ASPIRO®
Electric



SOLAR INVERTER

ASPIRO® Electric

GM Series [On / Off- Grid Hybrid]

5.5 / 6.2KW 220 / 230Vac Output (PV 60-500Vdc)

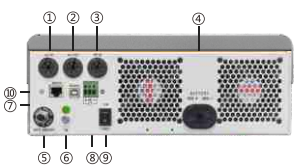


Features

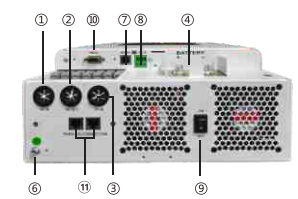
- Self-consumption and Feed-in to the grid
- Programmable multiple operation modes :Grid-tie , off-grid and grid-tie with backup
- Backflow prevention via external CT sensor and grid connection function
- Parallel operation up to 12 units in 1phase or 3phase
- Direct Plug WIFI Dongle Supported
- Output power factor 1.0
- High PV input voltage range 500Vdc Max
- Built-in MPPT solar controller 100 / 120A
- WIFI remote monitoring optional
- Detachable dust cover for harsh environment
- User-adjustable charging current and voltage
- Programmable supply priority for PV , Battery or Grid
- Support multiple output priority: SBU / SUB / SUF / ZEC
- EQ function to optimize battery performance and extend lifecycle



Bottom view

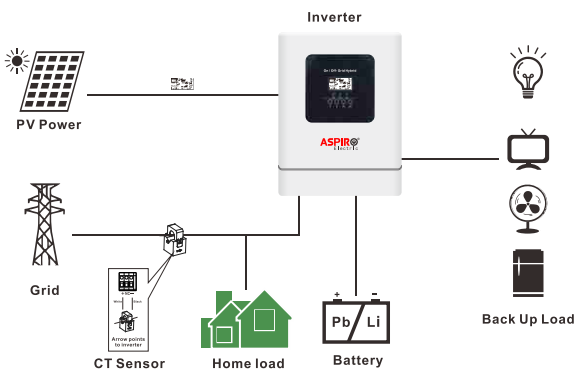


GM5500 - 48PL



GM6200 - 48PL

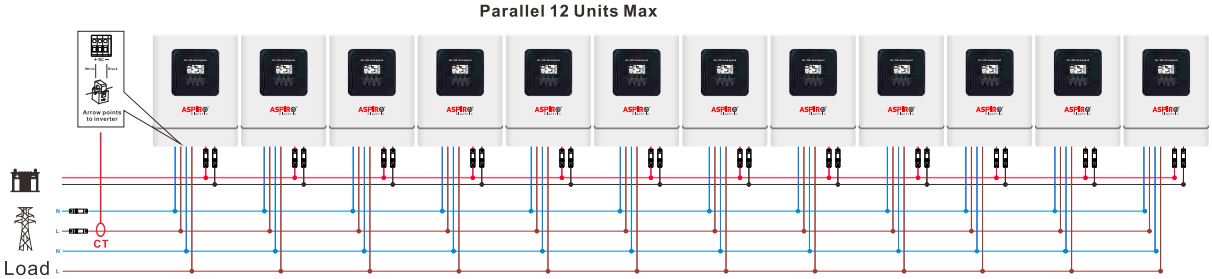
System Diagram



1. AC input
2. AC output
3. PV input
4. Battery input
5. Circuit breaker
6. Grounding
7. RS485 communication port
8. AC grid current sensor
9. Power on/off switch
10. RS232 communication port
11. Parallel communication port



Parallel 12 Units Max



SOLAR INVERTER

Technical Data

MODEL	GM5500 - 48PL	GM6200 - 48PL
Phase	1-Phase In / 1-Phase Out	1-Phase In / 1-Phase Out
Maximum PV input power	5500W	6500W
Parallel Function	YES,12 Units	
Rated output power	5500VA / 5500W	6200VA/6200W
Lithium battery activation	Yes (By PV or Utility)	Yes (By PV or Utility)
Lithium battery communication	Yes	Yes
Built-in WIFI	Optional	
GRID-TIE OPERATION		
PV INPUT (DC)		
Nominal DC Voltage / Maximum DC Voltage	360VDC / 500VDC	
Start-up Voltage / Initial Feeding Voltage	150VDC / 120VDC	
MPPT Voltage Range	60VDC ~ 500VDC	60VDC~500VDC
Number of MPP Trackers / Maximum Input Current	1 / 18A	1/27A
GRID OUTPUT (AC)		
Nominal Output Voltage	220 / 230 / 240VAC	
Output Voltage Range	170-280VAC or 90-280VAC	
Nominal Output Current	22A	27A
Power Factor	0.6~1 (inductive or capacitive)	
Maximum Conversion Efficiency (DC/AC)	94%	
OFF-GRID OPERATION		
AC INPUT		
AC Start-up Voltage / Auto Restart Voltage	100Vac / 90Vac	
Acceptable Input Voltage Range	170-280VAC or 90-280VAC	
Maximum AC Input Current	40A	
PV INPUT (DC)		
Maximum DC Voltage	500VDC	
MPPT Voltage Range	60VDC~500VDC	60VDC~500VDC
Number of MPP Trackers / Maximum Input Current	1 / 18A	1/27A
BATTERY MODE OUTPUT (AC)		
Nominal Output Voltage	220/230/240VAC	
Output Waveform	Pure Sine wave	
Efficiency (DC to AC)	94%	
HYBRID OPERATION		
PV INPUT (DC)		
Nominal DC Voltage / Maximum DC Voltage	360VDC/500VDC	
Start-up Voltage / Initial Feeding Voltage	150VDC/120VDC	
MPPT Voltage Range	60VDC~500VDC	60VDC~500VDC
Number of MPPT Trackers / Maximum Input Current	1/18A	1/27A
GRID OUTPUT (AC)		
Nominal Output Voltage	220/230/240VAC	
Output Voltage Range	170-280VAC or 90-280VAC	
Nominal Output Current	22A	27A
AC INPUT		
AC Start-up Voltage / Auto Restart Voltage	100Vac/90Vac	
Acceptable Input Voltage Range	170-280VAC or 90-280VAC	
Maximum AC Input Current	40A	
BATTERY MODE OUTPUT (AC)		
Nominal Output Voltage	48VDC	
Efficiency (DC to AC)	94%	
BATTERY & CHARGER		
Nominal DC Voltage	48VDC	48VDC
Maximum Solar Charging Current	100A	120A
Maximum AC Charging Current	80A	80A
Maximum Charging Current	100A	120A
GENERAL		
PHYSICAL		
Dimension, D x W x H (mm)	448*315*122	450x300x130
Net Weight (kgs)	11	12
Communication Port	RS232+RS485+ External CT Port	
ENVIRONMENT		
Humidity	5%~95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C~55°C	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

ASPIRO® Electric

M Series [PV 60-500Vdc]

6.2KW 220V / 230Vac Output

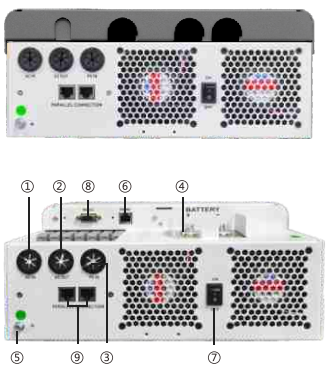


Features

- Compatible work with lifepo4 battery
- Parallel operation up to 12 units in 1phase or 3phase
- Direct Plug WIFI Dongle Supported - No additional cables required, just plug and play
- Pure sine wave
- Power factor 1.0
- PV input 500Vdc Max
- Built-in MPPT 120A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: SUB,SBU,SUF
- EQ function to optimize battery performance and extend lifecycle

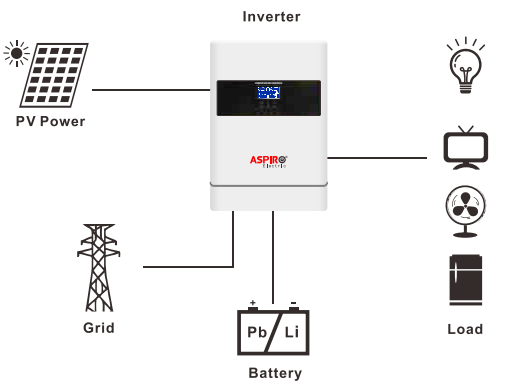


Bottom view



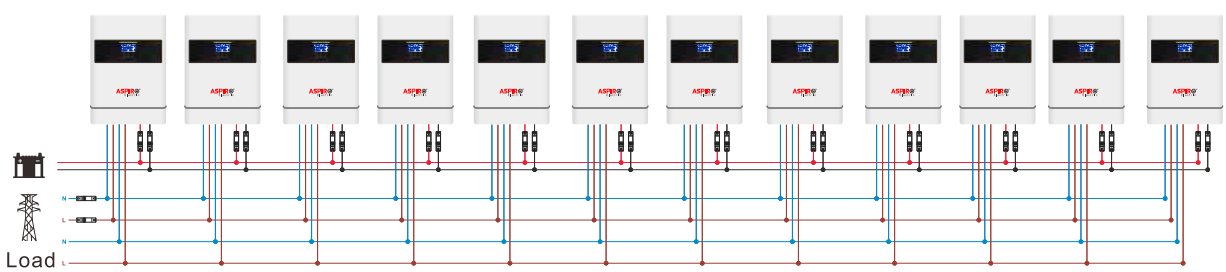
1. AC input
2. AC output
3. PV input
4. Battery input
5. Grounding
6. RS485 communication port
7. Power on/off switch
8. RS232 communication port
9. Parallel communication port

System Diagram





Parallel 12 Units Max



SOLAR INVERTER

Technical Data

MODEL	M6200-48PL
Capacity	6.2KVA/6.2KW
Parallel Capability	YES,**12** Units
Lithium battery activation	YES(By PV or Utility)
Lithium battery Communication	YES(RS485)
Built-in WIFI	Optional
INPUT	
Nominal Voltage	230VAC
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280vac(For Home Appliances)
Frequency	50/60 Hz(Auto sensing)
OUTPUT	
Nominal Voltage	220/230VAC±5%
Surge Power	12400VA
Frequency	50/60Hz
Waveform	Pure Sine wave
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)
Peak Efficiency	94%
Overload Protection	5s@>=140% load; 10s@110%~140% load
Crest Factor	3:1
Admissible Power Factor	0.6~1 (inductive or capacitive)
BATTERY	
Battery Voltage	48VDC
Floating Charge Voltage	54VDC
OverCharge Protection	63VDC
Charging Method	CC / CV
SOLAR CHARGER & AC CHARGER	
Solar Charger Type	MPPT
Max.PV Array Power	6500W
Max.PV Array Open Circuit Voltage	500VDC
PV Array MPPT Voltage Range	60VDC~500VDC
Max.Solar Input Current	27A
Max.Solar Charge Current	120A
Max.AC Charge Current	80A
Max.Charge Current	120A
PHYSICAL	
Dimensions,D x W x H(mm)	450*300*130
Package Dimensions,D x W x H(mm)	540x390x210
Net Weight(Kg)	12
Communication Interface	RS232 / RS485
ENVIRONMENT	
Operating Temperature Range	(-10℃ to 55℃)
Storage Temperature	(-15℃ ~ 60℃)
Humidity	5% to 95% Relative Humidity (Non-condensing)
Ingress Protection	IP21

Product specifications are subject to change without further notice.

ASPIRO Electric

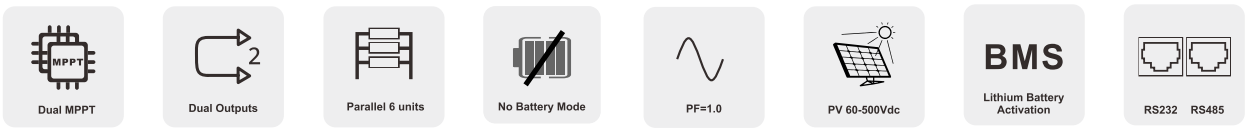
M Series [PV 60-500Vdc]

8.5 / 11KW 220V / 230Vac Output

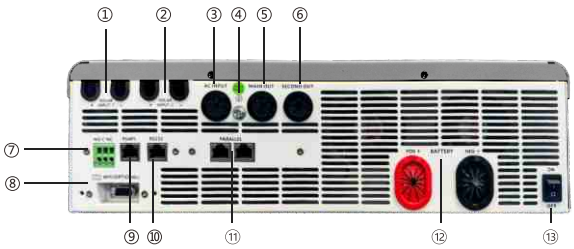


Features

- Dual AC output
- Built-in 2 MPPT
- Parallel max up to 6 units
- Lithium battery activation function by PV or Utility
- Compatible work with LiFePO4 battery via RS485
- Pure Sine Wave
- Power factor 1.0
- PV Input 500Vdc Max
- Built-in MPPT 140A/160A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: SUB,SBU,SUF
- EQ function to optimize battery performance and extend lifecycle

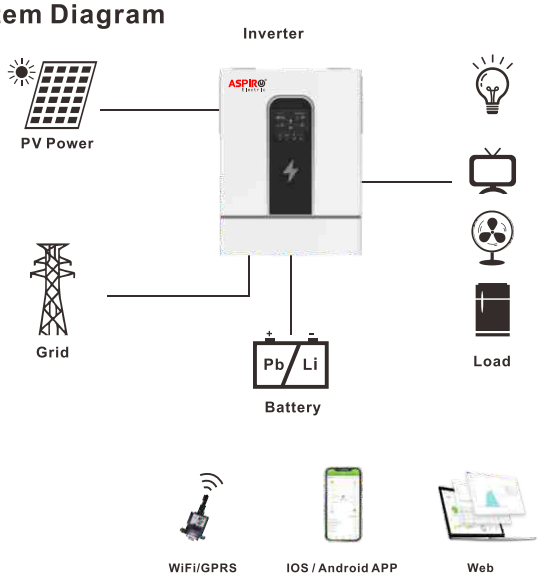


Bottom view

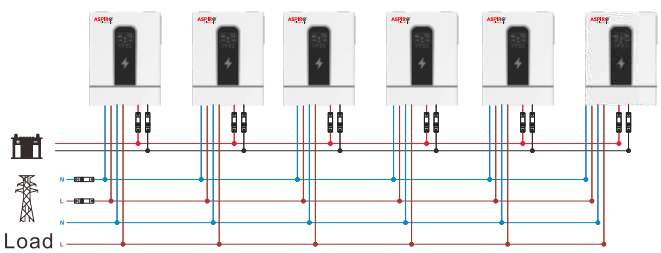


1. Solar input - 1
2. Solar input - 2
3. AC input
4. Grounding
5. AC Main output
6. AC Second output
7. Dry contact
8. WiFi (Optional)
9. RS485 communication port
10. RS232 communication port
11. Parallel
12. Battery input
13. Power on / off switch

System Diagram



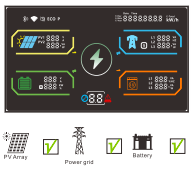
Parallel 6 Units Max



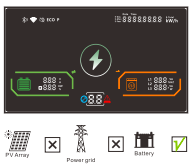
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Working Mode

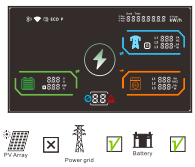
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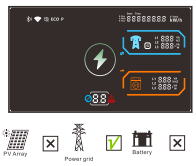
B



C



D



Technical Data

MODEL	M8500T-48PL	M11000T-48PL
CAPACITY	8.5KVA/8.5KW	11KVA/11KW
Maximum PV Input Power	10KW	11KW
Twin AC Output Function	YES	YES
Maximum Main Output Power	8.5KVA/8.5KW	11KVA/11KW
Maximum Second Output Power	5KVA/5KW	5.5KVA/5.5KW
Maximum Total Output Power	8.5KVA/8.5KW	11KVA/11KW
Parallel Capability	YES, 6units	YES, 6units
Lithium Battery Communication	YES(RS485)	YES(RS485)
Lithium Battery Activation	YES(By PV or Utility)	YES(By PV or Utility)
Built-in WIFI	Optional	
INPUT		
Nominal Voltage	230VAC	
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)	
Frequency	50/60 Hz (Auto sensing)	
OUTPUT		
Nominal Voltage	220/230/240VAC	
Surge Power	17000VA	22000VA
Frequency	50/60 Hz	
Waveform	Pure Sine wave	
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)	
Peak Efficiency (PV to INV)	96%	
Peak Efficiency (Battery to INV)	93%	
Overload Protection	5s@ > =140% load; 10s@110%~140% load	
Crest Factor	3:1	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	48VDC	48VDC
Maximum Discharge Current	180A	220A
Floating Charge Voltage	54VDC	54VDC
OverCharge Protection	63VDC	63VDC
Charging Method	CC/CV	CC/CV
Solar Charger & AC Charger		
Solar Charger TYPE	MPPT	MPPT
Max.PV Array Power	5000W*2	5500W*2
Max. PV Array Open Circuit Voltage	500VDC	500VDC
PV Array MPPT Voltage Range	60VDC~500VDC	60VDC~500VDC
Max. Solar Input Current	18A*2	18A*2
Max. Solar Charge Current	140A	160A
Max. AC Charge Current	120A	120A
Max. Charge Current	140A	160A
PHYSICAL		
Dimensions, D x W x H(mm)	540*415*122	540*415*122
Net Weight (Kgs)	14.5	15.5
Communication Interface	RS232/RS485/Dry-contact	
LCD	YES	
ENVIRONMENT		
Operating Temperature Range	-10°C to 55°C	
Storage temperature	-15°C~ 60°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

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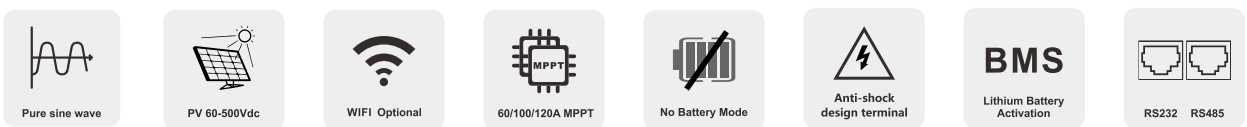
EM Series [PV 60-500Vdc]

1.5 / 2.5 / 3.5 / 5.5 / 6.2KW 220V / 230Vac Output

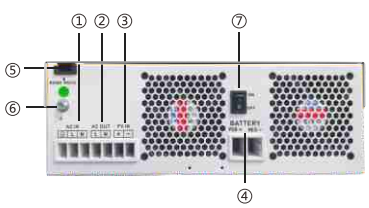


Features

- Lithium battery activation function by PV or Utility
- Compatible work with lifepo4 battery via Rs485
- Pure sine wave
- Power factor 1.0
- PV input Voltage 60Vdc-500Vdc
- Built-in MPPT 60A / 100A /120A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: UTL, SOL, SBU, SUB
- EQ function to optimize battery performance and extend lifecycle

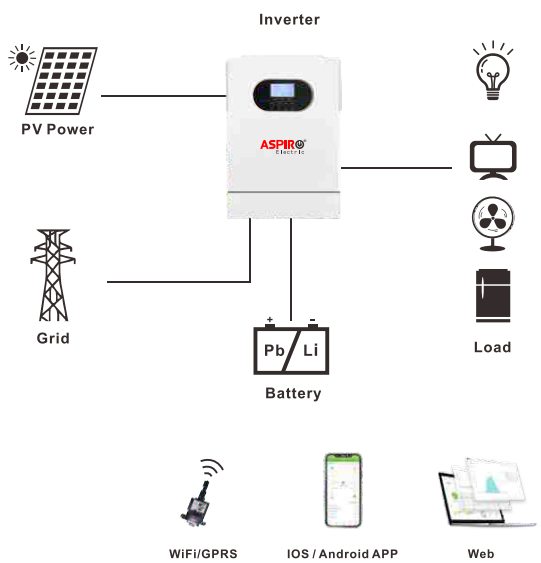


Bottom view



1. AC input
2. AC output
3. PV input
4. Battery input
5. RS232 / RS485 communication port
6. Grounding
7. Power on/off switch

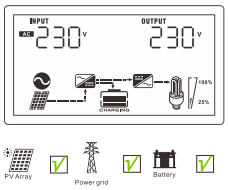
System Diagram



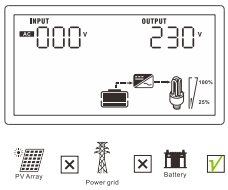
SOLAR INVERTER

Working Mode

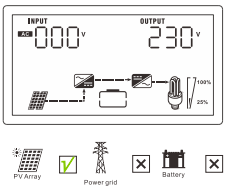
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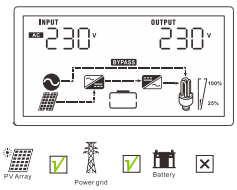
B



C



D



Technical Data

MODEL	EM1500-24L	EM2500-24L	EM3500-24L	EM5500-48L	EM6200-48L
Capacity	1.5KVA/1.5KW	2.5KVA/2.5KW	3.5KVA/3.5KW	5.5KVA/5.5KW	6.2KVA/6.2KW
Parallel Capability	NO	NO	NO	NO	NO
Lithium Battery activation	YES (By PV only)		YES (By PV or Utility)		
Lithium Battery communication	YES(RS485)				
Built-in WIFI	Optional				
INPUT					
Nominal Voltage	230VAC				
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280vac(For Home Appliances)				
Frequency	50/60 Hz(Auto sensing)				
OUTPUT					
Nominal Voltage	220/230VAC±5%				
Surge Power	3000VA	5000VA	7000VA	11000VA	12400VA
Frequency	50/60Hz				
Waveform	Pure Sine wave				
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)				
Peak Efficiency(PV to INV)	96%				
Peak Efficiency(Battery to INV)	93%				
Overload Protection	5s@>=140% load; 10s@110%~140% load				
Crest Factor	3:1				
Admissible Power Factor	0.6~1 (inductive or capacitive)				
BATTERY					
Battery Voltage	24VDC	24VDC	24VDC	48VDC	48VDC
Floating Charge Voltage	27VDC	27VDC	27VDC	54VDC	54VDC
OverCharge Protection	33VDC	33VDC	33VDC	63VDC	63VDC
Charging Method	CC / CV				
SOLAR CHARGER & AC CHARGER					
Solar Charger Type	MPPT				
Max.PV Array Power	2000W	3000W	4000W	5500W	6500W
Max.PV Array Open Circuit Voltage	500VDC				
PV Array MPPT Voltage Range	60VDC~500VDC				
Max.Solar Input Current	15A	15A	15A	18A	27A
Max.Solar Charge Current	60A	100A	100A	100A	120A
Max.AC Charge Current	60A	60A	80A	80A	80A
Max.Charge Current (PV+AC)	60A	100A	100A	100A	120A
PHYSICAL					
Dimensions,D x W x H(mm)	358*295*100	358*295*100	358*295*100	438*295*105	438*295*105
Package Dimensions,D x W x H(mm)	465*380*175	465*380*175	465*380*175	560*375*185	560*375*185
Net Weight(Kg)	6	6.5	7	9	9
Communication Interface	RS232+RS485				
ENVIRONMENT					
Operating Temperature Range	(-10℃ to 55℃)				
Storage Temperature	(-15℃ ~ 60℃)				
Humidity	5% to 95% Relative Humidity (Non-condensing)				
Ingress Protection	IP21				

Product specifications are subject to change without further notice.

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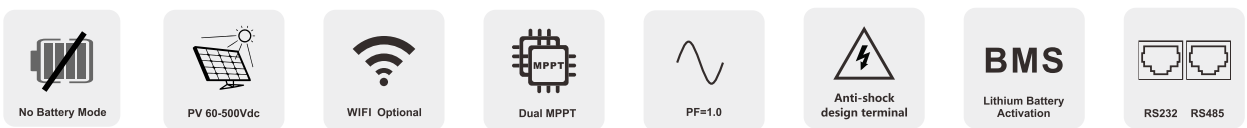
EM Series [PV 60-500Vdc]

8.5 / 11KW 220V / 230Vac Output

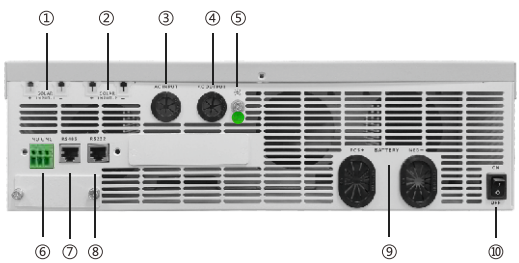


Features

- Built-in 2 MPPT
- Lithium battery activation function by PV or Utility
- Compatible work with LiFePO4 battery via RS485
- Pure Sine Wave
- Power factor 1.0
- PV Input 500Vdc Max
- Built-in MPPT 140A/160A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: SUB,SBU,SUF
- EQ function to optimize battery performance and extend lifecycle

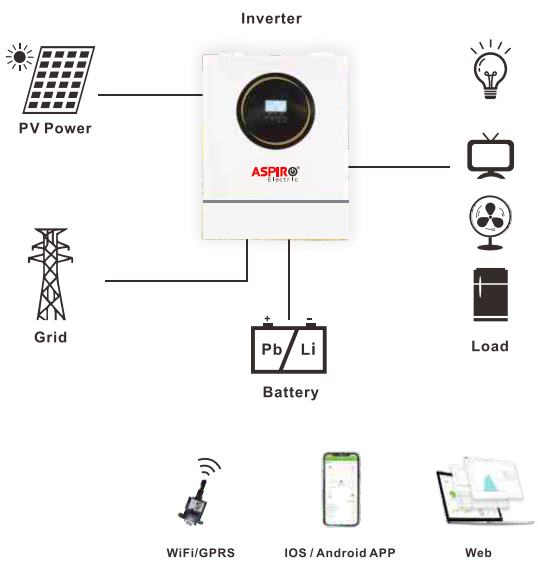


Bottom view



1. Solar input - 1
2. Solar input - 2
3. AC input
4. AC output
5. AC output
6. RS485 communication port
7. WiFi
8. Dry contact
9. Grounding
10. Battery input
11. Power on / off switch

System Diagram



SOLAR INVERTER

Technical Data

MODEL	EM8500-48L	EM11000-48L
Capacity	8.5KVA/8.5KW	11KVA/11KW
Maximum PV Input Power	10KW	11KW
Parallel Capability	NO	NO
Lithium Battery Activation	YES (By PV or Utility)	
Lithium Battery Communication	YES(RS485)	
Built-in WIFI	Optional	
INPUT		
Nominal Voltage	230VAC	
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)	
Frequency	50/60 Hz (Auto sensing)	
OUTPUT		
Nominal Voltage	220/230/240VAC	
Surge Power	17000VA	22000VA
Frequency	50/60 Hz	
Waveform	Pure Sine wave	
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)	
Peak Efficiency	94%	
Overload Protection	5s@ > =140% load; 10s@110%~140% load	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	48VDC	48VDC
Maximum Discharge Current	180A	220A
Floating Charge Voltage	54VDC	54VDC
OverCharge Protection	63VDC	63VDC
Charging Method	CC/CV	
SOLAR CHARGER & AC CHARGER		
Solar Charger TYPE	MPPT	MPPT
Max.PV Array Power	5000W*2	5500W*2
Max. PV Array Open Circuit Voltage	500VDC	500VDC
PV Array MPPT Voltage Range	60VDC~500VDC	60VDC~500VDC
Max. Solar Input Current	18A*2	18A*2
Max. Solar Charge Current	140A	160A
Max. AC Charge Current	120A	120A
Max. Charge Current	140A	160A
PHYSICAL		
Dimensions, D x W x H(mm)	540*403*122	540*403*122
Net Weight (Kgs)	14.5	14.8
Communication Interface	RS232/RS485/DRY CONTACT	
LCD	YES	
ENVIRONMENT		
Operating Temperature Range	-10°C to 55°C	
Storage temperature	-15°C~ 60°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

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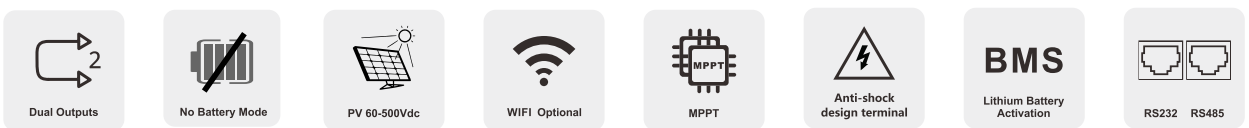
EMT Series [PV 60-500Vdc]

4.2/5/6.2KW 220V / 230Vac Output

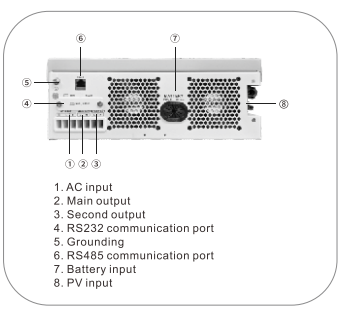


Features

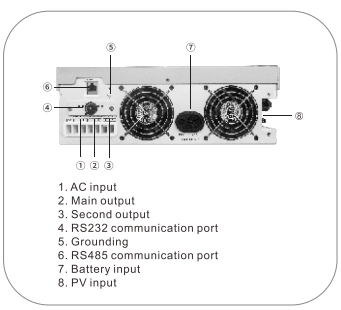
- Dual output for smart load management
- Lithium battery activation function by PV or Utility
- Compatible work with LiFePO4 battery via RS485
- PV Input 500Vdc Max
- Built-in MPPT 100A/120A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: UTL,SOL,SBU,SUB
- EQ function to optimize battery performance and extend lifecycle



Bottom view

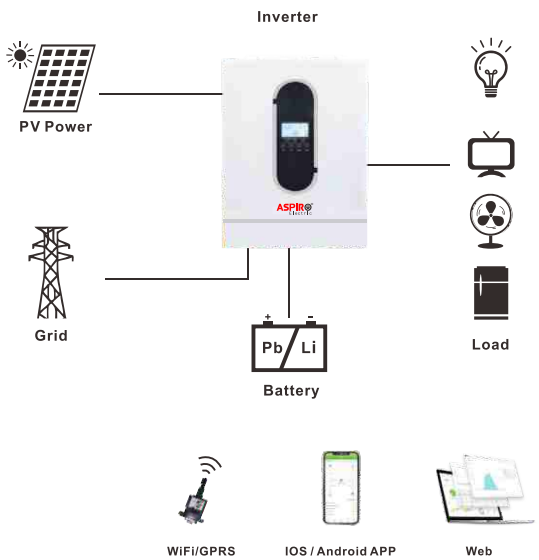


6.2KW



4.2/5KW

System Diagram



SOLAR INVERTER

Technical Data

MODEL	EM4200T-24L	EM5000T-48L	EM6200T-48L
PHASE	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out
Maximum PV Input Power	5000W	5000W	6500W
Maximum Main Output Power	4200VA/4200W	5000VA/5000W	6200VA/6200W
Maximum Second Output Power	4200VA/4200W	5000VA/5000W	6200VA/6200W
Maximum Total Output Power	4200VA/4200W	5000VA/5000W	6200VA/6200W
Parallel Capability	NO	NO	NO
Lithium Battery activation	YES（By PV or Utility)	YES（ By PV or Utility)	YES（ By PV or Utility)
Lithium Battery communication	YES(RS485)	YES(RS485)	YES(RS485)
Built-in WIFI	Optional		
AC INPUT			
Nominal Voltage	230VAC		
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)		
Frequency	50/60 Hz (Auto sensing)		
AC OUTPUT			
Nominal Voltage	220/230VAC±5%		
Surge Power	8400VA	10000VA	12400VA
Frequency	50/60 Hz		
Waveform	Pure Sine wave		
Dual Outputs	Yes		
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)		
Peak Efficiency	94%		
Overload Protection	5s@ > =140% load; 10s@100%~140% load		
Admissible Power Factor	0.6~1 (inductive or capacitive)		
BATTERY			
Battery Voltage	24VDC	48VDC	48VDC
Floating Charge Voltage	27VDC	54VDC	54VDC
OverCharge Protection	33VDC	63VDC	63VDC
Charging Method	CC/CV	CC/CV	CC/CV
SOLAR CHARGER & AC CHARGER			
Solar Charger TYPE	MPPT		
Max.PV Array Power	5000W	5000W	6500W
Max. PV Array Open Circuit Voltage	500VDC		
PV Array MPPT Voltage Range	60VDC~500VDC		
Max. Solar Input Current	1 / 27A	1 / 27A	1 / 27A
Max. Solar Charge Current	100A	100A	120A
Max. AC Charge Current	80A	60A	80A
Max. Charge Current	100A	100A	120A
PHYSICAL			
Dimensions, D x W x H(mm)	312.4x350x114.5	312.4x350x114.5	438x312x122
Package Dimensions, D x W x H(mm)	475x390x180	475x390x180	540x390x210
Net Weight (Kgs)	8.5	8.5	11
Communication Interface	Standard version: RS485(RJ45)/RS232(DB9) Builtin WIFI version:RS485(RJ45)		RS485(RJ45)/RS232(DB9)
ENVIRONMENT			
Operating Temperature Range	-10°C to 50°C		
Storage temperature	-15°C~ 60°C		
Humidity	5% to 95% Relative Humidity (Non-condensing)		
Ingress Protection	IP21		

Product specifications are subject to change without further notice.

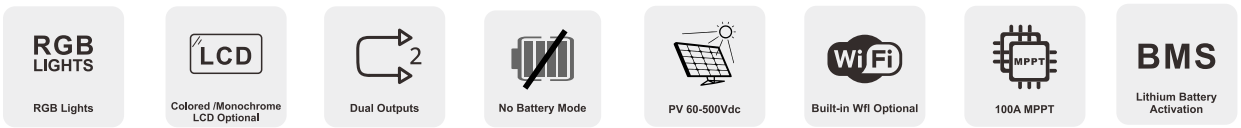
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EMT Pro Series [PV 60-500Vdc]

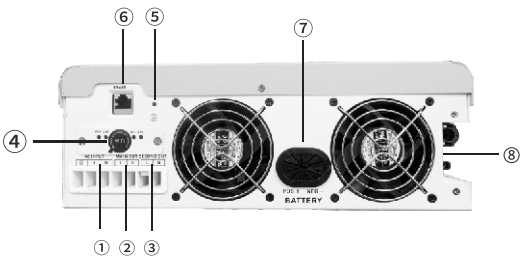
4.2 / 5KW 220V / 230Vac Output



- Dual output for smart load management
- Lithium battery activation function by PV or Utility
- Colored LCD with RGB lights
- Compatible work with LiFePO4 battery via RS485
- PV Input 500Vdc Max
- Built-in MPPT100A
- Capable to work without battery
- Detachable dust cover for harsh environment
- Built-inWIFI remote monitoring optional
- Support multiple output priority:UTL,SOL,SBU,SUB
- EQ function to optimize battery performance and extend lifecycle

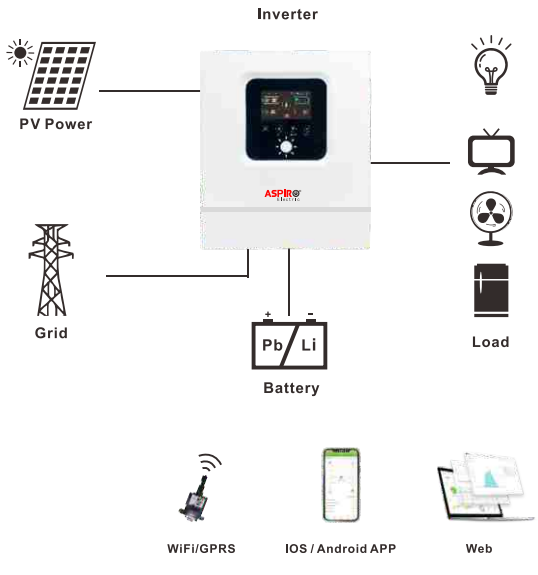


Bottom view



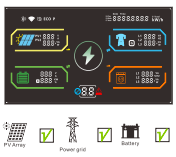
1. Second out
2. Main out
3. AC input
4. RS232 communication port
5. Grounding
6. RS485 communication port
7. Battery input
8. PV input

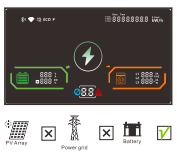
System Diagram

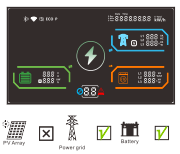


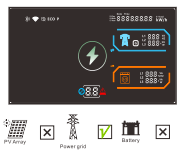
SOLAR INVERTER

Working Mode

A 

B 

C 

D 

Technical Data

MODEL	EM4200T-24L Pro	EM5000T-48L Pro
PHASE	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out
Maximum PV Input Power	5000W	5000W
Maximum Main Output Power	4200VA/4200W	5000VA/5000W
Maximum Second Output Power	4200VA/4200W	5000VA/5000W
Maximum Total Output Power	4200VA/4200W	5000VA/5000W
Parallel Capability	NO	NO
Lithium Battery activation	YES (By PV or Utility)	YES (By PV or Utility)
Lithium Battery communication	YES(RS485)	YES(RS485)
Built-in WIFI	Optional	
AC INPUT		
Nominal Voltage	230VAC	
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)	
Frequency	50/60 Hz (Auto sensing)	
AC OUTPUT		
Nominal Voltage	220/230VAC±5%	
Surge Power	8400VA	10000VA
Frequency	50/60 Hz	
Waveform	Pure Sine wave	
Dual Outputs	Yes	
Transfer Time	10ms(For personal Computer);20ms(For Home A ppliances)	
Peak Efficiency(PV to INV)	96%	
Overload Protection	5s@ > =140% load; 10s@110%~140% load	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	24VDC	48VDC
Floating Charge Voltage	27VDC	54VDC
OverCharge Protection	33VDC	63VDC
Charging Method	CC/CV	CC/CV
SOLAR CHARGER & AC CHARGER		
Solar Charger TYPE	MPPT	
Max.PV Array Power	5000W	5000W
Max. PV Array Open Circuit Voltage	500VDC	
PV Array MPPT Voltage Range	60VDC~500VDC	60VDC~500VDC
Max. Solar Input Current	1 / 27A	1 / 27A
Max. Solar Charge Current	100A	100A
Max. AC Charge Current	80A	60A
Max. Charge Current	100A	100A
PHYSICAL		
Dimensions, D x W x H(mm)	312.4x350x114.5	312.4x350x114.5
Package Dimensions, D x W x H(mm)	475x390x180	475x390x180
Net Weight (Kgs)	8.5	8.5
Communication Interface	RS485(RJ45)/RS232(DB9)	
LCD	Colorful Screen+RGB Light	
ENVIRONMENT		
Operating Temperature Range	-10°C to 50°C	
Storage temperature	-15°C~ 50°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

EMT Pro Series [PV 30-500Vdc/PV 60-500Vdc]

3.6 / 6.2KW 220V / 230Vac Output

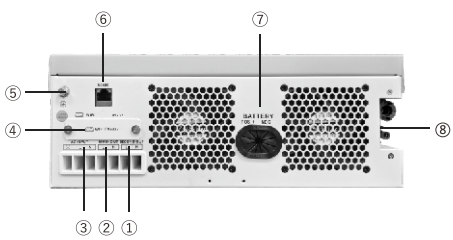


Features

- Dual output for smart load management
- Lithium battery activation function by PV or Utility
- Colored LCD with RGB lights
- Compatible work with LiFePO4 battery via RS485
- PV Input 500Vdc Max
- Built-in MPPT 100/120A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: UTL,SOL,SBU,SUB,SUF
- EQ function to optimize battery performance and extend lifecycle

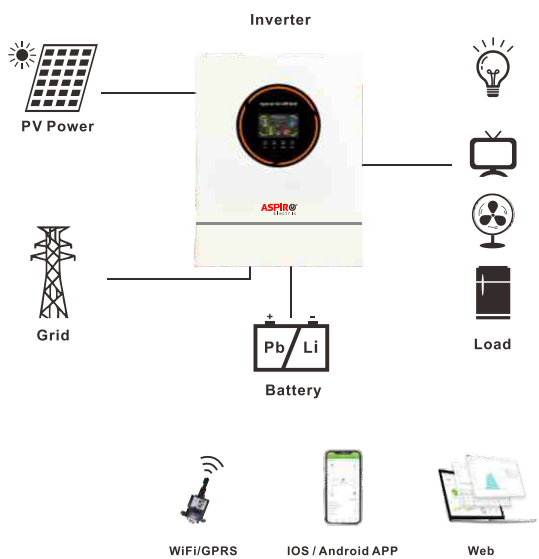


Bottom view



1. Second out
2. Main out
3. AC input
4. RS232 communication port
5. Grounding
6. RS485 communication port
7. Battery input
8. PV input

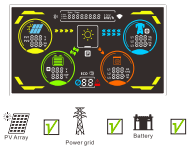
System Diagram



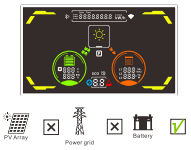
SOLAR INVERTER

Working Mode

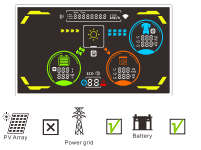
A



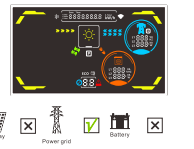
B



C



D



Technical Data

MODEL	EM3600T-24L Pro	EM6200T-48L Pro
PHASE	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out
Maximum PV Input Power	4000W	6500W
Maximum Main Output Power	3600VA/3600W	6200VA/6200W
Maximum Second Output Power	3600VA/3600W	6200VA/6200W
Maximum Total Output Power	3600VA/3600W	6200VA/6200W
Parallel Capability	NO	NO
Lithium Battery activation	YES (By PV or Utility)	YES (By PV or Utility)
Lithium Battery communication	YES(RS485)	YES(RS485)
Built-in WIFI	Optional	
AC INPUT		
Nominal Voltage	230VAC	
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)	
Frequency	50/60 Hz (Auto sensing)	
AC OUTPUT		
Nominal Voltage	220/230VAC±5%	
Surge Power	7200VA	12400VA
Frequency	50/60 Hz	
Waveform	Pure Sine wave	
Dual Outputs	Yes	
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)	
Peak Efficiency	94%	
Overload Protection	5s@ > =140% load; 10s@110%~140% load	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	24VDC	48VDC
Floating Charge Voltage	27VDC	54VDC
OverCharge Protection	33VDC	63VDC
Charging Method	CC/CV	CC/CV
SOLAR CHARGER & AC CHARGER		
Solar Charger TYPE	MPPT	
Max.PV Array Power	4000W	6500W
Max. PV Array Open Circuit Voltage	500VDC	
PV Array MPPT Voltage Range	30VDC~500VDC	60VDC~500VDC
Max. Solar Input Current	1 / 15A	1 / 27A
Max. Solar Charge Current	100A	120A
Max. AC Charge Current	80A	80A
Max. Charge Current	100A	120A
PHYSICAL		
Dimensions, D x W x H(mm)	368x312x105.5	438x312x122
Package Dimensions, D x W x H(mm)	470x382x180	540x390x210
Net Weight (Kgs)	6.7	9.3
Communication Interface	RS485(RJ45)/RS232(DB9)	
LCD	Colorful Screen+RGB Light	
ENVIRONMENT		
Operating Temperature Range	-10°C to 55°C	
Storage temperature	-15°C~ 60°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

ASPIRO® Electric

EMT Pro Series [PV 60-500Vdc]

8.5 / 11KW 220V / 230Vac Output

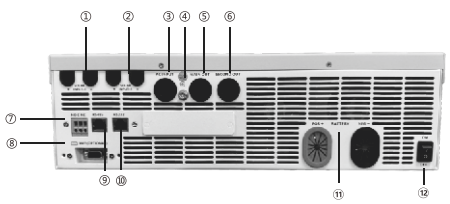


Features

- Dual output for smart load management
- Built-in 2 MPPT
- Colored LCD with RGB lights
- Lithium battery activation function by PV or Utility
- Compatible work with LiFePO4 battery via RS485
- Pure Sine Wave
- Power factor 1.0
- PV Input 500Vdc Max
- Built-in MPPT 140A/160A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Support multiple output priority: SUB,SBU,SUF
- EQ function to optimize battery performance and extend lifecycle

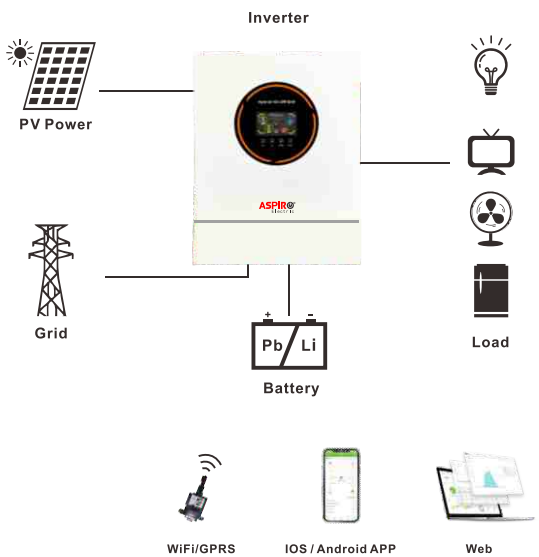


Bottom view



1. Solar input - 1
2. Solar input - 2
3. AC input
4. Grounding
5. Main output
6. Second output
7. Dry contact
8. WiFi(Optional)
9. RS485 communication port
10. RS232 communication port
11. Battery input
12. Power on / off switch

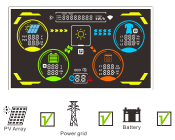
System Diagram



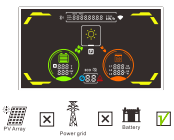
SOLAR INVERTER

Working Mode

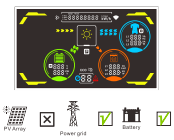
A



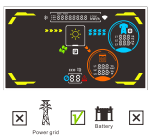
B



C



D



Technical Data

MODEL	EM8500T-48L Pro	EM11000T-48L Pro
Capacity	8.5KVA/8.5KW	11KVA/11KW
Maximum PV Input Power	10KW	11KW
Parallel Capability	NO	NO
Lithium Battery Activation	YES (By PV or Utility)	
Lithium Battery Communication	YES(RS485)	
Built-in WIFI	Optional	
INPUT		
Nominal Voltage	230VAC	
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)	
Frequency	50/60 Hz (Auto sensing)	
OUTPUT		
Nominal Voltage	220/230/240VAC	
Surge Power	17000VA	22000VA
Frequency	50/60 Hz	
Waveform	Pure Sine wave	
Dual Outputs	YES	
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)	
Peak Efficiency	94%	
Overload Protection	5s@ > =140% load; 10s@110%~140% load	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	48VDC	48VDC
Maximum Discharge Current	180A	220A
Floating Charge Voltage	54VDC	54VDC
OverCharge Protection	63VDC	63VDC
Charging Method	CC/CV	
SOLAR CHARGER & AC CHARGER		
Solar Charger TYPE	MPPT	MPPT
Max.PV Array Power	5000W*2	5500W*2
Max. PV Array Open Circuit Voltage	500VDC	500VDC
PV Array MPPT Voltage Range	60VDC~500VDC	60VDC~500VDC
Max. Solar Input Current	18A*2	18A*2
Max. Solar Charge Current	140A	160A
Max. AC Charge Current	120A	120A
Max. Charge Current	140A	160A
PHYSICAL		
Dimensions, D x W x H(mm)	540x403x122	540x403x122
Package Dimensions,D x W x H(mm)	637x495x214	637x495x214
Net Weight (Kgs)	14.5	14.8
Communication Interface	RS232/RS485/DRY CONTACT	
LCD	Colorful Screen+RGB Light	
ENVIRONMENT		
Operating Temperature Range	-10°C to 55°C	
Storage temperature	-15°C~ 60°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

ASPIRO® Electric

CM Series [PV30-500Vdc]

1.5 / 2.5/3.5KW 220V / 230Vac Output



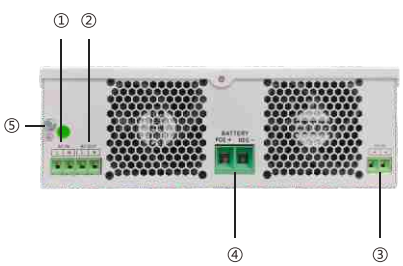
CM-N CM-S

Features

- Lithium battery activation function, which can be triggered by PV
- Pure Sine Wave
- PV Input 500Vdc Max
- Built-in MPPT 60A-100A
- Detachable dust cover for harsh environment
- Wifi remote monitoring optional
- Support multiple output priority: UTL,SOL,SBU,SUB
- EQ function to optimize battery performance and extend lifecycle

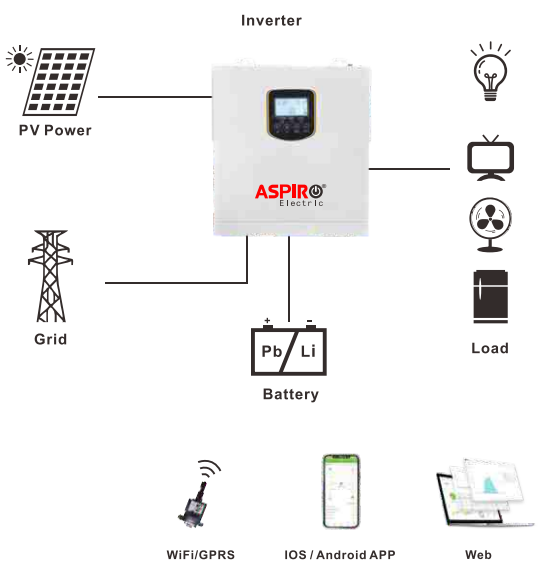


Bottom view



1. AC input
2. AC output
3. PV input
4. Battery input
5. Grounding

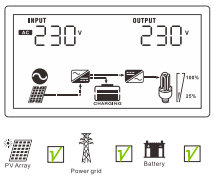
System Diagram



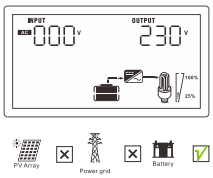
SOLAR INVERTER

Working Mode

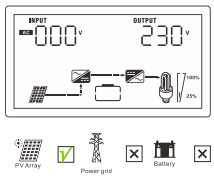
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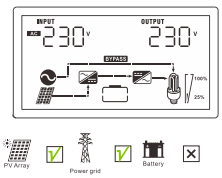
B



C



D



Technical Data

MODEL	CM1500-12S	CM1500-12N	CM1500-24S	CM1500-24N	CM2500-24S	CM2500-24N	CM3500-24S	CM3500-24N
Capacity	1500VA/1500W		1500VA/1500W		2500VA/2500W		3500VA/3500W	
Parallel Capability	NO		NO		NO		NO	
Lithium Battery Activation	YES(By PV)	NO	YES(By PV)	NO	YES(By PV)	NO	YES(By PV)	NO
Lithium battery Communication	NO		NO		NO		NO	
INPUT								
Nominal Voltage	230VAC							
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)							
Frequency	50/60 Hz (Auto sensing)							
OUTPUT								
Nominal Voltage	220/230VAC±5%							
Rated Power	1500VA/1500W		1500VA/1500W		2500VA/2500W		3500VA/3500W	
Battery Mode Power	1200VA/1200W		1200VA/1200W		2500VA/2500W		3000VA/3000W	
Surge Power	3000VA		3000VA		5000VA		7000VA	
Frequency	50/60 Hz							
Waveform	Pure Sine wave							
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)							
Peak Efficiency (PV to INV)	96%							
Peak Efficiency (Battery to INV)	93%							
Overload Protection	5s@ > =140% load; 10s@100%~140% load							
Crest Factor	3:1							
Admissible Power Factor	0.6~1 (inductive or capacitive)							
BATTERY								
Battery Voltage	12Vdc		24Vdc					
Floating Charge Voltage	13.5Vdc		27Vdc					
OverCharge Protection	16.5Vdc		32Vdc					
Charging Method	CC/CV							
SOLAR CHARGER & AC CHARGER								
Solar Charger TYPE	MPPT							
Max.PV Array Power	2000W		2000W		3000W		4000W	
Max. PV Array Open Circuit Voltage	500VDC							
PV Array MPPT Voltage Range	30VDC~500VDC							
Max. Solar Input Current	15A							
Max. Solar Charge Current	100A		60A		100A		100A	
Max. AC Charge Current	60A		60A		60A		60A	
Max. Charge Current(AC+PV)	100A		60A		100A		100A	
PHYSICAL								
Dimensions, D x W x H(mm)	330*278*98							
Package Dimensions, D x W x H(mm)	400*365*174							
Net Weight (Kgs)	3.8		3.8		3.95		3.95	
Communication Interface	RJ45 For WiFi							
ENVIRONMENT								
Operating Temperature Range	-10°C to 55°C							
Storage temperature	-15°C~ 60°C							
Humidity	5% to 95% Relative Humidity (Non-condensing)							
Ingress Protection	IP21							

Product specifications are subject to change without further notice.

ASPIRO® Electric

CML Series [PV30-160Vdc]

1/2KW PV30-160Vdc

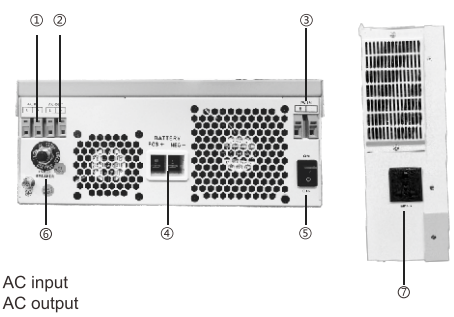


Features

- Lithium battery activiation by PV & Utility
- Pure Sine Wave
- PV Input 160Vdc Max
- Built-in MPPT 40A
- Detachable dust cover for harsh environment
- Support multiple output priority: UTL,SOL,SBU
- EQ function to optimize battery performance and extend lifecycle

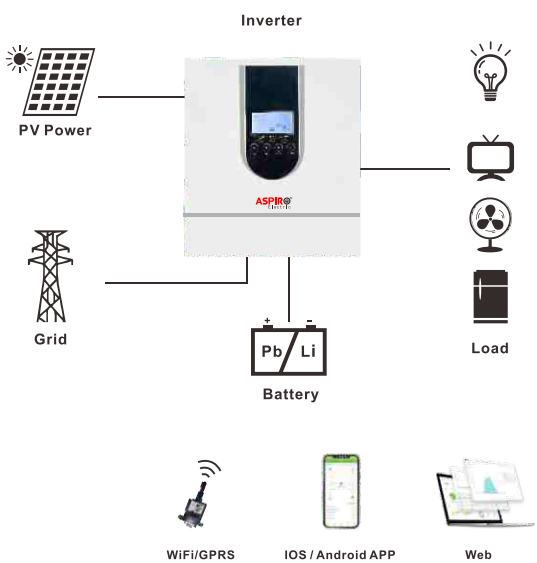


Bottom view



1. AC input
2. AC output
3. PV input
4. Battery input
5. On/off Swtich
6. Breaker
7. 220/230Vac AC socket

System Diagram



SOLAR INVERTER

Technical Data

MODEL	CML1000-12	CML2000-24
Capacity	1000VA/1000W	2000VA/2000W
Parallel Capacity	NO	NO
Lithium Battery Activation	YSE	YSE
WIFI Optional	NO	NO
INPUT		
Nominal Voltage	230VAC	
Acceptable Voltage Range	170-280VAC(For personal Computer); 90-280VAC(For Home Appliances)	
Frequency	50/60 Hz (Auto sensing)	
OUTPUT		
Nominal Voltage	220/230VAC±5%	
Surge Power	2000VA	4000VA
Frequency	50/60 Hz	
Waveform	Pure Sine wave	
Transfer Time	10ms(For personal Computer); 20ms(For Home Appliances)	
Peak Efficiency (PV to BAT)	96%	
Peak Efficiency (Battery to INV)	93%	
Overload Protection	5s@ > =140% load; 10s@100%~140% load	
Crest Factor	3:1	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	12Vdc	24V
Floating Charge Voltage	13.5Vdc	27V
OverCharge Protection	15.5Vdc	31V
Charging Method	CC/CV	
Solar Charger & AC Charger		
Solar Charger TYPE	MPPT	
Max.PV Array Power	600W	1200W
Max. PV Array Open Circuit Voltage	160VDC	
PV Array MPPT Voltage Range	30VDC~160VDC	
Max. Solar Input Current	30	
Max. Solar Charge Current	40A	40A
Max. AC Charge Current	40A	40A
Max. Charge Current(AC+P**V)**	80A	80A
PHYSICAL		
Dimensions, D x W x H(mm)	358x295x105	
Package Dimensions, DxWxH(mm)	384*339*174	
Net Weight (Kgs)	3.5	3.8
ENVIRONMENT		
Operating Temperature Range	-10°C ~ 55°C	
Storage temperature	-15°C ~ 60°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

ASPIRO® Electric

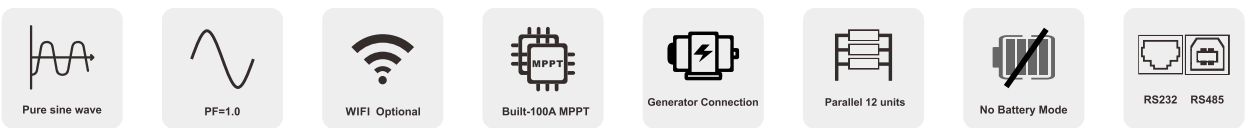
LVM Series [PV 60-500Vdc]

3 KW/ 24V 3KW/48V 110V / 120Vac Output

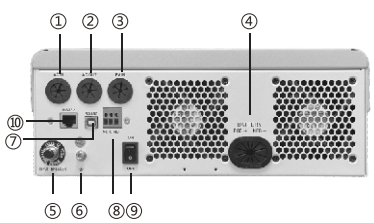
Features



- Compatible work with lifepo4 battery via RS485
- Parallel operation with up to 12 units in 1phase/3phase / split phase
- Pure sine wave
- Power factor 1.0
- PV input 500Vdc Max
- Built-in MPPT 80A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- EQ function to optimize battery performance and extend lifecycle



Bottom view



LVM3000-48PL

1. AC input
2. AC output
3. PV input
4. Battery input
5. Circuit breaker
6. Grounding
7. RS485 communication port
8. Dry contact
9. Power on/off switch
10. RS232 communication port





LVM3000-24L

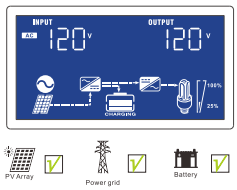
1. AC input
2. AC output
3. PV input
4. Battery input
5. Grounding
6. RS485 communication port
7. WIFI communication port
8. Power on/off switch
9. Dry contact



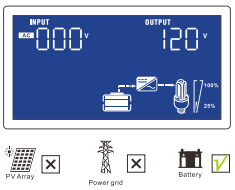
SOLAR INVERTER

Working Mode

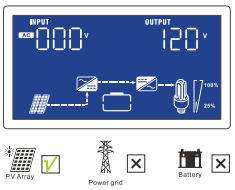
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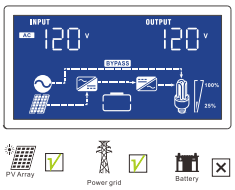
B



C



D



Technical Data

MODEL	LVM3000-24L	LVM3000-48PL
Capacity	3KVA/3KW	3KVA/3KW
Parallel Capability	NO	YES,**12** Units
Split phase operation	NO	YES, need at least 2 units parallel
Built-in WIFI	Optional	
INPUT		
Nominal Voltage	110/120VAC	
Acceptable Voltage Range	95-140VAC(For personal Computer);65-140VAC(For Home Appliances)	
Frequency	50/60 Hz(Auto sensing)	
OUTPUT		
Nominal Voltage	110/120VAC±5%	
Surge Power	6000VA	
Frequency	50/60Hz	
Waveform	Pure Sine wave	
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)	
Peak Efficiency(PV to INV)	97%	
Peak Efficiency(Battery to INV)	93%	
Overload Protection	5s@>=140% load; 10s@110%~140% load	
Crest Factor	3:1	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	24VDC	48VDC
Floating Charge Voltage	27VDC	54VDC
OverCharge Protection	33VDC	63VDC
Charging Method	CC/CV	
Solar Charger & AC Charger		
Max.PV Array Power	4000W	5000W
Solar Charger Type	MPPT	
Max.PV Array Open Circuit Voltage	500VDC	
PV Array MPPT Voltage Range	60VDC~450VDC	
Max.Solar Input Current	18A	18A
Max.Solar Charge Current	100A	80A
Max.AC Charge Current	80A	60A
Max.Charge Current	100A	80A
PHYSICAL		
Dimensions,D x W x H(mm)	312.4x350x114.5	448x315x122
Package Dimensions,D x W x H(mm)	475x390x180	540x390x217
Net Weight(Kg)	8.5	10
Communication Interface	Dry contact+RS485+WIFI	RS485/RS232/Dry-contact
ENVIRONMENT		
Operating Temperature Range	-10℃ to 50℃	
Storage Temperature	-15℃ ~ 50℃	
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

ASPIRO® Electric

DM Series [Detachable LCD]

4.2/5/6.2/11KW 220 / 230Vac Output (PV60-500Vdc)

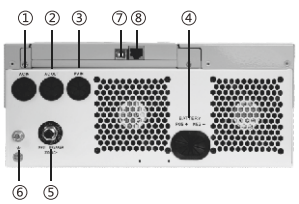
Features



- Detachable LCD
- Pure sine wave
- Power factor 1.0
- PV input 500Vdc Max
- Built-in MPPT 100A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WiFi remote monitoring optional
- Compatible work with lifepo4 battery
- Support multiple output priority: UTL, SOL, SBU, SUB
- Parallel operation up to 12 units in 1phase or 3phase
- EQ function to optimize battery performance and extend lifecycle

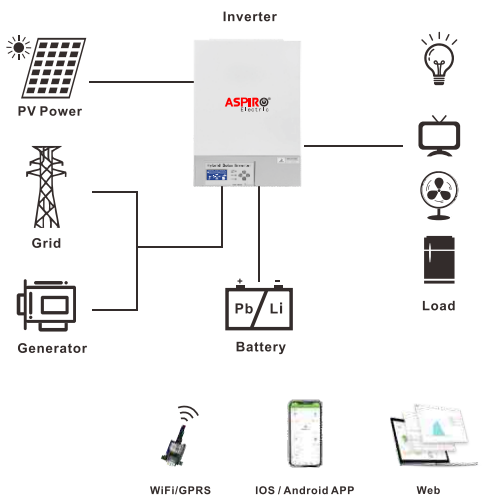


Bottom view

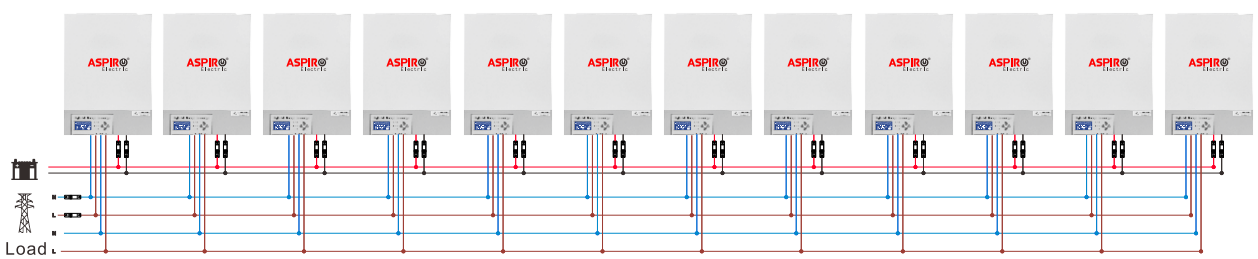


1. AC input
2. AC output
3. PV input
4. Battery input
5. Circuit breaker
6. Grounding
7. RS485 communication port
8. RS232 communication port

System Diagram



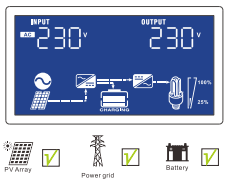
Parallel 12 Units Max



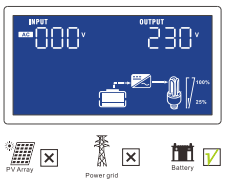
SOLAR INVERTER

Working Mode

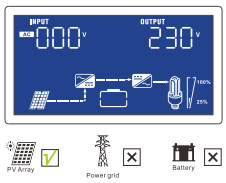
A



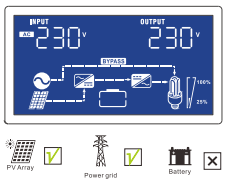
B



C



D



Technical Data

MODEL	DM4200T-24L	DM5000T-48L	DM6200T-48L	DM11000T-48L
PHASE	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out	1-Phase In /1-Phase Out
Maximum PV Input Power	5000W	5000W	6500W	11000W
Maximum Main Output Power	4200VA/4200W	5000VA/5000W	6200VA/6200W	11000VA/11000W
Maximum Second Output Power	4200VA/4200W	5000VA/5000W	6200VA/6200W	5500VA/5500W
Maximum Total Output Power	4200VA/4200W	5000VA/5000W	6200VA/6200W	11000VA/11000W
Parallel Capability	NO	NO	NO	NO
Lithium Battery activation	YES（By PV or Utility)	YES（By PV or Utility)	YES（By PV or Utility)	YES（By PV or Utility)
Lithium Battery communication	YES(RS485)	YES(RS485)	YES(RS485)	YES(RS485)
Built-in WIFI	Optional			
AC INPUT				
Nominal Voltage	230VAC			
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280VAC(For Home Appliances)			
Frequency	50/60 Hz (Auto sensing)			
AC OUTPUT				
Nominal Voltage	220/230VAC±5%			220/230/240VAC
Surge Power	8400VA	10000VA	12400VA	22000VA
Frequency	50/60 Hz			
Waveform	Pure Sine wave			
Dual Outputs	Yes			
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)			
Peak Efficiency	94%			
Overload Protection	5s@ > =140% load; 10s@100%~140% load			
Admissible Power Factor	0.6~1 (inductive or capacitive)			
BATTERY				
Battery Voltage	24VDC	48VDC	48VDC	48VDC
Floating Charge Voltage	27VDC	54VDC	54VDC	54VDC
OverCharge Protection	33VDC	63VDC	63VDC	63VDC
Charging Method	CC/CV	CC/CV	CC/CV	CC/CV
SOLAR CHARGER & AC CHARGER				
Solar Charger TYPE	MPPT			
Max.PV Array Power	5000W	5000W	6500W	5500W*2
Max. PV Array Open Circuit Voltage	500VDC			
PV Array MPPT Voltage Range	60VDC~500VDC			
Max. Solar Input Current	1 / 27A	1 / 27A	1 / 27A	2 / 18A
Max. Solar Charge Current	100A	100A	120A	160A
Max. AC Charge Current	80A	60A	80A	120A
Max. Charge Current	100A	100A	120A	160A
PHYSICAL				
Dimensions, D x W x H(mm)	312.4x350x114.5	312.4x350x114.5	438x312x122	540x403x122
Package Dimensions, D x W x H(mm)	475x390x180	475x390x180	540x390x210	637x495x214
Net Weight (Kgs)	8.5	8.5	11	14.8
Communication Interface	Standard version: RS485(RJ45)/RS232(DB9) Builtin WIFI version:RS485(RJ45)			
ENVIRONMENT				
Operating Temperature Range	-10°C to 50°C			
Storage temperature	-15°C~ 60°C			
Humidity	5% to 95% Relative Humidity (Non-condensing)			
Ingress Protection	IP21			

Product specifications are subject to change without further notice.

ASPIRO® Electric

RM Series [PV 60-500Vdc]

3 KW PV 500Vdc 110 / 120Vac Output
5.5KW PV 500Vdc 220 / 230Vac Output

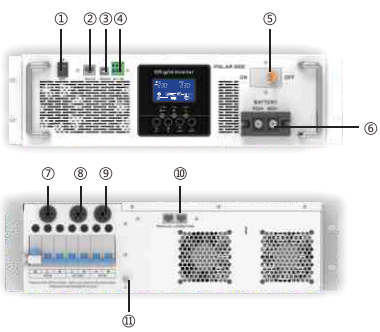


Features

- Pure sine wave
- Power factor 1.0
- PV input 500Vdc Max
- Built-in MPPT 100A
- Capable to work without battery
- Detachable dust cover for harsh environment
- WIFI remote monitoring optional
- Compatible work with lifepo4 battery
- Support multiple output priority: UTL, SOL, SBU, SUB
- Parallel operation up to 12 units in 1phase or 3phase
- EQ function to optimize battery performance and extend lifecycle

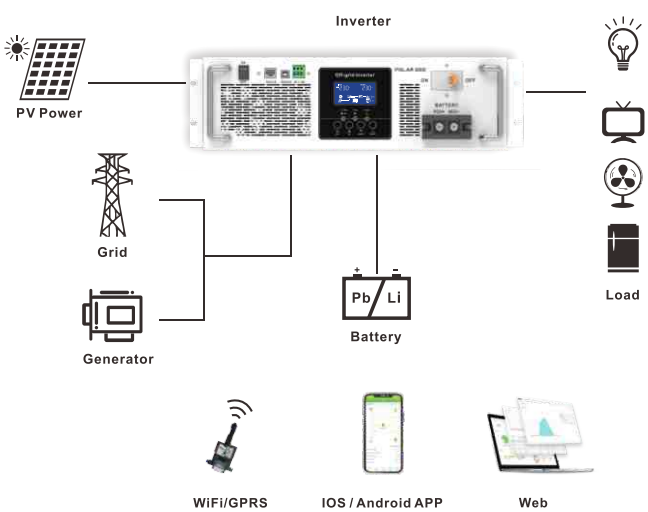


Bottom view



1. Power on/off switch
2. RS232 communication port
3. RS485 communication port
4. Dry contact (Optional)
5. Battery breaker
6. Battery input
7. AC input
8. AC output
9. PV input
10. Parallel communication port
11. Grounding

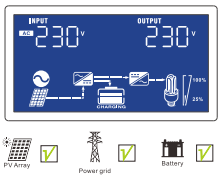
System Diagram



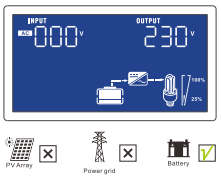
SOLAR INVERTER

Working Mode

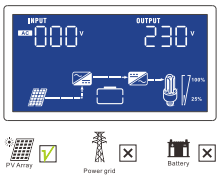
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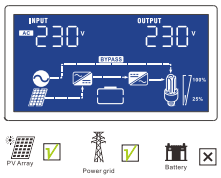
B



C



D



Technical Data

MODEL	LVRM3000 - 48PL	RM5500 - 48PL
Capacity	3KVA/3KW	5.5KVA/5.5KW
Parallel Capability	YES,**12** Units	
Lithium Battery communication	YES(RS485)	YES(RS485)
INPUT		
Nominal Voltage	110/120VAC±5%	220/230VAC±5%
Acceptable Voltage Range	170-280VAC(For personal Computer);90-280vac(For Home Appliances)	
Frequency	50/60 Hz(Auto sensing)	
OUTPUT		
Nominal Voltage	110/120VAC±5%	220/230VAC±5%
Surge Power	6000VA	11000VA
Frequency	50/60Hz	
Waveform	Pure Sine wave	
Transfer Time	10ms(For personal Computer);20ms(For Home Appliances)	
Peak Efficiency(PV to INV)	97%	
Peak Efficiency(Battery to INV)	93%	
Overload Protection	5s@>=140% load; 10s@110%~140% load	
Crest Factor	3:1	
Admissible Power Factor	0.6~1 (inductive or capacitive)	
BATTERY		
Battery Voltage	48VDC	48VDC
Floating Charge Voltage	53VDC	54VDC
OverCharge Protection	63VDC	63VDC
Charging Method	CC / CV	
SOLAR CHARGER & AC CHARGER		
Solar Charger Type	MPPT	
Max.PV Array Power	5000W	5500W
Max.PV Array Open Circuit Voltage	500VDC	
PV Array MPPT Voltage Range	60VDC~500VDC	
Max.Solar Input Current	18A	18A
Max.Solar Charge Current	80A	100A
Max.AC Charge Current	60A	60A
Max.Charge Current	80A	100A
PHYSICAL		
Dimensions,D x W x H(mm)	130x438x438	
Package Dimensions,D x W x H(mm)	220x520x550	
Net Weight(Kg)	10	10
Communication Interface	RS485/ RS232 / Dry-contact	RS485/ RS232 / Dry-contact
ENVIRONMENT		
Operating Temperature Range	(-10℃ to 55℃)	
Storage Temperature	(-15℃ ~ 60℃)	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Ingress Protection	IP21	

Product specifications are subject to change without further notice.

ASPIRO® Electric

ESS - V Series [Portable Solar Power System]

1KW-3KW

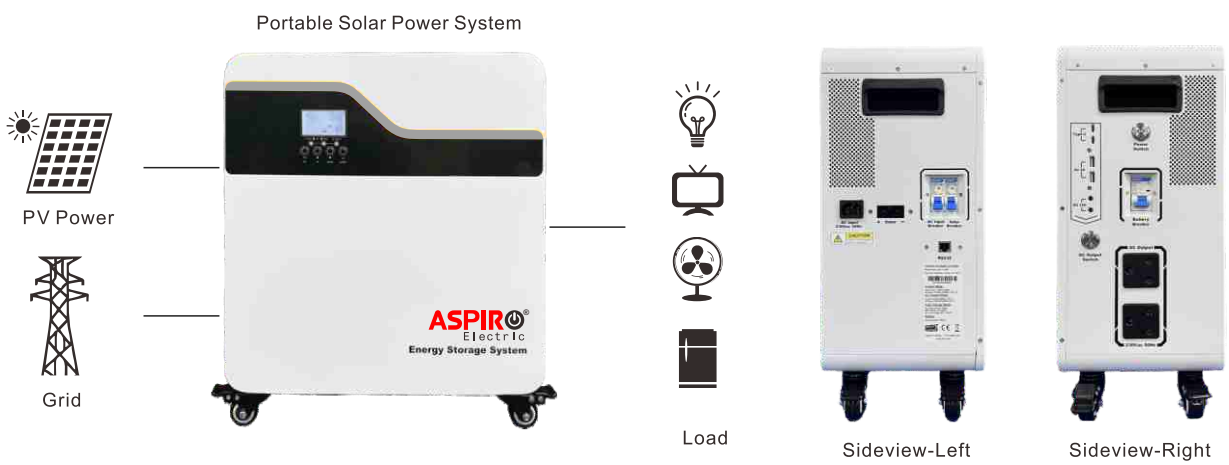


Features

- Inbuilt LifePO4 lithium battery, High energy storage and longer life
- Double protection both BMS and charger
- Pure sine wave solar inverter, Friendly for electricity appliances
- Multiple DC ouput ports, Support charging different devices simultaneously
- Integrated solar power station (except solar panel),with handlebars and wheels,Portable
- Intelligent temperature cooling fan, Work silently
- All in one; integrated inverter/MPPT controller/battery into one
- Multiple charging methods
- LCD Display

All In One Design | Multiple Output | Wheels | Multiple Charging Methods | High Efficiency | PF=1.0 | BMS Lithium Battery Activation | WIFI Optional

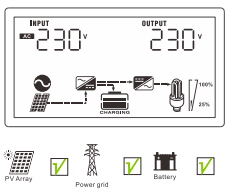
System Diagram



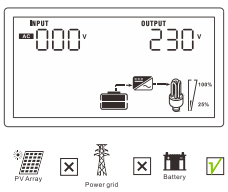
SOLAR INVERTER

Working Mode

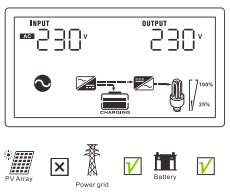
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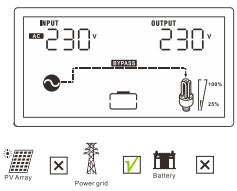
B



C



D



Technical Data

MODEL		ESS-V1000	ESS-V1500	ESS-V2000	ESS-V3000
Installation Type		Portable			
Battery Voltage		25.6V			
Lithium Battery activation		YES(By PV or Utility)	YES(By PV or Utility)	YES(By PV or Utility)	YES(By PV or Utility)
Lithium Battery communication		YES(RS485)	YES(RS485)	YES(RS485)	YES(RS485)
INVERTER					
Rated Power		1000W	1500W	2000W	3000W
AC Input	Mains Charging Current	30A	30A	40A	60A
	Input Voltage Range	90-280V			
	Input Frequency	45-65Hz			
AC Output	Output Voltage	230Vac			
	Output Frequency	50/ 60Hz			
	Output Wave	Pure Sine Wave			
Inbuilt Lifepo4 Battery Capacity		1280WH LifePO4	1536WH LifePO4	2048WH LifePO4	3072WH LifePO4
SOLAR INPUT					
Max. PV Power		1000W	1000W	1500W	1500W
Range of Charging Voltage		30-160VDC	30-160VDC	30-160VDC	30-160VDC
Max Charge Current		40A	40A	60A	60A
Voltage For Floating Charge		29.0V			
DC OUTPUT					
Low Voltage Recovery Voltage		26.8VDC			
low Voltage Protection Voltage		22.4VDC			
5VDC USB Output Ports		2 * USB 2.0 5VDC 2.4A(MAX)			
TYPE C Output Ports		2 * Type C (5V3A/9V2A)			
12VDC Output Ports		2* MAX 4A			
PHYSICAL					
Heat dissipation/cooling		Temperature control by intelligent exhaust fan			
Display		Digital LCD+LED			
External Size		430*215*500	430*215*500	430*215*600	430*215*600
Packge Size		506*285*570	506*285*570	500*285*670	500*285*670
N.W (Net Weight)		21	23.2	33.7	44.2
G.W(Gross Weight)		23	34.5	35	46
ENVIRONMENT					
Operating Temperature Range		-10℃ ~ 55℃			
Storage Temperature		-15℃ ~ 60℃			
Humidity		5% to 95% Relative Humidity(Non-condensing)			

Product specifications are subject to change without further notice.

ESS - H Series [Portable Solar Power System]

2KW-3KW

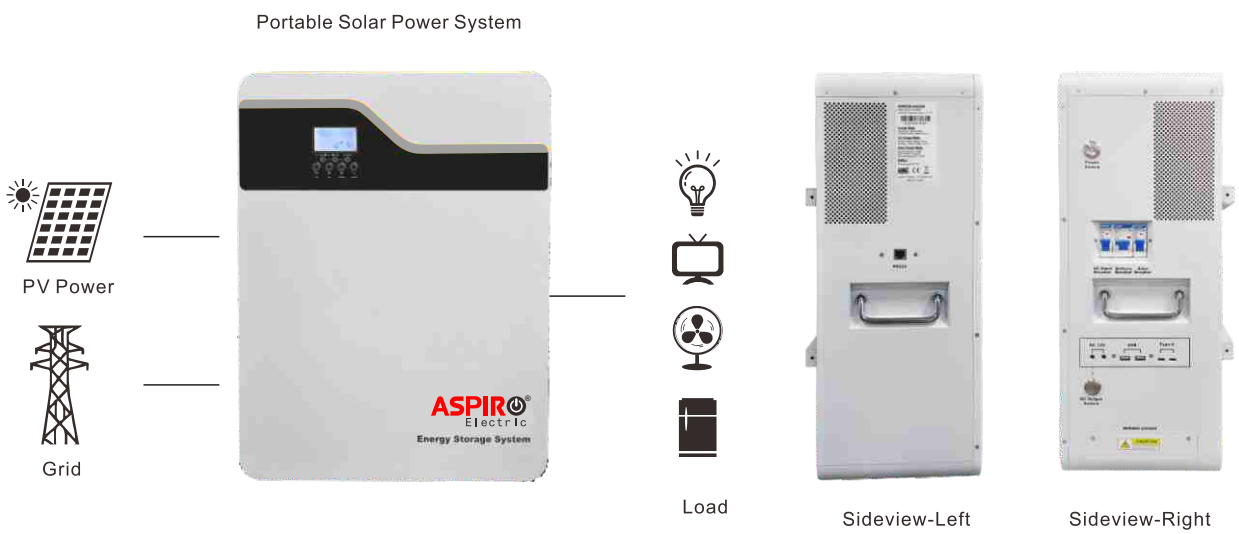


Features

- Inbuilt LifePO4 lithium battery, High energy storage and longer life
- Double protection both BMS and charger
- Pure sine wave solar inverter, Friendly for electricity appliances
- Multiple DC ouput ports, Support charging different devices simultaneously
- Integrated solar power station (except solar panel)
- Wall mounted design
- Intelligent temperature cooling fan, Work silently
- All in one; integrated inverter/MPPT controller/battery into one
- Multiple charging methods
- LCD Display



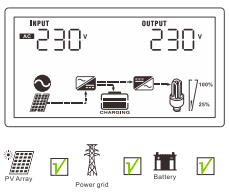
System Diagram



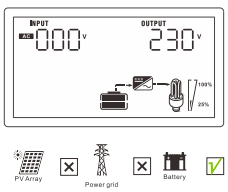
SOLAR INVERTER

Working Mode

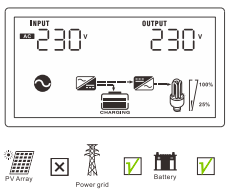
A



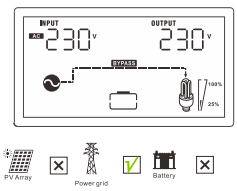
B



C



D



Technical Data

MODEL		ESS-H2000	ESS-H3000
Installation Type		Wall mounted	
Battery Voltage		25.6V	
Lithium Battery activation		YES(By PV or Utility)	YES(By PV or Utility)
Lithium Battery communication		YES(RS485)	YES(RS485)
INVERTER			
Rated Power		2000W	3000W
AC Input	Mains Charging Current	40A	60A
	Input Voltage Range	90-280V	
	Input Frequency	45-65Hz	
AC Output	Output Voltage	230Vac	
	Output Frequency	50/ 60Hz	
	Output Wave	Pure Sine Wave	
Inbuilt Lifepo4 Battery Capacity		2048WH LifePO4	3072WH LifePO4
SOLAR INPUT			
Max. PV Power		1500W	1500W
Range of Charging Voltage		30-160VDC	30-160VDC
Max Charge Current		60A	60A
Voltage For Floating Charge		29.0V	
DC OUTPUT			
Low Voltage Recovery Voltage		26.8VDC	
low Voltage Protection Voltage		22.4VDC	
5VDC USB Output Ports		2 * USB 2.0 5VDC 2.4A(MAX)	
TYPE C Output Ports		2 * Type C (5V3A/9V2A)	
12VDC Output Ports		2* MAX 4A	
PHYSICAL			
Heat dissipation/cooling		Temperature control by intelligent exhaust fan	
Display		Digital LCD+LED	
External Size		430*215*550	430*215*550
Packge Size		500*325*620	500*325*620
N.W (Net Weight)		33.7	43.2
G.W(Gross Weight)		35	45
ENVIRONMENT			
Operating Temperature Range		-10℃ ~ 55℃	
Storage Temperature		-15℃ ~ 60℃	
Humidity		5% to 95% Relative Humidity(Non-condensing)	

Product specifications are subject to change without further notice.

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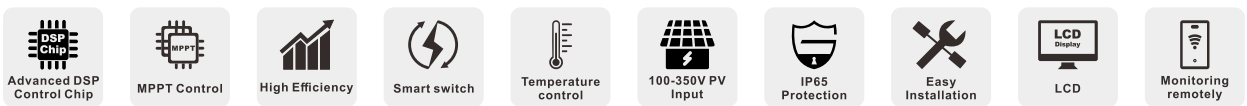
MPPT Solar Water Heating Controller

SWHC-3K/4K Max SWHC-3K/4K Max-W (IP65)

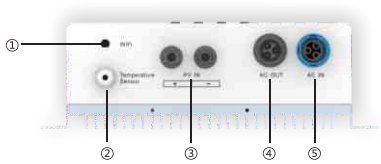


Features

- Maximum power point tracking technology (MPPT Technology)
- Advanced DSP control chip, smart control
- Solar heating priority, automatic grid switching when solar insufficient
- IP65 Design, indoor and outdoor applications
- Water Temperature Detection
- The highest water temperature setting for grid heating and PV heating
- Manual Grid Heating Switch
- WiFi monitoring (SWHC-3K/4K Max-W)

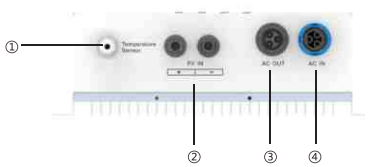


Bottom view



SWHC-3K/4K Max-W

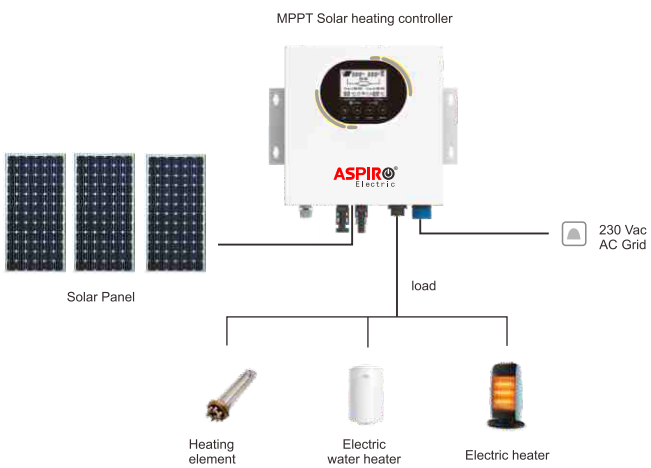
1. WiFi monitoring
2. Temperature Sensor
3. PV input
4. AC output
5. AC input



SWHC-3K/4K Max

1. Temperature Sensor
2. PV input
3. AC output
4. AC input

System Diagram



MPPT SOLAR WATER HEATING SYSTEM

Technical Data

Model	SWHC-3K MAX	SWHC-4K MAX	SWHC-3K MAX-W	SWHC-4K MAX-W
Scope of application	The MPPT water heating controller is only suitable for heating resistance heating components through solar power, and the controller load can only be used to connect resistance equipment or AC heaters with AC grid heating power within 230V/4000 watts.			
Photovoltaic characteristics				
Solar Max. input power	3000W	4000 W	3000W	4000 W
Solar input current	≤ 15 A	≤ 20 A	≤ 15 A	≤ 20 A
Solar input voltage range	115Vdc-300Vdc	160 Vdc～350 Vdc	115Vdc-300Vdc	160 Vdc～350 Vdc
MPPT operating voltage range	90Vdc-280Vdc	120 Vdc～340 Vdc	90Vdc-280Vdc	120 Vdc～340 Vdc
MPPT efficiency	>99%			
Solar heating output voltage range	0～260 Vac			
Solar heating output current range	≤ 15A	≤ 20 A	≤ 15A	≤ 20 A
AC characteristics				
AC heating rated power	4000 W	4000 W	4000 W	4000 W
AC rated voltage	230 Vac			
AC working voltage range	180 Vac～260 Vac			
AC rated current	≤20 A	≤20 A	≤20 A	≤20 A
Load requirement				
Load	load ≤ 230V/3000W the resistance value > 13 ohms	load ≤ 230V/4000W the resistance value > 13 ohms	load ≤ 230V/3000W the resistance value > 13 ohms	load ≤ 230V/4000W the resistance value > 13 ohms
Machine characteristics				
LCD Display	YES			
Max Water temperature	Settable (30-80℃)			
WIFI	NO		YES	
Temperature sensor	YES(4M)			
Machine dimensions	258*190*84.5mm	258*190*84.5mm	258*190*84.5mm	258*190*84.5mm
Package dimensions	305*244*162mm	305*244*162mm	305*244*162mm	305*244*162mm
Net weight	2.75KG	2.75KG	2.8KG	2.8KG
Gross weight	3.1KG	3.1 KG	3.1KG	3.1 KG
Ingress Protection	IP65			

Product specifications are subject to change without further notice.

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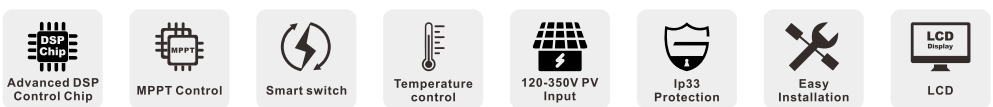
MPPT Solar Water Heating Controller

SWHC-4K Pro (IP33)



Features

- Maximum power point tracking technology(MPPT Technology)
- Advanced DSP control chip , smart control
- Solar heating priority, automatic grid switching when solar insufficient
- Water Temperature Detection
- The highest water temperature setting for grid heating and pv heating
- ManualGrid Heating Switch

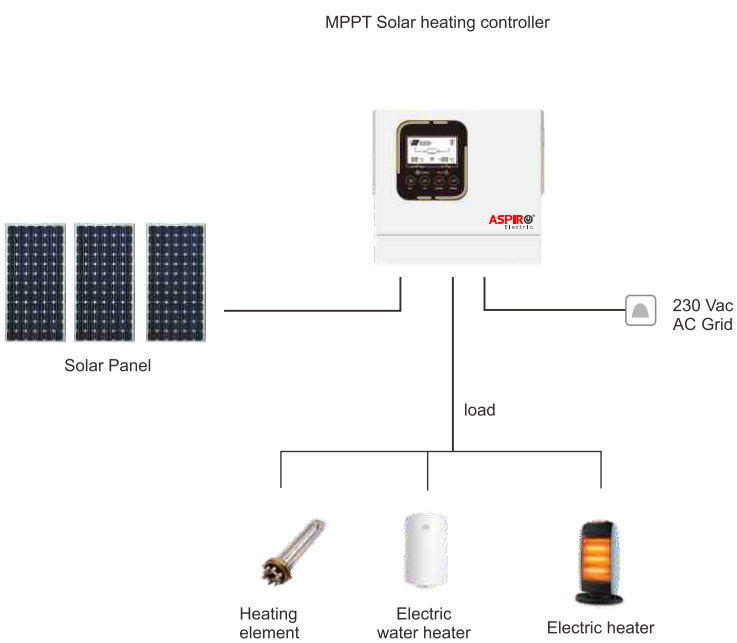


Bottom view



1.AC Input
2.AC Output
3.Temperature Sensor
4.PV Input

System Diagram



MPPT SOLAR WATER HEATING SYSTEM

Technical Data

MODEL	SWHC-3K Pro	SWHC-4K Pro
Scope of application	The MPPT water heating controller is only suitable for heating resistance heating components through solar power, and the controller load can only be used to connect resistance equipment or AC heaters with AC grid heating power within 230V/4000 watts.	
PHOTOVOLTAIC CHARACTERISTICS		
Solar Max. input power	3000W	4000 W
Solar input current	≤ 15 A	≤ 20 A
Solar input voltage range	115Vdc-300Vdc	160 Vdc ~ 350 Vdc
MPPT operating voltage range	90Vdc-280Vdc	120 Vdc ~ 340 Vdc
MPPT efficiency	>99%	
Solar heating output voltage range	0 Vac ~ 260 Vac	
Solar heating output current range	≤ 15A	≤ 20 A
AC CHARACTERISTICS		
AC heating rated power	4000 W	4000 W
AC rated voltage	230 Vac	
AC working voltage range	180 Vac ~ 260 Vac	
AC rated current	≤20 A	≤20A
LOAD REQUIREMENT		
Load	load ≤ 230V/3000W the resistance value > 13 ohms	load ≤ 230V/4000W the resistance value > 13 ohms
MACHINE CHARACTERISTICS		
Machine dimensions	195*183*100mm	195*183*100mm
Package dimensions	255*251*160mm	255*251*160mm
Net weight	2.6KG	2.6KG
Gross weight	2.95KG	2.95KG
Ingress Protection	IP33	

Product specifications are subject to change without further notice.

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MPPT Solar Water Heating Controller

SWHC-4K (IP65)

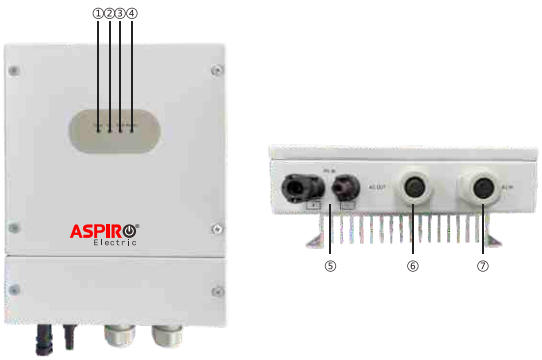


Features

- Maximum power point tracking technology
- Efficiency>99%
- Advanced DSP control chip, smart control
- High voltage 350Vdc Max
- Low energy consumption
- Low temperature working
- IP65 design

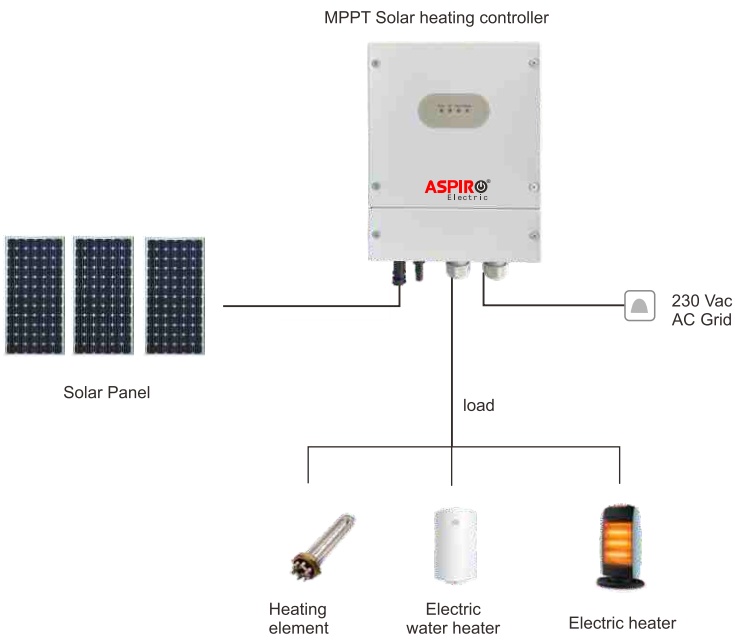


Detail view



1. Solar heating indicator
2. AC heating indicator
3. Fault indicator
4. Power indicator
5. PV input
6. AC output
7. AC input

System Diagram



MPPT SOLAR WATER HEATING SYSTEM

Technical Data

MODEL	SWHC-3K	SWHC-4K
Scope of application	The MPPT water heating controller is only suitable for heating resistive load through solar power, and the controller can only be used to connect resistive equipment or AC water heaters with utility heating power within 230V/4000 watts.	
PHOTOVOLTAIC CHARACTERISTICS		
Solar Max. input power	3000W	4000 W
Solar input current	≤ 15 A	≤ 20 A
Solar input voltage range	115Vdc-300Vdc	160 Vdc ~ 350 Vdc
MPPT operating voltage range	90Vdc-280Vdc	120 Vdc ~ 340 Vdc
MPPT efficiency	>99%	
Solar heating output voltage range	0 Vac ~ 260 Vac	
Solar heating output current range	≤ 15A	≤ 20 A
AC CHARACTERISTICS		
AC heating rated power	4000 W	4000 W
AC rated voltage	230 Vac	
AC working voltage range	180 Vac ~ 260 Vac	
AC rated current	≤20 A	≤20A
LOAD REQUIREMENT		
Load	load ≤ 230V/3000W the resistance value > 13 ohms	load ≤ 230V/4000W the resistance value > 13 ohms
MACHINE CHARACTERISTICS		
Machine dimensions	255*201.4*93mm	255*201.4*93mm
Package dimensions	366*275*173mm	366*275*173mm
Net weight	3KG	3 KG
Gross weight	3.6KG	3.6 KG
Ingress Protection	IP65	

Product specifications are subject to change without further notice.

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MPPT Solar Water Heating Controller

SWHC-2K (IP21)

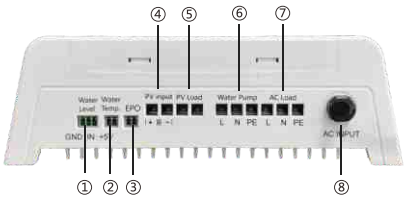


Features

- MPPT efficiency> 99%
- Built in DSP chip, smart control
- Multi- working models to cut the bill
- Wide range PV voltage put 35 Vdc□160 Vdc
- Low consumption and work at low temperature
- WIFI monitoring and remotely setting. (Optional)

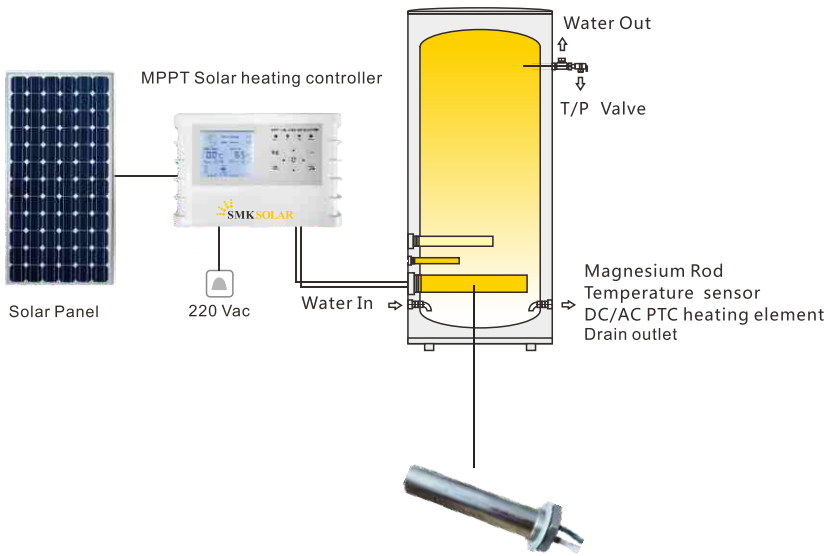


Bottom view



1. Water Level
2. Water Temp
3. EPO
4. PV input
5. PV Load
6. Water Pump
7. PV Load
8. AC input

System Diagram



DC/AC PTC heating element

MPPT SOLAR WATER HEATING SYSTEM

Technical Data

Model	SWHC-2K
Scope of application	Photovoltaic heating controllersare only suitable for heating bysolar power generation, and thecontroller load can only beconnected to heating rods withresistance properties
Characteristics Photovoltaic	
SolarMax.inputpower	2000W
Solar input current	≤18A
Solar input voltage range	40Vdc ~ 160Vdc
MPPT operating voltage range	35Vdc ~ 155Vdc
MPPT efficiency	>99%
Solar heating output voltage range	0 ~ 120Vdc
Solar heating output current range	≤18A
AC characteristics	
AC heating rated power	2000W
AC rated voltage	220Vac
AC working voltage range	180 ~ 270Vac
AC rated current	≤10A (The maximum current capacity of the controller should be considered when selecting the heating rod, if the AC output has no over current protection)
Machine characteristics	
Temperature adjustment range	50 ~ 80℃
Leakage action current	≤10MA
Leakage action time	≤0.1S
Protective function	Leakage protection,over-temperature protection, emergency shutdown,AC outputover-voltage protection, solar output over-voltage protection
Add water function	To add water automatically or manually, and the current of the water pump does not exceed AC 5A
Monitoring function	WiFi Monitoring（Optional）
Dimensions	250*155*80mm
Package dimensions	290*250*120mm
Net weight	1.8Kg
Gross weight	2.2Kg
Ingress Protection	IP21

Product specifications are subject to change without further notice.

ASPIRO® Electric

MPPT Solar Water Heating System

SWH-H Series 50L 60L 80L

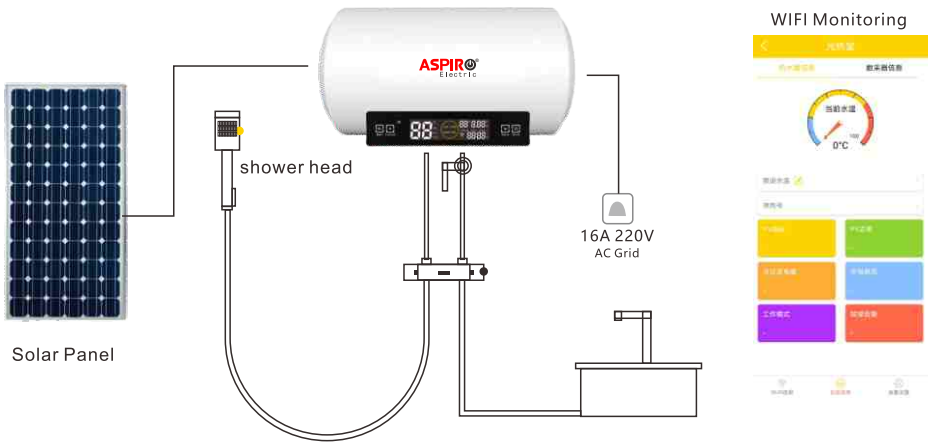


Features

- Photovoltaic power generation,low consumption and work at low temperature
- MPPT controller technology, 99% of efficiency maximum the solar power harvest and convert to heat
- Smart switching DC/AC control to cut the bill
- Pressurized water tank, with 24H continuous hot water output, without waste of cold water
- WIFI monitoring and remotely setting
- Easy installation, maintenance and commissioning



System Diagram



Component



Solar Panel



Water tank



MPPT water heating controller



AC/DC heating element

MPPT SOLAR WATER HEATING SYSTEM

Technical Data

MODEL	SWH-H50L	SWH-H60L	SWH-H80L
Volume	50L	60L	80L
SOLAR			
Solar Max output power	1200w		
Recommeded solar panel	500w	600w	800w
Heating time 40°C		4 Hours	
Annual solar Power Harvest	730 KWH	876 KWH	1168 KWH
Solar input voltage	160Vdc Max/25℃		
MPPT range	30Vdc-155Vdc		
AC			
AC heater power	2000w		
AC voltage	220v		
PHYSICAL			
Monitoring	WIFI setting and monitoring (Optional)		
Protection	Over temperture protection ，leakage protection		
Inner tank material	Enamel		
Tank dimension	Φ390×785	Φ390×900	Φ440×835
Package dimension	530×440×915	530×440×1030	555×495×965
Net weight	19kg	21.5kg	25.3kg
Gross weight	20kg	23kg	28kg

Product specifications are subject to change without further notice.

ASPIRO®
Electric

Battery charge controller

5120W100AAC Charger 48Vdc



Features

- Charging super fast
- Smart to trigger Generator to charge through dry contact
- User friendly, no wiring design
- Clean power to charge battery
- Builtin DC breaker

High Efficiency 94%

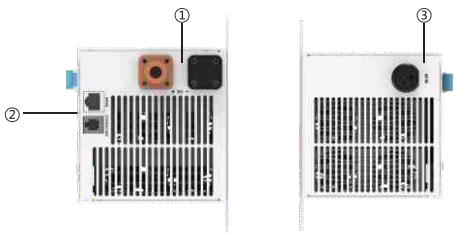
Super charge

Generator Connection

Dry contact/ RS485

48V

Bottom view



1. Battery quick connector
2. Dry contact/BMS ports
3. AC quick connector

System Diagram



BATTERY CHARGE CONTROLLER

Technical Data

AC MODEL	ACC5120-48L
Max Charging Current	100Amp
AC Input Voltage	90-264VAC
AC Frequency	50/60Hz
Nominal battery Voltage	48Vdc (43-57dc adjustable)
Rated Power	5120W
Max Efficiency	94%
GENERAL SPECIFICATIONS	
Communication port	RS485(RJ45)+DRY CONTACT(RJ11)
Operating TemperatureRange	-10°C to 55°C
Storage temperature	-15°C~ 60°C
Humidity	5% to 95% Relative Humidity (Non-condensing)
Ingress Protection	IP21
Dimension(D*W*H), mm	332x122x125
Net Weight, kg	5.9

Product specifications are subject to change without further notice.

ASPIRO® Electric

Monitoring System

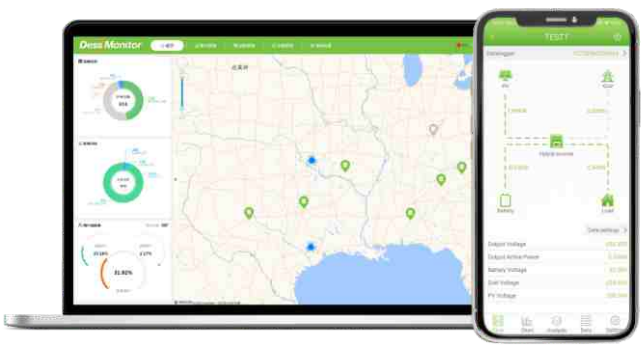
Wi-Fi Plug Pro / GRPS Plug Pro / 4G Plug Pro

Plug gable data logger can support Wi-Fi, GPRS, 4G, NB-IOT and other communication modes. Through DB9,RJ-45 and other connection modes, it is perfectly compatible with inverter, energy storage system, It can support the remote control, remote debugging, remote upgrading and other functions of the device, and can view the working status and power generation of the device in real time, so as to provide users with a complete remote, low-cost and visual monitoring solution.



Energy Storage Management Platform

Energy storage management platform, provides users with application services such as data collection, analysis, calculation, storage, alarm push, etc. Users can view the data of energy storage device through PC web page and mobile APP interface, and operate under the guidance of truly demand and voltage regulation.



DessMonitor

iOS

Android

MONITORING SYSTEM

Technical Data

Product Model	Wi-Fi Plug Pro	GPRS Plug Pro	4G Plug Pro
Product picture			
ESSENTIAL PARAMETERS			
Dimensions	51*45*27mm	51*45*27mm	51*45*27mm
Weight	60g	60g	60g
Protection class	IP65	IP65	IP65
Installation mode	Fixed to the equipment via screws	Fixed to the equipment via screws	Fixed to the equipment via screws
Rated voltage	DC 5~12V	DC 5~12V	DC 5~12V
Maximum current	800mA(5V)	2A(5V)	2A(5V)
External port	Db9/Aviation joint/RJ-45	Db9/Aviation joint/RJ-45	Db9/Aviation joint/RJ-45
Indicator lights	4	4	4
Operation temperature	-30℃~+85℃	-30℃~+85℃	-30℃~+85℃
Storage temperature	-40℃~+90℃	-40℃~+90℃	-40℃~+90℃
COMMUNICATION PARAMETERS			
Local communication	RS-232/RS-485/TTL	RS-485/RS-232/TLL	RS-485/RS-232/TTL
Public network access	Wi-Fi	GPRS	GPRS/TD-SCDMA/WCDMA/LTE
Baud rate	9600bps（default）	9600bps（default）	9600bps（default）
Working frequency	2.412GHz~2.484GHz	EGSM900/GSM880/ DCS1800/PCS1900	FDD LTE:B1/B3/B8 TDD LTE:B38/B39/B40/B41 TDSCDMA:B34/B39 WCDMA:B1/B8 GSM:900/1800
Communication standard	IEEE802.11b/g/n	GPRS multi-slot class 10 IS-95A/B IS-2000	LTE-Advanced/WirelessMAN-Advanced(802.16m)
Maximum transmission rate	72Mbps	85.6Kbps	150Mbps
Communication distance	100m (open environment)	Carrier network	Carrier network
Antenna gain	2.7dBi	2.5dBi	2.5dBi
Antenna	External antenna(extend antenna optional)	External antenna(extend antenna optional)	External antenna(extend antenna optional)
SIM card	--	Nano card or chip card	Nano card or chip card
OTHER PARAMETERS			
Watchdog	Software watchdog +hardware watchdog	Software watchdog +hardware watchdog	Software watchdog +hardware watchdog
Device layer communication protocol	Modbus-RTU	Modbus-RTU	Modbus-RTU
Networking layer communication protocol	Modbus-TCP	Modbus-TCP	Modbus-TCP
Parameters setting mode	Massage/remote server	Massage/remote server	Massage/remote server
Firmware update mode	Remote server	Remote server	Remote server
Number of connected devices	1	1	1

Product specifications are subject to change without further notice.

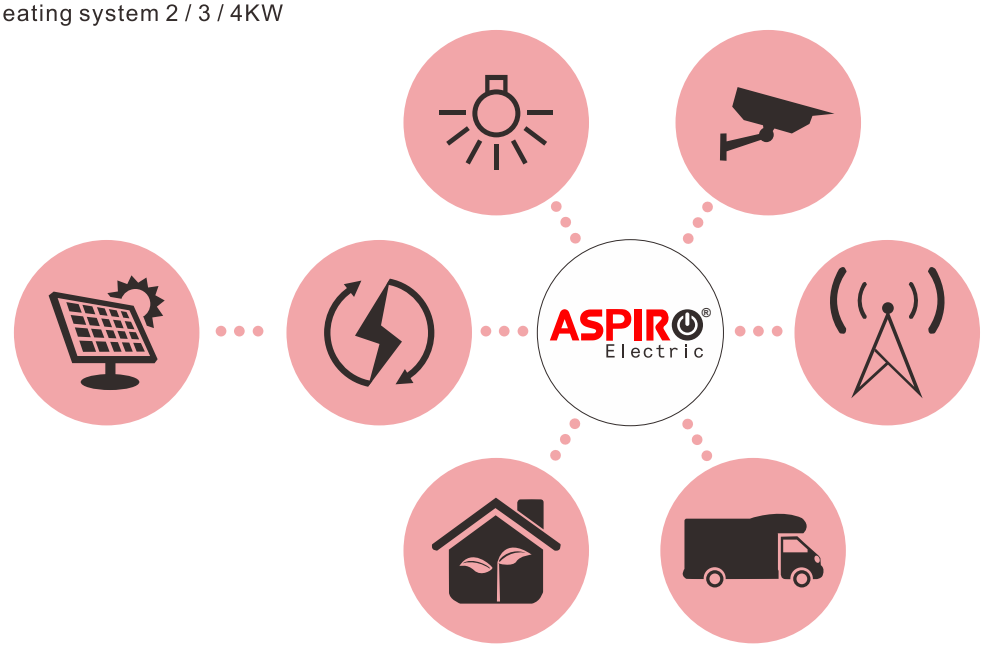
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Global Partners



SOLUTIONS


























Project Application

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