C)	Discharging: -20 ~ 50, Charging: 0 ~ 50		
Storage Conditions	-20 ~ 55°C / (0 ~ 35°C Recommended), Up to 95% RH, non-condensing, Initial SoC: 50%		
Cooling	Natural Cooling		
Max. Altitude	2000m(6561ft)		
Protection level	IP20		

Cabinet ESS

R40-KL



HIGH PERFORMANCE

- 5 to 8 battery modules per cabinet, up to 40.96kWh.
- Max 15kw output.



DUAL PROTECTION

- Intelligent BMS protecting battery cells.
- EMS protecting battery system.



FLEXIBLE APPLICATION

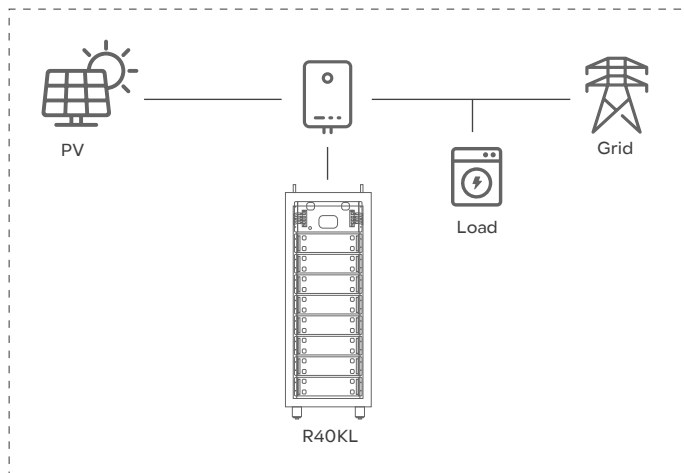
- Display Screen allows for real-time monitoring.
- Cloud platform / APP remote monitor.



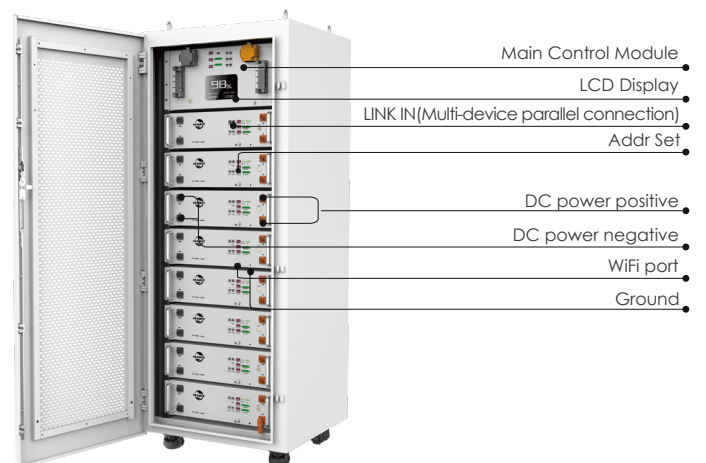
Modernised Target

- Rack mount design.
- Convenient and easy installation.

System Layout



System Demonstration



● Product Specifications

Model	
Main Control Module	CM300-R40K
Battery Module Type	R5000-ST
Battery Module Chemistry	LiFePO4
Battery Module QTY	8
Nominal Capacity (Ah)	800
Nominal Energy(kWh)	40
Nominal Voltage(V)	51.2
Recommend Charging Voltage(V)	56.8
Max. Charging Voltage(V)	58.4
Discharge Cut-off Voltage(V)	43.2
Max. Charging/Discharging Current(A)	300
Peak for 10s Current((A)	350

General Parameters

Weight (Approx.)	500Kg
Dimensions (W*H*D) mm	600*1630*625
Cycle Life	>6000 times @ 25°C
Parallel Capability	Maximum 1 units (Recommended 8 units)
Charging Temperature Range(°C)	0 ~ 50
Discharging Temperature Range(°C)	-20 ~ 50
Best Operating Temperature Range	15 ~ 35
Storage Temperature Range	-20 ~ 55
Best Storage Temperature Range	0 ~ 35
Humidity(RH)	10% ~ 90%
Altitude(m)	0~2000
Designed Service Life	>10 years
Communication	CAN / RS485 / WIFI
Safety Function	Over-charge, Over-discharge, Over-current, Low/High-temperature, Low-voltage, Short-circuit Protections

Wall-Mount ESS

W5000

5.12 kWh



HIGH PERFORMANCE

- >8000 Life Cycles.
- 100(W5000) / 314 (W16K) Cell Capacity.

USER FRIENDLY SETUP

- Display Screen allows for real-time monitoring.
- Cloud platform / APP remote monitor.

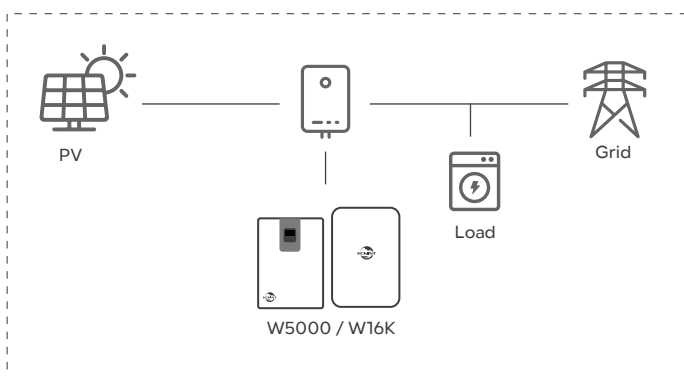
SAFE AND RELIABLE

- IP55 (W5000) / IP65 (W16K) protection degree.

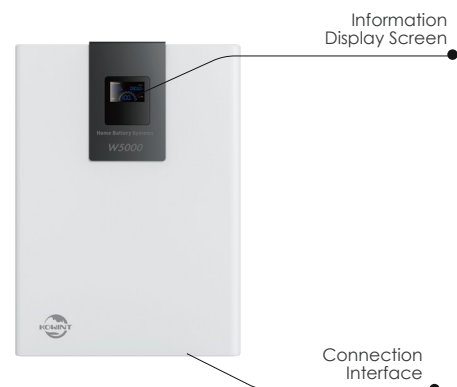
EASY INSTALLATION

- Wall-mount design saves installation space.
- Lightweight and convenient ,Easy to install.

● System Layout



● System Demonstration



● Product Specifications

System Characteristics

Battery Type	LiFePO4
Rated Energy(kWh)	5.12
Cell Capacity(Ah)	100
Rated Voltage(V)	51.2
Cell Model	3.2V 100Ah
Combination Mode	16S1P
Discharge Cut-off Voltage(V)	43.2
Recommend Charging(V)	56.8
Max. Charging / Discharging Current(A)	95
Primary Overcurrent Protection(A)	98A@10S
Secondary Overcurrent Protection(A)	120A@2S
Communication	RS485 / CAN / RS232
Compatible Inverter Brand	SMA, Growatt, Solax , Solis, DEYE , Sofar , Voltronic , Studer , etc
Cycle life	≥8000 times @ 25°C
Dimension(W*H*D)(mm)	450 * 635 * 180
Net Weight(kg)	53
Protection Degree	IP55
Cooling	Natural Cooling
Installation	Wall-Mount In
Discharge Temperature(°C)	- 20 ~ 50
Charge Temperature(°C)	0 ~ 50
Storage Conditions	-20 ~ 55°C(0 ~ 35°C Recommended)Up to 95 % RH, non-condensing, Initial So: 50 %
Battery Compliances	IEC 62619, UN 38.3, UL1973, UKCA, CEI 0-21, EN-62311, EN-61000

Wall-Mount ESS

W16K

16.0kWh



HIGH PERFORMANCE

- >8000 Life Cycles.
- 100(W5000) / 314 (W16K) Cell Capacity.

USER FRIENDLY SETUP

- Display Screen allows for real-time monitoring.
- Cloud platform / APP remote monitor.

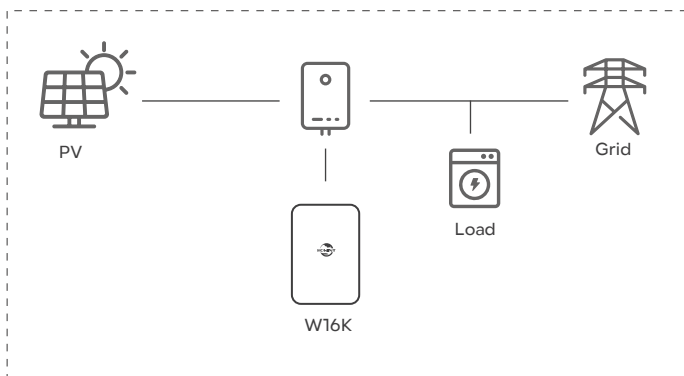
SAFE AND RELIABLE

- IP55 (W5000) / IP65 (W16K) protection degree.

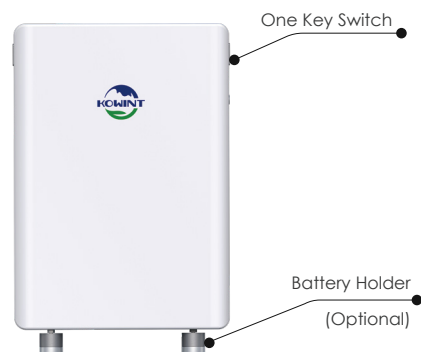
EASY INSTALLATION

- Wall-mount design saves installation space.
- Lightweight and convenient ,Easy to install.

● System Layout



● System Demonstration



● Product Specifications

System Characteristics

Battery Type	LiFePO4
Rated Energy(kWh)	16
Cell Capacity(Ah)	314
Rated Voltage(V)	51.2
Cell Model	3.2V 314Ah
Combination Mode	16S1P
Discharge Cut-off Voltage(V)	43.2
Recommend Charging(V)	56.8
Max. Charging / Discharging Current(A)	200
Primary Overcurrent Protection(A)	210A@10S
Secondary Overcurrent Protection(A)	250A@500mS
Communication	RS485 / CAN / RS232
Compatible Inverter Brand	SMA, Growatt, Solax , Solis,DEYE , Sofar , Voltronic , Studer , etc
Cycle life	≥8000 times @ 25°C
Dimension(W*H*D)(mm)	560 * 800 * 200
Net Weight(kg)	133
Protection Degree	IP65
Cooling	Natural Cooling
Installation	Wall-Mount In
Discharge Temperature(°C)	- 20 ~ 50
Charge Temperature(°C)	0 ~ 50
Storage Conditions	-20 ~ 55°C(0 ~ 35°C Recommended)Up to 95 % RH, non-condensing, Initial So : 50 %
Battery Compliances	IEC 62619, UN 38.3, CEI 0-21, EN-61000

Modular LV ESS

S40K

10.24 — 30.72kWh



HIGH PERFORMANCE

- >6000 Life Cycles.
- Each cluster is up to 30.72kwh(6 battery modules), maximum 15 clusters in parallel to get 460.8 kWh.

SMART MANAGEMENT

- Display Screen allows for real-time monitoring.
- Cloud platform / APP remote monitor.

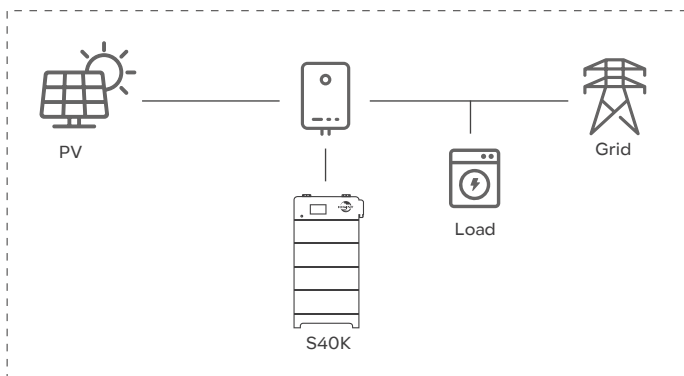
SAFE AND RELIABLE

- IP55 design, available for indoor / outdoor.

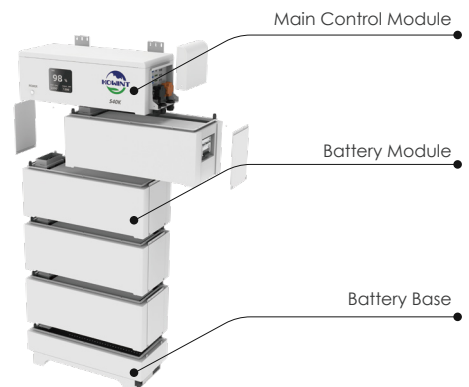
EASY INSTALLATION

- Modular design for ease of expansion.

● System Layout



● System Demonstration



● Product Specifications

System Characteristics

BESS Compliances UL9540 / 9540A / IEC62619 / UN38.3 / MSDS / UKCA / CE / UL1973

Installation Method Stack Mounting

Installation Scene Indoor or Outdoor

Enclosure IP55

Warranty(years) 10

BESS Specifications

Battery Module C-UMO5-L01

Main Control Module CM300-S40K

Module Amount	2	3	4	5	6
Nominal Energy(kWh)	10.24	15.36	20.48	25.6	30.72
Max charging / Discharging current(A)	190	285	300	300	300
Module Amount Max	1+2	1+3	1+4	1+5	1+6
Operating Current(kg)	132.5	183.5	234.5	285.5	336.5
Nominal Voltage(V)	51.2				
Operating Voltage Range(V)	43.2 ~ 58.4				

General Parameters

Scalability Maximum 15 Systems in Parallel

Dimension(W*H*D)(mm) 645*869*268 645*1106*268 645*1343*268 645*1580*268 645*1817*268

Max. Operating Current(A) 300

Operating Temperature(°C) Discharging: -20 ~ 50, Charging: 0 ~ 50

Storage Conditions -20 ~ 55°C /(0 ~ 35°C Recommended), Up to 95% RH, non-condensing, Initial SoC: 50%

Cooling Natural Cooling

Max. Altitude 2000m(6561ft)

Cycle Life 6000 times@25°C

Communication Method CANRS, 485, WiFi

Modular HV ESS

Power Matrix

10.24 — 30.72 kWh



HIGH PERFORMANCE

- >6000 Life Cycles.
- Each cluster is up to 29 kW (6 battery modules) .



SAFE AND RELIABLE

- IP55 design , available for indoor / outdoor.



USER FRIENDLY SETUP

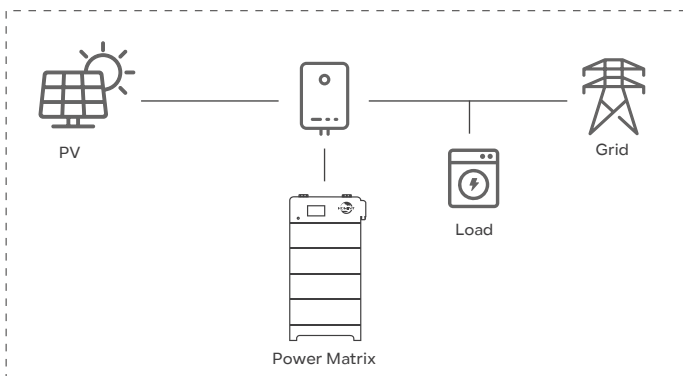
- Cloud platform / APP remote monitor.



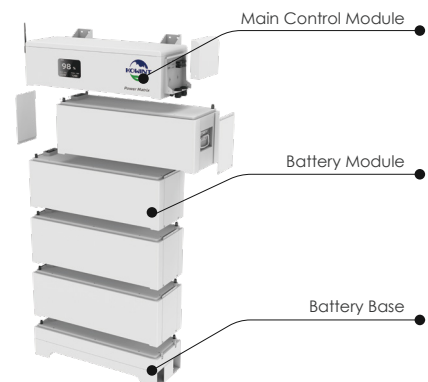
EASY INSTALLATION

- Modular design facilitate installation.

System Layout



System Demonstration



● Product Specifications

System Characteristics

BESS Compliances IEC62619 / UN38.3 / MSDS / UKCA / CE / UL1973 / CE

Installation Method Stack Mounting

Installation Scene Indoor or Outdoor

Ingress Protection IP55

Warranty(Years) 10

BESS Specifications

Battery Module 1P32S

Cell Capacity(Ah) 50

Module Amount	2	3	4	5	6
Nominal Energy(kWh)	10.24	15.36	20.48	25.6	30.72
Nominal Voltage(V)	204.8	307.2	409.6	512	614.4
Nominal Power(kW)	9.83	14.57	19.66	24.58	29.5
Operating Voltage Range(V)	172.8 ~ 233.6	259.2 ~ 350.4	345.6 ~ 467.2	432 ~ 584	518.4 ~ 700.8
Max.Continuous Current(A)	48				
Max. Current	≤75A@10S				

General Parameters

Dimension(W*D*H)(mm)	820*269.5*996	820*269.5*1282	820*269.5*568	820*269.5*1854	820*269.5*1854
Net Weight(kg)	151.5	211.5	271.5	331.5	391.5
Operating Temperature(°C)	-20~ 50				
Operating Humidity	Up to 92 % non-condensing				
Cycle Life	6000 times@25°C				
Communication Method	CAN, RS485, WiFi				

Split-Phase Hybrid LV Inverter

KSL12



HIGH PERFORMANCE

- Supports 6 machines in parallel.
- Extra input acceptable/generator input compatible.



SAFE AND RELIABLE

- IP65 design, available for indoor / outdoor.
- Built-in protection against backflow.



USER FRIENDLY SETUP

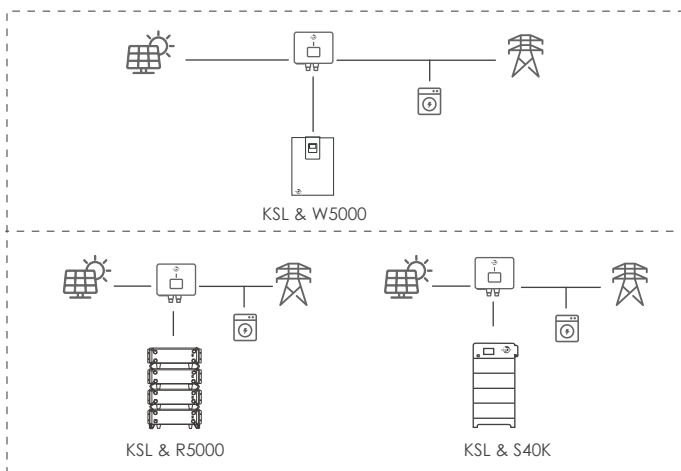
- Display Screen allows for real-time monitoring.
- Cloud platform / APP remote monitor.



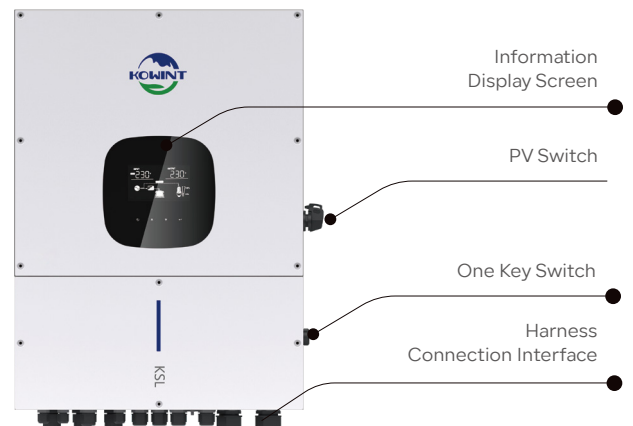
EASY INSTALLATION

- Wall-mount design saves installation space.
- Lightweight and convenient, Easy to install.

System Layout



System Demonstration



● Product Specifications

Model	KSL 12U02
Phase(V)	120 / 240 Split phase, 120 / 208 Split Phase
Maximum PV Input Power(W)	12000
Rated Output Power	10000VA / 10000W
Maximum Charging Power(W)	10000
Grid-tie Operation	
PV INPUT (DC)	
Maximum DC Voltage(Vdc)	600
Start-up Voltage / Initial Feeding Voltage(Vdc)	125 / 160
MPPT Voltage Range (Vdc)	120 ~ 550
Number of MPPT Trackers / Maximum Input Current(A)	2 / 18
GRID OUTPUT (AC)	
Nominal Output Voltage	120 VAC (P-N), 208 VAC (P-P), 240 VAC (P-P)
Output Voltage Range(Vac)	105.5 ~132 per phase
Nominal Output Current(A)	41.5 per phase
Power Factor	0.9 lag to 0.9 lead
EFFICIENCY	
Maximum Conversion Efficiency(DC/AC)	96%
Off-Grid Operation	
AC INPUT	
AC Start-up Voltage / Auto Restart Voltage(Vac)	85 / 90 per phase
Acceptable Input Voltage Range(Vac)	85 ~ 140 per phase
Frequency Range(Auto sensing)	50 / 60 per phase
Maximum AC Input Curren(A)	40 per phase
PV INPUT (DC)	
Maximum DC Voltage(Vdc)	600
MPPT Voltage Range(Vdc)	120 ~ 550
Number of MPPT Trackers / Maximum Input Current	2 / 18A
BATTERY MODE OUTPUT (AC)	
Nominal Output Voltage(Vac)	120 (P-N), 208 (P-P), 240(P-P)
Output Waveform	Pure Sine Wave
Efficiency(DC to AC)	91%
Hybrid operation	
PV INPUT(DC)	
Maximum DC Voltage(Vdc)	600
Start-up Voltage / Initial Feeding Voltage(Vdc)	125 / 160
MPPT Voltage Range(Vdc)	120 ~ 550
Number of MPPT Trackers / Maximum Input Current (A)	2 / 18
GRID OUTPUT(AC)	
Nominal Output Voltage(Vac)	120 (P-N), 208 (P-P), 240 (P-P)
Output Voltage Range(Vac)	105.5 ~ 132 per phase
Nominal Output Current(A)	41.5 per phase
AC INPUT	
AC Start-up Voltage / Auto Restart Voltage(Vac)	85, 90 per phase
Acceptable Input Voltage Range(Vac)	85 ~ 140
Maximum AC Input Current(A)	40 per phase
BATTERY MODE OUTPUT(AC)	
Nominal Output Voltage	120 VAC(P-N), 208VAC(P-P), 240VAC(P-P)
Efficiency(DC to AC)	91%
BATTERY & CHARGER	
Nominal DC Voltage(Vdc)	40 ~ 62
Maximum Solar Charging Current A)	200
Maximum AC Charging Current(A)	200
Maximum Charging Current(A)	200
General Parameters	
Dimension(W*D*H)(mm)	515*215.5*715
Net Weight(kg)	45
Parallel Function	Yes / 6 Units
Communication Port	RS232/ RS485 / WI-Fi / USB
Protection Degree	IP65
Operating Temperature(°C)	- 25 to 60(45 Derating)
Certificate	UL1741SA / CEC

Split-Phase Hybrid LV Inverter

KSL-12KU-B



HIGH PERFORMANCE

- Max.DC input power 12kW.
- Supports 4 machines in parallel.

SAFE AND RELIABLE

- IP65 design, available for indoor / outdoor.

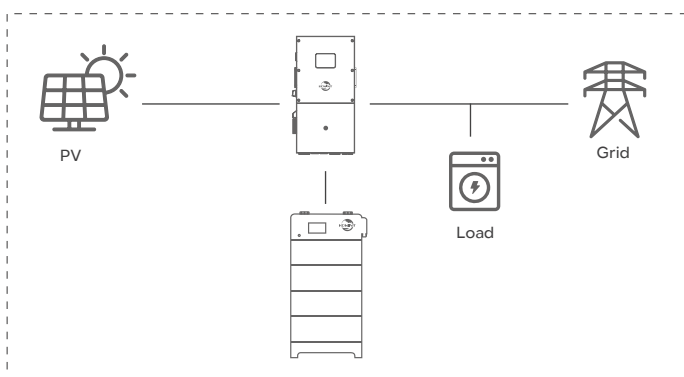
USER FRIENDLY SETUP

- Cloud platform / APP remote monitor.
- Touch screen display.

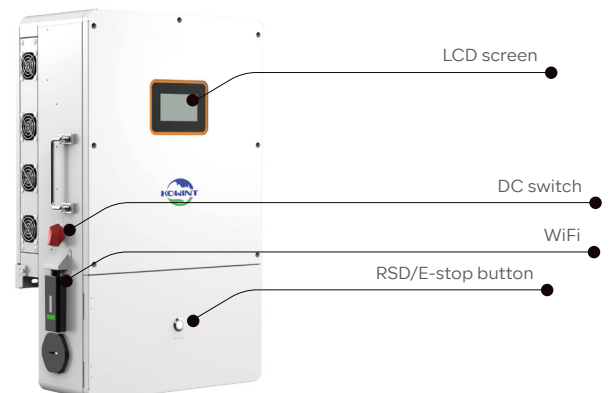
EASY INSTALLATION

- Wall-mount design saves installation space.

● System Layout



● System Demonstration

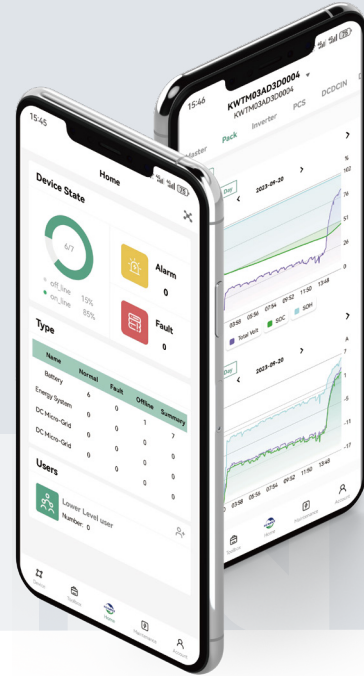


● Product Specifications

PV Input	KSL-8KU-B	KSL-12KU-B	KSL-16KU-B
Max.DC Input Power(kW)	12	18	24
No. of MPPT Trackers	4	4	4
MPPT Voltage Range(Without Battery)	120 - 500	120 - 500	120 - 500
MPPT Voltage Range(With battery)	120 - 430	120 - 430	120 - 430
MAX.DC Input Voltage(V)	500	500	500
MAX. input Current Per MPPT(A)	16 / 16 / 16 / 16	16 / 16 / 16 / 16	20 / 20 / 20 / 20
MAX. short Current Per MPPT(A)	22 / 22 / 22 / 22	22 / 22 / 22 / 22	25 / 25 / 25 / 22
Battery Input			
Nominal Voltage(V)	48	48	48
MAX.Charging / Discharging Current(A)	170 / 170	250 / 260	260 / 280
Battery Voltage Range(V)		40 ~ 58	
Battery Type		Lithium / Lead-acid	
Charging Controller		3-Stage with Equalization	
AC Output (On-grid)			
Nominal Output Power Output to Grid(kVA)	8	12	16
MAX.Apparent Power Output to Grid(kVA)	8.8	13.2	17.6
Output Voltage Range		(110 ~ 120) / (220 ~ 240)Split Phase, 240 Single Phase	
Output Frequency(Hz)		60(55 to 65)	
Nominal AC Current(A)	33.3	50	66.7
Max. AC Current(A)	36.7	55	73.3
Max. Grid Passthrough Current(A)	200	200	200
Output THDi		<3%	
AC Output (Back-up)			
Nominal.Apparent Power(kVA)	8	12	12
Max.DC Input Power(kW)	8.8	12	13.2
No. Of Mppt Trackers	8.8	13.2	13.2
Nominal Output Voltage(V)		120 / 240	
Nominal Output Frequency(Hz)		60	
Output THDu		<2%	
Output Power Factor		0.8leading ~ 0.8lagging	
Protection			
Battery Input / Island Protection		Yes	
Insulation Resistor Detection		Yes	
Residual Current Monitoring Unit		Yes	
Output Over Current Protection		Yes	
Back-up Output Short Protection		Yes	
Ac Output(On-grid)		Yes	
Output Under Voltage Protection		Yes	
General Data			
Mppt Efficiency		99.9%	
Europe Efficiency(PV)		96.2%	
PV to Grid Efficiency(PV)		96.5%	
Battery to Load Efficiency		94.6%	
PV to Battery Charging Efficiency		95.8%	
Grid to Battery Charging Efficiency		94.5%	
Operating Temperature Range(°C)		-25 ~ +60	
Relative Humidity		0 ~ 95%	
Operating Altitude (M)		0~4,000(Derating above 2,000m Altitude)	
Ingress Protection		IP65/NEMA 3R	
Weight(kg)		56	
Dimensions(W*H*D)(mm)		495*900 *260	
Cooling		FAN Cooling	
Noise Emission(dB)		38	
Display		Touch Panel	
Communication with BMS / Meter / EMS		RS485, CAN	
Supported Communication Interface		RS485, 4G(Optional), Wi-Fi	
Self-consumption(W)		<25	
Safety		UL1741, UL1741SA&SB all options, UL1699B, CSA -C22.2 NO.107.1-01, RSD(NEC690.5,11,12)	
EMC		FCC Part 15 Class B	
Grid Connection Standards		"IEEE 1547, IEEE 2030.5, HECO Rule 14H, CA Rule 21 Phase I,II,III, CEC, CSIP, SRD2.0, SGIP, OGP, NOM, California Prob65"	
Operating Temperature Range(°C)		-25 ~ +60	
Relative Humidity		0 ~ 95%	
Other Data			
Backup Conduit / Grid Conduit		3"	
AC Solar Conduit / PV Input Conduit		2"	
Bat Input Conduit		2"	
PV Switch		Integrated	

KOWINT CLOUD

Monitoring System



INSTANT CLARITY WITH REMOTE DATA MONITORING AND ANALYSIS

- Remote data monitoring, automatic curve generation, and big data analysis management make the product operation status clear at a glance.



BOOST CUSTOMER SATISFACTION WITH REMOTE FIRMWARE UPGRADES

- Remote firmware upgrading and intelligent operation and maintenance report generation effectively improve customer satisfaction.



ENHANCED SECURITY WITH DISTRIBUTED ARCHITECTURE AND DATA ENCRYPTION

- Distributed architecture deployment and data security encryption ensure that cloud data is more secure and reliable.



OPTIMIZED CHANNEL CONSTRUCTION WITH A SIX-LEVEL DISTRIBUTION SYSTEM

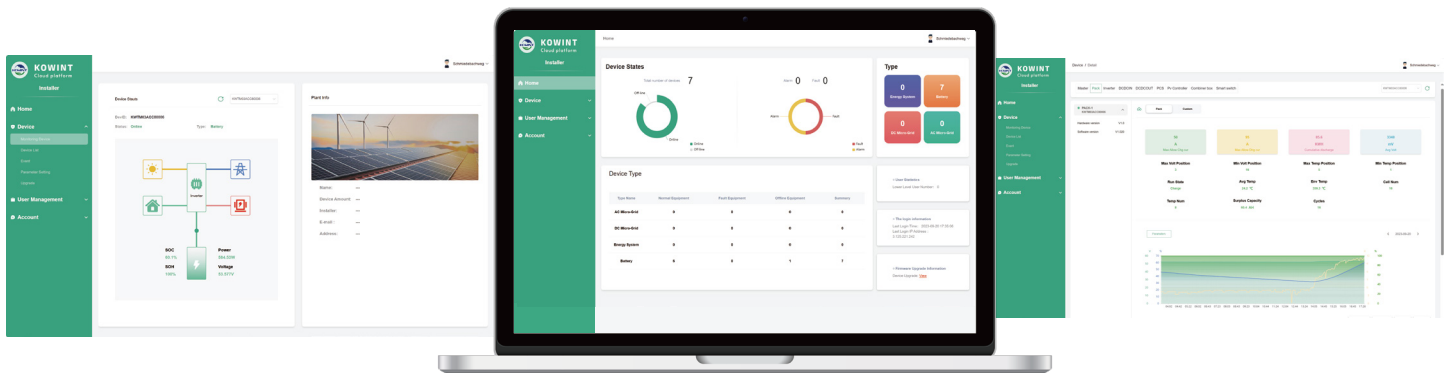
- The six-level distribution system, from the brand owner to end users, is more conducive to robust product channel construction.



SEAMLESS CONNECTIONS WITH INTELLIGENT MALL TRIAL APPLICATIONS

- Intelligent mall application and new product trial application enable users to contact source manufacturers directly, making product promotion faster and more accurate.

System Layout



KOWINT ENERGY
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