KEHUA TECH

Residential Energy Storage Product Catalog

Stock Code

002335.SZ

Kehua Tech

www.kehua.com

30+ Years

30+ years R&D and manufacturing experience of power electronic technologies

21+GW

21GW+ PV installation worldwide

2.6GW /3.8GWh

2.6GW/3.8GWh ESS installation

No.5

2020, KEHUA ranks No.5 in world PCS market share (by IHS Markit)

Residential Energy Storage System

With Kehua Residential Energy Storage System, it is possible to effectively manage solar in your home day and night.
This energy storage system will give you a complete energy solution with multiple working modes which meet different application scenarios. It will bring independence and economy for energy use.

Residential Energ

Contents

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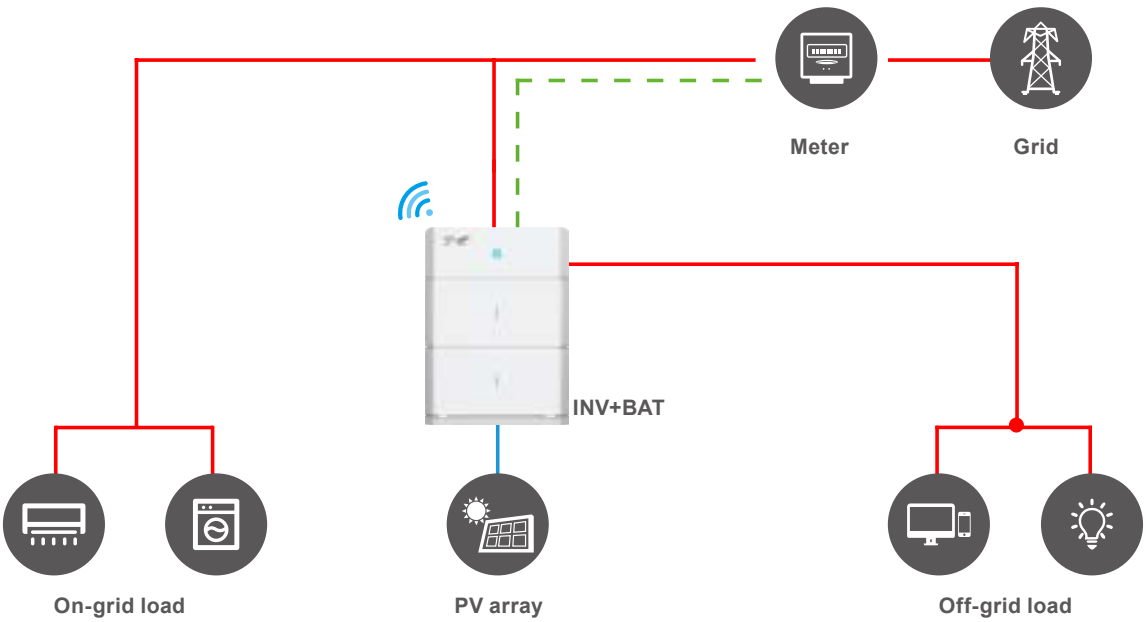
Application scenarios

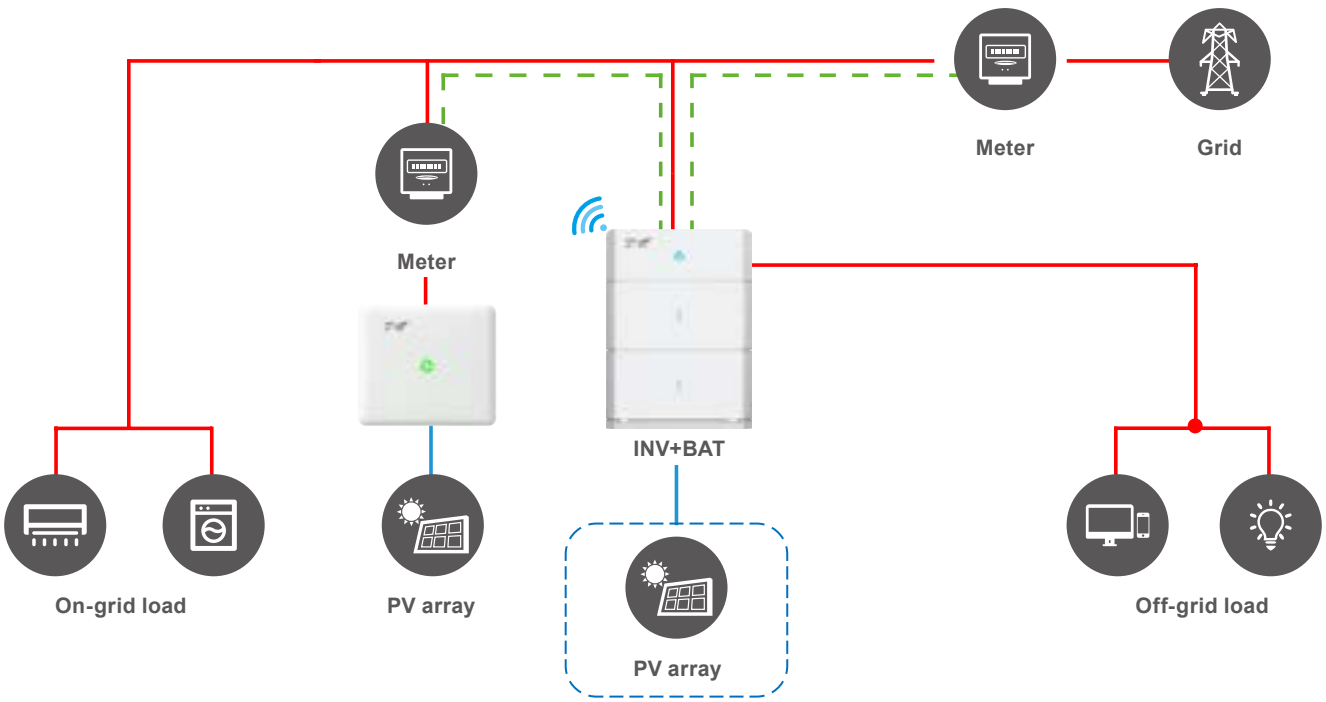
Newly installed system



In areas with high electricity prices, customers can build a new home energy management system with Kehua PV+ESS solution, which can realize the maximum self-use of solar energy and reduce electricity bills. At the same time, this solution is also very suitable for areas with limited power supply and peak-to-valley adjustment of power.

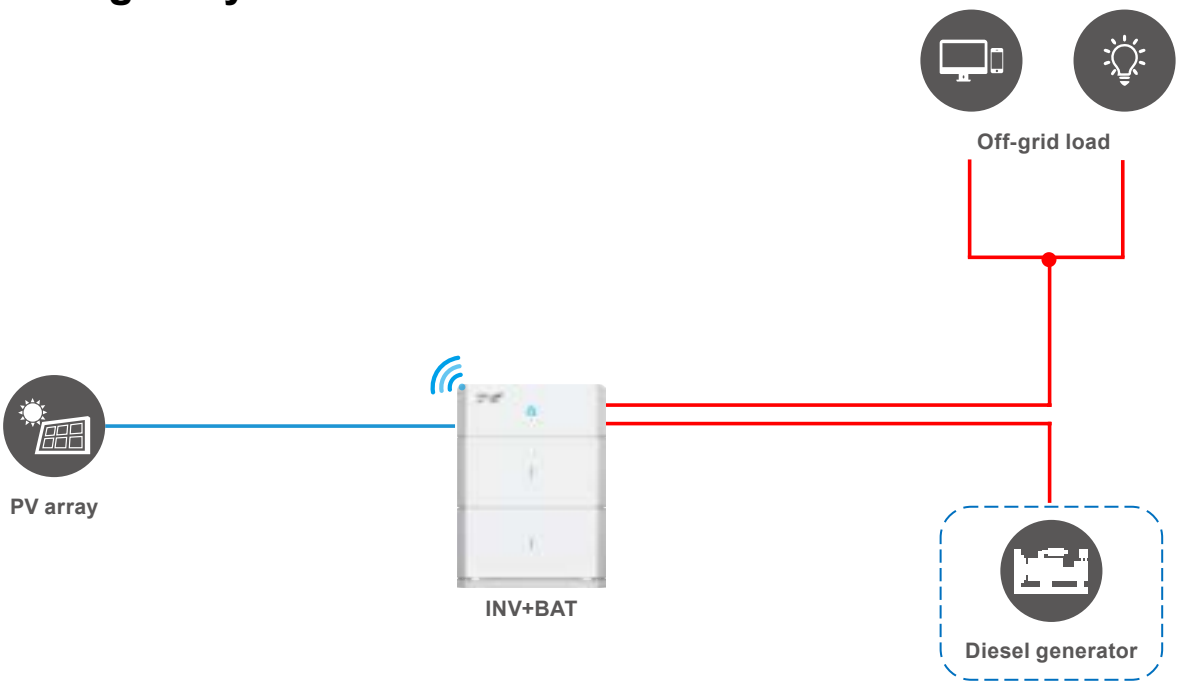
AC retrofit system

For households that have installed PV on-grid inverters, Kehua's energy storage products are selected to construct an energy storage system, and combined with meter communication, electricity costs can be effectively reduced by increasing the rate of self-generation and self-consumption, so that customers can obtain better investment returns.



Application Scenarios

Pure off-grid system



In some areas without power grid, such as ocean islands or remote areas, Kehua Energy Storage System can be combined with generators to form a complete off-grid system to ensure energy independence.

Working Mode

Self-consumption mode

Realizing the maximum self-use of solar energy.

Backup mode

Providing blackout protection as an energy backup unit.

Time of use mode

Realizing the maximum energy utilization rate and users' income with flexible electricity consumption strategies at different times.

Energy scheduling mode

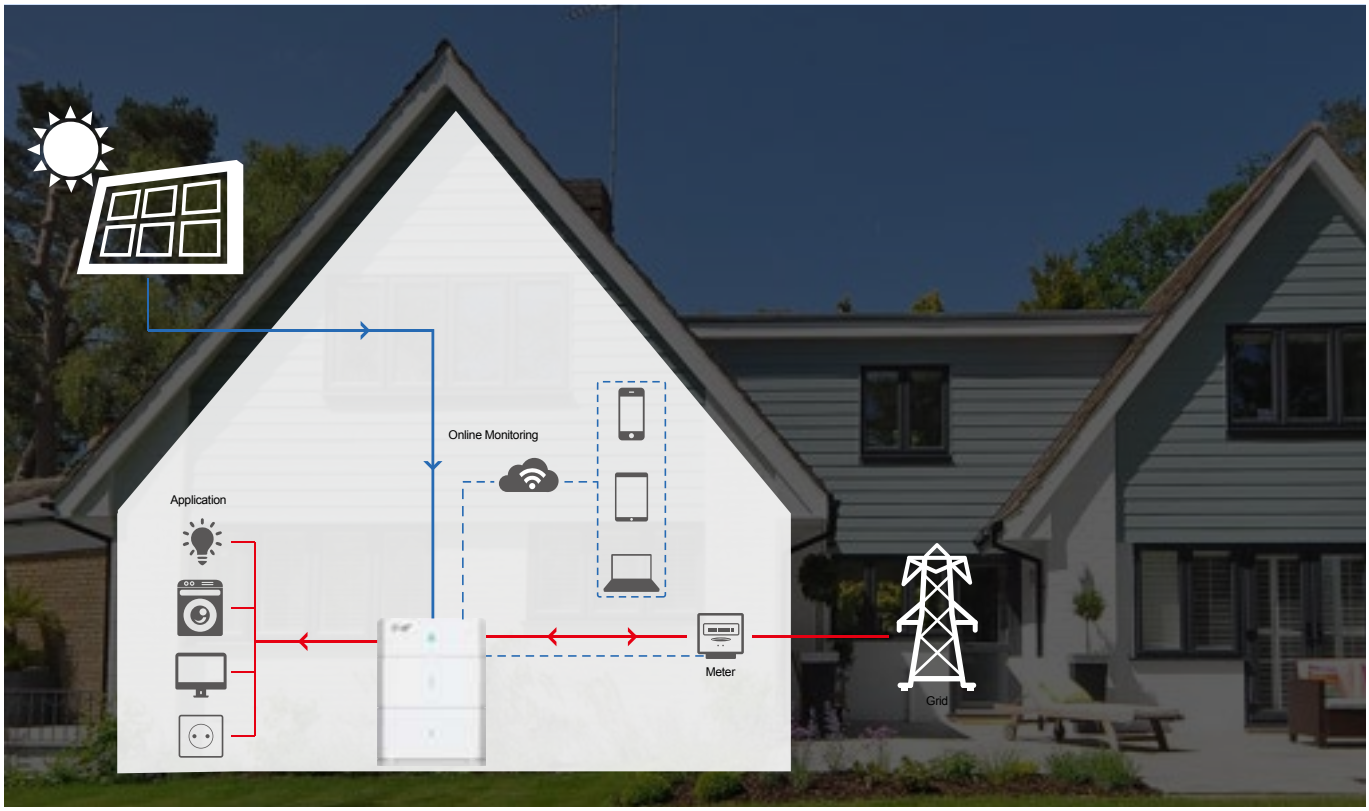
Getting profit through programable charging and discharging time according price difference between peak and off-peak time.

External control mode

Remote inverter control, realize full fleet control and operation (such as VPP).

Off-grid mode

Operating in a complete off-grid mode when no grid power is available.


Online Monitoring
Application
Meter
Grid

Residential Energy Storage System

Single-phase ESS

iStoragE1 Series
3600~6000

Product Features

Independent

- Built-in EMS function with multi-mode operation
- Real uninterruptible power supply, switching time <10ms
- Stronger back up power up to 7800W

Simple

- All-in-one design
- Modular installation & Quick plug connector
- Multiple battery expansion

Safe

- Physical and electrical dual isolation
- Modular fire protection integration
- AFCI function integration (optional)

Smart

- Multi-point real-time monitoring, adaptive SOC management
- PACK-level battery management, active balance of charging and discharging
- Intelligent energy management

System Specification

Items	iStoragE1 3600 Series	iStoragE1 5000 Series	iStoragE1 6000 Series
System components			
Inverter model	iStoragE1 3600	iStoragE1 5000	iStoragE1 6000
Number of Inverter	1		
Battery system model	iStoragE B5-S1		
Number of battery module	1~8		
General			
Cell technology	LiFePO4		
System capacity	5~40kWh		
Rated system power	3.6kW	5kW	6kW
Dimension (W*H*D)	800*1090*240mm/31.49* 42.91*9.45in (two battery modules, with foundation)		
Noise	<25dB		
Cooling type	Natural cooling		
Altitude	2000m/6561ft		
Operating temperature	-20~50ºC/-4~122ºF		
Recommended operating temperature	15~30ºC/59~86ºF		
Storage temperature	-10~45ºC/14~113ºF		
Operating humidity	0~100%RH		
Display	LED & APP		
Installation method	Floor or Wall-mounted (optional)		
Communication interface	Portal-WiFi (standard) /4G (optional), Meter-RS485		
Certification	IEC62109-1/2. IEC61000-6-2/3, EN 61000-3-11, EN 61000-3-12, VDE-AR-N 4105, VDE V 0124-100, G98, G99, UTE C15-712-1, VDE V 0126-1-1, EN50549-1, CEI0-21, AS4777.2, IEC62619, IEC62040		

Hybrid Inverter Specification

Items	iStoragE1 3600	iStoragE1 5000	iStoragE1 6000
DC Input (PV)			
Recommended Max. PV input power	9.0kWp		
Max. PV input voltage	580Vdc		
No. of MPPTs	2		
No. of PV strings per MPPT	1/1		
Max. PV input current	15A/15A		
Max. short current	18.75A/18.75A		
MPPT voltage range	100~550Vdc		
Starting voltage	100Vdc		
DC (PV) switch	Yes		
DC Input (Battery)			
Battery voltage range	360~500Vdc		
AC Input and Output (On-grid)			
Rated AC output power	3.6kW	5.0kW	6.0kW
Rated AC output voltage	220/230/240Vac		
Grid voltage range	180~270Vac		
Max. output current	15.6A	21.7A	26.2A
Max. input current	31.2A	43.4A	52.4A
Rated grid frequency	50/60Hz		
Grid frequency range	45~55/55~65Hz		
Power factor	>0.99 (rated power)		
Adjustable power factor	0.8 (leading)~0.8 (lagging)		
THDi	<3% (rated power)		
AC Input (Back-up)			
Rated AC output voltage	220/230/240Vac		
Rated output frequency	50/60Hz		
Rated output power	3.6kW	5.0kW	6.0kW
Peak output power	4.68kW, 60s 5.4kW, 30s	6.5kW, 60s 7.5kW, 30s	7.8kW, 60s
Switch time	<10ms		
Efficiency			
Max. efficiency	97.70%		
European efficiency	97.10%		
General			
Weight	18kg/39.68lb		
Dimension (W*H*D)	800*280*232mm/31.49*11.02*9.13in		
Enclosure type	IP65		

*Specifications are subject to change without prior notice.

Residential Energy Storage System

Single-phase ESS for North America

iStoragE2A Series
10000~12000

Product Features

Independent

- Built-in EMS function with multi-mode operation
- Real uninterruptible power supply, switching time <20ms
- Stronger back up power up to 24kW

Simple

- All-in-one design
- Modular installation & Quick plug connector (battery module)
- Multiple battery expansion& Multiple system expansion

Safe

- Physical and electrical dual isolation
- Modular fire protection integration
- AFCI & RSD function integration

Smart

- Multi-point real-time monitoring, adaptive SOC management
- PACK-level battery management, active balance of charging and discharging
- Intelligent energy management with weather forecast function

System Specification

Items	iStoragE2A 10000 Series	iStoragE2A 11400 Series	iStoragE2A 12000 Series
System components			
Inverter model	iStoragE2A 10000	iStoragE2A 11400	iStoragE2A 12000
Number of Inverter	1		
Battery system model	iStoragE B5L-S1		
Number of battery module	3~8		
General			
Cell technology	LiFePO4		
System capacity	15~40kWh		
Rated system power	10kW	11.4kW	12kW
Peak system power	24kW, 10s		
Dimension (W*H*D)	800*2045*240mm (four battery modules, with foundation)		
Noise emission	<40dB		
Cooling type	Natural cooling		
Altitude	2000m/6561ft		
Operating temperature	-20~50ºC/-4~122ºF		
Recommended operating temperature	15~30ºC/59~86ºF		
Storage temperature	-10~45ºC/14~113ºF		
Operating humidity	0~100%RH		
Display	LED & APP		
Installation method	Floor or Wall-mounted (optional)		
Communication Interface	Portal-WiFi (standard)/4G (optional), Meter-RS485, EMS-RS485 (sunspec)		
Certification	UL9540, FCC Part 15 Class B, UL1699B, UL1998, CEC, UL1741 SA, IEEE1547, IEEE1547.1, California Rule 21, HECO Rule 14H		

Hybrid Inverter Specification

Items	iStoragE2A 10000	iStoragE2A 11400	iStoragE2A 12000
DC Input (PV)			
Recommended Max. PV input power	18kWp		
Max. PV input voltage	500Vdc		
No. of MPPTs	4 (2)		
No. of PV strings per MPPT	1/1/1/1 (2/2)		
Max. PV input current	15A/15A/15A/15A (30A/30A)		
Max. short current	18.75A/18.75A/18.75A/18.75A (37.5A/37.5A)		
MPPT voltage range	100~500Vdc		
Starting voltage	125Vdc		
DC (PV) switch	Yes		
DC Input (BAT)			
Battery voltage range	360~500Vdc		
AC Input and Output (On-grid)			
Rated AC output power	10kW	11.4kW	12kW
Rated AC output voltage	240Vac		
Grid voltage range	211.2-264Vac		
Max. output current	41.6A	47.5A	50A
Max. input current	83.3A	83.3A	83.3A
Rated grid frequency	60Hz		
Grid frequency range	55~65Hz		
Power factor	>0.99 (rated power)		
Adjustable power factor	0.85 (leading)~0.85 (lagging)		
THDi	<3% (rated power)		
Over current protection device	125A breaker		
Maximum supply fault current	5kA		
AC Input (Generator)			
Rated AC current	50A		
Rated AC output power	12kW		
Over current protection device	63A breaker		
Maximum supply fault current	5kA		
AC Output (Back-up)			
Rated AC output voltage	240Vac/120Vac 2W/N/PE, Split Phase		
Rated output frequency	60Hz		
Rated output power	10kW	11.4kW	12kW
Peak output power	24kW, 10s		
Peak output current	100A, 10s		
Switch time	<20ms (without parallel), <300ms (parallel)		
Over current protection device	63A breaker		
Maximum supply fault current	5kA		
Support the unbalance load	Yes		
Efficiency			
Max. efficiency	97.5%		
CEC efficiency	96.8%		
General			
Weight	35kg/77.16lb		
Dimension (W*H*D)	800*450*200mm/31.49*17.72*7.87in		
Enclosure type	NEMA Type 3R		

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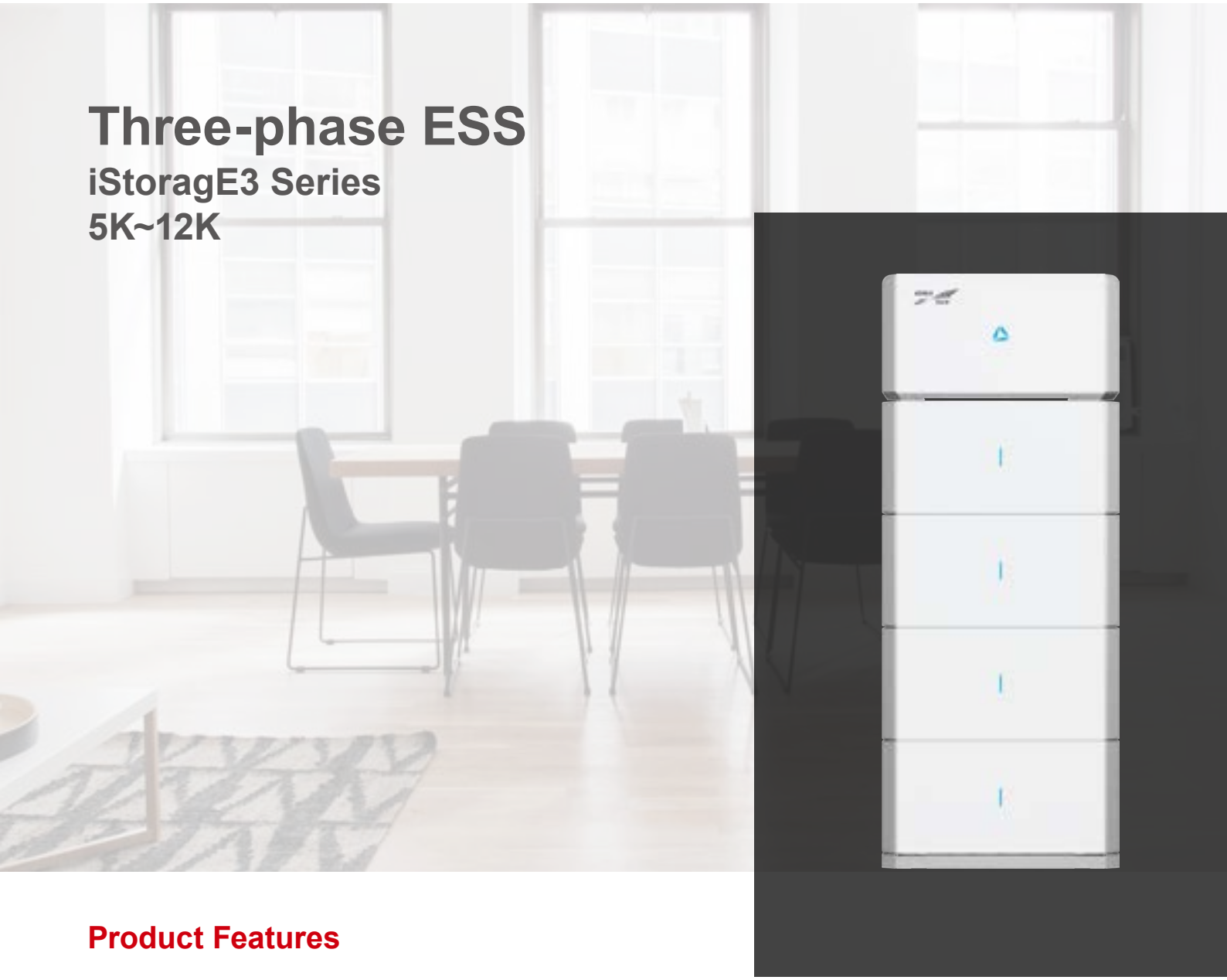
Residential Energy Storage System



Three-phase ESS

iStoragE3 Series

5K~12K

Product Features

Independent

- Built-in EMS function with multi-mode operation
- Real uninterruptible power supply, switching time <10ms
- Stronger back up power up to 20kW

Simple

- All-in-one design
- Modular installation & Quick plug connector
- Multiple battery expansion& Multiple system expansion

Safe

- Physical and electrical dual isolation
- Modular fire protection integration
- AFCI function integration (optional)

Smart

- Multi-point real-time monitoring, adaptive SOC management
- PACK-level battery management, active balance of charging and discharging
- Intelligent energy management with weather forecast function

System Specification

Items	iStoragE3 5K Series	iStoragE3 6K Series	iStoragE3 8K Series	iStoragE3 10K Series	iStoragE3 12K Series
System components					
Inverter model	iStoragE3 5K	iStoragE3 6K	iStoragE3 8K	iStoragE3 10K	iStoragE3 12K
Number of Inverter	1				
Battery system model	iStoragE B5-S2				
Number of battery module	1~8				
General					
Cell technology	LiFePO4				
System capacity	5~40kWh				
Rated system power	5kW	6kW	8kW	10kW	12kW
Dimension (W*H*D)	800*1995*240mm/31.49*78.54*9.45in (four battery modules, with foundation)				
Noise emission	<30dB				
Cooling type	Natural cooling				
Altitude	2000m/6561ft				
Operating temperature	-20~50ºC/-4~122ºF				
Recommended operating temperature	15~30ºC/59~86ºF				
Storage temperature	-10~45ºC/14~113ºF				
Operating humidity	0~100%RH				
Display	LED & APP				
Installation method	Floor or Wall-mounted (optional)				
Communication Interface	Portal-WiFi (standard)/4G (optional), Meter-RS485, EMS-RS485 (sunspec)				
Certification	VDE AR-N-4105, IEC/EN 62109-1, IEC/EN 62109-2, CEI 0-21, EN61000, VDE 0126-1-1, VDE V0124-100, EN 50549-1 (NCRFG)				

Hybrid Inverter Specification

Items	iStoragE3 5K	iStoragE3 6K	iStoragE3 8K	iStoragE3 10K	iStoragE3 12K
DC Input (PV)					
Recommended Max. PV input power	9kWp		18kWp		
Max. PV input voltage	1000Vdc				
No. of MPPTs	1		2		
No. of PV strings per MPPT	1/1		2/1		
Max. PV input current	16A/16A		27A/16A		
Max. short current	20A/20A		34A/20A		
MPPT voltage range	150~900Vdc				
Starting voltage	180Vdc				
DC (PV) switch	Yes				
DC Input (Battery)					
Battery voltage range	630~900Vdc				
AC Input and Output (On-grid)					
Rated AC output power	5kW	6kW	8kW	10kW	12kW
Rated AC output voltage	380/400Vac				
Grid voltage range	323-418Vac/340-440Vac				
Max. output current	7.6A	9.1A	12.2A	15.2A	18.2A
Max. input current	15.2A	18.2A	24.4A	30.4A	30.4A
Rated grid frequency	50Hz/60Hz				
Grid frequency range	45~55Hz/55~65Hz				
Power factor	>0.99 (rated power)				
Adjustable power factor	0.8 (leading)~0.8 (lagging)				
THDi	<3% (rated power)				
AC Output (Back-up)					
Rated AC output voltage	380/400Vac, 3W/N/PE				
Rated output frequency	50/60Hz				
Rated output power	5kW	6kW	8kW	10kW	12kW
Peak output power	12kW, 60s		20kW, 60s		
Peak output current	18.2A, 60s		30.4A, 60s		
Switch time	<10ms (without parallel), <300ms (parallel)				
Support the unbalance load	Yes				
Efficiency					
Max. efficiency	98.3%				
European efficiency	97.5%				
General					
Weight	30kg/66.14lb (inverter)				
Dimension (W*H*D)	800*400*200mm/31.49*15.75*7.87in				
Enclosure type	IP65				

*Specifications are subject to change without prior notice.

Lithium-ion Battery Module

iStoragE B5 Series

Product Features

- Safe and reliable
- Intelligent and flexible
- Easy O&M

Items	iStoragE B5L-S1	iStoragE B5-S1	iStoragE B5-S2
General			
Cell technology	LiFePO4		
Energy capacity	5kWh		
Usable capacity	5kWh		
Scalability	8		
Scalable capacity range	5~40kWh		
DOD	100%		
Rated power	2.5kW	4kW	4kW
Voltage range	360~500Vdc		650~900Vdc
Maximum charge current	6.94A	11.11A	6.15A
Maximum discharge current	6.94A 8.3A,10s	11.11A 13.33A,10s	6.15A 7.38A,10s
Dimension (W*H*D)	800*380*200mm/31.49*14.6*7.87in		
Weight	55kg/121.25lb		
Operating temperature	-20~50°C/-4~122°F		
Recommended operating temperature	15~30°C/59~86°F		
Storage temperature	-10~45°C/14~113°F		
Humidity	0~100%RH		
Altitude	2000m/6561ft		
Cooling type	Natural cooling		
Display	LED		
Communication interface	RS485, CAN		
Topology	Isolated		
Connection method	Floor or Wall mounted (optional)		
Certification	UL1973, UL60730, UN38.3,	IEC 62619, IEC 60730, UN38.3	

* Specifications are subject to change without prior notice.

System Accessories

Datalogger

Wifi Stick/4G Stick

Product Features

Smart and flexible

- Support WiFi configuration and baud rate configuration
- Unobstructed communication distance up to 100m

Simple and efficient

- Plug and play, quick installation
- Upgrade the data collector and inverter by cloud platform and APP

Safe and reliable

- Password and encrypted transmission for data protection
- IP65 protection, wide operating temperature range

System Specification

Items	KC762A	KC761B
Type	Wifi Stick	4G Stick
Communication Mode		
RS485 communication	Support 4800/9600/115200bps communcation distance ≤100m	
WLAN commnunicatoin	IEEE802.11b/g/n 2.412GHz~2.484GHz	LTE-FDD B1/B3/B5/B7/B8/B20/B28 LTE-TDD B38/B40/B41 GSM 850MHz/900MHz/1800MHz/1900MHz
Power Supply		
DC input voltage	5~15VDC, 1A@15V	
Power consumption	≤5w	
General		
Max. number of devices	≤10	
Display	LED	
Operating temperature	-30~70°C/-22~158°F	
Relative air humidity	0%~100%	
Elevation	≤4000m/13123.36ft	
Protection class	IP65	
Dimensions (W×H×D)	48*130.5*31.4mm/1.89*5.14*1.24in	
Mounting type	plug & play	
Certification	CE, FCC	CE

*Specification indexes may be subject to changes without further notice.

System Accessories

Kehua Energy Cloud

Product Features

Smart O&M

- Provide multi-level data statistics for required agents , regions , power stations, etc.
- Provide systematic online upgrade and remote maintenance functions to ensure stable operation of equipment and power stations.
- Support remote IV curve and fault wave recording, efficient data acquisition, and accurate fault locating.

Efficient Management

- Provide effective end-user information maintenance and power plant information management.
- Provide various types of system logs to locate the cause of a problem accurately
- Support batch setting and remote control functions to achieve convenient and efficient management.

Perfect Functions

- Provide the functions of account management, event alarm, data report, organization management, equipment assets, and equipment's operation parameter design, etc.
- Support real-time monitoring of data at the region-level/station-level/ equipment-level.
- Offer the advantages of comprehensive inverter technology, realize efficient response, and provide a strong support for intelligent O&M management.

Function List

Items	Kehua Energy Cloud
Parameter	
Language	Chinese/English
Browser	Support IE, Chrome, Firefox
Data storage interval	>15min (settable)
Data management	Support 25 years saving
Function List	
O&M management	Provide management, equipment upgrade and remote control functions of users, power stations, collectors and inverters
organization management	Provide the administrative right, realize the personnel accounts creation and authority management functions
monitoring center	View real-time information and alerts for monitoring sites and devices, and add agent-level management interface for efficient data monitoring and management
data report	Provide historical data of power station and equipment, query alarm information, create custom report, download and export functions
expandability	The system adopts modular design, and supports the modular expansion; Device type and device protocol support configuration expansion.

*Specifications are subject to change without prior notice.

System Accessories

APP-WiseSolar Plus

With Kehua WiseSolar, customers can manage and control their energy consumption and production. Available via smartphone or tablet, the APP allows customers to monitor, analyze and control their Kehua iStoragE system from anywhere in the world.

Reliable • Flexible • Responsible

Kehua Tech

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