2021 Product gallery

- Household photovoltaic power supply system
- All-in-one solar charge inverter system
- Street Light Series system

All-in-one solar charge inverter

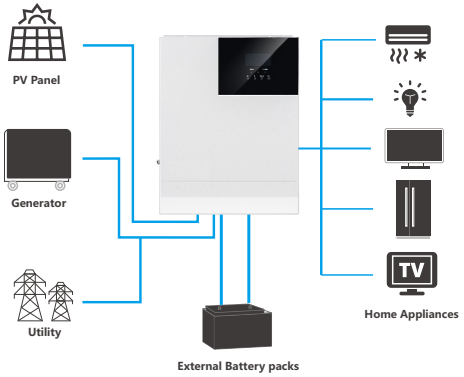
HF4840S80-145/HF4850S80-145

Performance characteristics

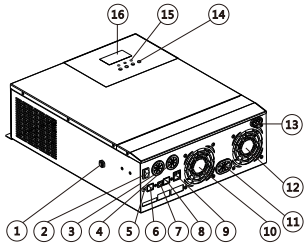
· Full digital voltage and current double closed loop control, advanced SPWM technology, output of pure sine wave.
· Two output modes: mains bypass and inverter output; uninterrupted power supply.
· Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging.
· Advanced MPPT technology with an efficiency of 99.9%.
· With the charging requirement (voltage, current, mode) settings, and suitable for various types of energystorage batteries.
· ON/OFF rocker switch for AC output control.
· Power saving mode available to reduce no-load loss.
· Intelligent variable speed fan to efficiently dissipate heat and extend system life.
· Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
· 360 ° all-round protection with a number of protection functions. Such as overload,short circuit and overcurrent.
· Supply of a variety of user-friendly communication modules, such as Rs485 (GPRS,WiFi), CAN, USB etc., and suitable for computer, mobile phones, Internetmonitoring as well as remote operations.

Application scenarios

Product connection diagram



Product characteristics



①	Overload protector	⑨	Dry contact por
②	ON/OFF rocker switch	⑩	Cooling fan
③	AC input port	⑪	Battery port
④	AC output port	⑫	Cooling fan
⑤	Grounding screw hold	⑬	PV port
⑥	RS485-2 communication port	⑭	Touch button
⑦	USB communication port	⑮	Indicator
⑧	RS485-1 communication port	⑯	LCD screen

Parameters

Models	HF4840S80-145	HF4850S80-145 HOT
AC mode		
Rated input voltage	220/230Vac	
Input voltage range	(170Vac~280Vac) ±2%/(90Vac-280Vac)±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	Available	
Maximum bypass overload current	40A	
Inverter mode		
Output voltage waveform	Pure sine wave	
Rated output power (VA)	4000	5000
Rated output power (W)	4000	5000
Power factor	1	
Rated output voltage (Vac)	230Vac	
Output voltage error	±5%	
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz	
Maximum Efficiency	>92%	
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	8000VA	10000VA
Loaded motor capability	3HP	4HP
Output short circuit protection	Circuit breaker	
Bypass breaker specifications	40A	
Rated battery input voltage	48V (Minimum starting voltage 44V)	
Battery voltage range	Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)	
Power saving mode	Load ≤50W	
AC charging		
Battery type	Lead acid or lithium battery	
Maximum charge current	60A	
Charge current error	± 5Adc	
Charge voltage range	40Vdc~58Vdc	
Short circuit protection	Circuit breaker and blown fuse	
Circuit breaker specifications	40A	
Overcharge protection	Alarm and turn off charging after 1 minute	
PV charging		
Maximum PV open circuit voltage	145Vdc	
PV operating voltage range	60-145Vdc	
MPPT voltage range	60-115Vdc	
Battery voltage range	40-60Vdc	
Maximum output power	4200W	4200W
PV charging current range (can be set)	0-80A	0-80A
Charging short circuit protection	Blown fuse	
Wiring protection	Reverse polarity protection	
Certified specifications		
Certification	CE(EN62109-1)	
EMC certification leve	EN61000, C2	
Operating temperature range	-15°C to 55°C	
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 (L*W*D)	426*322*124mm	
Weight (kg)	10.8	

All-in-one solar charge inverter

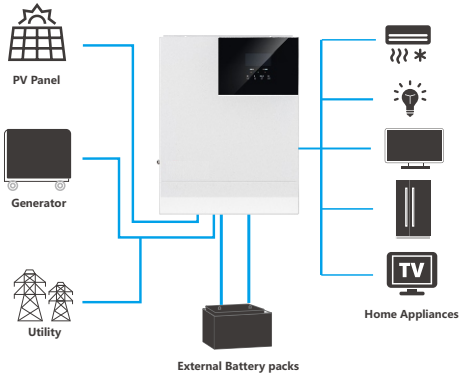
HF4825U80-145/HF4830U80-145/HF4835U80-145

Performance characteristics

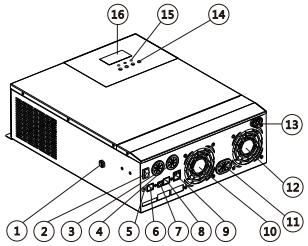
· Full digital voltage and current double closed loop control, advanced SPWM technology, output of pure sine wave.
· Two output modes: mains bypass and inverter output; uninterrupted power supply.
· Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging.
· Advanced MPPT technology with an efficiency of 99.9%.
· With the charging requirement (voltage, current, mode) settings, and suitable for various types of energystorage batteries.
· ON/OFF rocker switch for AC output control.
· Power saving mode available to reduce no-load loss.
· Intelligent variable speed fan to efficiently dissipate heat and extend system life.
· Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
· 360 ° all-round protection with a number of protection functions. Such as overload,short circuit and overcurrent.
· Supply of a variety of user-friendly communication modules, such as Rs485 (GPRS,WiFi), CAN, USB etc., and suitable for computer, mobile phones, Internetmonitoring as well as remote operations.

Application scenarios

Product connection diagram



Product characteristics



①	Overload protector	⑨	Dry contact por
②	ON/OFF rocker switch	⑩	Cooling fan
③	AC input port	⑪	Battery port
④	AC output port	⑫	Cooling fan
⑤	Grounding screw hold	⑬	PV port
⑥	RS485-2 communication port	⑭	Touch button
⑦	USB communication port	⑮	Indicator
⑧	RS485-1 communication port	⑯	LCD screen

Parameters

Models	HF4825U80-145	HF4830U80-145	HF4835U80-145 HOT
AC mode			
Rated input voltage	110/120Vac		
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	Available		
Maximum bypass overload current	40A		
Inverter mode			
Output voltage waveform	Pure sine wave		
Rated output power (VA)	2500	3000	3500
Rated output power (W)	2500	3000	3500
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	4000VA	4500VA	5000VA
Loaded motor capability	1HP	2HP	2HP
Output short circuit protection	Circuit breaker		
Bypass breaker specifications	40A		
Rated battery input voltage	48V (Minimum starting voltage 44V)		
Battery voltage range	Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)		
Power saving mode	Load ≤50W		
AC charging			
Battery type	Lead acid or lithium battery		
Maximum charge current	40A		
Charge current error	± 5Adc		
Charge voltage range	40Vdc~60Vdc		
Short circuit protection	Circuit breaker and blown fuse		
Circuit breaker specifications	40A		
Overcharge protection	Alarm and turn off charging after 1 minute		
PV charging			
Maximum PV open circuit voltage	145Vdc		
PV operating voltage range	60-145Vdc		
MPPT voltage range	60-115Vdc		
Battery voltage range	40-60Vdc		
Maximum output power	4200W		4200W
PV charging current range (can be set)	0-80A		0-80A
Charging short circuit protection	Blown fuse		
Wiring protection	Reverse polarity protection		
Certified specifications			
Certification	CE(EN62109-1)		
EMC certification leve	EN61000, C2		
Operating temperature range	-15°C to 55°C		
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 (L*W*D)	426*322*124mm		
Weight (kg)	10.8		

All-in-one solar charge inverter

HFP4850S80/HFP4835U80-145

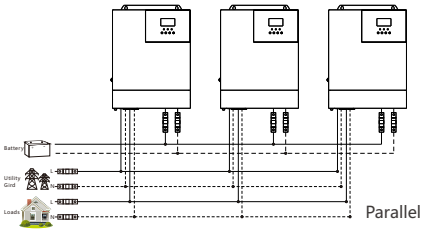
Performance characteristics

· Full digital voltage and current double closed loop control, advanced SPWM technology, output of pure sinewave.
· Two output modes: mains bypass and inverter output; uninterrupted power supply.
· Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging.
· Advanced MPPT technology with an efficiency of 99.9%.·With the charging requirement (voltage, current, mode) settings, and suitable for various types of energystorage batteries.
· ON/OFF rocker switch for AC output control.
· Power saving mode available to reduce no-load loss.·Intelligent variable speed fan to efficiently dissipate heat and extend system life.
· Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
· 360 ° all-round protection with a number of protection functions. Such as overload, short circuit and overcurrent.
· Supply of a variety of user-friendly communication modules, such as RS485(GPRS, WiFi), CAN, USB etc., and suitable for computer, mobile phones, Internet monitoring as well as remote operations.
· Available for 6 units parallel connection.
· Available for split phase connection.

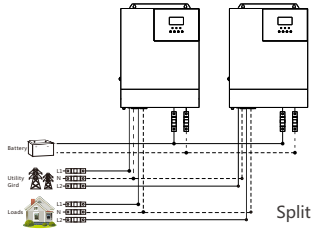
Application scenarios

RV System | Off-grid household system | Communication base station | Herders | Island border defense | Power station

Product connection diagram

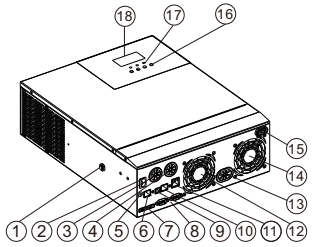


Parallel Connection



Split Phase Connection

Product characteristics



①	Overload protector	⑩	RS485-1 communication port
②	ON/OFF rocker switch	⑪	Dry contact port
③	AC input port	⑫	Cooling fan
④	AC output port	⑬	Battery port
⑤	Grounding screw hold	⑭	Cooling fan
⑥	RS485-2 communication port	⑮	PV PORT
⑦	Current sharing port (parallel module only)	⑯	Touch the key lightly
⑧	Parallel communication port (parallel module only)	⑰	Indicator light
⑨	USB communication port	⑱	LCD screen

Parameters

Models	HFP4850S80-145 HOT	HFP4835U80-145 HOT
AC mode		
Rated input voltage	220/230Vac	110/120Vac
Input voltage range	(170Vac~280Vac) ±2%/(90Vac-280Vac)±2%	(90Vac~140Vac) ±2%
Frequency	50Hz/ 60Hz(Auto detection)	
Parallelable/Split Phase units	Max. parallelable unit: 6pcs	
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	Available	
Maximum bypass overload current	40A	
Inverter mode		
Output voltage waveform	Pure sine wave	
Rated output power (VA)	5000	3500
Rated output power (W)	5000	3500
Power factor	1	
Rated output voltage (Vac)	230Vac	120Vac
Output voltage error	±5%	
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz	
Maximum Efficiency	>92%	>91%
Overload protection	(102% < load <125%) ±10%: report error and turn off the output after 5 minutes;(125% < load < 150%) ±10%: report error and turnoff the output after 10 seconds;Load >150% ±10%: report error and turn off the output after 5 seconds;	(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	10000VA	6000VA
Loaded motor capability	4HP	2HP
Output short circuit protection	Circuit breaker	
Bypass breaker specifications	40A	
Rated battery input voltage	48V (Minimum starting voltage 44V)	
Battery voltage range	Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)	
Power saving mode	Load ≤50W	
AC charging		
Battery type	Lead acid or lithium battery	
Maximum charge current	60A	40A
Charge current error	± 5Adc	
Charge voltage range	40Vdc~58Vdc	40Vdc~60Vdc
Short circuit protection	Circuit breaker and blown fuse	
Circuit breaker specifications	40A	
Overcharge protection	Alarm and turn off charging after 1 minute	
PV charging		
Maximum PV open circuit voltage	145Vdc	
PV operating voltage range	60-145Vdc	
MPPT voltage range	60-115Vdc	
Battery voltage range	40-60Vdc	
Maximum output power	4200W	
PV charging current range (can be set)	0-80A	
Charging short circuit protection	Blown fuse	
Wiring protection	Reverse polarity protection	
Certified specifications		
Certification	CE(EN62040-1)	
EMC certification level	EN62040-2, C2	
Operating temperature range	-15°C to 55°C	
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 (L*W*D)	426*322*124mm	
Weight (kg)	10.8	

All-in-one solar charge inverter

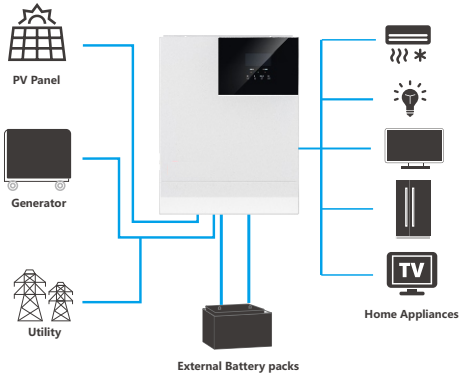
HF2420S60-100/HF2430S60-100

Performance characteristics

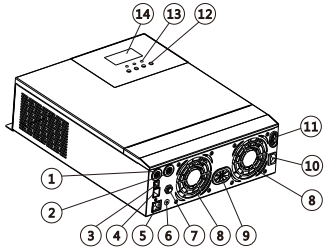
· Full digital voltage and current double closed loop control, advanced SPWM technology, output of pure sine wave.
· Two output modes: mains bypass and inverter output; uninterrupted power supply.
· Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging.
· Advanced MPPT technology with an efficiency of 99.9%.
· With the charging requirement (voltage, current, mode) settings, and suitable for various types of energy storage batteries.
· ON/OFF rocker switch for AC output control.
· Power saving mode available to reduce no-load loss.
· Intelligent variable speed fan to efficiently dissipate heat and extend system life.
· Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
· 360 ° all-round protection with a number of protection functions. Such as overload,short circuit and over current.
· Supply of a variety of user-friendly communication modules, such as RS485(GPRS,WiFi), CAN, USB etc.,
and suitable for computer, mobile phones, Internet monitoring as well as remoteoperations.
· Lithium battey can be activated by both mains and PV.

Application scenarios

Product connection diagram



Product characteristics



①	AC input port	⑧	Cooling fan
②	AC output port	⑨	Battery port
③	USB communication port	⑩	ON/OFF rocker switch
④	RS485 communication port	⑪	PV port
⑤	Dry node port	⑫	Touch button
⑥	Grounding screw hole	⑬	LED Indicator
⑦	AC input Overload protector	⑭	LCD screen

Parameters

Models	HF2420S60-100	HF2430S60-100 HOT
AC mode		
Rated input voltage	220/230Vac	
Input voltage range	(170Vac~280Vac) ±2% ; (90Vac-280Vac)±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	Available	
Maximum bypass overload current	30A	
Inverter mode		
Output voltage waveform	Pure sine wave	
Rated output power (VA)	2000	3000
Rated output power (W)	2000	3000
Power factor	1	
Rated output voltage (Vac)	230Vac	
Output voltage error	±5%	
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz	
Efficiency	>92%	
Overload protection	(102% < load <125%) ±10%: report error and turn off the output after5 minutes; (125% < load < 150%) ± 10%: report error and turn off the output after 10 seconds; Load >150% ±10%: report error and turn offthe output after 5 seconds;	
Peak power	4000	6000
Loaded motor capability	1HP	2HP
Output short circuit protection	Circuit breaker	
Bypass breaker specifications	30A	
Rated battery input voltage	24V (Minimum starting voltage 22V)	
Battery voltage range	20.0Vdc~33Vdc ± 0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)	
Power saving mode	Load ≤50W	
AC charging		
Battery type	Lead acid or lithium battery	
Maximum charge current	60A	80A
Charge current error	± 5Adc	
Charge voltage range	20.0Vdc~33Vdc	
Short circuit protection	Circuit breaker and blown fuse	
Circuit breaker specifications	30A	
Overcharge protection	Alarm and turn off charging after 1 minute	
PV charging		
Maximum PV open circuit voltage	100Vdc	
PV operating voltage range	30-100Vdc	
MPPT voltage range	30-85Vdc	
Battery voltage range	20-33Vdc	
Maximum output power	1400W	
PV charging current range (can be set)	0-60A	
Charging short circuit protection	Blown fuse	
Wiring protection	Reverse polarity protection	
Certified specifications		
Certification	CE(EN62109-1)	
EMC certification level	EN61000, C2	
Operating temperature range	-15°C to 55°C	
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 (L*W*D)	378*280*103mm	
Weight (kg)	6.2	

All-in-one solar charge inverter

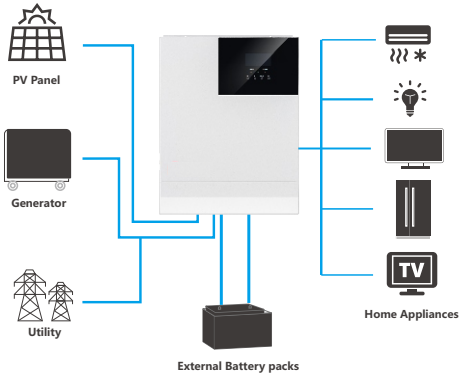
HF2420U60-100/HF2430U60-100

Performance characteristics

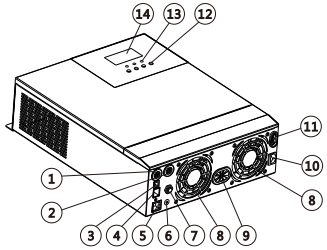
· Full digital voltage and current double closed loop control, advanced SPWM technology, output of pure sine wave.
· Two output modes: mains bypass and inverter output; uninterrupted power supply.
· Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging.
· Advanced MPPT technology with an efficiency of 99.9%.
· With the charging requirement (voltage, current, mode) settings, and suitable for various types of energy storage batteries.
· ON/OFF rocker switch for AC output control.
· Power saving mode available to reduce no-load loss.
· Intelligent variable speed fan to efficiently dissipate heat and extend system life.
· Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
· 360 ° all-round protection with a number of protection functions. Such as overload,short circuit and over current.
· Supply of a variety of user-friendly communication modules, such as RS485(GPRS,WiFi), CAN, USB etc.,
and suitable for computer, mobile phones, Internet monitoring as well as remoteoperations.
· Lithium battey can be activated by both mains and PV.

Application scenarios

Product connection diagram



Product characteristics



①	AC input port	⑧	Cooling fan
②	AC output port	⑨	Battery port
③	USB communication port	⑩	ON/OFF rocker switch
④	RS485 communication port	⑪	PV port
⑤	Dry node port	⑫	Touch button
⑥	Grounding screw hole	⑬	LED Indicator
⑦	AC input Overload protector	⑭	LCD screen

Parameters

Models	HF2420U60-100	HF2430U60-100 HOT
AC mode		
Rated input voltage	110/120Vac	
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	Available	
Maximum bypass overload current	40A	
Inverter mode		
Output voltage waveform	Pure sine wave	
Rated output power (VA)	2000	3000
Rated output power (W)	2000	3000
Power factor	1	
Rated output voltage (Vac)	120Vac	
Output voltage error	±5%	
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz	
Efficiency	>92%	
Overload protection	(102% < load <110%) ±10%: report error and turn off the output after5 minutes; (110% < load < 125%) ± 10%: report error and turn off the output after 10 seconds; Load >125% ±10%: report error and turn offthe output after 5 seconds;	
Peak power	3000	4500
Loaded motor capability	1HP	2HP
Output short circuit protection	Circuit breaker	
Bypass breaker specifications	40A	
Rated battery input voltage	24V (Minimum starting voltage 22V)	
Battery voltage range	20.0Vdc~33Vdc ± 0.6Vdc (Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)	
Power saving mode	Load ≤50W	
AC charging		
Battery type	Lead acid or lithium battery	
Maximum charge current	40A	40A
Charge current error	± 5Adc	
Charge voltage range	20.0Vdc~33Vdc	
Short circuit protection	Circuit breaker and blown fuse	
Circuit breaker specifications	40A	
Overcharge protection	Alarm and turn off charging after 1 minute	
PV charging		
Maximum PV open circuit voltage	100Vdc	
PV operating voltage range	30-100Vdc	
MPPT voltage range	30-85Vdc	
Battery voltage range	20-33Vdc	
Maximum output power	1400W	
PV charging current range (can be set)	0-60A	
Charging short circuit protection	Blown fuse	
Wiring protection	Reverse polarity protection	
Certified specifications		
Certification	CE(EN62109-1)	
EMC certification level	EN61000, C2	
Operating temperature range	-15°C to 55°C	
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 (L*W*D)	378*280*103mm	
Weight (kg)	6.8	

All-in-one solar charge inverter

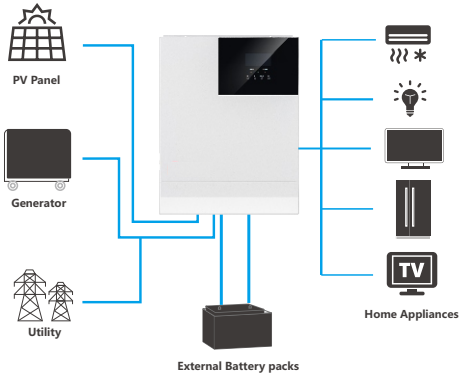
HF4830S60-H/HF4850S80-H
HF4835U60-H/HF4850U80-H

Performance characteristics

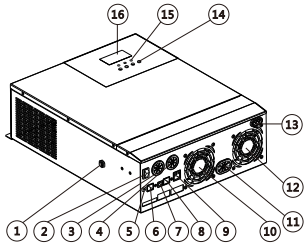
·Full digital voltage and current double closed loop control, advanced SPWM technology, output of pure sine wave.
·Two output modes: mains bypass and inverter output; uninterrupted power supply.
·Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mains & Solar hybrid charging.
·Advanced MPPT technology with an efficiency of 99.9%.
·With the charging requirement (voltage, current, mode) settings, and suitable for various types of energystorage batteries.
·ON/OFF rocker switch for AC output control.
·Power saving mode available to reduce no-load loss.
·Intelligent variable speed fan to efficiently dissipate heat and extend system life.
·Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
·360 ° all-round protection with a number of protection functions. Such as overload,short circuit and overcurrent.
·Supply of a variety of user-friendly communication modules, such as Rs485 (GPRS,WiFi), CAN, USB etc., and suitable for computer, mobile phones, Internetmonitoring as well as remote operations.

Application scenarios

Product connection diagram



Product characteristics



①	Overload protector	⑨	Dry contact por
②	ON/OFF rocker switch	⑩	Cooling fan
③	AC input port	⑪	Battery port
④	AC output port	⑫	Cooling fan
⑤	Grounding screw hold	⑬	PV port
⑥	RS485-2 communication port	⑭	Touch button
⑦	USB communication port	⑮	Indicator
⑧	RS485-1 communication port	⑯	LCD screen

Parameters

Model	HF4830S60-H	HF4850S80-H HOT	HF4835U60-H	HF4850U80-H HOT
AC mode				
Rated input voltage	220/230Vac		110/120Vac	
Input voltage range	(170Vac~280Vac) ±2% ; (90Vac-280Vac)±2%		(90Vac~140Vac)±2%	
Frequency	50Hz/ 60Hz (auto-sensing)			
Frequency Range	47±0.3Hz ~ 55±0.3Hz (50Hz)/57±0.3Hz ~ 65±0.3Hz (60Hz);			
Overload/short circuit protection	Breaker			
Efficiency	>95%			
Conversion time (bypass and inverter)	10ms (Typical value)			
AC reverse protection	Available			
Maximum bypass overload current	40A			63A
Inverting mode				
Output voltage waveform	Pure sine wave			
Rated output power(VA)	3000 (2600/2700/3000)	5000 (4350/4500/4800/5000)	3500(2900/3000/3200)	5000(4100/4300/4500)
Rated output power(W)	3000 (2600/2700/3000)	5000 (4350/4500/4800/5000)	3500(2900/3000/3200)	5000(4100/4300/4500)
Power factor	1			
Rated output voltage (Vac)	230Vac（200/208/220/240Vac settable）		120Vac (100/105/110Vac settable)	
Output voltage error	±5%			
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz			
Efficiency	>90%			
Overload protection	(102%<load<125%) ±10%: reporting error and turn off the output after 5 minutes; (125%<load<150%) ±10%: reporting error andturn off the output after 10 seconds; Load>150% ±10%: reporting error and turn offthe output after 5 seconds;		(102%<load<110%) ±10%: reporting error and turn off the output after 5 minutes; (110%<load<125%) ±10%: reporting error andturn off the output after 10 seconds; Load>125% ±10%: reporting error and turn offthe output after 5 seconds;	
Peak power	6000VA	10000VA	5000VA	7000VA
Loaded motor capacity	2HP	4HP	2HP	3HP
Output short-circuit protection	Breaker			
Specification of bypass breaker	40A			**63A**
Rated battery input voltage	48V (minimum start voltage 44V)			
Battery voltage range	40.0Vdc~60Vdc ± 0.6Vdc (undervoltage alarm/turnoff voltage/overvoltage alarm/overvoltage restoration...settable LCD screen)			
Power saving mode	Load ≤50W			
AC charge				
Battery type	Lead acid or lithium battery			
Maximum charge current	60A		40A	
Charge current error	± 5Adc			
Charge voltage range	40Vdc~60Vdc			
Short-circuit protection	Breaker and blown fuse			
Breaker specification	40A			63A
Overcharge protection	Turn off charge after 1min alarm			
Solar charge				
Maximum PV opencircuit voltage	500Vdc		450Vdc	500Vdc
PV operation voltage range	120-500Vdc		120-450Vdc	120-500Vdc
MPPT voltage range	120-450Vdc		120-430Vdc	120-450Vdc
Battery voltage range	40-60Vdc			
Maximum output power	4200W	5000W	4200W	5000W
Charge current range of solar energy (settable)	0-60A	0-80A	0-60A	0-80A
Charge short-circuit protection	Blown fuse			
Wiring protection	Inverse wiring protection			
Authentication specification				
Specification authentication	CE(IEC62109)、RoHs			
EMC authentication grade	EN61000			
Operation temperature range	-15°C to 55°C			
Storage temperature range	-25°C ~ 60°C			
Humidity range	5% to 95% (Conformal coating protection)			
Noise	≤60dB			
Thermal dissipation	Forced cooling with adjustable air speed			
Communication interface	USB/RS485 (WiFi/GPRS)/dry node control			
Dimension (L*W*D)	426*322*126mm			
Weight (kg)	10.9			11.6

HT Horizontal Type All-in-one Inverter Controller

HT4830S80-145/HT4840S80-145/HT4850S80-145
HT4825U80-145/HT4830U80-145/HT4835U80-145

Product introduction

HT series is a new all-in-one hybrid solar charge inverter, which integrates solar energy storage &means charging energy storage and AC sine wave output.
Thanks to DSP control and advanced controlalgorithm, it has high response speed, high reliability and high industrial standard.

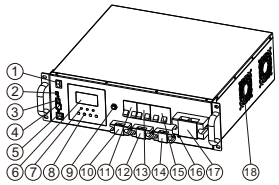
Application scenarios

RV System | Off-grid household system | Communication base station | Herders | Island border defense | Power station

Performance characteristics

· It adopts full digital voltage and current double closed loop control, combined with advanced SPWM technology to output pure sine wave.
· Two output modes: mains bypass and inverter output enable uninterrupted power supply.
· 4 charging modes are available for choice: only PV, mains priority, PV priority, and hybrid charging.
· Advanced MPPT technology with effi ciency up to 99.9%.
· LCD screen design, with 3 LED indicators, for dynamic display of system data and run status.
· ON/OFF rocker switch controls AC output.
· Power saving mode reduces no-load loss.
· Intelligent variable speed fan ensures effi cient heat dissipation, and thereby extends system life.
· It comes with double lithium battery activation modes: mains and PV, and supports lead-acid battery and lithium battery access.
· Multiple protections provide 360 ° all-round protection for the system.
· Complete protections include multi-electrical appliance air switch short circuit protection, overvoltage and undervoltage protection, overload protection, back-flow protection, etc.
· Horizontal installation facilitates cabinet combination installation.
· Lithium battery can be activated by both mains and PV panel.

Product characteristics



①	ON/OFF rocker switch	⑩	AC input port
②	CAN communication port	⑪	AC input air switch
③	USB communication port	⑫	AC output port
④	RS485 communication port	⑬	AC output air switch
⑤	Dry node port	⑭	PV port
⑥	LCD screen	⑮	Battery air switch
⑦	Indicator	⑯	Grounding screw hole
⑧	Touch button	⑰	Battery port
⑨	Overload protector	⑱	Cooling fan

Parameters

Models	HT4830S80-145	HT4840S80-145	HT4850S80-145	HT4825U80-145	HT4830U80-145	HT4835U80-145
AC mode						
Rated input voltage	220/230Vac			110/120Vac		
Input voltage range	(170Vac~280Vac) ±2%/(90Vac-280Vac)±2%			(90Vac~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 andinverter)	10ms (typical)					
AC backflow protection	yes					
Maximum bypass overload current	40A					
Inverting mode						
Output voltage waveform	Pure sine wave					
Rated output power (VA)	3000 (2600/2700/3000)	4000 (3480/3600/3800/4000)	5000 (4350/4500/4800/5000)	2500 (2000/2180/2290)	3000 (2500/2600/2750)	3500 (2900/3000/3200)
Rated output power (W)	3000 (2600/2700/3000)	4000 (3480/3600/3800/4000)	5000 (4350/4500/4800/5000)	2500 (2000/2180/2290)	3000 (2500/2600/2750)	3500 (2900/3000/3200)
Power factor	1					
Rated output voltage (Vac)	230Vac(200/208/220/240Vac Settable)			120Vac(100/105/110Vac Settable)		
Output voltage error	±5%					
Output frequency range (Hz)	50Hz ± 0.3Hz/60Hz ± 0.3Hz					
Efficiency	>92%			>91%		
Overload protection	(102%<load<125%) ±10%: Report error and turn off output after 5 minutes; (125%<load<150%) ±10%: Report error and turn off output after 10 seconds; Load>150% ±10%: Report error and turn off output after 5 seconds;			(102%<load<110%) ±10%: Report error and turn off output after 5 minutes; (110%<load<125%) ±10%: Report error and turn off output after 10 seconds; Load>125% ±10%: Report error and turn off output after 5 seconds;		
Peak power	6000VA	8000VA	10000VA	4000VA	4500VA	5000VA
Loaded motor capacity	2HP	3HP	4HP	1HP	2HP	2HP
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..LCD screen can be set)					
Eco mode	Load ≤50W					
AC charge						
Battery type	Lead acid or lithium battery					
Maximum charge current	0-60A			0-40A		
Charge current error	± 5Adc					
Charge voltage range	40–58Vdc			40–60Vdc		
Short circuit protection	Circuit breaker					
Circuit breaker specification	(AC IN) 63A/ (BAT) 125A					
Overcharge protection	Alarm and turn off charging in 1 minute.					
Solar charge						
Maximum PV open circuit voltage	145Vdc					
PV operating voltage range	60-145Vdc					
MPPT voltage range	60-115Vdc					
Battery voltage range	40-60Vdc					
Maximum output power	4200W					
PV charge current range (settable)	0-80A					
Charge short circuit protection	BAT circuit breaker and fuse					
Wiring protection	Reverse polarity protection					
Authentication specification						
Specification certification	CE(EN62109)					
EMC certification level	EN61000, C2					
Operating temperature range	-15°C to 55°C					
Storage temperature range	-25°C ~ 60°C					
RH range	5% to 95% (conformal coating protection)					
Noise	≤60dB					
Heat dissipation	Forced air cooling, adjustable air speed					
Communication interface	USB/RS485 (WiFi/GPRS)/Dry Node Control					
Dimensions (L*W*D)	482*425*133mm					
Weight (kg)	13.3					

MPPT Solar Charge Controller

ML2420/ML2430/ML2440/ML4860

Product characteristics

- 10-40% higher than PWM mode.
- MPPT tracking efficiency is up to 99.9%.
- Full-range electronic protection functions.
- Built-in temperature detection.
- Modbus protocol.
- 12/24/36/48V identification.
- lead-acid batteries/lithium batteries.
- Current-limiting charging mode.
- Historical data storage.
- LCD display.

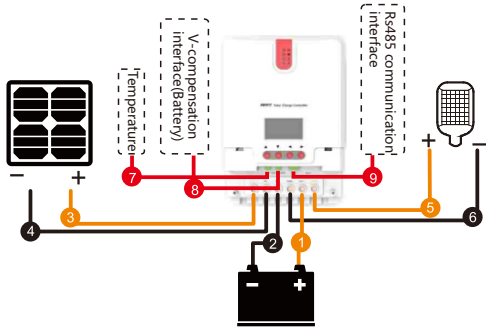
Product accessories

RM-5 display, BT-1 Bluetooth module, USB to RS232 cable, BTS temperature sensor.

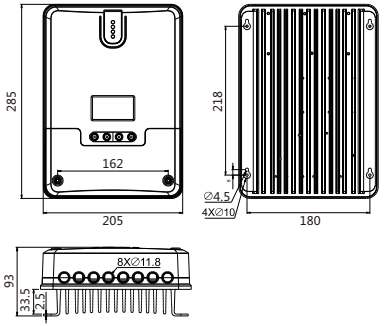
Parameters

Model	ML2420	ML2430	ML2440	ML4830N15	ML4860
System Voltage	12V/24V			12V/24V/36V/48V	12V/24V/36V/48V
Static power consumption	0.7 ~ 1.2W				
Battery voltage	9~35V			9~72V	9~72V
Maximum input voltage of solar energy (25℃)	100V			145V	145V
Voltage Range at MPPT (Maximum Power Point)	Battery voltage +2~ 75V			Battery voltage +2 ~ 120V	Battery voltage +2 ~ 120V
Rated charging current	20A	30A	40A	60A	60A
Rated load current	20A				
PV system maximum input power	260W/12V 520W/24V	400W/12V 800W/24V	550W/12V 1040W/24V	800W/12V 1600W/24V 2400W/36V 3200W/48V	
Support battery type	AGM Battery,GEL Battery, Flooded Battery,Lithium Battery				
Temperature compensation coefficient	-3mV/℃/2V (default)				
Operating temperature	-35℃ ~+45℃				
Humidity	95%, no condensation				
Protection grade	IP32				
Weight	1.4Kg	2Kg	2Kg	2.3Kg	3.6Kg
Communication mode	RS232			RS232 / RS485	
Product dimensions	210×151×59.5(mm)	238×173×72.5(mm)	238×173×72.5(mm)	226×182×81(mm)	285×205×93(mm)
Terminal blocks	10mm²/8AWG			20mm²/4AWG	
Functional authentication	IEC62509 : 2010				
Safety certification	/				ETL

Product connection diagram



Technical requirements



Product dimensions : 285*205*93mm
Hole positions : 218*180mm
Hole diameter :∅4.5
Applicable wire : diameter<11mm

MPPT Solar Charge Controller

MC2420N10/MC2430N10/MC2440N10/MC2450N10

Product characteristics

- 10-40% higher than PWM mode.
- MPPT tracking efficiency is up to 99.9%.
- Full-range electronic protection functions.
- Built-in temperature detection.
- Modbus protocol.
- Lead-acid batteries/lithium batteries.
- 12/24V identification.
- Current-limiting charging mode.
- Historical data storage.

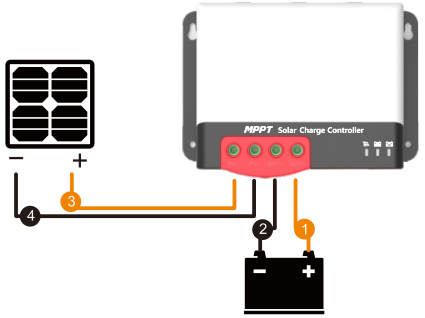
Product accessories

RM-6 display, BT-2 Bluetooth module, USB to TTL cable, BTS temperature sensor.

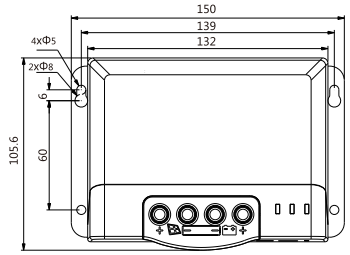
Parameters

Model	MC2420N10	MC2430N10	MC2440N10	MC2450N10
System voltage	12V/24V			
Static power consumption	0.12W			
Maximum input voltage of solar energy (25℃)	100V			
Voltage Range at MPPT (Maximum Power Point)	Battery voltage +2~ 75V			
Charging current	20A	30A	40A	50A
Solar panel power (12V battery)	260W	400W	520W	660W
Solar panel power (24V battery)	520W	800W	1040W	1320W
Support battery type	AGM Battery,GEL Battery, Flooded Battery,Lithium Battery			
Temperature compensation coefficient	-3mV/℃/2V			
Operating temperature range	-35℃-60℃			
Humidity	95%, no condensation			
Protection grade	IP32			
Weight	650g	830g	1040g	1335g
Communication mode	TTL(3.3V)			
Product Dimensions	150×156×62(mm)	150×156×68(mm)	183×127×66(mm)	183×127×70(mm)
Terminal blocks	10mm²/8AWG			
Functional authentication	IEC62509：2010			

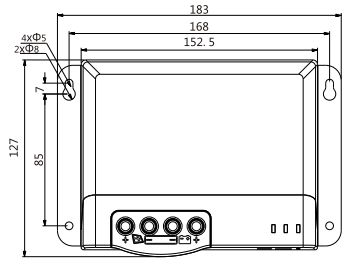
Product connection diagram



Technical requirements



MC2420N10



MC2440N10

MPPT Solar Charge Controller

MC4860N15/MC4870N15/MC4860N25/MC4870N25

Product Characteristics

- 10-40% higher than PWM mode.
- MPPT tracking efficiency is up to 99.9%.
- Full-range electronic protection functions.
- Built-in temperature detection.
- RS485 Modbus protocol Built-in bluetooth module.
- Lead-acid batteries, colloidal batteries, open-ended batteries, lithium batteries.
- 12/24/36/48V identification.
- Current-limiting charging mode.
- Historical data storage.

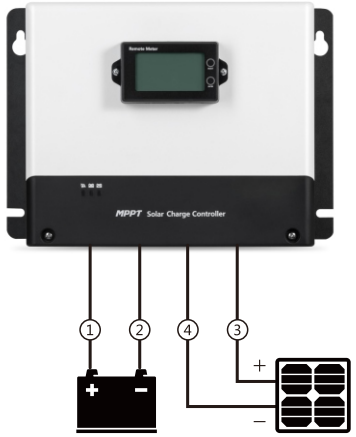
Product Accessories

RM-7 display, USB to TTL cable, BTS temperature sensor.

Parameters

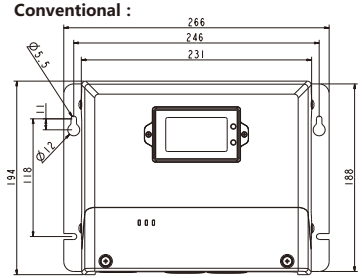
Model	MC4860N15	MC4870N15	MC4860N25	MC4870N25
System voltage	12V/24/36/48V			
Static power consumption	0.54W			
Maximum input voltage of solar energy (25℃)	150V		250V	
Voltage Range at MPP (Maximum Power Point)	Battery voltage +2~ 120V		Battery voltage +2~ 180V	
Charging current	60A	70A	60A	70A
Solar panel power(12V battery)	800W	920W	800W	920W
Solar panel power(24V battery)	1600W	1840W	1600W	1840W
Solar panel power(36V battery)	2400W	2760W	2400W	2760W
Solar panel power(48V battery)	3200W	3680W	3200W	3680W
Support battery type	AGM Battery,GEL Battery, Flooded Battery,Lithium Battery			
Temperature compensation coefficient	-3mV/℃/2V (default, settable lead-acid); no temperature compensation for lithium battery.			
Operating temperature range	-35℃~+65℃			
Humidity	95%, no condensation			
Protection grade	IP32			
Weight	3.6kg			
Communication mode	TTL(3.3V)/RS485/Bluetooth Module			
Product Dimensions	Conventional : 266*194*119mm MC4 : 266*226*119mm			
Terminal blocks	35mm²/2AWG			
Functional authentication	IEC62509 : 2010			
Safety certification	ETL			

Product connection diagram



Technical requirements

Conventional :



MPPT Solar Charge Controller

MC4885N15/MC48100N15/MC4885N25/MC48100N25

Product Characteristics

- 10-40% higher than PWM mode.
- MPPT tracking efficiency is up to 99.9%.
- Full-range electronic protection functions.
- Built-in temperature detection.
- RS485 Modbus protocol Built-in bluetooth module.
- Lead-acid batteries, colloidal batteries, open-ended batteries, lithium batteries.
- 12/24/36/48V identification.
- Current-limiting charging mode.
- Historical data storage.

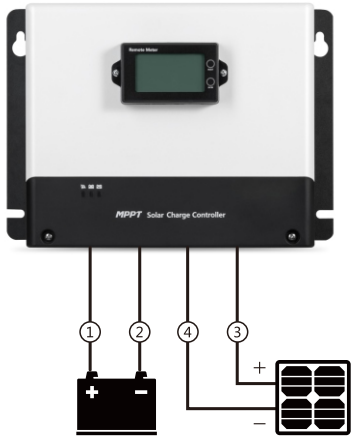
Product Accessories

RM-7 display, USB to TTL cable, BTS temperature sensor.

Parameters

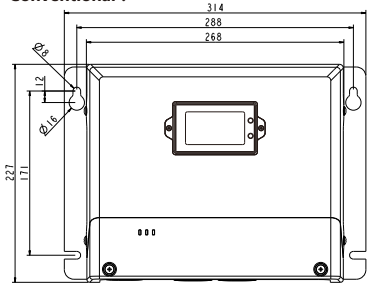
Model	MC4885N15	MC48100N15	MC4885N25	MC48100N25
System voltage	12V/24/36/48V			
Static power consumption	0.54W			
Maximum input voltage of solar energy (25℃)	150V		250V	
Voltage Range at MPP (Maximum Power Point)	Battery voltage +2~ 120V		Battery voltage +2~ 180V	
Charging current	85A	100A	85A	100A
Solar panel power(12V battery)	1100W	1320W	1100W	1320W
Solar panel power(24V battery)	2200W	2640W	2200W	2640W
Solar panel power(36V battery)	3300W	3960W	3300W	3960W
Solar panel power(48V battery)	4400W	5280W	4400W	5280W
Support battery type	AGM Battery,GEL Battery, Flooded Battery,Lithium Battery			
Temperature compensation coefficient	-3mV/℃/2V (default)			
Operating temperature range	-35℃~+65℃			
Humidity	95%, no condensation			
Protection grade	IP32			
Weight	5.7kg			
Communication mode	TTL(3.3V)/RS485/Bluetooth Module			
Product Dimensions	314*227*121 (mm)			
Terminal blocks	35mm²/2AWG			
Functional authentication	IEC62509 : 2010			
Safety certification	ETL			

Product connection diagram

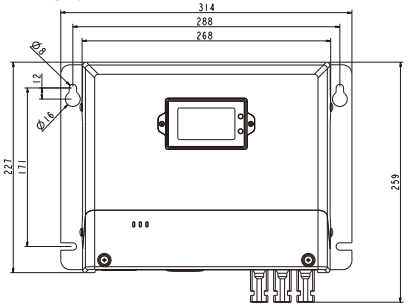


Technical requirements

Conventional :



-MC4 :



MPPT Solar Charge Controller

MF4860N15

Product Characteristics

- PowerCatcher MPPT technique.
- It enables full power charging and discharging.
- Support parallel charging is supported.
- Active output voltage stabilization ensures good lithium battery activation.
- Temperature compensation is available.
- Maltiple battery types can be preset.
- LCD is equipped for real-time data interaction.
- Various protections such as over-voltage, over-current, overload, over-temperature, short-circuit and reverse polarity protections.
- Natural heat dissipation by fan.
- IRS485 Modbus protocol.

Product Accessories

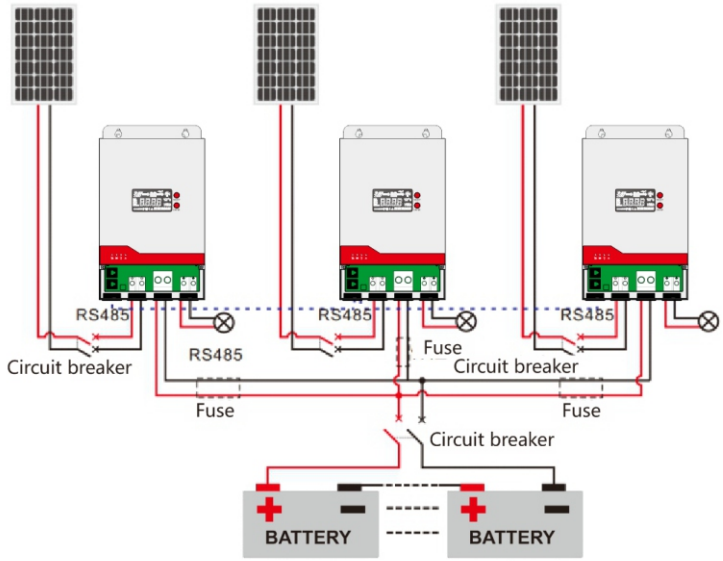
Parallel machine connection wire, BTS temperature sensor.

(Attached) (Standard)

Parameters

Model	MF4860N15
System Voltage	12V/24V/36V/48V
Static power consumption	<0.5W
Battery voltage	9~64V
Maximum input voltage of solar energy (25℃)	150V
Voltage Range at MPP (Maximum Power Point)	Battery voltage +2 ~ 120V
Rated charging current	60A
Rated load current	40A
PV system maximum input power	800W/12V 1600W/24V 2400W/36V 3200W/48V
Support battery type	Lead-acid batteries, gel batteries, Lead-acid, lithium batteries
Temperature compensation coefficient	-3mv/℃/2V (default)
Operating temperature	-10℃~+65℃
Humidity	95%, no condensation
Protection grade	IP32
Weight	3.6Kg
Communication mode	RS485
Product dimensions	275×167×82(mm)
Terminal blocks	20mm²/4AWG
Functional authentication	IEC62509 : 2010

Parallel application



PWM Solar Charge Controller

HP2410/HP2420/HP2420S/HP2430/HP2440/HP2450/HP2460

Performance characteristics

- Full-range electronic protection functions.
- Built-in temperature detection.
- 12/24V identification
- Lead-acid batteries/lithium batteries.
- LCD display.
- HP2410/20/30/40 USB 5V 1A output.

Parameters

Model	HP2410	HP2420	HP2420S	HP2430	HP2440	HP2450	HP2460
System voltage	12V/24V						
Static power consumption	0.06~0.36W						
Battery voltage	9~35V						
Maximum input voltage of solar energy (25℃)	55V						
Rated charging current	10A	20A	20A (current sampling)	30A	40A	50A	60A
Temperature compensation coefficient	-3mV/℃/2V(default)						
Operating temperature range	-25℃-55℃						
Humidity	95% , no condensation						
Protection grade	IP30						
Weight	100g	160g	160g	390g	390g	650g	650g
Product dimensions	103x71x36(mm)	130x75x38(mm)	130x75x38(mm)	160x104x47(mm)	160x104x47(mm)	189x127x54 (mm)	189x127x54 (mm)
Terminal blocks	4mm²/10AWG			10mm²/8AWG			
Max input power of photovoltaic system	12V/150W 24V/300W	12V/300W 24V/600W	12V/300W 24V/600W	12V/450W 24V/900W	12V/600W 24V/1200W	12V/750W 24V/1500W	12V/900W 24V/1800W

PWM Solar Charge Controller

HP4830/HP4840

Performance characteristics

- Full-range electronic protection functions.
- Built-in temperature detection.
- 12/24V identification
- Lead-acid batteries/lithium batteries.
- LCD display.

Parameters

Model	HP4830	HP4840
System voltage	12V/24V/36V/48V Auto	
Static power consumption	1.44W	
Battery voltage	9-68V	
Maximum input voltage of solar energy (25℃)	<110V	
Rated charging current	30A	40A
Temperature compensation coefficient	-3mV/℃/2V	
Operating temperature range	-25℃-55℃	
Humidity	95% , no condensation	
Protection grade	IP30	
Weight	650g	
Product dimensions	189x127x54 (mm)	
Terminal blocks	20mm²/4AWG	
Max input power of photovoltaic system	12V/450W ; 24V/900W 36V/1350W ; 48V/1800W	12V/600W ; 24V/1200W 36V/1800W ; 48V/2400W

PWM Solar Charge Controller

HC2410/HC2420/HC2430

Performance characteristics

- 32-bit high-speed master control chip.
- Large-screen LCD for display, charge and discharge parameters adjustable, Allow selection of multiple battery types, with a flexibility to set the load to work during the day or night..
- Complete multi-stage PWM charge management.
- Built-in reverse connection protection, open-circuit protection, high temperature protection, over-current/short-circuit protection (optional), which are all self-recovery type, with no damage to the controller.
- Double MOS anti-backflow circuit, ultra-low heat generation.
- Lithium battery activation available.
- Dual USB output, maximum current up to 2A, supporting high current charging of Iphone, Ipad and Android mobile phones and other devices.

Parameters

Model		HC2410	HC2420	HC2430
System voltage		12V/24V		
Battery operating voltage range		0.06~0.36W		
Rated current	Charge	10A	20A	30A
	Load	10A	20A	30A
Maximum PV input voltage		50V, enable protection and stop charging. Below 45V, charge resumes.		
Charging mode		The default is PWM charging,b04/b07 can be set to intermittent charging.		
USB output		5V/2A		
Static power consumption		≤10mA		
Operating temperature		-35~+60℃		
Altitude		≤3000M		
IP rating		IP32		
Product size		120*75*34mm	134*85*36mm	159*100*39mm
Installation size		108.5*58.5mm	121*70mm	147*80mm
Weight		130g	180g	290g

MPPT Solar Charge Controller

LC2430N10H

Performance characteristics

• The newly developed PowerCatcherTM maximum power tracking technology enables tracking of the maximum power points of PV modules even in complex environments, providing faster response and higher tracking efficiency than traditional MPPT technology.

◆ MPPT tracking efficiency is up to 99.9%, significantly increasing energy utilization efficiency of the PV system, which is about 15% to 20% higher than traditional PWM charging.

◆ It provides charging with active voltage regulation. When the battery is open-circuited or the lithium battery BMS overcharge protection is activated, the battery terminal of the controller will
output a rated charging voltage, which can effectively prevent excessive voltage from causing damage to the BMS system or the load.

◆ The controller has a constant voltage output for loads and the output voltage is optional in 12V/24V, making it ideal for voltage sensitive loads.

Parameters

Model	LC2430N10H
System voltage	12V/24V
Static power consumption	0.3~0.5W
Battery voltage	9~35V
Maximum PV Open-Circuit Voltage	92V (25℃); 95V (Minimum Ambient Temperature)
Voltage Range at MPP (Maximum Power Point)	Accumulator Voltage +2V ~ 72V
Rated charging current	30A
Maximum PV Input Power	400W/12V ; 800W/24V
Charging Conversion Efficiency	≤98%
MPPT Tracking Efficiency	> 99%
Load Constant Voltage Output Voltage	12V/24V (optional)
Load Rated Power	100W
Temperature compensation coefficient	-3mV/℃/2V(default)
Operating temperature	-35℃ ~ +65℃
Protection grade	IP32
Weight	1200g
Communication mode	TTL Serial Communication, Isolated 485 Serial Communication
Altitude	≤3000m
Product Dimensions	183×122.5×67.5(mm)

Accessories

BT-1

BT-2

Performance characteristics

- Realize the wireless monitoring and control function of the solar controller, support mobile APP, plug and play, simple and convenient setting.
- No external power supply is required, and the power is directly supplied by the communication port. The communication distance can be up to 15 meters.
- Use high-performance, ultra-low-power Bluetooth dedicated chip. Using Bluetooth 4.0 and BLE technology, it has the characteristics of fast communication and strong anti-interference ability..

Parameters

Model	BT-1	BT-2
Applicable controller model	ML series	MC series
Input voltage	5V-12V	
standby power	0.04W	
Operating power	0.05W	
Communication distance	≤15m	
Serial port baud rate	Fixed baud rate 9600bps	
Communication mode	RS232	TTL
Interface type	RJ12	PH2.0-4
Cable length	3m	1.5m
Product Dimensions	66×51×15.5(mm)	67.3×36×15.5(mm)
Operating temperature	-20℃-75℃	
Net weight	120g	

RM-5

RM-6

Performance characteristics

- The LCD graphical main menu is used to easily view the complete operating data of the system in real time, and a variety of parameters can be set.
- No external power supply is required, and the power is directly supplied by the communication port. The communication distance can be up to 15 meters.

Model	RM-5	RM-6	RM-7
Applicable controller model	ML series	MC series	MC series
Input voltage	12V	5V-12V	5V-12V
Static power consumption	<0.3W	<0.03W	<0.12W
Operational power	<0.42W	<0.04W	<0.2W
Fixed baud rate		9600bps	
Communication mode	RS232	TTL	TTL
Interface type	RJ12	PH2.0-4	Db9
Cable length	2m	1.5m	5m
Operating temperature		-35℃~+65℃	
Humidity		95%, no condensation	
Protection grade		IP32	
Weight	500g	90g	90g
Product Dimensions	116×116 x48(mm)	105×56×12(mm)	104.5*55.3*25(mm)

MPPT Solar Charge Controller

MT2410N10

Performance characteristics

- Support 100V maximal open-circuit voltage of photovoltaic panel.
- Double-peak or multi-peak MPPT technology, suitable for partial shading or partial damage of photovoltaic batteries.
- Advanced digital power technology, right conversion efficiency at 98%.
- Four-stage charge mode: MPPT - equalizing charge - boost charge - float charge.
- Fault code indication, easy to determine the system fault.
- It can be equipped with RM-5 LCD screen so as to view the operation data and state of the equipment and change the controller parameters.
- With multiple load control modes, it can automatically identify day/night and enhance the flexibility of load system.

Parameters

Model	MT2410N10
Operating voltage range of battery	8V~32V
Charge mode	Trace MPPT at maximal power
Maximum PV opencircuit voltage	100V（95V protection, stop charging. Restore in case of less than 90V)
Voltage range of MPPT working point	(Vbat+2)~72V
MPPT tracking efficiency	>99%
Charge conversionefficiency	85%~98% (10%~100% of rated power)
Rated charge current	10A
Maximumsolarpanelpower	130W/12V；260W/24V
No-load loss	≤10mA
Rated load current	10A (breaking type)
Overload protection	1.25 times of 10s protection; 1.5 times of 5s protection; double 1s protection
Load working mode	Pure optical control, light and time control, manual mode (default), debugging mode, constant on mode
Optical control voltage	Optical control on 5V; optical control off 6V; *2/24V
Optical control delay	Optical control on: 5min; Optical control off: 1min
Equalizing charge interval	30 days
Equalizing charge duration	120min
Internal overtemperature protection	When the internal temperature of the controller is higher than 60 ℃, the controller will run with power declining linearly until the charge stops; when the temperature is reduced, the charge can be restored.
Working temperature	-35℃ ~ +65℃；
Protection leve	IP64
Weight	430g
Product dimension	143×71×37.4(mm)
Installation size	139×48（mm）

MPPT series

DM60/DM120/DM160/DM200
MES60/MES120/MES160/MES200

Performance characteristics

- Advanced MPPT charging technology, 15% to 30% higher than PWM charging efficiency.
- Multi-peak tracking technology, higher tracking accuracy under shading conditions.
- Boosting constant current algorithm, accurate load efficiency control.
- Charge with accurate constant pressure algorithm, charging ripple will be lower and the service life of lithium battery will be extended.
- Historical status record.
- Remote IoT function.
- Available for all types of batteries.
- The third generation microwave induction technology, strong anti-interference ability, long sensing distance.
- Multi-stage induction setting, more flexible lighting and electric quantity control.

Parameters

Models	DM60/MES60	DM120/MES120	DM160/MES160	DM200/MES200	Parameters adjustable	Default
Zero load loss	R：≤5mA W：≤20mA	R ≤6mA/12V; ≤4mA/24V W ≤18mA/12V;≤13mA/24V	R ≤6mA/12V; ≤4mA/24V W ≤18mA/12V;≤13mA/24V	R ≤10mA/12V;≤ 5mA/24V W ≤25mA/12V;≤15mA/24V		
System voltage	12V	12V/24V	12V/24V	12V/24V		Lead
Max load power	60W/12V	60W/12V；120W/24V	80W/12V；160W/24V	100W/12V；200W/24V		
Load output voltage	15~50V	15~60V	15~60V	15~75V		
Load periods	9 periods + predawn	9 periods + predawn	9 periods + predawn	9 periods + predawn		
Rated charge current	10A	10A	15A	20A		
Max solar panel power	130W/12V	130W/12V；260W/24V	200W/12V；400W/24V	260W/12V；520W/24V		
Solar panel input voltage	<50V	<60V		<95V		
MPPT tracking efficiency	>99%					
Charge conversion efficiency	85%-98%（typically 97%）					
Load conversion efficiency	90% ~ 96%					
Load current accuracy	±3%（load current>300mA）					
Load current accuracy (Lead-acid)	(Boost charge voltage+0.2V)；×2/24V(25℃)					14.6V
Equalizing charge time (Lead-acid)	2 hours					
Equalizing charge interval (Lead-acid)	30 days					
Boost charge voltage (Lead-acid)	7.5V ~ 17.0V；×2,24V system				√	14.4V
Boost charge time (Lead-acid)	4 hours					
Floating charge voltage (Lead-acid)	7.5V~17V；×2/24V(25℃)				√	13.8V
Temperature compensation coefficient (Lead-acid)	-3.0mV/℃/2V					
Overcharge voltage (lithium)	7.5V ~ 17.0V；×2,24V system				√	14.4V
Overcharge return voltage (lithium)	7.5V ~ 17.0V；×2,24V system				√	13.8V
Over discharge voltage	7.5V ~ 17.0V；×2,24V system				√	11.0V
Over discharge return voltage	7.5V ~ 17.0V；×2,24V system				√	12.5V
Light control voltage	3V ~ 11V;×2,24V system				√	5V
Operating temperature	-35℃ ~ +65℃					
IP rating	IP67					
Weight (g)	260	400	510	770		
Dimensions (mm)	80*82*22.6	114*88.3*24.5	142*88.3*24.5	155*114.4*34		
Installation size (mm)	66*75	74*82.3	102*82.3	116*102		

Notice: -ES series products can be equipped with external body induction probe.

PWM series

SN40/DH60/DH100/DH120
SES40/SES60/SES120

Performance characteristics

- Available for lead-acid battery and all types of lithium battery.
- Hibernation mode, static current can be low as 1mA.
- Wireless communication technology, convenient for setting parameters.
- Ten-stage induction setting, more flexible lighting time and efficiency control.
- Real-time monitoring over battery temperature, battery charge and discharge temperature is settable.
- Latest digital constant current technology leads to less load current fluctuation.
- The third generation microwave induction technology, strong anti-interference ability, long sensing distance.
- Multi-stage induction setting, more flexible lighting and electric quantity control.

Parameters

Models	SN40/SES40	DH60/SES60	DH100	DH120/SES120	Parameters adjustable	Default
Zero load loss	R : ≤10mA/12V ; W : ≤32mA/12V	R : ≤10mA/12V ; ≤15mA/24V W : ≤32mA/12V ; ≤38mA/24V				
Static Current	0.8mA/12V	0.8mA/12V 8mA/24V	0.8mA/12V 8mA/24V	0.8mA/12V 8mA/24V		
System voltage	12V	12V/24V	12V/24V	12V/24V		
Max load power	40W	40W/12V 60W/24V	50W/12V 100W/24V	60W/12V 120W/24V		
Load output voltage	15~45V	15~60V	15~60V	15~60V		
Load periods	9 periods + predawn	9 periods + predawn	9 periods + predawn	9 periods + predawn		
Rated charge current	10A	10A	15A	20A		
Max solar panel power	150W	150W/12V 300W/24V	225W/12V 450W/24V	300W/12V 600W/24V		
Solar panel input voltage	< 25V	< 55V				
Load conversion efficiency	90% ~ 96%					
Load current accuracy	≤3%±30mA					
Load current accuracy (Lead-acid)	14.6V ; ×2/24V(25℃)					14.6V
Equalizing charge time (Lead-acid)	2 hours					
Equalizing charge interval (Lead-acid)	30 days					
Boost charge voltage (Lead-acid)	7.5V ~ 17V ; ×2/24V(25℃)				√	14.4V
Boost charge time (Lead-acid)	4 hours					
Floating charge voltage (Lead-acid)	7.5V ~ 17V ; ×2/24V(25℃)				√	13.8V
Temperature compensation coefficient (Lead-acid)	-3.0mV/℃/2V					
Overcharge voltage (lithium)	7.5V~17.0V;×2/24V system				√	12.5V
Overcharge return voltage (lithium)	7.5V~17.0V;×2/24V system				√	12V
Over discharge voltage	7.5V~17.0V;×2/24V system				√	9.2V
Over discharge return voltage	7.5V~17.0V;×2/24V system				√	10.2V
Light control voltage	3V ~ 11V;×2/24V				√	5V
Operating temperature	-35℃ ~ +65℃					
IP rating	IP67					
Weight (g)	150	170	280	300		
Dimensions (mm)	SN40 : 58*82*17 SES40 : 72*72*26	DH60 : 58*82*20 SES60 : 57.5*82*20	100*82*20	100*82*20		
Installation size (mm)	SN40 : 43*75 SES40 : 58*54	43*75	86*75	86*75		

Notice: -ES series products can be equipped with external body induction probe.

3.2V single string battery series

SNS40-H/DMS40

Performance characteristics

- Available for single-string or 2-string lithium battery application.
- Hibernation mode, static current can be low as 1mA.
- Wireless communication technology, convenient for setting parameters.
- Ten-stage induction setting, more flexible lighting time and efficiency control.
- Human body infrared and microwave induction.
- Latest digital constant current technology leads to less load current fluctuation.

Parameters

Models	SNS40-H	DMS40	Parameters adjustable	Default
Zero load loss	≤40mA ; ≤20mA/6.4V	≤40mA/3.2V ; ≤20mA/6.4V		
Static Current	5mA	1mA		
System voltage	3.2V/6.4V	3.2V/6.4V		
Max load power	20W/3.2V 40W/6.4V	40W/3.2V 80W/6.4V		
Load output voltage	5～35V	5~35V		
Load periods	9 periods + predawn	9 periods + predawn		
Charge method	PWM	MPPT		
Rated charge current	15A	20A		
Max solar panel power	65W/3.2V 130W/6.4V	80W/3.2V 160W/6.4V		
Solar panel input voltage	Single-stringVmp=5V Voc=6V Two-stringVmp=10V Voc=12V	< 30V < 30V (Conventional 36cell solar panel)		
Load conversion efficiency	80% ~ 95%	80% ~ 94%		
Load current accuracy	< 5%	< 3%		
overcharge voltage	2.5V～8.4V(25℃)		√	3.6V
overcharge return voltage	2.5V～8.4V(25℃)		√	3.4V
Over discharge voltage	2.5V～8.4V(25℃)		√	2.5V
Over discharge return voltage	2.5V～8.4V(25℃)		√	3.2V
Light control voltage	1V～7V		√	2V
Operating temperature	-35℃ ~ +65℃			
IP rating	IP67			
Weight (g)	150	260		
Dimensions (mm)	58*82*17	80*82*22.6		
Installation size (mm)	43*75	65.5*75		

General load series

SL2410/SL2420/MPL1210/MPL2410/MPL2415/MPL2420

Performance characteristics

- Multiple types of batteries are optional.
- Load normally on mode, available for 24-hour power supply load.
- Flat voltage output, available for connecting to router and camera.
- Waterproof rate: IP67
- Protection Functions.
- Lithium battery overcharge protection.

Parameters

Models	SL2410	SL2420	MPL1210	MPL2410	MPL2415	MPL2420	Parameters adjustable	
Charge method	PWM	PWM	MPPT	MPPT	MPPT	MPPT		
Zero load loss	10mA/12V 13mA/24V	10mA/12V 13mA/24V	5mA/12V	6mA/12V 4mA/24V	10mA/12V 5mA/24V	<10mA/12V <5mA/24V		
System voltage	12V/24V	12V/24V	12V	12V/24V	12V/24V	12V/24V	√	Lead
Sleep power consumption	/		1mA					
Maximum load power	120W/12V 240W/24V	240W/12V 480W/24V	120W/12V	120W/12V 240W/24V	180W/12V 360W/24V	240W/12V 480W/24V		
Max load current	10A	20A	10A	10A	15A	20A		
Load mode	5 load working modes	5 load working modes	Street light +always on mode	Street light +always on mode	Street light +always on mode			
Rated charge current	10A	20A	10A	10A	15A	20A		
Max solar panel power	150W/12V 300W/24V	300W/12V 600W/24V	130W/12V	130W/12V 260W/24V	200W/12V 400W/24V	260W/12V 520W/24V		
Solar panel input voltage	< 50V	< 50V	< 50V	< 60V		≤100V		
Load current accuracy (Lead-acid)	7.5V ~ 17.00V setteble ; ×2/24V system							14.6V
Equalizing charge time (Lead-acid)	1 hour							
Equalizing charge interval (Lead-acid)	2 hours							
Boost charge voltage (Lead-acid)	7.5V ~ 17.00V setteble ; ×2/24V system						√	14.4V
Boost charge time (Lead-acid)	4 hours							
Floating charge voltage (Lead-acid)	7.5V ~ 17.00V setteble ; ×2/24V system						√	13.8V
Temperature compensation coefficient (Lead-acid)	PB：-3.0mV/℃/2V；（No temperature compensation for lithium battery system）							
Overcharge voltage (lithium)	7.5V ~ 17.00V setteble ; ×2/24V system						√	14.6V
Overcharge return voltage (lithium)	7.5V ~ 17.00V setteble ; ×2/24V system						√	13.6V
Over discharge voltage	7.5V ~ 17.00V setteble ; ×2/24V system						√	11.0V
Over discharge return voltage	7.5V ~ 17.00V setteble ; ×2/24V system						√	12.6V
Light control voltage	3V ~ 11V ; ×2/24V system						√	5V
Operating temperature	-35℃ ~ +65℃							
IP rating	IP67							
Weight (g)	140	300	260	400	510	770		
Dimensions (mm)	58*82*20	100*80*20	80*82*22.6	114*88.3*24.5	142*88.3*24.5	155*114.4*34		
Installation size (mm)	43*75	86*75	66*75	74*82.3	102*82.3	116*102		

AC/DC Hybrid Series

MEH160/MEH200/EH120/EH120-ES/EL2415

Performance characteristics

- Advanced MPPT charging technology, 15% to 30% higher than PWM charging efficiency.
- Multi-peak tracking technology, higher tracking accuracy under shading conditions.
- Boosting constant current algorithm, accurate load efficiency control.
- Charge with accurate constant pressure algorithm, charging ripple will be lower and the service life of lithium battery will be extended.
- Historical status record.
- Available for all types of batteries.
- Multi-stage induction setting, more flexible lighting and electric quantity control.

Parameters

Models	MEH160	MEH200	EH120	EH120-ES	EL2415	Parameters adjustable	
Zero load loss	R：<10mA/12V；<7mA/24V W：<30mA/12V；<15mA/24V		R:<10mA/12V；<15mA/24V W:<35mA/12V；<40mA/24V				
System voltage	12V/24V					√	Lead
Max load power	80W/12V ;160W/24V	100W/12V ;200W/24V	60W/12V ;120W/24V		180W/12V ;360W/24V		
Load output voltage	15V～75V		15V～60V；30V～60V/24V				
Load periods	9 periods + predawn				always on mode 9 load working modes		
Maximum charging current	15A	20A	15A				
Solar power max input efficiency	200W/12V;400W/24V	260W/12V;520W/24V	225W/12V;450W/24V				
Load circuit voltage drop (EL Series)	/		/		≤500mV		
Solar panel input voltage	≤95V		≤55V				
Load conversion efficiency	90% ~ 96%						
Load current accuracy	< 3%						
Overvoltage	Lead-acid battery:16V; Lithium battery:charge voltage+2V; x2/24V						
Equalizing charge voltage	Lead-acid battery:14.6V; Lithium battery:No equalizing charge;x 2/24V						
Equalizing charge interval	30 days						
Boost charge voltage (Lead-acid)	7.50V ~ 17.00V setteble; x2/24V					√	14.4V
Charging voltage (lithium battery)	7.50V ~ 17.00V setteble; x2/24V					√	14.4V
Floating charge voltage (Lead-acid)	7.50V ~ 17.00V setteble; x2/24V					√	13.8V
Charge return voltage (lithium battery)	7.50V ~ 17.00V setteble; x2/24V					√	13.8V
over discharge voltage	7.50V ~ 17.00V setteble; x2/24V					√	11.0V
Over discharge return voltage	7.50V ~ 17.00V setteble; x2/24V					√	12.6V
Switching voltage	7.50V ~ 17.00V setteble; x2/24V					√	11. 5V
DC voltage input range	10 ~ 14V/12V system; 20~ 28V/24V system						
Light control voltage	3V ~ 11V ; x2/24V					√	5V
Temperature compensation coefficient	Lead-acid battery:-3.0MV/*C/2V; Lithium battery:No temperature compensation						
Light control delay	5s ~ 60s/2min ~ 60min					√	10s
High temperature work	40°C~+90°C					√	65°C
Low temperature charging	0°C~-35°C					√	-35°C
Operating temperature	-35°C ~ +65°C						
IPrating	IP67						
Weight (g)	780		300				
Dimensions (mm)	155*114.4*34		120*82*23				
Installation size (mm)	123*102		106*75				

Notice: -ES series products can be equipped with external body induction probe.

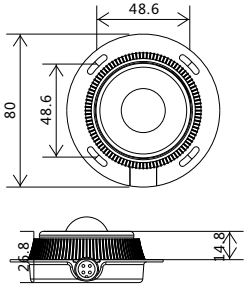
Controller accessories

Microwave sensor / infrared sensor / remote control

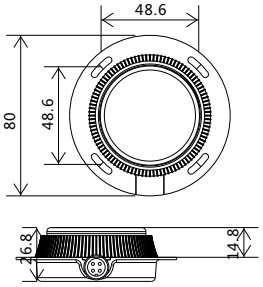
CU-ALL5

Performance characteristics

- Infrared remote control and wireless remote control are available forchoice, and the wireless remote control distance is selectable.
- Wireless remote control presents great penetrability and strong anti-interference capability.
- Data communication employs multiple handshake protocols and data compression algorithms, data transmission is accurate and fast.
- Two AA batteries for power supply.
- LCD display of parameters and data.
- Automatically enter sleep mode in 65 seconds without operation, wake up with any key.
- Ultra-low sleep power consumption, less than 0.2uA.
- Fast wake up.
- Battery level indication.
- Ergonomically designed for handheld operation.



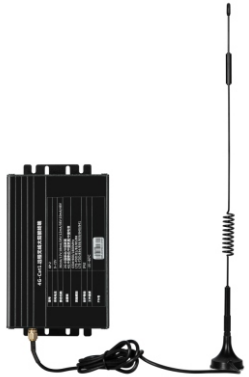
SR-COM-IR5 dimensions are as follows:
Outline dimensions : 80*80*26.8 (mm)
Installation dimensions : 48.6*48.6 (mm)
Mounting hole diameter : 52 (mm)



SR-COM-WB5 dimensions are as follows:
Outline dimensions : 80*80*26.8 (mm)
Installation dimensions : 48.6*48.6 (mm)
Mounting hole diameter : 52 (mm)

IoT accessories

GP-2 Module/GP-40/GP-50 Module



GP-2

The full name of CAT.1 (4G) is LTEUE-Category1, which is a type of IoT wireless data terminal that uses public operator network. 4G network provides users with wireless long-distance data transmission function. GP-2 adopts industrial embedded processor and has embedded protocol stack, providing high-speed and stable network for users.

It is available for GSM : 900/1800MHz, LTE-FDD : B1/B3/B5/B8, LTE-TDD : B34/B39/B40/B41 frequency band and is suitable for China Mobile, China Unicom and China Telecom 4G network.

GP-40

The full name of CAT.1 (4G) is LTEUE-Category1, which is a type of IoT wireless data terminal that uses public operator network. 4G network provides users with wireless long-distance data transmission function. GP-40 adopts industrial embedded processor and has embedded protocol stack, providing high-speed and stable network for users.

It is available for LTE-FDD:B1/B3/B5/B8, LTE-TDD:B34/B38/B39/B40/B41 frequency band and is suitable for China Mobile, China Unicom and China Telecom 4G network.

GP-50

Narrow Band Internet of Things, also known as NB-IoT, is a new technology in the field of IoT. It is available for low power-consumption devices' connection to the celluar data of WAN, which is also called LPWAN. NB-IoT supports B3/B5/B8 frequency band, which can be used in China telecom network. It is also available for connecting the devices that have high requirements for network and can standby for a long time. It features wide covering area, multiple connection, high speed, low cost, low energy-consumption and fine framework. This module uses telecom NB network, so it can be applied in most regions.

GP-50 can be a built-in module. The glue filling and sealing technology is used in the manufacturing process. It has industrial SIM card. The waterproof grade is IP67. It can function well even in severe environments with high temperature or high humidity or are highly corrosive.