



Household Energy Storage Battery  
Hybrid Solar Charge Inverter  
ALL IN ONE ESS



SHENZHEN DELONG ENERGY TECHNOLOGY CO.,LTD  
[www.delongtop.com](http://www.delongtop.com)

# Hybrid Solar Charge Inverter

DL48V-ES6.2K / DL48V-ES6.2KP

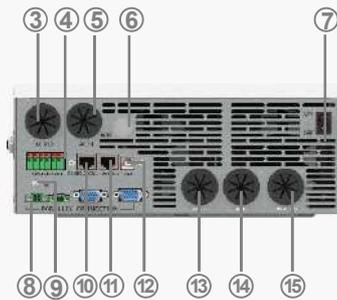
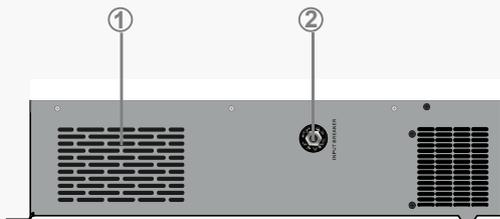


- CT Zero export to grid.
- Inverter and Grid hybrid Power supply capable of withstanding continuous impact loads.
- 27A PV input, compatible with all residential modules and flexible arrays.
- 200% EPS peak output in 5s.
- Up to 6 inverters in parallel or build three phase system.
- UPS-Level Switching time down to 10ms
- Support diesel generator input
- Supports use without battery. PV and grid can supply power to load together.
- Easy & intuitive LCD
- Remote diagnostics & OTA update

**EU**  
**6.2Kw**

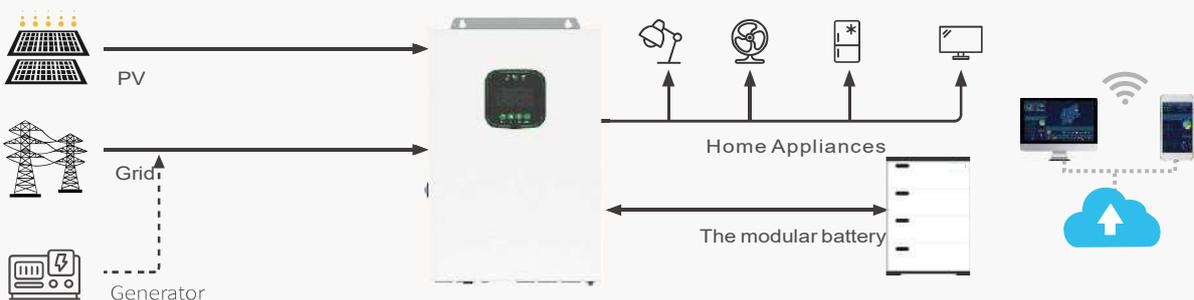
**230Vac**  
**Single-phase**

## Interface Description



1. Intelligent cooling fan
2. overload protection
3. AC/OUT connection terminal
4. Dry node control
5. AC/IN connection terminal
6. WIFI stick interface
7. ON/OFF switch
8. Parallel connection terminal
9. Ground terminal
10. RS485 communication port
11. RS485 communication port
12. USB communication port
13. BAT +
14. BAT -
15. PV connection

## Solar System Connection



## Product Specifications

Model	DL48V-ES6.2K / DL48V-ES6.2KP
<b>Parallel mode</b>	
Permitted parallel number	NO/1~6
<b>AC mode</b>	
Rated input voltage	220/230Vac
Input voltage range	(170Vac~280Vac) ± 2% (UPS Mode) (90Vac~280Vac) ± 2% (APL Mode)
Frequency	50Hz/60Hz (Auto detection)
Frequency Range	47 ± 0.3Hz~55 ± 0.3Hz (50Hz); 57 ± 0.3Hz~65 ± 0.3Hz (60Hz);
Overload/short circuit protection	Circuit breaker
Efficiency	>93%
Conversion time (bypass and inverter)	10ms (typical)
AC reverse protection	Yes
Maximum bypass overload current	40A
<b>Inverter mode</b>	
Output voltage waveform	Pure sine wave
Rated output power (VA/W)	6200VA/6200W
Power factor	1
Rated output voltage (Vac)	230Vac
Output voltage error	± 5%
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz
Maximum Efficiency	>94%
Overload protection	(102% < load < 125%) ± 10%: report error and turn off the output after 5 minutes; (125% < load < 150%) ± 10%: report error and turn off the output after 10 seconds; Load > 150% ± 10%: report error and turn off the output after 5 seconds;
Peak power	12000VA
Loaded motor capability	4HP
Output short circuit protection	200ms Protection
Bypass circuit breaker specification	40A
Rated battery input voltage	51.2V (Minimum starting voltage 44V)
Battery voltage range	40.0Vdc~60Vdc ± 0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)
Power saving mode self-consumption	Load ≤ 25W Enters power-saving mode
<b>AC charging</b>	
Battery type	Lead acid or lithium battery
Maximum charge current(can be set)	80A
Charge current error	± 5A dc
Charge voltage range	40 ~60Vdc
Short circuit protection	Circuit breaker
Circuit breaker specifications	40A
<b>PV charging</b>	
MPPT way	1
Maximum PV open circuit voltage	500Vdc
PV operating voltage range	120Vdc~500Vdc
MPPT voltage range	90Vdc~450Vdc
Battery voltage range	40~60Vdc
Maximum PV input power	6000W
Maximum PV input current	27A
PV charging current range(can be set)	0-100A
Charging short circuit protection	Blown fuse
Wiring protection	Reverse polarity protection
<b>Hybrid Max charging current specifications (AC +PV)</b>	
Max charging current(can be set)	0-100A
<b>Certified specifications</b>	
Certification	CE(IEC62109-1,2),
EMC certification level	EN61000, C2
Operating temperature range	-10°C to 55°C(>45°C Reduced operation)
Storage temperature range	-25°C ~60°C
Humidity range	5% to 95% (Conformal coating protection)
Noise	≤ 60dB
Heat dissipation	Forced air cooling, variable speed of fan
Communication interface	USB/RS485(/WiFi/GPRS)/ Dry node control
Product Size/Packaging Size (W*H*D)	280x420x110 mm
Net weight/Packaging weight(kg)	8.2



## Hybrid Solar Charge Inverter

DL48V-ES6.2K / DL48V-ES6.2KP

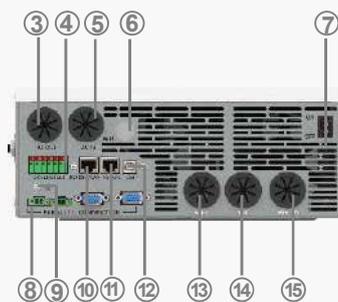
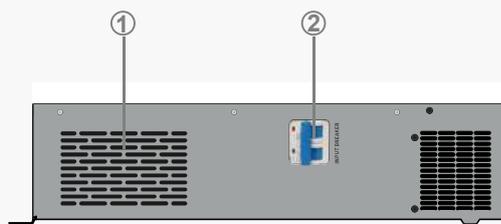


- CT Zero export to grid.
- Inverter and Grid hybrid Power supply capable of withstanding continuous impact loads.
- Usable PV power up to 150% inverter rated power, Dual-channel MPPT, 27A\*2 PV input, compatible with all residential modules and flexible arrays.
- 200% EPS peak output in 5s.
- Up to 6 inverters in parallel or build three phase system.
- UPS-Level Switching time down to 10ms
- Support diesel generator input
- Supports use without battery. PV and grid can supply power to load together.
- Easy & intuitive LCD
- Remote diagnostics & OTA update

EU  
12Kw

230Vac  
Single-phase

### Interface Description



1. Intelligent cooling fan
2. overload protection
3. AC/OUT connection terminal
4. Dry node control
5. AC/IN connection terminal
6. WIFI stick interface
7. ON/OFF switch
8. Parallel connection terminal
9. Ground terminal
10. RS485 communication port
11. RS485 communication port
12. USB communication port
13. BAT +
14. BAT -
15. PV connection

### Solar System Connection



## Product Specifications

Model	DL48V-ES12K / DL48V-ES12KP
<b>Parallel mode</b>	
Permitted parallel number	NO/1~6
<b>AC mode</b>	
Rated input voltage	230Vac $\pm$ 5%
Input voltage range	(170Vac~280Vac) $\pm$ 2% (UPS Mode) (90Vac~280Vac) $\pm$ 2% (APL Mode)
Frequency	50Hz/60Hz (Auto detection)
Frequency Range	47 $\pm$ 0.3Hz~55 $\pm$ 0.3Hz (50Hz); 57 $\pm$ 0.3Hz~65 $\pm$ 0.3Hz (60Hz);
Overload/short circuit protection	Circuit breaker
Efficiency	>93%
Conversion time (bypass and inverter)	10ms (typical)
AC reverse protection	Yes
Maximum bypass overload current	60A
<b>Inverter mode</b>	
Output voltage waveform	Pure sine wave
Rated output power (VA/W)	12000VA/12000W
Power factor	1
Rated output voltage (Vac)	230Vac
Output voltage error	$\pm$ 5%
Output frequency range (Hz)	50Hz $\pm$ 0.3Hz/60Hz $\pm$ 0.3Hz
Maximum Efficiency	>94%
Overload protection	(102% < load <125%) $\pm$ 10%: report error and turn off the output after 5 minutes; (125% < load < 150%) $\pm$ 10%: report error and turn off the output after 10 seconds; Load >150% $\pm$ 10%: report error and turn off the output after 5 seconds;
Peak power	24000VA
Loaded motor capability	8HP
Output short circuit protection	200ms Protection
Bypass circuit breaker specification	63A
Rated battery input voltage	51.2V (Minimum starting voltage 44V)
Battery voltage range	40.0Vdc~60Vdc $\pm$ 0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)
Power saving mode self-consumption	Load $\leq$ 25W Enters power-saving mode      Load $\leq$ 50W Enters power-saving mode
<b>AC charging</b>	
Battery type	Lead acid or lithium battery
Maximum charge current(can be set)	150A
Charge current error	$\pm$ 5A <sub>dc</sub>
Charge voltage range	40 -60Vdc
Short circuit protection	Circuit breaker
Circuit breaker specifications	63A
<b>PV charging</b>	
MPPT way	2
Maximum PV open circuit voltage	500Vdc
PV operating voltage range	120Vdc~500Vdc
MPPT voltage range	90Vdc~450Vdc
Battery voltage range	40-60Vdc
Maximum PV input power	9000W+9000W
Maximum PV input current	27A+27A
PV charging current range(can be set)	0-150A
Charging short circuit protection	Blown fuse
Wiring protection	Reverse polarity protection
<b>Hybrid Max charging current specifications (AC +PV )</b>	
Max charging current(can be set)	0-150A
<b>Certified specifications</b>	
Certification	CE(IEC62109-1,2),
EMC certification level	EN61000, C2
Operating temperature range	-10°C to 55°C(>45°C Reduced operation)
Storage temperature range	-25°C ~60°C
Humidity range	5% to 95% (Conformal coating protection)
Noise	$\leq$ 60dB
Heat dissipation	Forced air cooling, variable speed of fan
Communication interface	USB/RS485/WiFi/GPRS)/ Dry node control
Product Size/Packaging Size (W*H*D)	365x550x128 mm
Net weight/Packaging weight(kg)	19.5



## US-Standard Hybrid Inverter

DL48V-MS3.6K / DL48V-MS3.6KP



- CT Zero export to grid.
- Inverter and Grid hybrid Power supply capable of withstanding continuous impact loads.
- 27A PV input, compatible with all residential modules and flexible arrays.
- 125% EPS peak output in 5s.
- Up to 6 inverters in parallel or build split phase system or three phase system.
- UPS-Level Switching time down to 10ms
- Support diesel generator input
- Supports use without battery. PV and grid can supply power to load together.
- Easy & intuitive LCD
- Remote diagnostics & oTA update

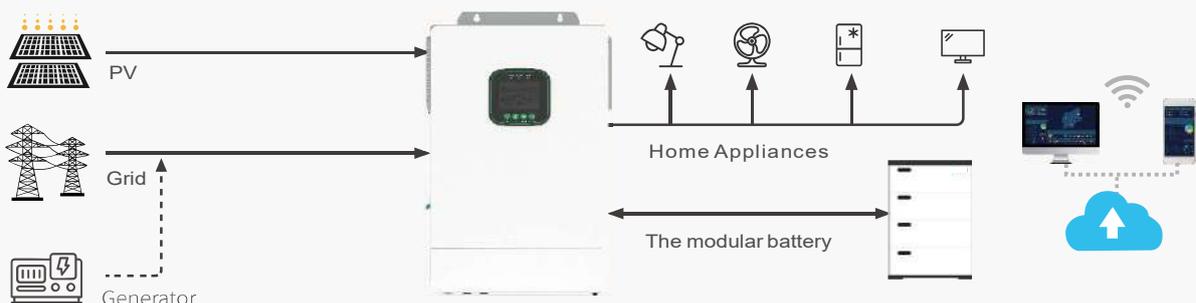
US  
3.6Kw

120Vac  
Single-phase

### Interface Description



### Solar System Connection



## Product Specifications

Model	DL48V-MS3.6K / DL48V-MS3.6KP
<b>Parallel mode</b>	
Permitted parallel number	NO/1~6
<b>AC mode</b>	
Rated input voltage	120Vac ±5%
Input voltage range	(90Vac~140Vac)±2%
Frequency	50Hz/60Hz (Auto detection)
Frequency Range	47±0.3Hz~55±0.3Hz (50Hz); 57±0.3Hz~65±0.3Hz (60Hz);
Overload/short circuit protection	Circuit breaker
Efficiency	>95%
Conversion time (bypass and inverter)	10ms (typical)
AC reverse protection	Yes
Maximum bypass overload current	40A
<b>Inverter mode</b>	
Output voltage waveform	Pure sine wave
Rated output power (VA/W)	3600VA/3600W
Power factor	1
Rated output voltage (Vac)	120Vac
Output voltage error	±5%
Output frequency range (Hz)	50Hz±0.3Hz/60Hz±0.3Hz
Maximum Efficiency	>91%
Overload protection	(102% < load <110%) ±10%: report error and turn off the output after 5 minutes; (110% < load < 125%) ± 10%: report error and turn off the output after 10 seconds; Load >125% ±10%: report error and turn off the output after 5 seconds;
Peak power	7200VA
Loaded motor capability	2HP
Output short circuit protection	Circuit breaker
Bypass circuit breaker specification	40A
Rated battery input voltage	48V (Minimum starting voltage 44V)
Battery voltage range	40.0Vdc~60Vdc±0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)
Power saving mode self-consumption	Enter power-saving mode when load ≤ 50W
<b>AC charging</b>	
Battery type	Lead acid or lithium battery
Maximum charge current(can be set)	40A
Charge current error	±5Adc
Charge voltage range	40 ~60Vdc
Short circuit protection	Circuit breaker and blown fuse
Circuit breaker specifications	40A
<b>PV charging</b>	
MPPT channels	2
Maximum PV open circuit voltage	300Vdc
PV operating voltage range	120Vdc~300Vdc
MPPT voltage range	90Vdc~260Vdc
Battery voltage range	40-60Vdc
Maximum PV input power	4500W
Maximum PV input current	27A
Charging short circuit protection	Blown fuse
Wiring protection	Reverse polarity protection
<b>Hybrid Max charging current specifications (AC +PV )</b>	
Max charging current(can be set)	0-80A
<b>Certified specifications</b>	
Certification	UL1741
EMC certification level	FCC15 Class B
Operating temperature range	-10°C to 55°C(>45 °C derating operation)
Storage temperature range	-25°C ~60°C
Humidity range	5% to 95% (Conformal coating protection)
Noise	≤60dB
Heat dissipation	Forced air cooling, variable speed of fan
Communication interface	USB/RS485(WiFi/GPRS)/ Dry node control
Size (W*H*D)	280 x420 x110 mm
Net Weight (kg)	7.8



## US-Standard Hybrid Inverter

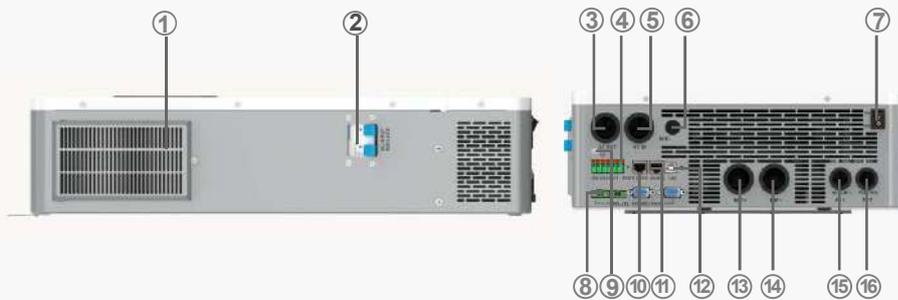
DL48V-MS6.5K / DL48V-MS6.5KP

- CT Zero export to grid.
- Inverter and Grid hybrid Power supply capable of withstanding continuous impact loads.
- Usable PV power up to 180% inverter rated power, Dual-channel MPPT, 27A\*2 PV input, compatible with all residential modules and flexible arrays.
- 125% EPS peak output in 5s.
- Up to 6 inverters in parallel or build split phase system or three phase system.
- UPS-Level Switching time down to 10ms
- Support diesel generator input
- Supports use without battery. PV and grid can supply power to load together.
- Easy & intuitive LCD
- Remote diagnostics & oTA update

US  
6.5Kw

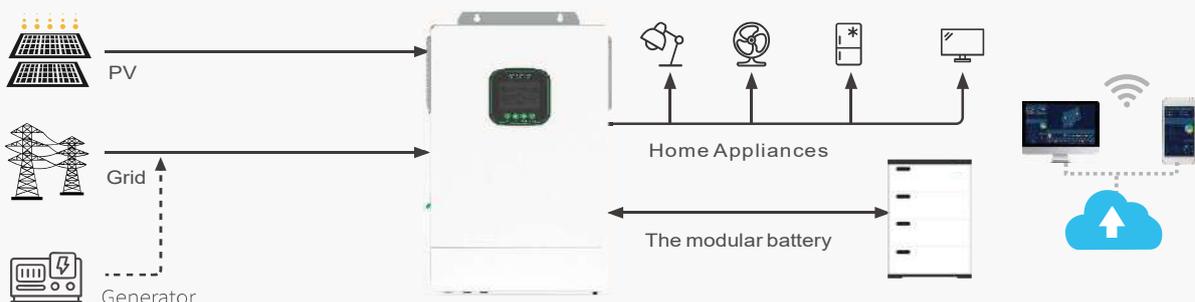
120Vac  
Single-phase

### Interface Description



1. Intelligent cooling fan
2. overload protection
3. AC/OUT connection terminal
4. Dry node control
5. AC/IN connection terminal
6. WIFI stick interface
7. ON/OFF switch
8. Parallel connection terminal
9. Ground terminal
10. RS485 communication port
11. RS485 communication port
12. USB communication port
13. BAT +
14. BAT -
15. PV 1 connection
16. PV 2 connection

### Solar System Connection



## Product Specifications

Model	DL48V-MS6.5K / DL48V-MS6.5KP
<b>Parallel mode</b>	
Permitted parallel number	NO/1~6
<b>AC mode</b>	
Rated input voltage	120Vac ±5%
Input voltage range	(90Vac~140Vac) ±2%
Frequency	50Hz/60Hz (Auto detection)
Frequency Range	47±0.3Hz~55±0.3Hz (50Hz); 57±0.3Hz~65±0.3Hz (60Hz);
Overload/short circuit protection	Circuit breaker
Efficiency	>95%
Conversion time (bypass and inverter)	10ms (typical)
AC reverse protection	Yes
Maximum bypass overload current	60A
<b>Inverter mode</b>	
Output voltage waveform	Pure sine wave
Rated output power (VA/W)	6500VA/6500W
Power factor	1
Rated output voltage (Vac)	120Vac
Output voltage error	±5%
Output frequency range (Hz)	50Hz±0.3Hz/60Hz±0.3Hz
Maximum Efficiency	>91%
Overload protection	(102% < load < 110%) ±10%: report error and turn off the output after 5 minutes; (110% < load < 125%) ± 10%: report error and turn off the output after 10 seconds; Load >125% ±10%: report error and turn off the output after 5 seconds;
Peak power	12000VA
Loaded motor capability	5HP
Output short circuit protection	Circuit breaker
Bypass circuit breaker specification	63A
Rated battery input voltage	48V (Minimum starting voltage 44V)
Battery voltage range	40.0Vdc~60Vdc±0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)
Power saving mode self-consumption	Enter power-saving mode when load ≤ 50W
<b>AC charging</b>	
Battery type	Lead acid or lithium battery
Maximum charge current(can be set)	120A
Charge current error	±5A <sub>dc</sub>
Charge voltage range	40 ~60V <sub>dc</sub>
Short circuit protection	Circuit breaker and blown fuse
Circuit breaker specifications	63A
<b>PV charging</b>	
MPPT channels	2
Maximum PV open circuit voltage	300V <sub>dc</sub>
PV operating voltage range	120V <sub>dc</sub> ~300V <sub>dc</sub>
MPPT voltage range	90V <sub>dc</sub> ~260V <sub>dc</sub>
Battery voltage range	40-60V <sub>dc</sub>
Maximum PV input power	4500W+4500W
Maximum PV input current	22A+22A
Charging short circuit protection	Blown fuse
Wiring protection	Reverse polarity protection
<b>Hybrid Max charging current specifications (AC +PV )</b>	
Max charging current(can be set)	0-150A
<b>Certified specifications</b>	
Certification	UL1741
EMC certification level	FCC15 Class B
Operating temperature range	-10°C to 55°C(>45 °C derating operation)
Storage temperature range	-25°C ~60°C
Humidity range	5% to 95% (Conformal coating protection)
Noise	≤60dB
Heat dissipation	Forced air cooling, variable speed of fan
Communication interface	USB/RS485(WiFi/GPRS)/ Dry node control
Size (W*H*D)	365x550x128 mm
Net Weight (kg)	18.5



# US-Standard Hybrid Inverter

DL48V-MSPI7.2K / DL48V-MSPI7.2KP

- CT Zero export to grid.
- Inverter and Grid hybrid Power supply capable of withstanding continuous impact loads.
- usable PV power up to 125% inverter rated power, Dual-channel MPPT , 16A\*2 PV input.
- 125% EPS peak output in 5s.
- Up to 6 inverters in parallel or change single phase system or three phase system.
- UPS-Level Switching time down to 10ms
- Support faster charging with battery current up 150A
- Support diesel generator input
- Supports use without battery. PV and grid can supply power to load together.
- Easy & intuitive capacitive touch screen.
- Remote diagnostics & OTA update

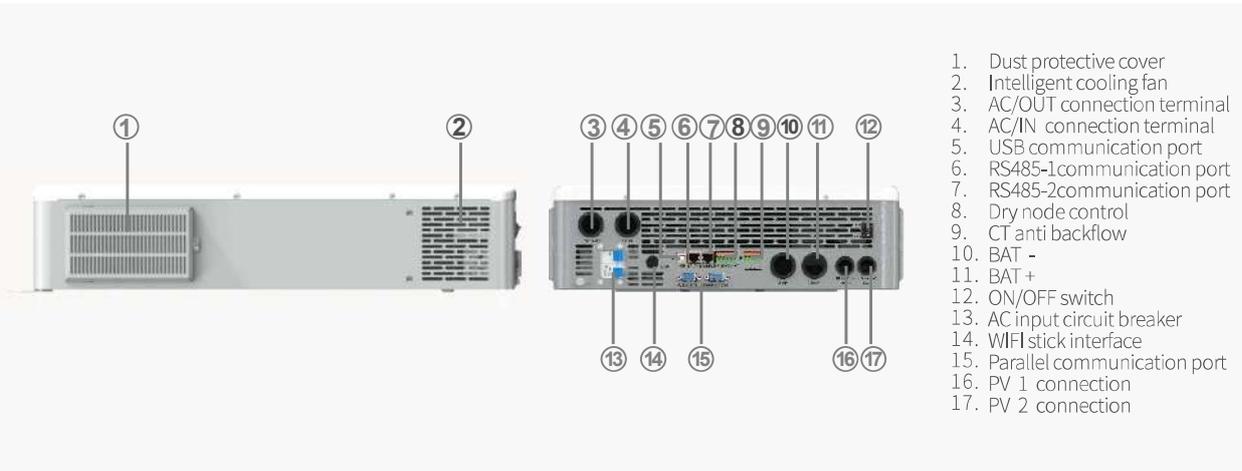


US  
7.2Kw

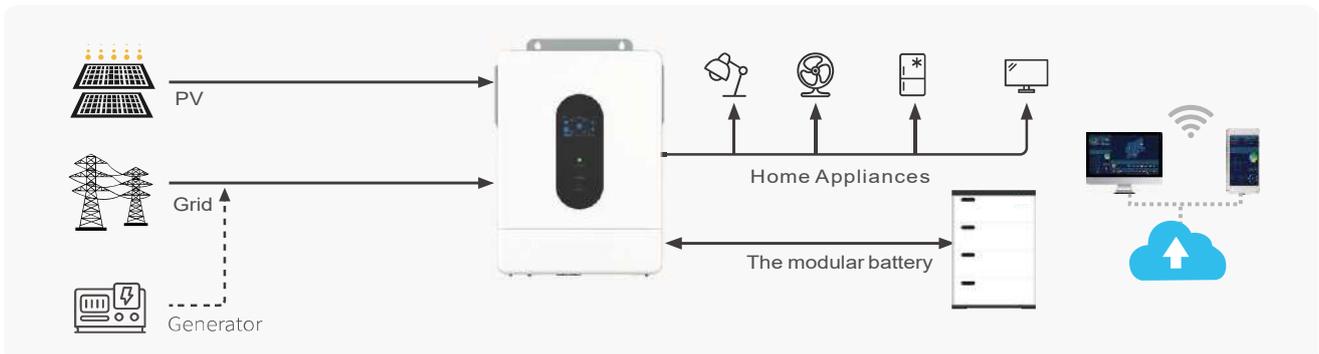
120Vac  
Single-phase  
6000W

240Vac  
Split-phase  
7200W

## Interface Description



## Solar System Connection



## Product Specifications

Model	DL48V-MSPI7.2K / DL48V-MSPI7.2KP
<b>Parallel mode</b>	
Permitted parallel number	NO/1~6
<b>AC mode</b>	
Rated input voltage	120(L1/N, L2/N)/240Vac(L1/L2)
Input phase voltage range	(85Vac~140Vac)±2%
Frequency	50Hz/60Hz (Automatic detection)
Frequency Range	47±0.3Hz~55±0.3Hz (50Hz); 57±0.3Hz~65±0.3Hz (60Hz);
Overload/short circuit protection	Circuit breaker
Efficiency	>95%
Conversion time (bypass and inverter)	10ms (typical)
AC reverse protection	Yes
Maximum bypass phase overload current	2 pole, 40A/40A(L1/L2)
<b>Inverter mode</b>	
Output voltage waveform	Pure sine wave
Rated output power (VA)	Split phase: 7200 Single phase: 6000 (limited by the wiring terminals)
Rated output power (W)	Split phase: 7200 Single phase: 6000
Power factor	1
Rated output voltage (Vac)	120Vac (L1/N, L2/N)/240Vac(L1/L2)
Output voltage error	±5%
Output frequency range (Hz)	50Hz±0.3Hz/60Hz±0.3Hz
Maximum Efficiency	>91%
Overload protection	(105% < load <110%) ±5%: report error and turn off the output after 5 minutes; (110% < load < 125%) ± 5%: report error and turn off the output after 10 seconds; Load >125% ±5%: report error and turn off the output after 5 seconds;
Peak power	Split phase: 12000VA Single phase: 12000VA
Loaded motor capability	4HP
Output short circuit protection	Can protect, after continuous short circuit for 1 second
Bypass circuit breaker phase specification	2 pole, 63A/63A(L1/L2)
Rated battery input voltage	51.2V (Minimum starting voltage 44V)
Battery voltage range	40.0Vdc~58.6Vdc±0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)
Power saving mode self-consumption	Load ≤25W enter power-saving mode
<b>AC charging</b>	
Battery type	Lead acid or lithium battery
Maximum charge current(can be set)	120A
Charge current error	±5A <sub>dc</sub>
Charge voltage range	40~58.6V <sub>dc</sub>
Short circuit protection	Circuit breaker and blown fuse
Circuit breaker phase specifications	2 pole, 40A/40A(L1/L2)
<b>PV charging</b>	
Number of MPPT groups	2
Maximum PV open circuit voltage	500V <sub>dc</sub>
PV operating voltage range	90V <sub>dc</sub> ~500V <sub>dc</sub>
MPPT voltage range	90V <sub>dc</sub> ~450V <sub>dc</sub>
Battery voltage range	40~58.6V <sub>dc</sub>
Maximum PV input power	4500W+4500W
Maximum PV input current	16A+16A
PV charging current range(can be set)	150A
Charging short circuit protection	Blown fuse
Wiring protection	Reverse polarity protection
<b>Hybrid charging Max charging current specifications (AC charging+PV charging)</b>	
Max charger current(can be set)	0-150A
<b>Certified specifications</b>	
Certification	UL STD.1741
EMC certification level	FCC part15, CLASS B
Operating temperature range	-10°C to 55°C(>45°C derating)
Storage temperature range	-25°C ~ 60°C
Humidity range	5% to 95% (Conformal coating protection)
Noise	≤60dB
Heat dissipation	Forced air cooling, variable speed of fan
Communication interface	USB/RS485(/WiFi/GPRS)/ Dry node control
Product dimensions (W*H*D)	450x650x138mm
Net weight / Gross weight (kg)	15/17.5



## US-Standard Hybrid Inverter

DL48V-MSPI12K / DL48V-MSPI12KP



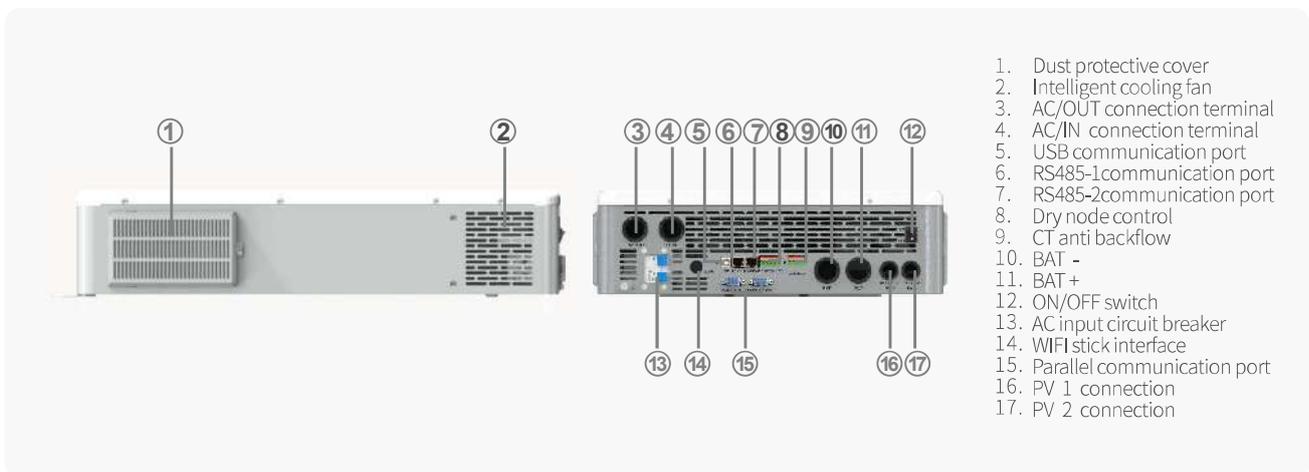
**US  
12Kw**

**120Vac  
Single-phase  
7200W**

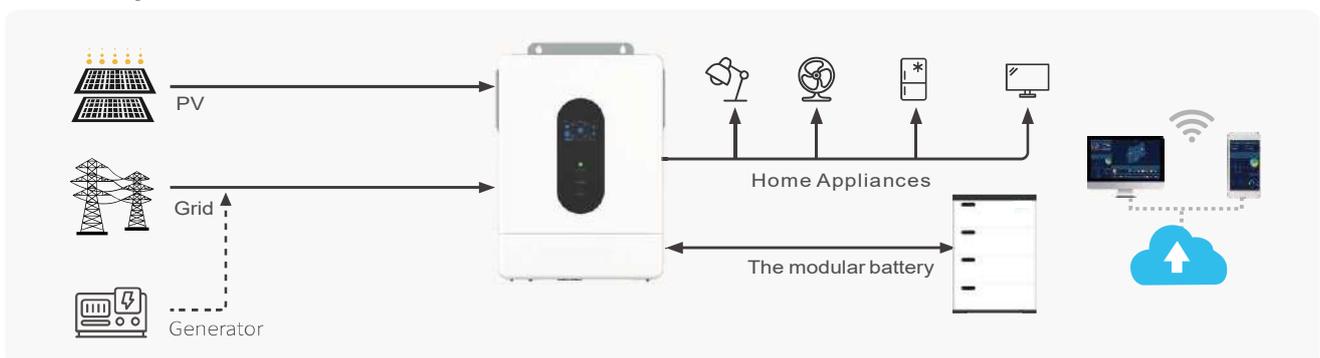
**240Vac  
Split-phase  
12000W**

- CT Zero export to grid.
- Inverter and Grid hybrid Power supply capable of withstanding continuous impact loads.
- Usable PV power up to 150% inverter rated power, Dual-channel MPPT, 27A\*2 PV input.compatible with all residential modules and flexible arrays.
- 125% EPS peak output in 5s.
- Up to 6 inverters in parallel or change single phase system.
- UPS-Level Switching time down to 10ms
- Support faster charging with battery current up 220A
- Support diesel generator input
- Supports use without battery. PV and grid can supply power to load together.
- Easy & intuitive capacitive touch screen.
- Remote diagnostics & OTA update

### Interface Description



### Solar System Connection



## Product Specifications

Model	DL48V-MSPI12K / DL48V-MSPI12KP
<b>Parallel mode</b>	
Permitted parallel number	NO/1~6
<b>AC mode</b>	
Rated input voltage	120(L1/N, L2/N)/240Vac(L1/L2)
Input phase voltage range	(85Vac~140Vac)±2%
Frequency	50Hz/60Hz (Automatic detection )
Frequency Range	47±0.3Hz~55±0.3Hz (50Hz); 57±0.3Hz~65±0.3Hz (60Hz);
Overload/short circuit protection	Circuit breaker
Efficiency	>95%
Conversion time (bypass and inverter)	10ms (typical)
AC reverse protection	Yes
Maximum bypass phase overload current	2 pole, 60A/60A(L1/L2)
<b>Inverter mode</b>	
Output voltage waveform	Pure sine wave
Rated output power (VA)	Split phase: 12000 Single phase: 7200 (limited by the wiring terminals)
Rated output power (W)	Split phase: 12000 Single phase: 7200 (limited by the wiring terminals)
Power factor	1
Rated output voltage (Vac)	120Vac (L1/N, L2/N)/240Vac(L1/L2)
Output voltage error	±5%
Output frequency range (Hz)	50Hz±0.3Hz/60Hz±0.3Hz
Maximum Efficiency	>91%
Overload protection	(105% < load <110%) ±5%: report error and turn off the output after 5 minutes; (110% < load < 125%) ± 5%: report error and turn off the output after 10 seconds; Load >125% ±5%: report error and turn off the output after 5 seconds;
Peak power	Split phase: 18000VA Single phase: 18000VA
Loaded motor capability	6HP
Output short circuit protection	Can protect, after continuous short circuit for 1 second
Bypass circuit breaker phase specification	2 pole, 63A/63A(L1/L2)
Rated battery input voltage	51.2V (Minimum starting voltage 44V)
Battery voltage range	40.0Vdc~58.6Vdc±0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)
Power saving mode self-consumption	Load≤25W enter power-saving mode
<b>AC charging</b>	
Battery type	Lead acid or lithium battery
Maximum charge current(can be set)	160A
Charge current error	±5A <sub>dc</sub>
Charge voltage range	40 ~58.6V <sub>dc</sub>
Short circuit protection	Circuit breaker and blown fuse
Circuit breaker phase specifications	2 pole, 60A/60A(L1/L2)
<b>PV charging</b>	
Number of MPPT groups	2
Maximum PV open circuit voltage	500V <sub>dc</sub>
PV operating voltage range	90V <sub>dc</sub> ~500V <sub>dc</sub>
MPPT voltage range	90V <sub>dc</sub> ~450V <sub>dc</sub>
Battery voltage range	40-58.6V <sub>dc</sub>
Maximum PV input power	6000W+6000W
Maximum PV input current	22A+22A
PV charging current range(can be set)	220A
Charging short circuit protection	Blown fuse
Wiring protection	Reverse polarity protection
<b>Hybrid charging Max charging current specifications (AC charging+PV charging)</b>	
Max charger current(can be set)	0-220A
<b>Certified specifications</b>	
Certification	UL STD.1741
EMC certification level	FCC part15, CLASS B
Operating temperature range	-10°C to 55°C(>45°C derating)
Storage temperature range	-25°C ~ 60°C
Humidity range	5% to 95% (Conformal coating protection)
Noise	≤60dB
Heat dissipation	Forced air cooling, variable speed of fan
Communication interface	USB/RS485/(WiFi/GPRS)/ Dry node control
Product dimensions (L*W*H)	450x650x138mm
Net weight / Gross weight (kg)	24/26.5



## SINGLE PHASE 12KW ALL-IN-ONE

20~60kWh Home Energy Storage Battery + 12Kw Single Phase Inverter



20Kwh + 12Kw

30Kwh + 12Kw

50Kwh + 12Kw

12Kw Inverter  
Terminal Panel



### Solar System Connection



# Specification

Battery Specifications					
Battery Module Model	HS51200-10			LFP51300	
Nominal Voltage	51.2V			51.2V	
Nominal Capacity	200Ah			280Ah/314Ah	
Battery Energy	10.24Kwh			14.336Kwh / 16.076Kwh	
Charge Current	Recommend / 40A ; Max. / 100A				
Discharge Current	Recommend / 100A ; Max. / 200A				
Max Discharge Current	205A(5 sec.)				
Charging Cut-off Voltage	57.6V± 0.2V				
Discharging Cut-off Voltage	44.8V± 0.2V				
Inverter Specifications					
Model	AL48V-E12K				
AC Mode					
Rated input voltage	230Vac ±5%				
Input voltage range	(170Vac~280Vac)±2%@UPS (90Vac-280Vac)±2%@APL				
Frequency	50Hz/60Hz (Auto detection)				
Efficiency	>93%				
Conversion time (bypass and inverter)	10ms (typical)				
Maximum bypass overload current	40A				
Inverter Mode					
Output voltage waveform	Pure sine wave				
Rated output power (VA)/(W)	12000VA / 12000W				
Rated output voltage (Vac)	230Vac				
Output voltage error	±5%				
Output frequency range (Hz)	50Hz±0.3Hz/60Hz±0.3Hz				
Maximum Efficiency	>93%				
AC Charging					
Maximum charge current(can be set)	150A				
Charge current error	±5A <sub>dc</sub>				
Charge voltage range	40 ~ 60V <sub>dc</sub>				
PV Charging					
Number of MPPTs	2				
Maximum PV open circuit voltage	500V <sub>dc</sub>				
PV operating voltage range	120-500V <sub>dc</sub>				
MPPT voltage range	90-450V <sub>dc</sub>				
Maximum PV input power	6000W+6000W				
Maximum PV input current	27A+27A				
PV charging current range(can be set)	0-150A				
Hybrid charging Max charger current specifications (AC charger+PV charger)					
PV charging current range (can be set)	0-150A				
All-in-one machine specifications					
Item	20Kwh + 12Kw	30Kwh + 12Kw	40Kwh + 12Kw	45Kwh + 12Kw	60Kwh + 12Kw
Battery Module Model * Number	HS51200-10 * 2	HS51200-10 * 3 or LFP51300 * 2	HS51200-10 * 4	LFP51300 * 3	LFP51300 * 4
Energy	20Kwh	28~32Kwh	40Kwh	43~48Kwh	57~64.3Kwh
Overall size	690*590*565mm	690*590*710/761mm	690*590*855mm	690*590*1004mm	690*590*1247mm
Overall Weight	≈212Kg	≈297.5Kg / 277Kg	≈383Kg	≈395Kg	≈513Kg
General specifications					
Operating temperature range	0°C to 55°C,> 45°C drop runs				
Storage temperature range	-10°C ~ 55°C				
Humidity range	5% to 95% (Conformal coating protection)				
Heat dissipation	Forced air cooling, variable speed of fan				
Communication interface	USB/RS485/WiFi(Optional)/ Dry node control				



## SPLIT PHASE 12KW ALL-IN-ONE

20~60kWh Home Energy Storage Battery + 12Kw Split Phase Inverter



Split Phase  
12Kw Inverter  
Terminal Panel

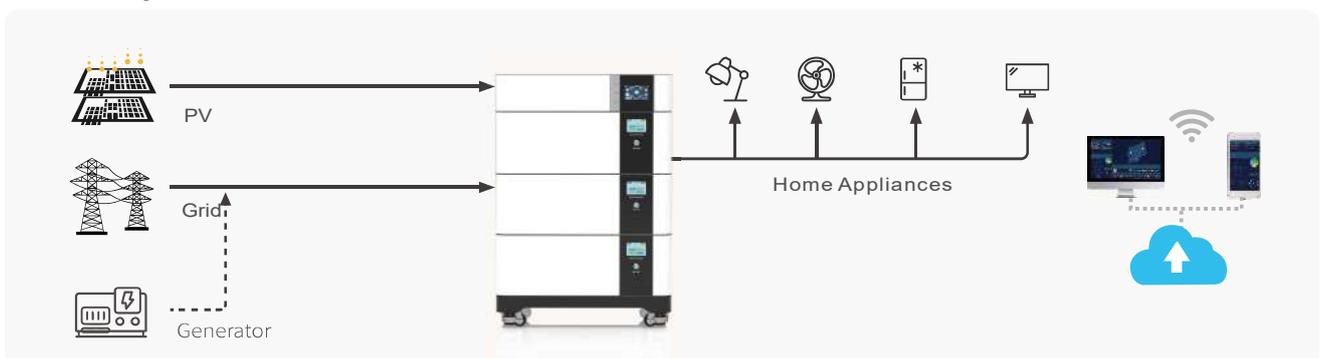


US  
12Kw

120Vac  
Single-phase  
7200W

240Vac  
Split-phase  
12000W

### Solar System Connection



# Specification

Battery Specifications					
Battery Module Model	HS51200-10			LFP51300	
Nominal Voltage	51.2V			51.2V	
Nominal Capacity	200Ah			280Ah/314Ah	
Battery Energy	10.24Kwh			14.336Kwh / 16.076Kwh	
Charge Current	Recommend / 40A ; Max. / 100A				
Discharge Current	Recommend / 100A ; Max. / 200A				
Max Discharge Current	205A(5 sec.)				
Charging Cut-off Voltage	57.6V± 0.2V				
Discharging Cut-off Voltage	44.8V± 0.2V				
Inverter Specifications					
Model	AL48V-M12K				
AC Mode					
Rated input voltage	120(L1/N, L2/N) / 240Vac(L1/L2)				
Input voltage range	(85Vac~140Vac)±2%				
Frequency	50Hz / 60Hz (Auto detection)				
Efficiency	>93%				
Conversion time (bypass and inverter)	10ms (typical)				
Maximum bypass overload current	2P, 63A/63A(L1/L2)				
Inverter Mode					
Output voltage waveform	Pure sine wave				
Rated output power (VA)/(W)	Split phase:12000VA/12000W Single phase:7200VA/7200W (limited by the wiring terminals)				
Rated output voltage (Vac)	120Vac (L1/N, L2/N) / 240Vac(L1/L2)				
Output voltage error	±5%				
Output frequency range (Hz)	50Hz±0.3Hz / 60Hz±0.3Hz				
Maximum Efficiency	>90%				
AC Charging					
Maximum charge current(can be set)	160A				
Charge current error	±5A <sub>dc</sub>				
Charge voltage range	40 –58.6V <sub>dc</sub>				
PV Charging					
Number of MPPTs	2				
Maximum PV open circuit voltage	500V <sub>dc</sub>				
PV operating voltage range	90V <sub>dc</sub> ~500V <sub>dc</sub>				
MPPT voltage range	90V <sub>dc</sub> ~450V <sub>dc</sub>				
Maximum PV input power	6000W+6000W				
Maximum PV input current	22A+22A				
PV charging current range(can be set)	0-200A				
Hybrid charging Max charger current specifications (AC charger+PV charger)					
PV charging current range (can be set)	0-200A				
All-in-one machine specifications					
Item	20Kwh + 12Kw	30Kwh + 12Kw	40Kwh + 12Kw	45Kwh + 12Kw	43~48Kwh
Battery Module Model * Number	HS51200-10 * 2	HS51200-10 * 3 or LFP51300 * 2	HS51200-10 * 4	LFP51300 * 3	LFP51300* 4
Energy	20Kwh	28~32Kwh	40Kwh	43~48Kwh	57~64.3Kwh
Overall size	690*590*565mm	690*590*710/761mm	690*590*855mm	690*590*1004mm	690*590*1000mm
Overall Weight	≈216Kg	≈301.5Kg / 281Kg	≈387Kg	≈399Kg	≈472.5Kg
General specifications					
Operating temperature range	0°C to 55°C, > 45°C drop runs				
Storage temperature range	-10°C ~ 55°C				
Humidity range	5% to 95% (Conformal coating protection)				
Heat dissipation	Forced air cooling, variable speed of fan				
Communication interface	USB/RS485/WiFi(Optional)/ Dry node control				



## 5KWH / 15KWH BATTERY + 5KW INVERTER

### Solar Energy Storage Hybrid Inverter Mobile Power Station

#### QUICK USE

Supports AC direct input and output



**EU**  
**5Kw**

#### 5KW Inverter

220Vac Output & Input

#### Solar Panel Input

120Vdc~450Vdc 4500W

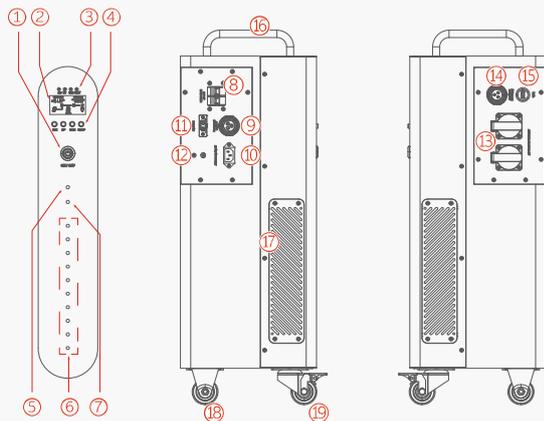
#### Ultra-Long Battery Life

Optional 5.12/15 kwh battery

#### Removable

Indoor & Outdoor

#### Interface Description



- ① ON/OFF
- ② LCD Display
- ③ Status Indicator
- ④ Function Button
- ⑤ Battery RUN Indicator
- ⑥ Battery Capacity Indicator — 10%~100%
- ⑦ Battery ALM Indicator
- ⑧ Input Breaker
- ⑨ High Power AC Input (5000W max.) — Connect to AC Distribution box
- ⑩ AC input 2 (≤2000W) — Plug and Play
- ⑪ PV Input (XT90)
- ⑫ Ground Wire
- ⑬ 2 x AC Output Socket(≤2000W Each port) — Plug and Play
- ⑭ High Power AC Output (5000W max.) — Connect to AC Distribution box
- ⑮ WIFI (optional)
- ⑯ Stainless Steel Handle
- ⑰ Inverter Heat Dissipation Holes
- ⑱ Fixed Casters
- ⑲ Swivel Caster With Brake

#### Solar System Connection



## Specification

Model	HUP5.0-5	HUP5.0-15
<b>BATTERY DATA</b>		
Nominal Voltage	51.2V	51.2V
Nominal Capacity	100Ah	300Ah
Battery Energy	5120Wh	15360Wh
Operating Voltage Range	44.8V± 0.2V ~ 57.6V± 0.2V	
Cell Type	LiFePO4 Battery	
Number of Cells	16pcs (1P16S)	
Cycle Life	≥6500 Cycles	
Battery Indicator	LED Indicator & Display	
<b>INVERTER DATA</b>		
Max. PV Input Power (W)	5000W	
PV Input Voltage Range (V)	120Vdc~430Vdc	
Max. Operating PV Input Current (A)	15A	
PV Input Port Type	XT90	
Max. AC Input/Output Power (W)	5000W	
AC Input/Output Voltage (V)	220Vac / 230Vac / 240Vac	
AC Input/Output Frequency (Hz)	50Hz / 60Hz (adjustable)	
AC Output Voltage Waveform	Pure Sine Wave	
AC Input Port Type * <sup>①</sup>	1 x 3 Pin AC Socket (2000W max.) 1 x M32-3pin (5000W max.)	
AC Output Port Type * <sup>②</sup>	2 x EU AC Socket (2000W/pc max.) 1 x M28-3pin (5000W max.)	
Output THDv (@Linear Load)	<3% (of nominal power)	
UPS Transfer Time	10ms typical, 20ms Max.	
Interactive Interface	LED Indicator & Display	
<b>GENERAL DATA</b>		
Operating Temperature Range (°C)	0°C ~ +45°C	
Storage Temperature	-15°C ~ +55°C	
Humidity	5% to 90% Relative Humidity (Non-condensing)	
Altitude	<2000m	
Shell Material and Color	Iron Box / Black+White	
Dimension(LxWxH)	460mm x 280mm x 690mm	500mm x 340mm x 903mm
Weight	≈60Kg	≈135Kg

\*<sup>①</sup> The AC input is connected to only one of the ports to charge the battery, the total power is ≤5000w

\*<sup>②</sup> AC output supports three terminals output at the same time, total power ≤ 5000W



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