

Introduction

This is a [solar charge controller 40A ~60A](#) that have automatic max. power point tracking function with high efficiency that almost 30%~60% higher than traditional charge controller. It also features the functions of system

voltage auto recognition, wide rang of PV input ,charge for all kinds of battery,automatic discharge control,RS 232 / LAN communication function and so on. It is very high-end product for solar market with its best partner [I-P-TPI2 model Inverter/Charger/UPS](#).

Feature

1. [MPPT charge](#) mode,conversion efficiency upto 99%
2. 12V/24V/48V system auto recognize;
3. Wide range of PV input with max. is DC150V .
4. Unlimited parallel connection
5. Journal function , Save function set ,Date ,time ,Generating capacity and so on .
6. Charge mode: three stages (fast charge ,constant charge ,floating charge) .It prolongs service life of the batteries .
7. Discharge mode: ON/OFF mode, double time control mode,PV voltage control mode ,PV voltage+time delay mode and so on .
8. Recommended battery types: sealed lead acid, vented, gel, NiCd battery. Other types of the batteries can also be defined.
9. Most information could be provide by LCD and LED like: model no.,PV input voltage,battery type,battery voltage,charging current,charging power,working status and so on. Also customer's information like company name,website and logo can be added into Solar Eagle software.
10. RS232 and LAN communication port. IP and Gate address could be user define it satisfy global area.And communication protocol can be provided to help customer manage all information .
11. The upper computer software is displayed in 11 languages, it could show work status and set parameters of the discharge system.
12. With intelligent design,the device can be upgraded online lifelong.
13. Adopting the well-known brand components,the devices can suffer the temperature not less than 105°C.The service life is designed to use for 10 years in theory.
14. Compliance with the 2002/95/EC environment protecting demand, doesn't include the Cadmium, hydride and fluoride etc material
15. Equipment integrity: controller + CD-ROM(microcomputer software) + communication wire + temperature sensing wire+Anderson terminals;
16. CE,ROHS certifications approved.

Parameter

Model:I-P-SMART2-40A/50A/60A -series	40A	50A	60A
Charge Mode	Maximum Power Point Tracking		
Method	3 stages: fast charge(MPPT),constant voltage, floating charge		
System Type	DC12V/24V/48V	Automatic recognition	
System Voltage	12V system	DC9V~DC15V	
	24V system	DC18V~DC30V	
	48Vsystem	DC36V~DC60V	

Soft Start Time	12V/24V/48Vsystem	≤10S		
Dynamic Response Recovery Time	12V/24V/48Vsystem	500us		
Conversion Efficiency	12V/24V/48Vsystem	≥96.5%, ≤99%		
PV Modules Utilization Rate	12V/24V/48Vsystem	≥99%		
Input Characteristics				
MPPT Working Voltage and Range	12V system	DC18V~DC150V		
	24V system	DC34~DC150V		
	48V system	DC65~DC150V		
Low Voltage Input Protection Point	12V system	DC16V		
	24V system	DC30V		
	48V system	DC60V		
Low Voltage Input Recovery Point	12V system	DC22V		
	24V system	DC34V		
	48V system	DC65V		
Max DC Voltage	12V/24V/48Vsystem	DC160V		
Input Overvoltage Protection Point	12V/24V/48Vsystem	DC150		
Input Overvoltage Recovery Point	12V/24V/48Vsystem	DC145V		
Max. PV Power	12V system	570W	700W	900W
	24V system	1130W	1400W	1700W
	48V system	2270W	2800W	3400W
Output Characteristics				
Selectable Battery Types (Default type is GEL battery)	12V/24V/48Vsystem	Sealed lead acid, vented, Gel, NiCd battery (Other types of the batteries also can be defined)		
Constant Voltage	12V/24V/48Vsystem	Please check the charge voltage according to the battery type form.		
Floating Charge Voltage	12V/24V/48Vsystem			
Over Charge Protection Voltage	12V system	14.6V		
	24V system	29.2V		
	48V system	58.4V		
Rated Output Current	12V/24V/48Vsystem	40A	50A	60A
Current-limiting Protection	12V/24V/48Vsystem	44A	55A	66A
Rate charge current	12V/24V/48VSystem	40A	50A	60A
Temperature Factor	12V/24V/48Vsystem	±0.02%/°C		
Temperature Compensation	12V/24V/48Vsystem	14.2V-(The highest temperature-25°C)*0.3		
Output Ripples(peak)	12V/24V/48Vsystem	200mV		
Output Voltage Stability Precision	12V/24V/48Vsystem	≤±1.5%		
Charge voltage Peak-Peak Ripple	12V/24V/48VSystem	200mV		
Charger voltage accuracy	12V/24V/48VSystem	≤±1.5%		
Discharge characteristic				
Setting Control	Controller or LAN			
Max discharge current	12V/24V/48VSystem	40A		
Discharge protection	12V/24V/48VSystem	fuse 30A*2		
Double-time control	12V/24V/48VSystem	On in morning ,off in morning / On in night ,off in night		
ON / OFF mode	12V/24V/48VSystem	ON / OFF		
PV voltage control	12V/24V/48VSystem	PV voltage on□PV voltage off		
PV voltage / time delay control	12V/24V/48VSystem	PV voltage on□time delay off		
Discharge voltage protection	12V/24V/48VSystem	Output off when it under setting voltage; Factory set is 10.5 .(Note : set based on 1 battery)		
Communication Features				
RS232 Communication	12V/24V/48VSystem	Chose COM communication		
LAN Communication	12V/24V/48VSystem	Set IP and Gate address for controller and solar eagle ;Then chose TCP communication		
Protection				
Input Low Voltage Protection	Check the input characteristics			
Input Overvoltage Protection	Check the input characteristics			
Input Polarity Reversal Protection	yes			
Output Overvoltage Protection	Check the output characteristics			
Output Polarity Reversal Protection	yes			
Short-circuit Protection	Recover after eliminating the Short-circuit fault, no problem for long term Short-circuit			
Temperature Protection	95°C			
Temperature protection	Above 85°C,decrease the output power, decrease 3A per degree.			
Other Parameters				
Noise	≤40dB			

Thermal methods	Forced air cooling, fan speed rate regulated by temperature, when inner temperature is too low, fan ran slowly or stop; when controller stop working, fan also stop ran.
Components	World brand raw materials. Compliance with EU standards. All rated temperature of electrolytic capacitors not less than 105°C
Smell	No peculiar smell and toxic substances.
Environment Protection	Meet the 2002/95/EC,no cadmium hydride and fluoride
Physical	
Measurement DxWxH (mm)	270*185*90
N.G(kg)	3
G.N(kg)	3.6
Color	Blue/Green (optional)
Safety	CE, RoHS, PSE,FCC
EMC	EN61000
Type of Mechanical Protection	IP21
Environment	
Humidity	0~90%RH (no condense)
Altitude	0~3000m
Operating Temperature	-20°C ~ +40°C
Storage Temperature	-40°C ~ +75°C
Atmospheric Pressure	70~106kPa

Note: OEM and ODM service are provided. The 36V/72V/96V model also can be custom made for you.

Product Parts

NO.	Quantity	Description
1	1 unit	Charge controller
2	2 pc	Terminals
3	2 pc	Gallow pulley (For install the controller on the wall)
4	4 set	Screw (For install the controller on the wall)
5	1 pc	232 turn to RJ45 communication cable
6	1 pc	User manual
7	1 pc	Temperature sensing wire
8	2 pc	Fuse wire



Blue



Green



Upper Computer Software



Parts



Package

Upper Computer Software and Test Software



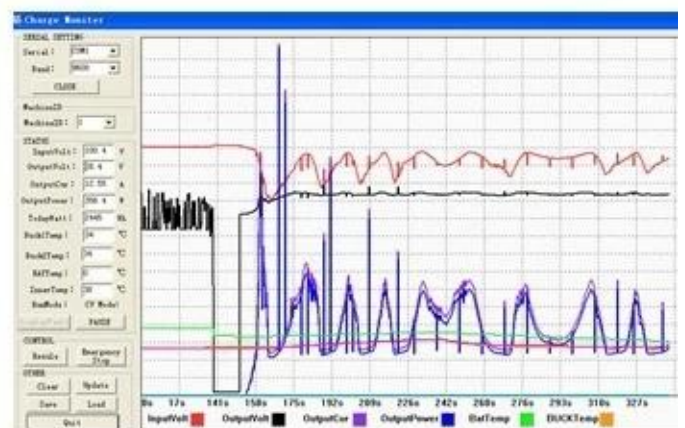
The interface of upper computer software working state



The interface of upper computer software parameter setting state

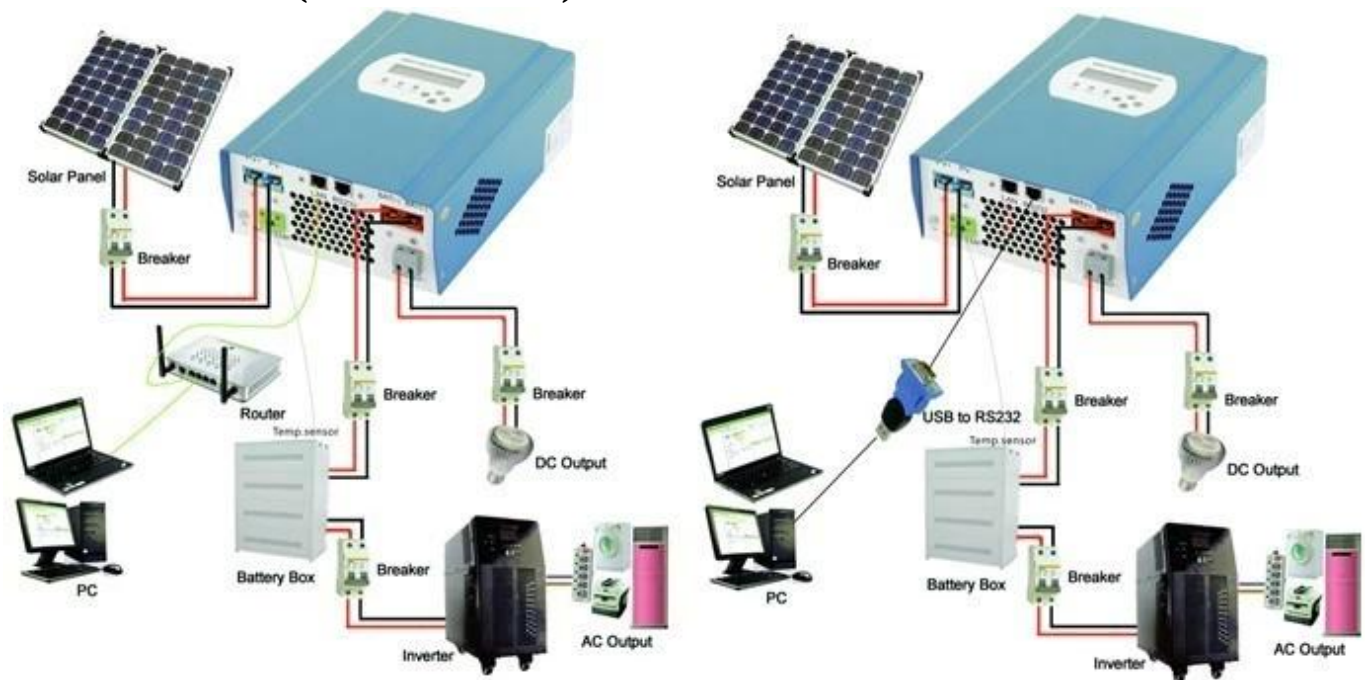


Upper computer software on/off interface and generating capacity record clean interface



The interface of test software working state

MPPT Connection(LAN and RS232)



Certificates

[ISO2008](#)

[ISO2004](#)

[CE](#)

[FCC](#)

[ROHS](#)

Service and Contact

1. [OEM and ODM](#) orders are provided.
2. Power solution consult available based on technical group
3. 24 months warranty; 3 to 10 years extended
4. Free technical study and discussion on products are provided every year.