

Hanf

SOLAR CHARGE CONTROLLER EXPERT

Specialized in development and production of solar charge controller

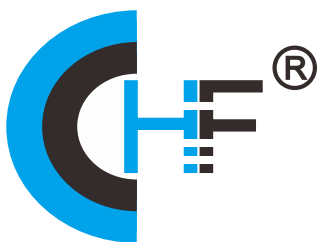


<http://www.hanfsolar.com>



武汉汉非科技有限公司

WUHAN HANFEI SCIENCE & TECHNOLOGY CO., LTD



COMPANY PROFILE

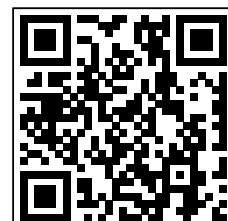
WUHAN HANFEI S&T CO.,LTD

Wuhan Hanfei Science & Technology Co., Ltd. with more than 1.5 million RMB registered capital. We are a new and high-tech enterprise which was specialized in power products researching, manufacturing and marketing.

We provide products including solar charge controllers, power inverter, etc., as well as design and supply relevant solar application systems. The company has passed the ISO9001: 2008, and products have passed CE, ROHS certificate, as well as other domestic and international authoritative certification and a number of patents. The products have been extensively applied and highly appraised in a number of major projects at home and abroad. And our customers are in more than 120 foreign countries and regions. Also we have applied own brand "Hanfsolar".

Company is located in the National Development Zone Wuhan economic and Technological Development Zone Private Technology Industrial Park, close to the prince's Lake, 50 meters away from Jiangcheng Avenue, a beautiful environment, convenient transportation. 2000 square meters of office and production space. The company was first established on the spirit of innovation as the foundation of this enterprise, and actively develop new products to meet the requirements of market segmentation. At the same time to declare the national high-tech enterprise qualification, ISO9001:2008 quality system certification and a number of product design patent. Part of the products through the European CE certification, ROHS certification.

At present, the core team of the company has formed a core team, which is composed of enterprise management, product development, production and implementation, financial decision-making and market development and other senior personnel, team structure is reasonable, knowledge is complementary to the company to provide a solid foundation for the development of the company and the broader field of development.



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SK series PWM solar charge controller

SK10DU

(10 A)

SK10DU is one of the SK series controllers. With a power range of up to 10A at automatically recognized 12V or 24V, it fits to a system size of maximum 240W.

Full circuit board protection, LCD for all working parameters. Clearly marked connection ports make it possible to connect easily to solar panels, battery and load. USB ports make it convenient to charge mobile phones.

Features:

- PWM charging mode with 4 stages(bulk, absorption, float and equalized)
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Simple button operation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Monthly equalization charge
- Various controlling mode for load
- USB output for smart phones and tablets X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Displays:

- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



LCD display



12/24V Auto



USB Output



Battery type



Protections



Parameters adjustable



Temperature compensation



Button mode



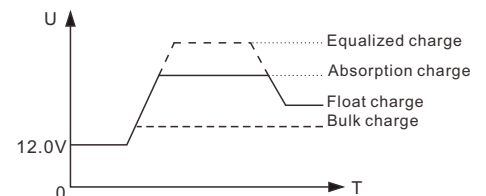
Color screen with backlit



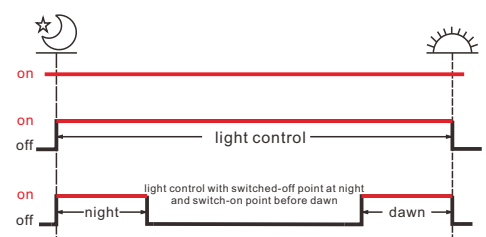
Battery capacity percentage



PWM

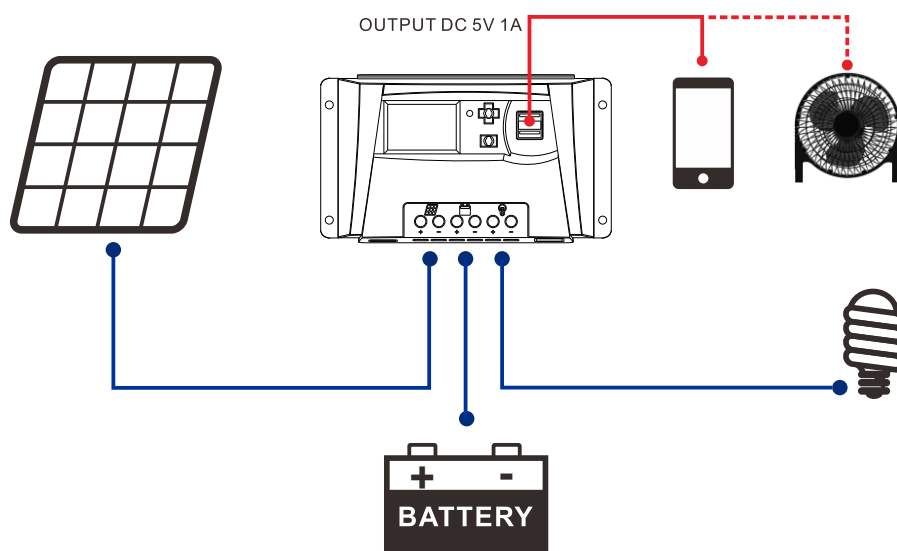


Working mode of Load



Technical Data

Model		SK10DU
Solar Input	Input voltage	$\leq 50V$
	Rated input current	10A
	Charge loop voltage drop	$\leq 0.3V$
Battery	System voltage	12V/24V Auto
	No load loss	10.5mA(12)/12.5mA(24V)
	Battery type	Sealed, GEL, Flooded, User customized
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM
	Float charge voltage	13.8V/27.6V
	Absorption charge voltage	14.4V(13V~15V) $\times 1/\times 2/\times 4$
	Temperature compensation	-4mV/Cell/ $^{\circ}C$
Load	Rated load current	10A
	Discharge loop drop	$\leq 0.18V$
	Low voltage disconnect	10.8V/21.6V
	Low voltage reconnect	12.6V/25.2V
	Over voltage disconnect	16.0V/32.0V
Related	Max wire size	6mm ² (AWG 3#)
	Working temperature	-20 $^{\circ}C$ ~55 $^{\circ}C$
	Working humidity	10%~90%,no condensation
	Dimension(L×W×H)	160mm×88.2mm×42.4mm
	Net weight	283g





SK series PWM solar charge controller



SK20DU

(20 A)

SK20DU is one of the SK series controllers. With a power range of up to 20A at automatically recognized 12V or 24V, it fits to a system size of maximum 480W.

Full circuit board protection, LCD for all working parameters. Clearly marked connection ports make it possible to connect easily to solar panels, battery and load. USB ports make it convenient to charge mobile phones.

Features:

- PWM charging mode with 4 stages(bulk, absorption, float and equalized)
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Simple button operation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Monthly equalization charge
- Various controlling mode for load
- USB output for smart phones and tablets X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Displays:

- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



LCD display



12/24V Auto



USB Output



Battery type



Protections



Parameters adjustable



Temperature compensation



Button mode



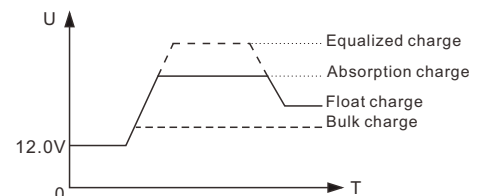
Color screen with backlight



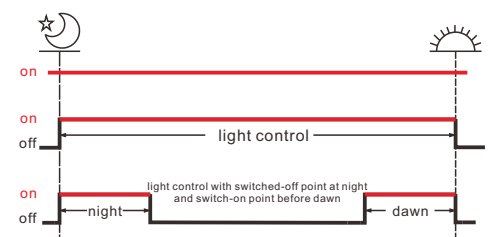
Battery capacity percentage



PWM

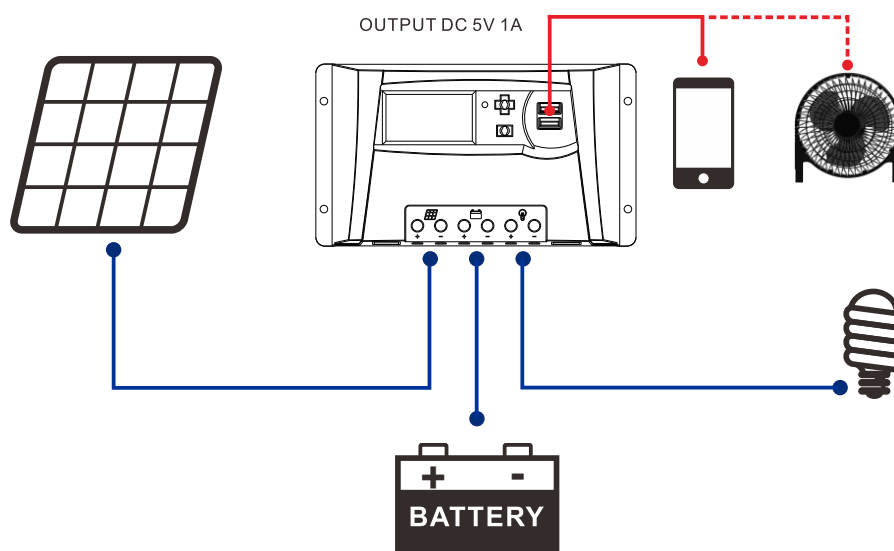


Working mode of Load



Technical Data

Model		SK20DU
Solar Input	Input voltage	≤50V
	Rated input current	20A
	Charge loop voltage drop	≤0.3V
Battery	System voltage	12V/24V Auto
	No load loss	10.5mA(12)/12.5mA(24V)
	Battery type	Sealed, GEL, Flooded, User customized
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM
	Float charge voltage	13.8V/27.6V
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4
	Temperature compensation	-4mV/Cell/°C
Load	Rated load current	10A
	Discharge loop drop	≤0.18V
	Low voltage disconnect	10.8V/21.6V
	Low voltage reconnect	12.6V/25.2V
	Over voltage disconnect	16.0V/32.0V
Related	Max wire size	6mm ² (AWG 3#)
	Working temperature	-20°C~55°C
	Working humidity	10%~90%,no condensation
	Dimension(L×W×H)	178mm×104.4mm×45.5mm
	Net weight	310g





SK30D/SK40D (30-40 A)

SK series is a new series of intelligent multi-purpose solar charge controllers. Its innovative design makes it easy to install and quite user friendly. Optimized charging and discharging management extends the service life of batteries considerably. Meanwhile, parameters are explicitly displayed. All parameter values can be set to meet various applications.

Features:

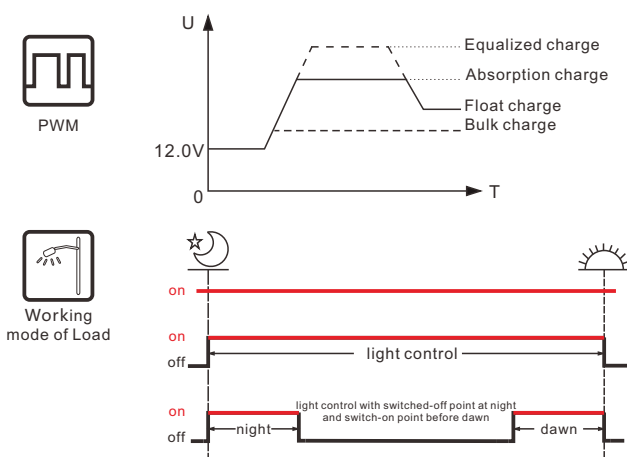
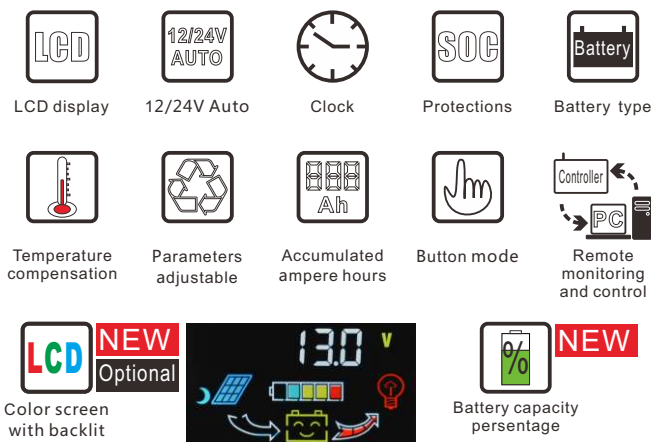
- PWM control
- Multistage charging technology (bulk, absorption, float and equalized)
- Most parameters displayed explicitly
- Automatic detection of battery voltage
- Automatic load reconnection
- Automatic temperature compensation
- Simple button operation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- All working parameters can be adjusted and reset
- Various controlling modes for load
- Self-timing
- Remote communication function (optional) ---RJ45 connection port, RS232, RS485 and standard Modbus communication protocol

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

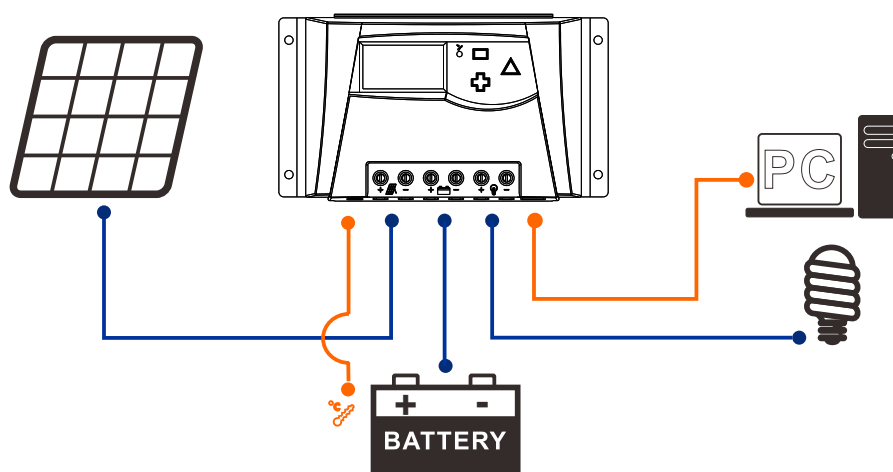
Displays:

- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



Technical Data

Model		SK30D	SK40D	SK3048D	SK4048D
Solar Input	Input voltage	≤50V		≤100V	
	Rated input current	30A	40A	30A	40A
	Charge loop voltage drop	≤0.17V		≤0.28V	
Battery	System voltage	12V/24V Auto		48V	
	No load loss	≤13mA		≤15mA	
	Battery type	Sealed,GEL,Flooded,User customized			
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM			
	Float charge voltage	13.8V(13V~15V)×1/×2/×4			
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4			
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2/×4			
	Temperature compensation	-4mV/Cell/°C			
Load	Rated load current	30A	40A	30A	40A
	Discharge loop drop	≤0.1V		≤0.1V	
	Low voltage disconnect	10.7V(10V~14V)×1/×2/×4			
	Low voltage reconnect	12.6V(10V~14V)×1/×2/×4			
	Over voltage disconnect	16.0V×1/×2/×4			
Related	Max wire size	16mm²(AWG 3#)			
	Working temperature	-20°C~55°C			
	Working humidity	10%~90%,no condensation			
	Dimension(L×W×H)	196mm×111mm×54mm			
	Net weight	401g	403g	410g	412g





SK50D/SK60D (50-60 A)

SK series is a new series of intelligent multi-purpose solar charge controllers. Its innovative design makes it easy to install and quite user friendly. Optimized charging and discharging management extends the service life of batteries considerably. Meanwhile, parameters are explicitly displayed. All parameter values can be set to meet various applications.

Features:

- Intelligent, high-efficient PWM charging mode in series connection
- Multistage charging technology (bulk, absorption, float and equalized)
- Most parameters displayed explicitly
- Automatic detection of battery voltage
- Automatic load reconnection
- Automatic temperature compensation
- Simple button operation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- All working parameters can be adjusted and reset
- Various controlling modes for load

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Displays:

- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



LCD display



12/24V Auto



Button mode



Protections



Battery type



Temperature compensation



Parameters adjustable



Accumulated ampere hours



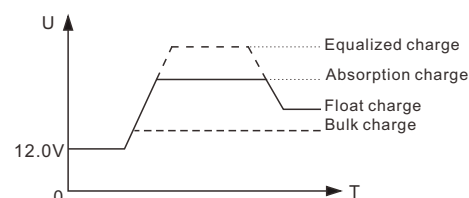
Color screen with backlit



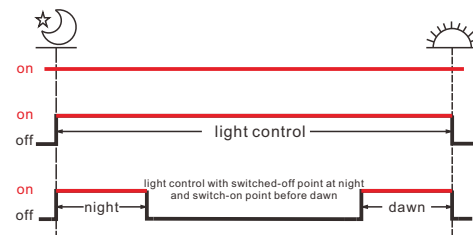
Battery capacity percentage



PWM

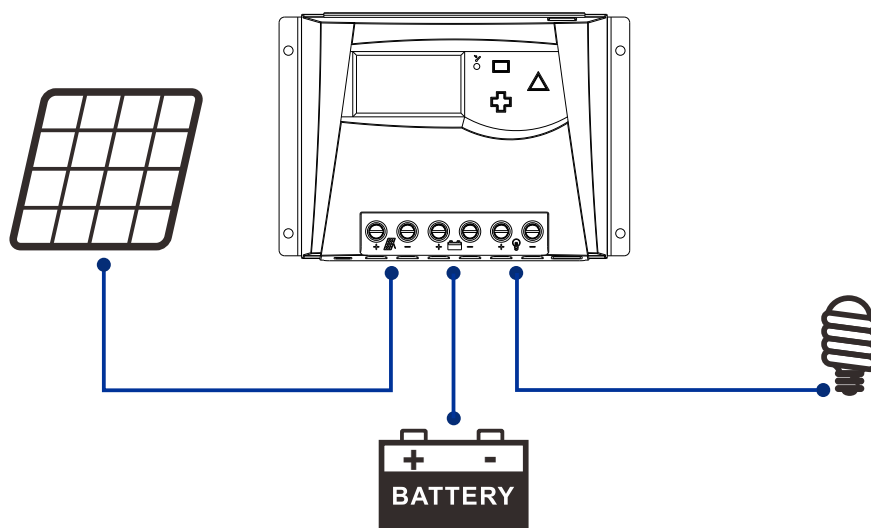


Working mode of Load



Technical Data

Model		SK50D	SK60D	SK5048D	SK6048D
Solar Input	Input voltage	≤50V		≤100V	
	Rated input current	50A	60A	50A	60A
	Charge loop voltage drop	≤0.22V		≤0.25V	
Battery	System voltage	12V/24V Auto		48V	
	No load loss	≤14mA		≤16mA	
	Battery type	Sealed,GEL,Flooded,User customized			
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM			
	Float charge voltage	13.8V(13V~15V)×1/×2/×4			
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4			
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2/×4			
	Temperature compensation	-4mV/Cell/°C			
Load	Rated load current	50A	60A	50A	60A
	Discharge loop drop	≤0.12V		≤0.12V	
	Low voltage disconnect	10.8V(10V~14V)×1/×2/×4			
	Low voltage reconnect	12.6V(10V~14V)×1/×2/×4			
	Over voltage disconnect	16.0V×1/×2/×4			
Related	Max wire size	25mm²(AWG 3#)			
	Working temperature	-20°C~55°C			
	Working humidity	10%~90%,no condensation			
	Dimension(L×W×H)	50A(188×133×51.5mm)/60A(188×133×59mm)			
	Net weight	595g	735g	600g	740g





SK80D (80 A)

SK series is a new series of intelligent multi-purpose solar charge controllers. Its innovative design makes it easy to install and quite user friendly. Optimized charging and discharging management extends the service life of batteries considerably. Meanwhile, parameters are explicitly displayed. All parameter values can be set to meet various applications.

Features:

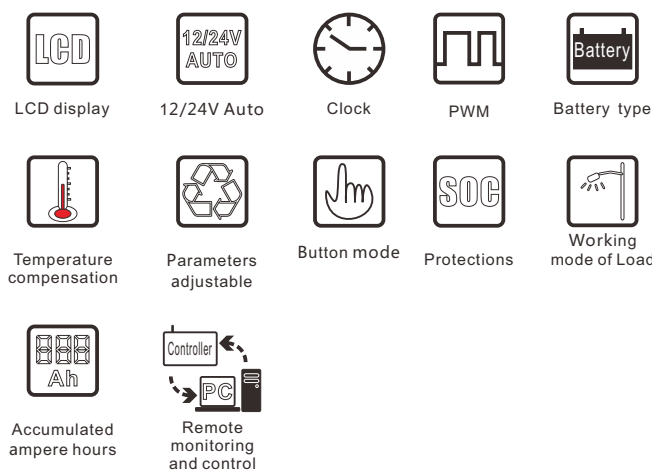
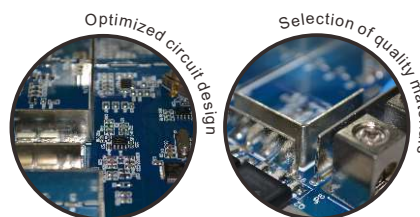
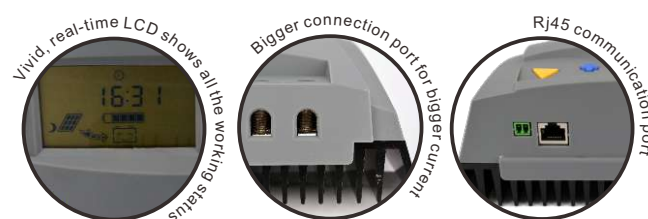
- PWM control
- Multistage charging technology (bulk, absorption, float and equalized)
- Most parameters displayed explicitly
- Automatic detection of battery voltage
- Automatic load reconnection
- Automatic temperature compensation
- Simple button operation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- All working parameters can be adjusted and reset
- Various controlling modes for load
- Self-timing
- Remote communication function (optional) --- RJ45 connection port, RS232, RS485 and standard Modbus communication protocol

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery

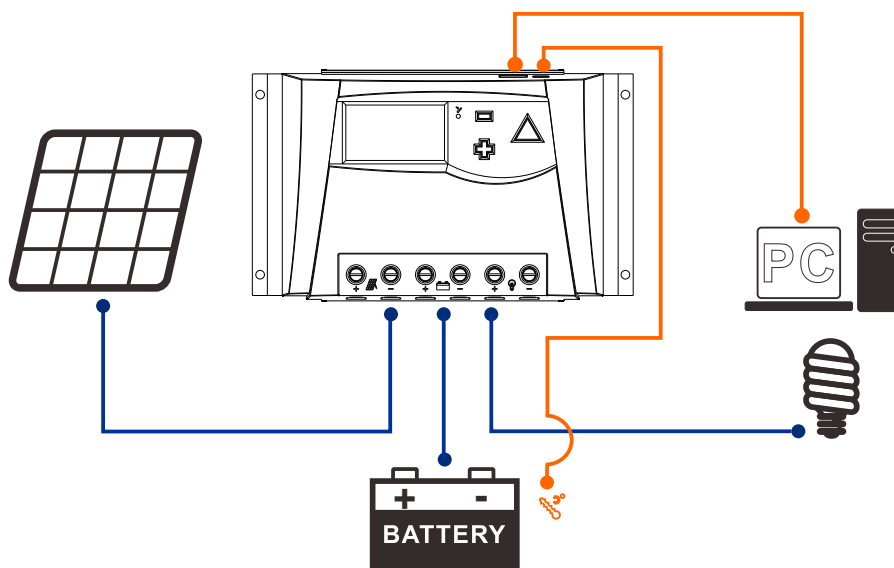
Displays:

- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



Technical Data

Model		SK80D	SK8048D
Solar Input	Input voltage	≤50V	≤100V
	Rated input current	80A	
	Charge loop voltage drop	≤0.24V	≤0.30V
Battery	System voltage	12V/24V Auto	48V
	No load loss	≤13mA	
	Battery type	Sealed,GEL,Flooded,User customized	
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM	
	Float charge voltage	13.8V(13V~15V)×1/×2/×4	
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4	
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2/×4	
	Temperature compensation	-4mV/Cell/°C	
Load	Rated load current	80A	
	Discharge loop drop	≤0.12V	≤0.16V
	Low voltage disconnect	10.8V(10V~14V)×1/×2/×4	
	Low voltage reconnect	12.6V(10V~14V)×1/×2/×4	
	Over voltage disconnect	16.0V×1/×2/×4	
Related	Max wire size	25mm ² (AWG 3#)	
	Working temperature	-20°C~55°C	
	Working humidity	10%~90%,no condensation	
	Dimension(L×W×H)	220mm×133mm×77.5mm	
	Net weight	1.34kg	





SK series PWM solar charge controller



SK100D (100 A)

SK series is a new series of intelligent multi-purpose solar charge controllers. Its innovative design makes it easy to install and quite user-friendly. Optimized charging and discharging management extends the service life of batteries considerably. Meanwhile, parameters are explicitly displayed. All parameter values can be set to meet various applications.

Features:

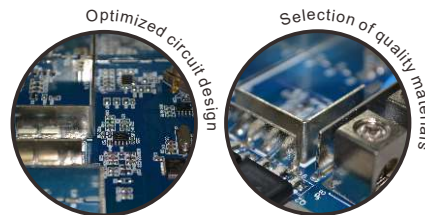
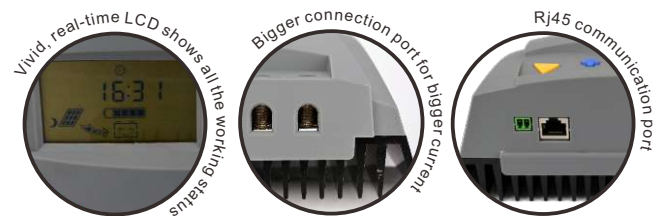
- PWM control
- Multistage charging technology(bulk, absorption, float and equalized)
- Most parameters displayed explicitly
- Automatic detection of battery voltage
- Automatic temperature compensation
- Simple button operation
- Self-timing
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging(Special parameters can be customized)
- All working parameters can be adjusted and reset
- Remote communication function(optional) ---RJ45 connection port, RS232, RS485 and standard Modbus communication protocol

Electronic protections:

- Over charge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV and battery

Displays:

- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



Color screen with backlit



Battery capacity percentage



LCD display



12/24V Auto



Clock



PWM



Battery type



Temperature compensation



Parameters adjustable



Button mode



Protections



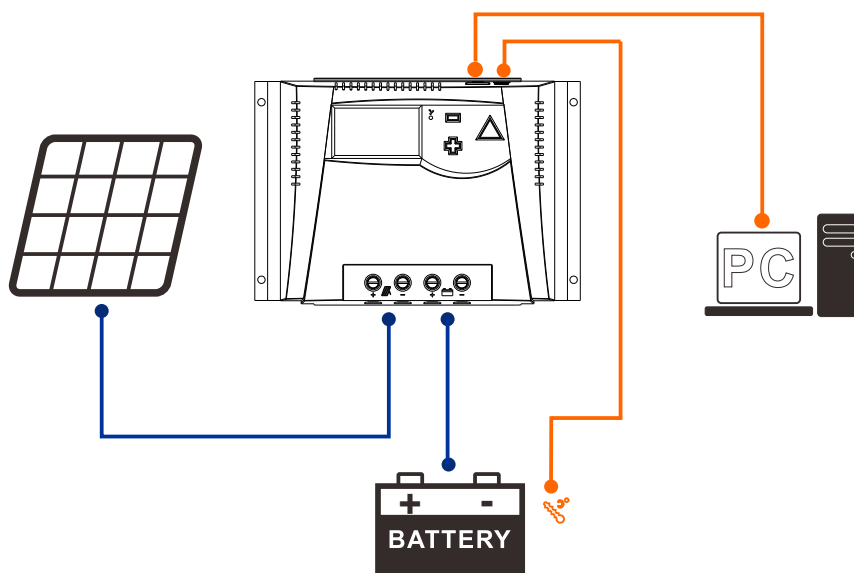
Accumulated ampere hours



Remote monitoring and control

Technical Data

Model		SK100D	SK10048D
Solar Input	Input voltage	≤50V	≤100V
	Rated input current	100A	
	Charge loop voltage drop	≤0.24V	≤0.30V
Battery	System voltage	12V/24V Auto	48V
	No load loss	≤13mA	
	Battery type	Sealed,GEL,Flooded,User customized	
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM	
	Float charge voltage	13.8V(13V~15V)×1/×2/×4	
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4	
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2/×4	
	Temperature compensation	-4mV/Cell/°C	
Load	Rated load current	100A	
	Discharge loop drop	≤0.12V	≤0.16V
	Low voltage disconnect	10.8V(10V~14V)×1/×2/×4	
	Low voltage reconnect	12.6V(10V~14V)×1/×2/×4	
	Over voltage disconnect	16.0V×1/×2/×4	
Related	Max wire size	25mm ² (AWG 3#)	
	Working temperature	-20°C~55°C	
	Working humidity	10%~90%,no condensation	
	Dimension(L×W×H)	220mm×133mm×77.5mm	
	Net weight	1.34kg	





TK20DU/TK30DU (10A,20A,30A)

TK20DU and TK30DU With a power range of up to 30A at automatically recognized 12V or 24V, it fits to a system size of maximum 720W.

Full circuit board protection, LCD for all working parameter. Clearly marked connection ports make it possible to connect easily to solar panels, battery and load. USB ports make it convenient to charge mobile phones.

Features:

- PWM charging
- Multistage charging technology(Bulk,Absorption,Float,Equalized)
- Voltage regulation
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Various controlling modes for load(light control,time&light control,normal mode)
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Optional communication function
- USB output for smart phones and tablets X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Display:

- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



TK20DU color: orange



TK30DU color: green



LCD display



12V/24V
Auto



PWM



Protections



USB Output



Temperature
compensation



Simple button
operation



Off-grid
home solar system



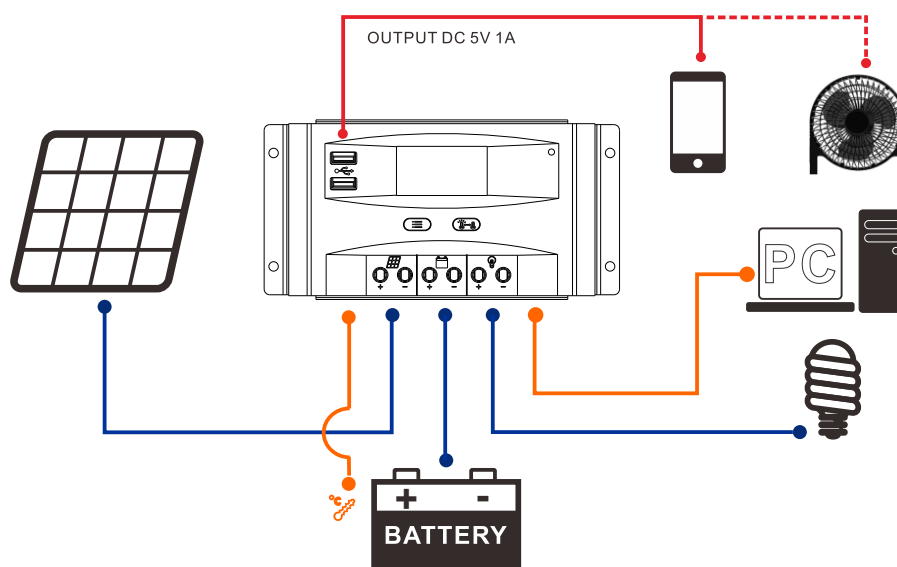
RV, boat & field power supply
solar system



Farm solar generation system

Technical Data

Model	TK20DU		TK30DU
System voltage	12V/24V Auto		
Rated current	10A	20A	30A
Low voltage protection	10.7V/21.4V		
Low voltage reconnecting	12.6V/25.2V		
High voltage disconnection	15.5V/31.0V		
High voltage reconnection	15.0V/30.0V		
Charge/Discharge voltage drop	<0.22V/<0.12V		
Absorption charging voltage	14.4V/28.8V(lasting time:2 hours)		
Float charging voltage	13.8V/27.6V		
No load loss	≤12.5mA(USB disconnect)		
Overloading	≥1.2*rated current,60s		
	≥1.5*rated current,10s		
	≥1.8*rated current,0.2s		
USB output	5V, 1A		
Installing cables size	≤16mm ²		
Working temperature	-20℃ ~ 50℃		
Dimension(L x W x H)	188mm x 95mm x 46.5mm		
Net weight	345g		





TK20U/TK30U (10A,20A,30A)

TK20U and TK30U With a power range of up to 30A at automatically recognized 12V or 24V, it fits to a system size of maximum 720W.

Full circuit board protection with LED display for simple recognition of battery status. Clearly marked connection ports make it possible to connect easily to solar panels, battery and load. USBs port make it convenient to charge mobile phones.

Features:

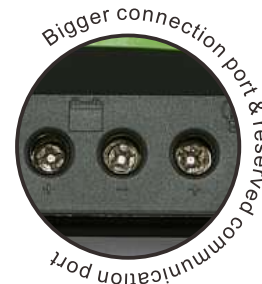
- PWM charging
- Multistage charging technology(Bulk,Absorption,Float)
- Voltage regulation
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- USB output for smart phones and tablets X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Display:

- Multi-functional LED indicators
--- 4 LEDs show system battery capacity, charging and discharging state



TK20U color: orange



TK30U color: green



LED display



12V/24V
Auto



PWM



Protections



USB Output



Temperature
compensation



Simple button
operation



Off-grid
home solar system



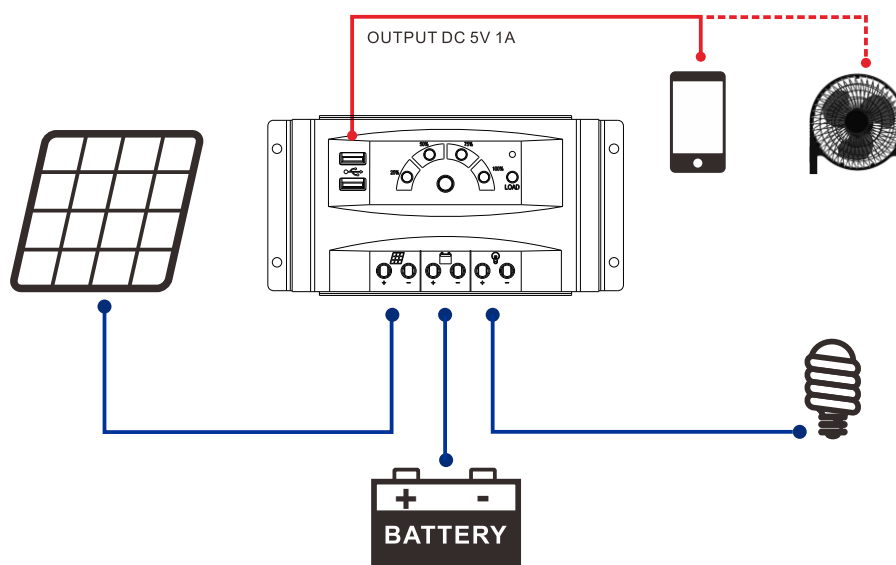
RV, boat & field power supply
solar system



Farm solar generation system

Technical Data

Model	TK20U		TK30U
System voltage	12V/24V Auto		
Rated current	10A	20A	30A
Low voltage protection	10.7V/21.4V		
Low voltage reconnecting	12.6V/25.2V		
High voltage disconnection	15.5V/31.0V		
High voltage reconnection	15.0V/30.0V		
Charge/Discharge voltage drop	<0.22V/ <0.12V		
Absorption charging voltage	14.4V/28.8V(last time:2 hours)		
Float charging voltage	13.8V/27.6V		
No load loss	≤12.5mA(USB disconnect)		
Overloading	≥1.2*rated current,60s		
	≥1.5*rated current,10s		
	≥1.8*rated current,0.2s		
USB output	5V, 1A		
Installing cables size	≤16mm ²		
Working temperature	-20℃ ~ 50℃		
Dimention(L x W x H)	188mm x 95mm x 46.5mm		
Net weight	345g		





TK40DU

(40 A)

TK series solar charge controller is a series of high cost-performance product. The controller with high reliability, accuracy of sampling and full electronic protection. PWM multi stages charging makes them more efficiency and better charging. They are with LCD display, all working data programmable. Through optional communication function (RS232 or RS485), people are able to remote monitoring and setting the system parameters.

Features:

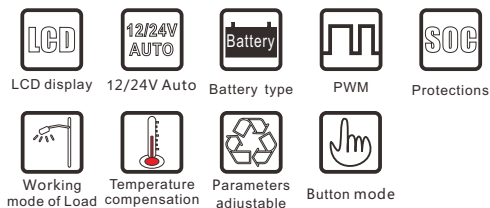
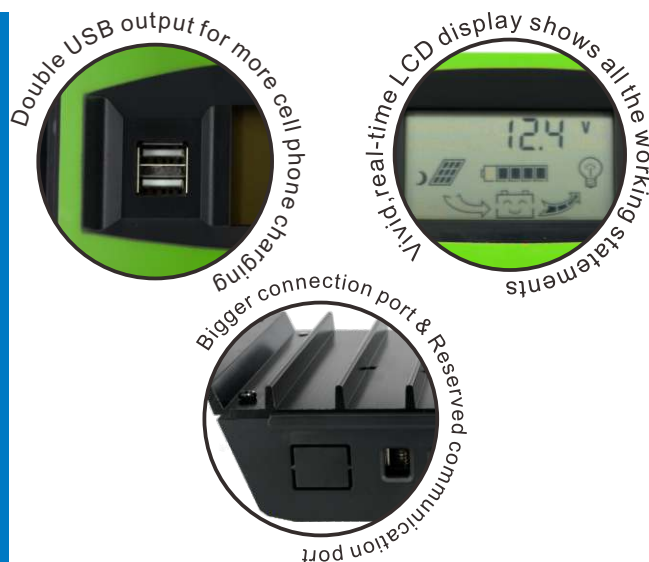
- PWM charging
- Multistage charging technology (Bulk, Absorption, Float, Equalized)
- Voltage regulation
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Various controlling modes for load (light control, time & light control, normal mode)
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Optional communication function
- USB output for smart phones and tablets X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Display:

- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



Off-grid
home solar system



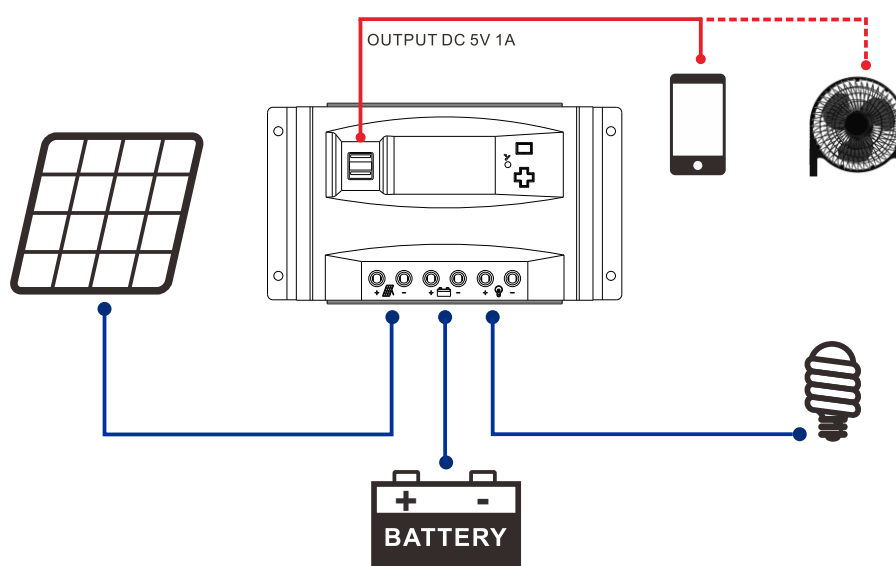
RV, boat & field power supply
solar system



Farm solar generation system

Technical Data

Model		TK40DU	TK4048D
Solar Input	Input voltage	≤50V	≤100V
	Rated input current	40A	40A
	Charge loop voltage drop	≤0.22V	≤0.25V
Battery	System voltage	12V/24V Auto	48V
	No load loss	≤14mA	≤16mA
	Battery type	Sealed,GEL,Flooded,User customized	
	Charging mode	4 stage(Bulk,Absorption,Float,Equalized),PWM	
	Float charge voltage	13.8V(13V~15V)×1/×2/×4	
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4	
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2/×4	
	Temperature compensation	-4mV/Cell/°C	
Load	Rated load current	40A	40A
	Discharge loop drop	≤0.12V	≤0.12V
	Low voltage disconnect	10.8V(10V~14V)×1/×2/×4	
	Low voltage reconnect	12.6V(10V~14V)×1/×2/×4	
	Over voltage disconnect	16.0V×1/×2/×4	
Related	Max wire size	25mm ² (AWG 3#)	
	Working temperature	-20°C~55°C	
	Working humidity	10%~90%,no condensation	
	Dimension(L×W×H)	196mm × 111mm × 54mm	
	Net weight	405g	





TK50D/TK60D (50-60 A)

TK series solar charge controller is a series of high cost-performance product. The controller with high reliability, accuracy of sampling and full electronic protection. PWM multi stages charging making them more efficiency and better charging. They are with LCD display, all working data programmable. Through optional communication function (RS232 or RS485), people are able to remote monitoring and setting the system parameters.

Features:

- PWM charging
- Multistage charging technology (Bulk, Absorption, Float, Equalized)
- Voltage regulation
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Various controlling modes for load (light control, time & light control, normal mode)
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Optional communication function

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery

Display:

- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



LCD display



12/24V Auto



Battery type



PWM



Protections



Working mode of Load



Temperature compensation



Parameters adjustable



Accumulated ampere hours



Button mode



Remote monitoring and control



Off-grid home solar system



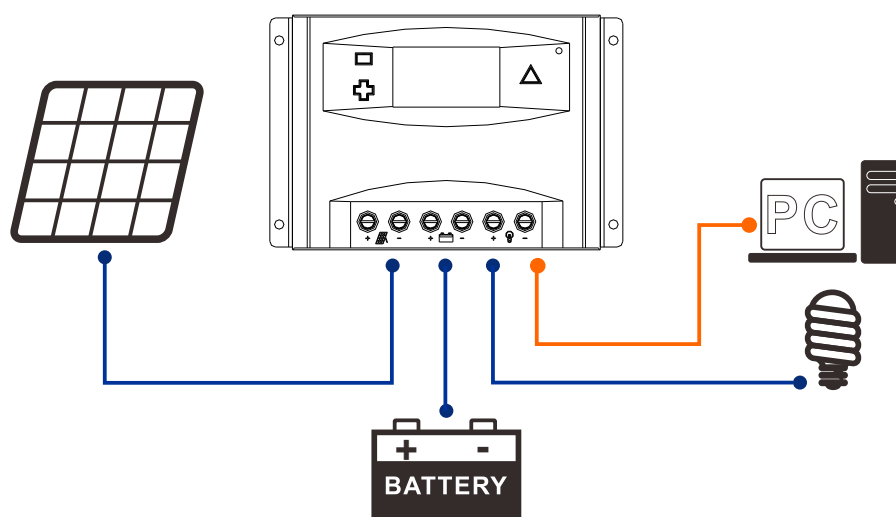
RV, boat & field power supply solar system



Farm solar generation system

Technical Data

Model		TK50D	TK60D	TK5048D	TK6048D
Solar Input	Input voltage	≤50V		≤100V	
	Rated input current	50A	60A	50A	60A
	Charge loop voltage drop	≤0.22V		≤0.25V	
Battery	System voltage	12V/24V Auto		48V	
	No load loss	≤14mA		≤16mA	
	Battery type	Sealed,GEL,Flooded,User customized			
	Charging mode	4 stages(Bulk,Absorption,Float,Equalized),PWM			
	Float charge voltage	13.8V(13V~15V)×1/×2/×4			
	Absorption charge voltage	14.4V(13V~15V)×1/×2/×4			
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2/×4			
	Temperature compensation	-4mV/Cell/°C			
Load	Rated load current	50A	60A	50A	60A
	Discharge loop drop	≤0.12V		≤0.12V	
	Low voltage disconnect	10.8V(10V~14V)×1/×2/×4			
	Low voltage reconnect	12.6V(10V~14V)×1/×2/×4			
	Over voltage disconnect	16.0V×1/×2/×4			
Related	Max wire size	25mm²(AWG 3#)			
	Working temperature	-20°C~55°C			
	Working humidity	10%~90%,no condensation			
	Dimension(L×W×H)	50A(188×125×48.5mm)/60A(188×125×56mm)			
	Net weight	560g	700g	560g	700g





CK series PWM solar charge controller

CK10DU (10A,15A)



CK10DU solar charge controller is an extension of a classic controller. The appearance of this controller is simple and clear, little red button design makes it easy to use.

The product inheriting and optimizing the classic circuit design, added USB 5V output and DC 12V output terminal, enable controller can charge cellphones and other electronic devices. Considerate solar panel, battery and load protection making this product more outstanding.

Features:

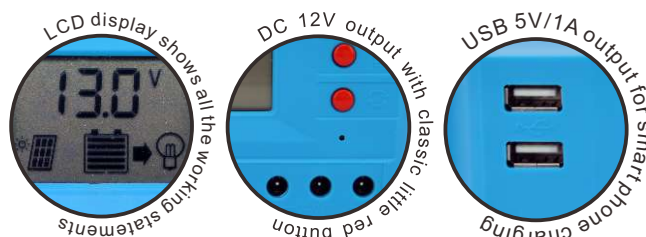
- PWM charging mode with 3 stages(bulk, absorption, float)
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Simple button operation
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Various controlling mode for load
- USB output for smart phones and tablets X 2
- DC 12V output X 2

Electronic protections:

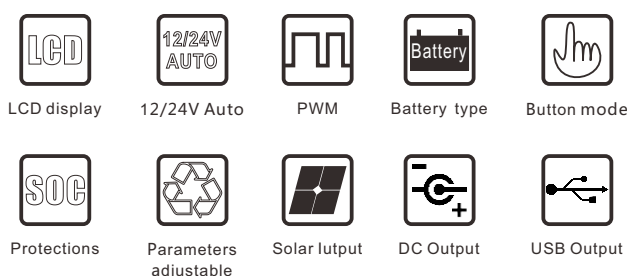
- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Displays:

- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



color optional



Easy Installing



Indoor Lighting



Camping

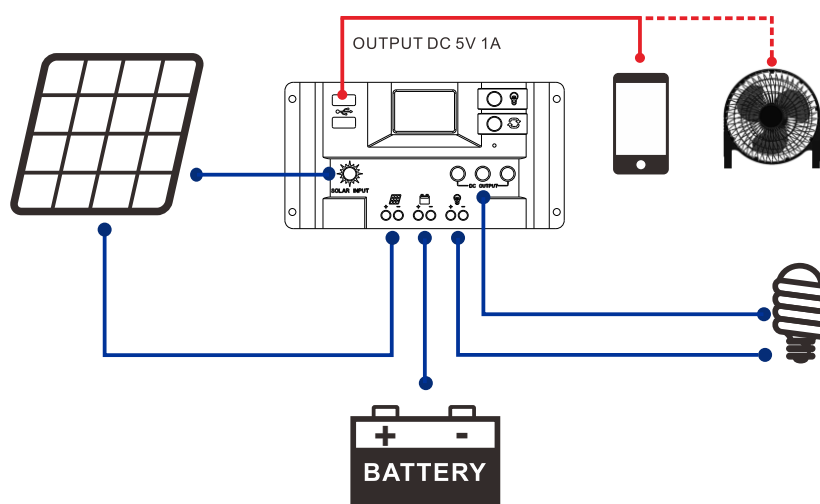


Model: CK10D_SHS_A

Packing:
CK10DU×1
3W LED Bulb with 3m cable ×3
Size:260mm*200mm*64mm
Gross weight:0.53Kg

Technical Data

Model		CK10DU
Solar Input	Input voltage	$\leq 50V$
	Rated input current	10A
	Charge loop voltage drop	$\leq 0.3V$
Battery	System voltage	12V/24V Auto
	No load loss	10.5mA(12V)/12.5mA(24V)
	Battery type	Sealed, GEL, Flooded, User customized
	Charging mode	4 stage(Bulk,Absorption,Float),PWM
	Float charge voltage	13.8V/27.6V
	Absorption charge voltage	14.4V(13V~15V) $\times 1/\times 2$
	Equalized charge voltage	14.6V(13V~15.5V) $\times 1/\times 2$
	Temperature compensation	-4mV/Cell/ $^{\circ}C$
Load	Rated load current	10A
	Discharge loop drop	$\leq 0.18V$
	Low voltage disconnect	10.8V/21.6V
	Low voltage reconnect	12.6V/25.2V
	Over voltage disconnect	16.0V/32.0V
Related	Max wire size	10mm ² (AWG 3#)
	Working temperature	-20 $^{\circ}C$ ~50 $^{\circ}C$
	Working humidity	10%~90%,no condensation
	Dimension(L×W×H)	168mm×88mm×28mm
	Net weight	220g





CK series

PWM solar charge controller

CK10U

(10 A)



CK10U solar charge controller is an extension of a classic controller. The appearance of this controller is simple and clear, little red button design makes it easy to use. The product inheriting and optimizing the classic circuit design, added USB 5V output and DC 12V output terminal, enable controller can charge cellphones and other electronic devices. Considerate solar panel, battery and load protection making this product more outstanding.

Features:

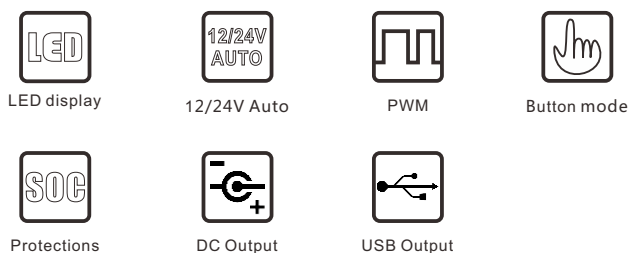
- PWM charging mode with 3 stages(bulk, absorption, float)
- Automatic detection of voltage
- Automatic load reconnection
- Simple button operation
- Preset parameters for charging and discharging (Special parameters can be customized)
- USB output for smart phones and tablets X 1
- DC 12V output X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Display:

- Multi-functional LED indicators
- 4 LEDs show system battery capacity, charging and discharging state

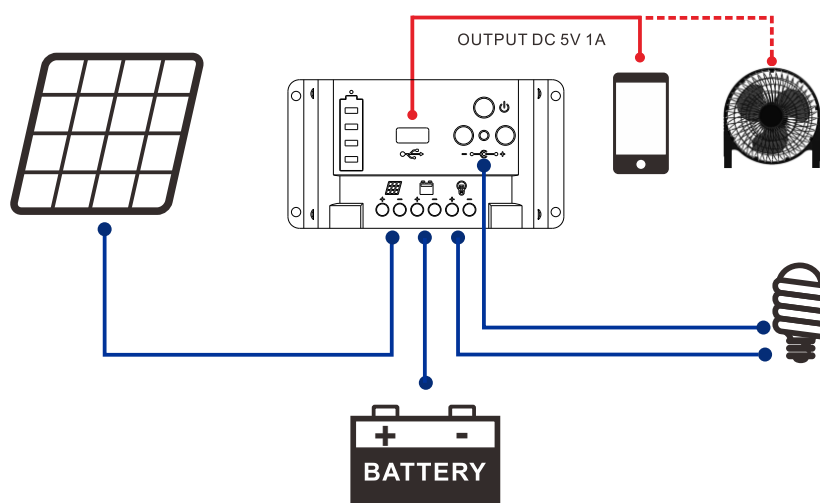


Model: CK10_SHS_A

Packing:
CK10U×1
3W LED Bulb with 3m cable ×2
Size:235mm×150mm×63mm
Gross weight:0.3Kg

Technical Data

Model	CK10U	
System voltage	12V/24V Auto	
Rated current	5A	10A
No load loss	≤12mA(USB disconnect)	
Charging mode	PWM	
Float charging voltage	13.8V/27.6V	
Absorption voltage	14.4V/28.8V(lasting time: 2 hours)	
Charging(Discharging) circuit voltage drop	<0.2V (<0.1V)	
Low voltage protection	10.7V/21.4V	
Low voltage reconnecting	12.6V/25.2V	
Overloading	≥ 1.2*rated current, 60s	
	≥ 1.5*rated current, 10s	
	≥ 1.8*rated current, 10s	
USB output	5V, 1A	
Installing cables size	AWG24 ~ AWG12	
Working temperature	-20℃ ~ 50℃	
Dimention(L x W x H)	119mm x 64mm x 26mm	
Weight	123g	





CK20U/CK20DU CK30U/CK30DU (10A,20A,30A)

CK series controller is a new multi-functional solar charge controller with high cost performance. Its creative design facilitates your installation and application. The battery service life lasts much longer due to the optimized charge and discharge system. This series is provided with LED and LCD display for your choice. The LED style shows you clearly the charge status and its parameters has been preset for you. The LCD style, the big screen displays the simplified graphics with all the necessary parameters, clear and understandable.

Features for LED indicator controllers:

- Intuitionistic LED indicators show the current system battery capacity, charging and discharging state of the battery.
- Protection against overcharging, over discharging, overload and reversed connection.
- PWM charging method makes the charging efficiency increased by 3% to 6%, compared with non-PWM charging.
- The parameters of charging and discharging have been set during the production (special parameters need to be told in advance), so no need to adjust the parameters.

Features for LCD display controllers:

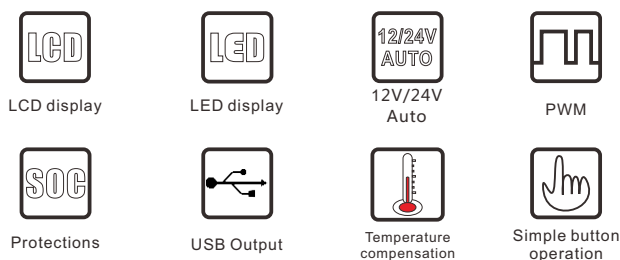
- Vivid LCD graphic symbols.
- Battery reverse-discharge protection, battery low voltage disconnection(LVD), battery reverse connection protection, over-current protection.
- Simple button operation makes it easy to set the operation mode of load.
- PWM charging mode with 4 stages(bulk, absorption, float and equalized).
- Adaptable to Sealed, GEL, Flooded and other customized battery type.
- Automatic identification of system voltage level.
- Adjustable charge-discharge parameters.
- Automatic temperature compensation.

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Display:

- Multi-functional LED indicators
- 4 LEDs show system battery capacity, charging and discharging state
- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



Off-grid
home solar system



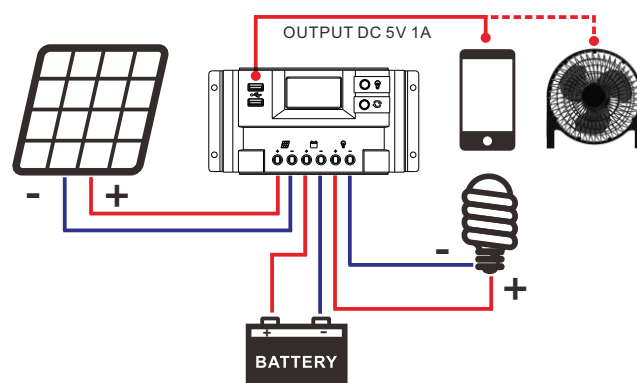
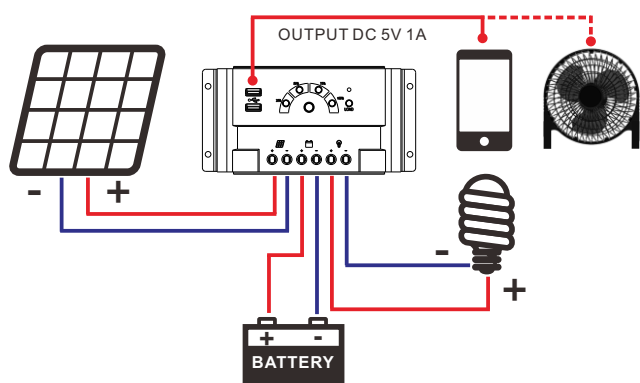
RV, boat & field power supply
solar system



Farm solar generation system

Technical Data

Model	CK20U CK20DU		CK30U CK30DU
System voltage	12V/24V Auto		
Rated current	10A	20A	30A
Low voltage protection	10.7V/21.4V		
Low voltage reconnecting	12.6V/25.2V		
High voltage disconnection	15.5V/31.0V		
High voltage reconnection	15.0V/30.0V		
Charge/Discharge voltage drop	<0.22V/ <0.12V		
Absorption charging voltage	14.4V/28.8V(last time:2 hours)		
Float charging voltage	13.8V/27.6V		
No load loss	≤12.5mA(USB disconnect)		
Overloading	≥1.2*rated current,60s		
	≥1.5*rated current,10s		
	≥1.8*rated current,0.2s		
USB output	5V, 1A		
Installing cables size	≤16mm ²		
Working temperature	-20℃ ~ 50℃		
Dimention(L x W x H)	188mm x 95mm x 46.5mm		
Net weight	345g		



CK40DU (40 A)



CK series solar charge controller is an extension of a series of classic controller. The appearance of this series controller is simple and clear, little red button design makes them easy to use.

The products following and optimizing the classic circuit design, add USB 5V output terminal make controllers able to charge cellphones and other electronic devices. Considerate solar panel, battery and load protection making this product more outstanding.

Features:

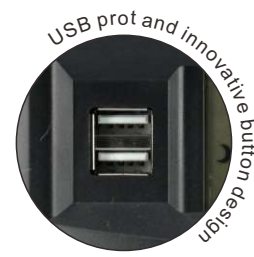
- PWM charging
- Multistage charging technology (Bulk, Absorption, Float, Equalized)
- Voltage regulation
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Various controlling modes for load (light control, time & light control, normal mode)
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Optional communication function
- USB output for smart phones and tablets X 2

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Display:

- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



LCD display



12/24V Auto



Battery type



PWM



Protections



Working mode of Load



Temperature compensation



Parameters adjustable



Button mode



Off-grid home solar system



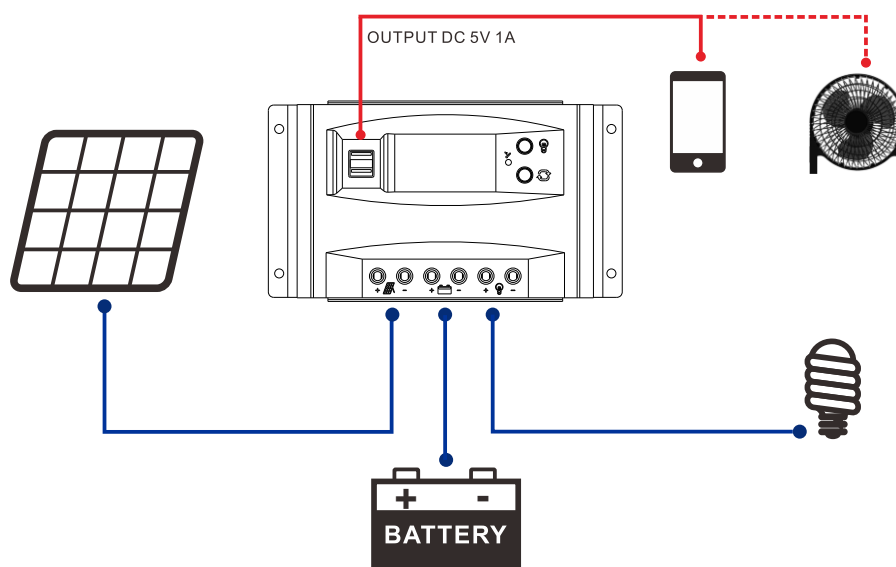
RV, boat & field power supply solar system



Farm solar generation system

Technical Data

Model		CK40DU
Solar Input	Input voltage	$\leq 50V$
	Rated input current	40A
	Charge loop voltage drop	$\leq 0.22V$
Battery	System voltage	12V/24V Auto
	No load loss	$\leq 14mA$
	Battery type	Sealed,GEL,Flooded,User customized
	Charging mode	3 stage(Bulk,Absorption,Floatd) PWM
	Float charge voltage	13.8V(13V~15V) $\times 1/\times 2$
	Absorption charge voltage	14.4V(13V~15V) $\times 1/\times 2$
	Equalized charge voltage	14.6V(13V~15.5V) $\times 1/\times 2$
Load	Temperature compensation	-4mV/Cell/ $^{\circ}C$
	Rated load current	40A
	Discharge loop drop	$\leq 0.12V$
	Low voltage disconnect	10.8V(10V~14V) $\times 1/\times 2$
	Low voltage reconnect	12.6V(10V~14V) $\times 1/\times 2$
Related	Over voltage disconnect	16.0V $\times 1/\times 2$
	Max wire size	25mm ² (AWG 3#)
	Working temperature	-20 $^{\circ}C$ ~55 $^{\circ}C$
	Working humidity	10%~90%,no condensation
	Dimension(L×W×H)	196mm×111mm×54mm
Related	Net weight	405g





CK50D&CK60D (50-60A)

CK series solar charge controller is an extension of a series of classic controller. The appearance of this series controller is simple and clear, little red button design makes them easy to use. The products following and optimizing the classic circuit design. Considerate solar panel, battery and load protection making this product more outstanding.

Features:

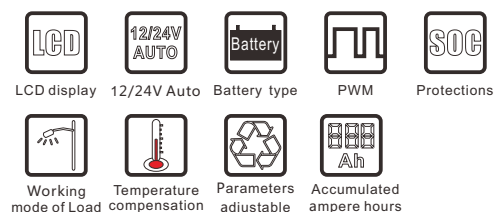
- PWM charging
- Multistage charging technology (Bulk, Absorption, Float, Equalized)
- Voltage regulation
- Automatic detection of voltage
- Automatic load reconnection
- Automatic temperature compensation
- Various controlling modes for load (light control, time & light control, normal mode)
- Adaptable to Sealed, Gel, Flooded and other customized battery type
- Preset parameters for charging and discharging (Special parameters can be customized)
- Optional communication function

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery

Display:

- Vivid LCD graphic symbols
- presents working status and related parameters explicitly



Off-grid
home solar system



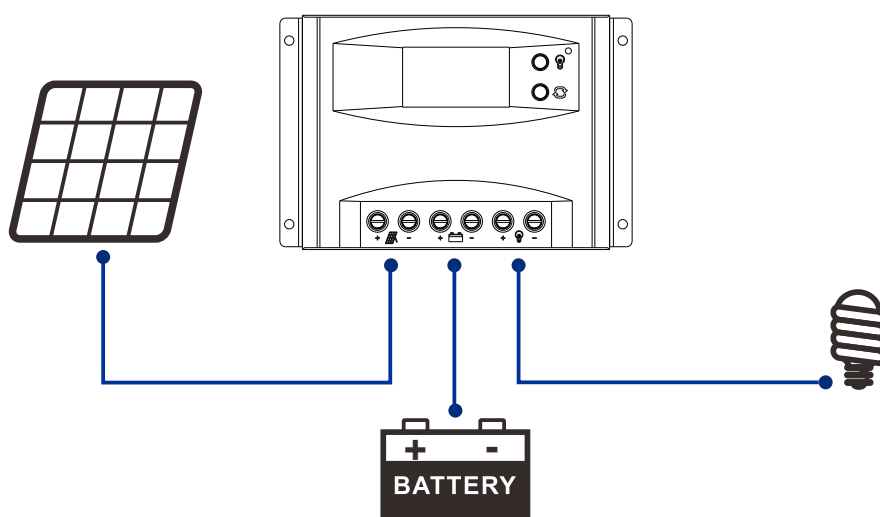
RV, boat & field power supply
solar system



Farm solar generation system

Technical Data

Model		CK50D	CK60D
Solar Input	Input voltage	$\leq 50V$	
	Rated input current	50A	60A
	Charge loop voltage drop	$\leq 0.22V$	
Battery	System voltage	12V/24V Auto	
	No load loss	$\leq 14mA$	
	Battery type	Sealed,GEL,Flooded,User customized	
	Charging mode	3 stage(Bulk,Absorption,Float) PWM	
	Float charge voltage	13.8V(13V~15V) $\times 1/\times 2$	
	Absorption charge voltage	14.4V(13V~15V) $\times 1/\times 2$	
	Equalized charge voltage	14.6V(13V~15.5V) $\times 1/\times 2$	
	Temperature compensation	$-4mV/Cell/^{\circ}C$	
Load	Rated load current	50A	60A
	Discharge loop drop	$\leq 0.12V$	
	Low voltage disconnect	10.8V(10V~14V) $\times 1/\times 2$	
	Low voltage reconnect	12.6V(10V~14V) $\times 1/\times 2$	
	Over voltage disconnect	16.0V $\times 1/\times 2$	
Related	Max wire size	25mm ² (AWG 3#)	
	Working temperature	$-20^{\circ}C \sim 55^{\circ}C$	
	Working humidity	10%~90%,no condensation	
	Dimension(L×W×H)	50A(188×125×48.5mm)/60A(187×125×56mm)	
	Net weight	565g	715g





HF110&HF120 (10-20A)

HF series solar charge controller is a newly designed controller. It offers convenient display of LED and LCD, optimized structure design, advanced digital technique and extremely attractive price.

The multiple load work modes enable it can be widely used on solar home system, traffic signal, solar street light, solar garden lamp, etc.

Features:

- PWM charging
- Use MOSFET as electronic switch
- Intuitive LED indicators showing battery voltage and charging status
- Manual control the output of the load
- Industrial grade design
- USB output 5VDC

Electronic protections:

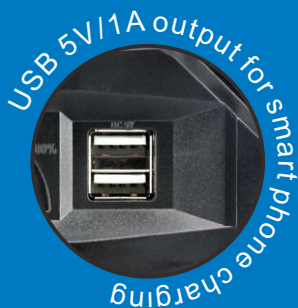
- Battery over charge protection
- Battery over discharge protection
- Over load protection
- Reverse current protection at night
- Reverse connection protection of battery
- Overheat protection and short circuit protection of USB output

Display:

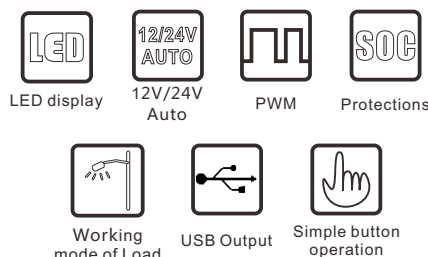
- Multi-functional LED indicators
- 4 LEDs show system battery capacity, charging and discharging status



LED indicator shows battery capacity



USB 5V/1A output for smart phone charging



Model: HF110



Rated Voltage: 12V/24V Auto identified
Rated Current: 5A, 10A
USB Port: 5V, 1A × 2

Packing info: 50pcs/carton
Carton size: 415mm×305mm×230mm
Volume: 0.029m³

Model: HF120

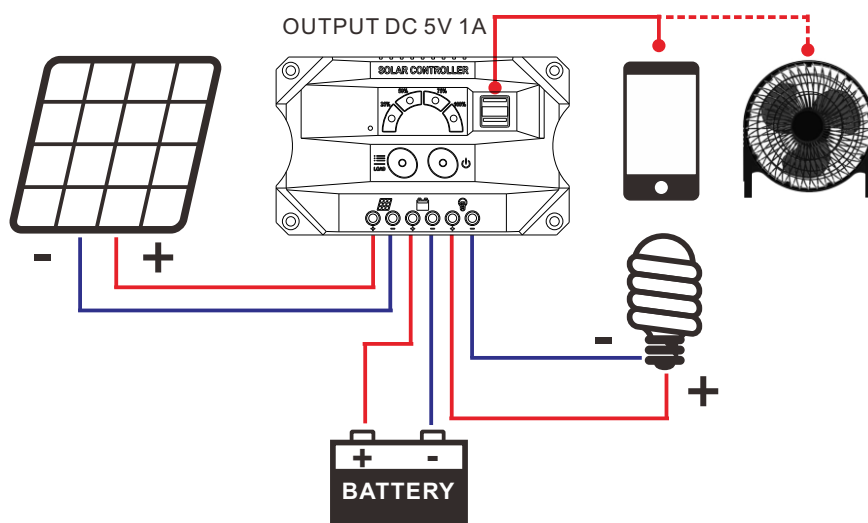


Rated Voltage: 12V/24V Auto identified
Rated Current: 20A, 30A
USB Port: 5V, 1A × 2

Packing info: 40pcs/carton
Carton size: 465mm×320mm×210mm
Volume: 0.031m³

Technical Data

Model		HF110	HF120
Solar Input	Input voltage	$\leq 50V$	
	Rated input current	10A	20A
	Charge loop voltage drop	$\leq 0.22V$	
Battery	System voltage	12V/24V Auto	
	No load loss	$\leq 12.5mA(12V), \leq 14.5mA(24V)$	
	USB output	5V/1A	
	Charging mode	PWM	
	Float charge voltage	13.8V/27.6V	
	Absorption charge voltage	14.4V/28.8V(last time:2 hours)	
Load	Rated load current	10A	20A
	Discharge loop drop	$\leq 0.12V$	
	Low voltage disconnect	10.8V/21.6V	
	Low voltage reconnect	12.6V/25.2V	
	Over loading protection	$> 1.2 \times \text{rated current}$	
Related	Max wire size	6mm ² ~16mm ²	
	Working temperature	-10°C~50°C	
	Working humidity	10%~90%,no condensation	
	Dimension(L×W×H)	130mm×75mm×38mm	140mm×85mm×42.5mm
	Net weight	172g	227g





HF110D~HF130D (10-30A)

HF series solar charge controller is a newly designed controller. It offers convenient display of LED and LCD, optimized structure design, advanced digital technique and extremely attractive price.

The multiple load work modes enable it can be widely used on solar home system, traffic signal, solar street light, solar garden lamp, etc.

Features:

- PWM charging
- Use MOSFET as electronic switch
- LCD screen showing all parameters of the solar system
- Manual control the output of the load
- Industrial grade design
- USB output 5VDC

Electronic protections:

- Battery over charge protection
- Battery over discharge protection
- Over load protection
- Reverse current protection at night
- Reverse connection protection of battery
- Overheat protection and short circuit protection of USB output

Display:

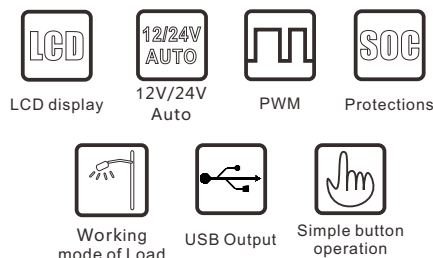
- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



LED indicator shows battery capacity



USB 5V/1A output for smart phone charging



Model: HF110D



Rated Voltage: 12V/24V Auto identified
Rated Current: 5A, 10A
USB Port: 5V, 1A × 2

Packing info: 50pcs/carton
Carton size: 415mm×305mm×230mm
Volume: 0.029m³

Model: HF120D



Rated Voltage: 12V/24V Auto identified
Rated Current: 20A
USB Port: 5V, 1A × 2

Packing info: 40pcs/carton
Carton size: 465mm×320mm×210mm
Volume: 0.031m³

Model: HF130D



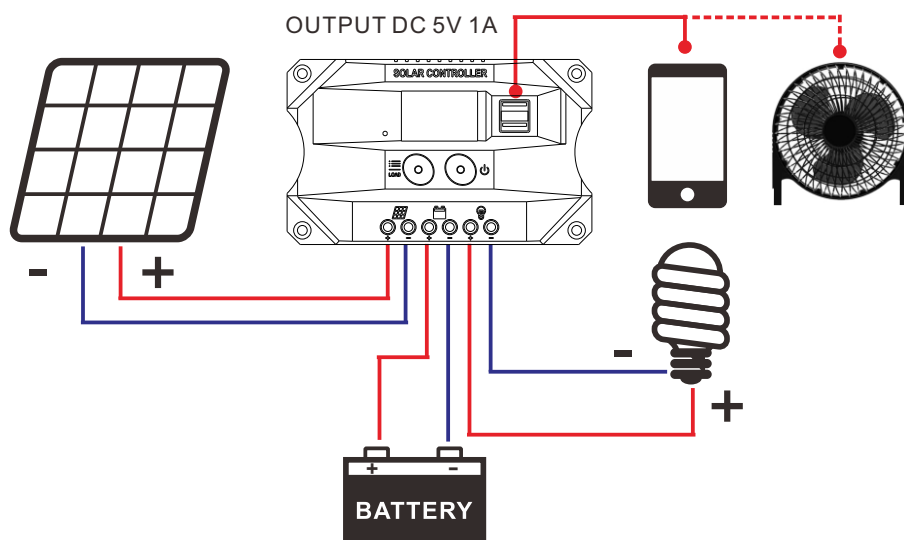
Bigger connector!!

Rated Voltage: 12V/24V Auto identified
Rated Current: 30A
USB Port: 5V, 1A × 2

Packing info: 30pcs/carton
Carton size: 515mm×360mm×165mm
Volume: 0.031m³

Technical Data

Model		HF110D	HF120D	HF130D
Solar Input	Input voltage	$\leq 50V$		
	Rated input current	10A	20A	20A
	Charge loop voltage drop	$\leq 0.3V$		
Battery	System voltage	12V/24V Auto		
	No load loss	$\leq 12mA(12V), \leq 14mA(24V)$		
	USB output	5V/1A		
	Charging mode	PWM		
	Float charge voltage	13.8V(13V~15V)×1/×2		
	Absorption charge voltage	14.4V(13V~15V)×1/×2		
	Equalized charge voltage	14.6V(13V~15.5V)×1/×2		
	Temperature compensation	-4mV/Cell/°C		
Load	Rated load current	10A	20A	30A
	Discharge loop drop	$\leq 0.18V$		
	Low voltage disconnect	10.8V/21.6V		
	Low voltage reconnect	12.6V/25.2V		
	Over voltage disconnect	16.0V/32.0V		
Related	Max wire size	6mm ² ~16mm ²		
	Working temperature	-10°C~50°C		
	Working humidity	10%~90%,no condensation		
	Dimension(L×W×H)	130mm×75mm×38mm	140mm×85mm×42.5mm	160mm×95mm×45mm
	Net weight	175g	230g	327g



SMPPT series

(10-30 A)



Features:

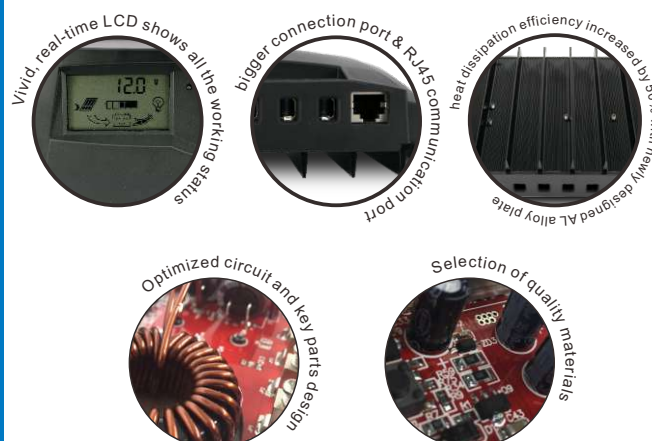
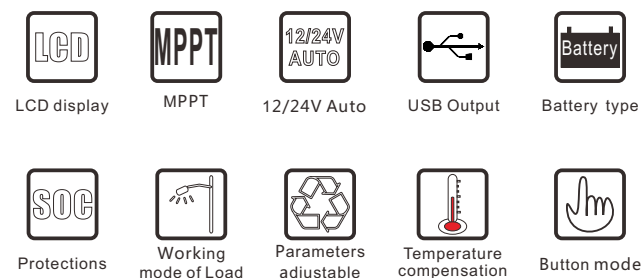
- DSP processors architecture ensure high speed and performance
- MPPT efficiency>99%, Peak conversion efficiency>98%
- 12V/24V/36V/48V auto work
- PV input:75V or 125Vmax
- Four-stages charging mode
- USB output(only 10A)
- LCD display

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery
- Overheat protection and short circuit protection of USB output

Displays:

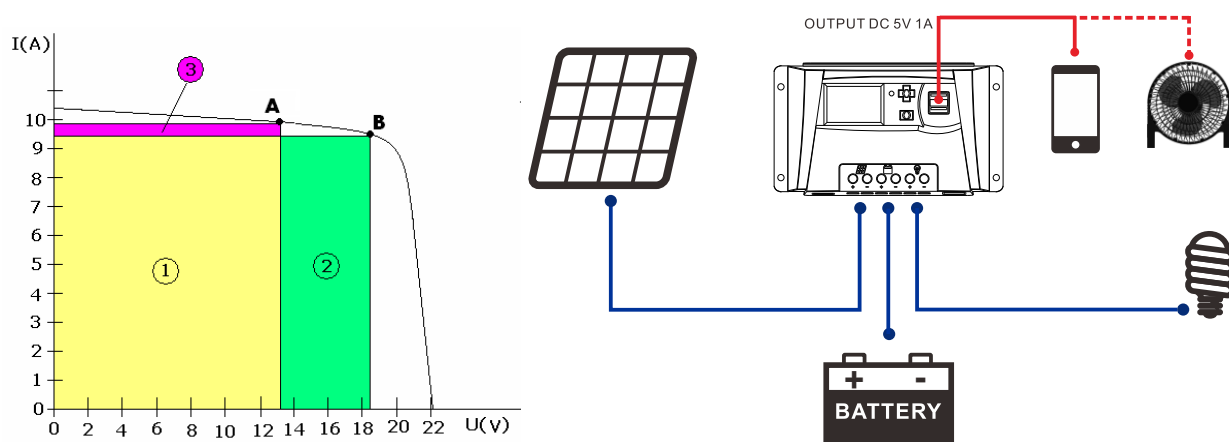
- Vivid LCD graphic symbols
---presents working status and related parameters explicitly



MPPT introduction

MPPT means maximum power point tracking. MPPT technology is the technology to track the maximum power point of the solar panels.

Under a certain condition of temperature and light, the I-V curve of the solar panels is as the right chart. The output power of solar panel is product of I and V, which means rectangular area of the points on I-V curve for solar panels. See the right chart, when the solar panels work at point A, the output power is $P_a=1 \times 3$; when solar panels work at point B, the output power is $P_b=1 \times 2$. Obviously, we can see $P_b > P_a$. The purpose of MPPT technology is to keep the solar panels always working at point B when the outer conditions change.



Technical Data

Model	SMPPT10D		SMPPT20D		SMPPT30D	
Default Battery System Voltage	12V/24V DC (adjustable)				12V/24V/36V/48V DC (adjustable)	
CONTROLLER INPUT						
PV Open Circuit Voltage	75V		125V	75V	125V	
Max PV Input Power(12V)	150W	300W	450W	600W	600W	800W
Max PV Input Power(24V)	300W	600W	900W	1200W	1200W	1600W
Max PV Input Power(36V)	—		—		1800W	2400W
Max PV Input Power(48V)	—		—		2400W	3200W
BATTERY						
Absorption Voltage	14.6VDC/29.2VDC				14.6VDC/29.2VDC/43.8VDC/58.4VDC	
Refolat Voltage	14.4VDC/28.8VDC				14.4VDC/28.8VDC/43.2VDC/57.6VDC	
Float Voltage	13.8VDC/27.6VDC				13.8VDC/27.6VDC/41.4VDC/55.2VDC	
Low Voltage Protection Point	10.5VDC/21.0VDC				10.5VDC/21.0VDC/31.5VDC/42.0VDC	
DC OUTPUT						
Output Voltage	11.0~14.3VDC/22.0~28.6VDC				11.0-14.3VDC/22.0-28.6VDC/ 33-42.9VDC/44-57.4VDC	
Max Charging Current	10A	20A	30A	40A	50A	60A
Peak Conversion Efficiency	98%(MPPT Efficiency 99%)					
Low Voltage Alarm	11.5VDC/23.0VDC				11.5VDC/23.0VDC/34.5VDC/46.0VDC	
Low Voltage Cutoff	10.5VDC/21.0VDC				10.5VDC/21.0VDC/31.5VDC/42.0VDC	
Low Voltage Recovery	12.6VDC/25.2VDC				11.5VDC/23.0VDC/34.5VDC/46.0VDC	
Charge Mode	MPPT,PWM,constant current-constant voltage,function of automatic protection for storage battery					
Radiating Mode	Automatic cooling					
Working Mode	Four stage:Absorption CC,Absorption CV,Float CC,Float CV					
DISPLAY & PROTECTION						
LCD Display	Charge voltage,Charge current,Battery voltage,Battery capacity,Output current					

eMPPT series

(40-90 A)



Features:

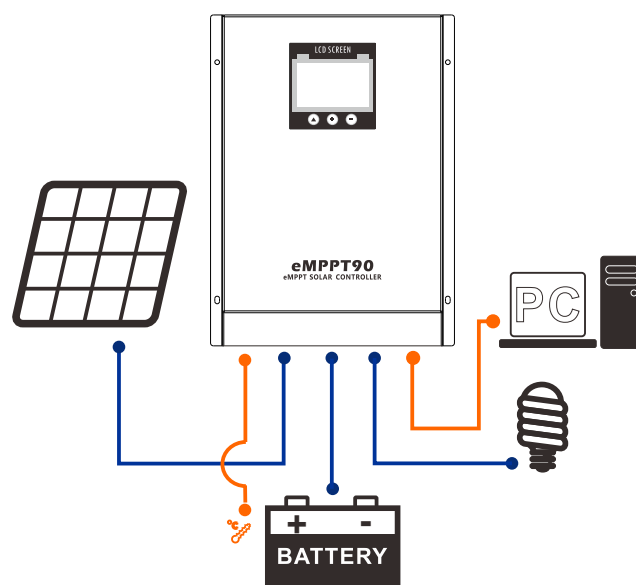
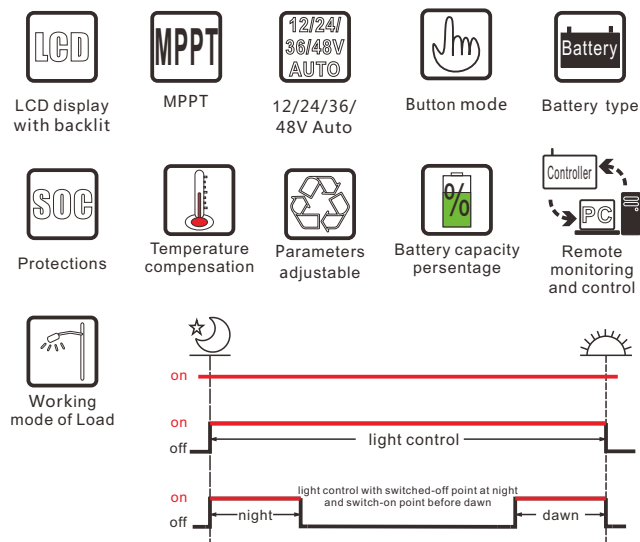
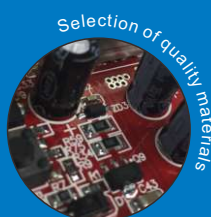
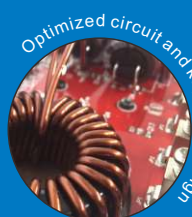
- DSP processors architecture ensure high speed and performance
- MPPT efficiency>99%, Peak conversion efficiency>98%
- 12V/24V/36V/48V auto work
- PV input:75V or 150Vmax
- Four-stages charging mode
- Battery type options: Sealed, Gel, Flooded and User
- LCD display
- RS485 port with industrial standard MODBUS open architecture
- Multiple load control modes

Electronic protections:

- Over charge protection
- Over discharge protection
- Over temperature and over load protection
- Automatic electronic fuse
- Short circuit protection of load and PV
- Input over voltage protection
- Reverse current protection at night
- Reverse connection protection of PV, load, and battery

Displays:

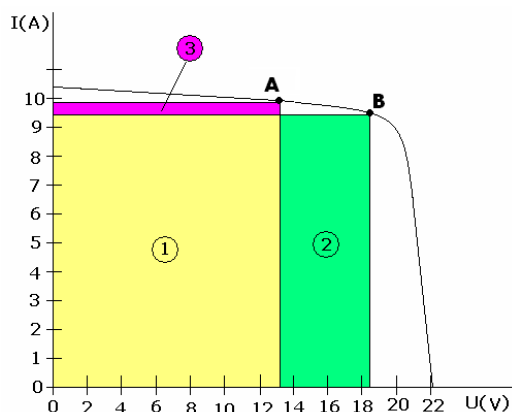
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MPPT introduction

MPPT means maximum power point tracking. MPPT technology is the technology to track the maximum power point of the solar panels.

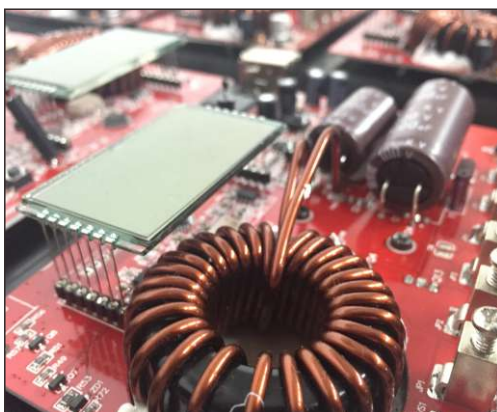
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Technical Data

Model	eMPPT40	eMPPT60	eMPPT90
Default Battery System Voltage	12V/24V/36V/48V DC (adjustable)		
CONTROLLER INPUT			
PV Maximum Open Circuit Voltage	150V		
PV Minimum Open Circuit Voltage	20V/40V/60V/80V		
BATTERY			
Equalization Voltage	14.6VDC/29.2VDC/43.8VDC/58.4VDC		
Absorption Voltage	14.4VDC/28.8VDC/43.2VDC/57.6VDC		
Float Voltage	13.8VDC/27.6VDC/41.4VDC/55.2VDC		
Low Voltage Protection Point	10.8VDC/21.6VDC/32.4VDC/43.2VDC		
DC OUTPUT			
Output Voltage	11.0-14.3VDC/22.0-28.6VDC/ 33-42.9VDC/44-57.4VDC		
Max Charging Current	40A	60A	90A
Peak Conversion Efficiency	98%(MPPT Efficiency 99%)		
Low Voltage Alarm	11.5VDC/23.0VDC/34.5VDC/46.0VDC		
Low Voltage Cutoff	10.5VDC/21.0VDC/31.5VDC/42.0VDC		
Low Voltage Recovery	12.6VDC/25.2VDC/37.8VDC/50.4VDC		
Charge Mode	MPPT,PWM,constant current-constant voltage,function of automatic protection for storage battery		
Radiating Mode	Automatic cooling		
Working Mode	Four stage: Bulk, Float, Absorption, Equalization		
DISPLAY & PROTECTION			
LCD Display	Charge voltage, Charge current, Battery voltage, Battery capacity, Output current		

eMPPT series



HANFSOLAR-CK SERIES

3-stage PWM Charging Mode
 CK10U-CK60DU, Regular PWM controllers with LED or LCD display
 5A-60A, 12V/24V Auto work

HANFSOLAR-TK SERIES

number: ZL201630017042.6, ZL201630015526.7, ZL201630016539.6,
 ZL201630016204.4, ZL201630015815.7
 3-stage PWM Charging Mode TK20U-TK60DU,
 Regular PWM controllers with LED or LCD display
 10A-60A, 12V/24V Auto work or 48V
 Optional function: external temperature sensor and remote communication

HANFSOLAR-SK SERIES

Patent number: ZL201530295507.X
 4-stage PWM Charging Mode
 SK10DU-SK80DU, Regular PWM controllers with LCD display
 10A-100A, 12V/24V/36V/48V Auto work
 Optional function: external temperature sensor and remote communication
 Note: Patented products, all rights reserved.

HANFSOLAR-SMPPT SERIES

4-stage MPPT Charging Mode, efficiency is very high.
 SMPPT10D-SMPPT40D, Regular MPPT solar controllers with LCD display
 10A-40A, 12V/24V Auto work or 48V
 Optional function: external temperature sensor and remote communication

武汉汉非科技有限公司

工厂地址：武汉市经济开发区民营科技工业园东区1号门A栋4楼

联系电话：027-84750618

电子邮箱：info@hanfsolar.com

网址：www.hanfsolar.com

WUHAN HANFEI SCIENCE AND TECHNOLOGY CO.,LTD

Address：4th Flr, #A Bld, Minying Science & Technology Industrial
Park, Wuhan Eco-Tech Development Zone, Hubei, China.

Tel：+86-27-84750618

e-mail：info@hanfsolar.com

website：www.hanfsolar.com

