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.

Application

1. Industrial, commercial, household off grid solar energy generation system
2. Movable off grid solar energy generation system
3. Communication base stations
4. New energy education business
5. Solar Monitoring System
6. Solar Street Lighting System

PV+
PV-
LAN
RS232
BAT(+)
BAT(-)
BAT TEMP
+ LOAD -

Reasons to choose

1. 30%-60% solar panels saved
1) Conversion efficiency 95%-99%, take most from solar panels
2) Charge for all kinds of batteries, 3 charge stage to protect battery.
Reduce consumption, cost saved.
2. Data monitor and set. Parameters from solar panels like charge current/voltage and IP gate address, total generation power, etc can be showed. 4 kinds DC load control, automaticly save ernergy both from human and solar.
3. Lan commucation and RS232 port.
4. Software to monitor 100pcs equipments at the same time on one screen on a computer.

Features

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/48V system	DC160V		
Input Overvoltage Protection Point	12V/24V/48V system	DC150		
Input Overvoltage Recovery Point	12V/24V/48V system	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/48V system	Sealed lead acid, vented, Gel, NiCd battery (Other types of the batteries also can be defined)		
Constant Voltage	12V/24V/48V system	Please check the charge voltage according to the battery type form.		
Floating Charge Voltage	12V/24V/48V system			
Over Charge Protection Voltage	12V system	14.6V		
	24V system	29.2V		
	48V system	58.4V		
Rated Output Current	12V/24V/48V system	40A	50A	60A
Current-limiting Protection	12V/24V/48V system	44A	55A	66A
Rate charge current	12V/24V/48V System	40A	50A	60A
Temperature Factor	12V/24V/48V system	±0.02%/℃		

Temperature Compensation	12V/24V/48V system	14.2V-(The highest temperature-25℃)*0.3
Output Ripples(peak)	12V/24V/48V system	200mV
Output Voltage Stability Precision	12V/24V/48V system	≤±1.5%
Charge voltage Peak-Peak Ripple	12V/24V/48V System	200mV
Charger voltage accuracy	12V/24V/48V System	≤±1.5%
Discharge characteristic		
Setting Control	Controller or LAN	
Max discharge current	12V/24V/48V System	40A
Discharge protection	12V/24V/48V System	fuse 30A*2
Double-time control	12V/24V/48V System	On in morning ,off in morning / On in night ,off in night
ON / OFF mode	12V/24V/48V System	ON / OFF
PV voltage control	12V/24V/48V System	PV voltage on□PV voltage off
PV voltage / time delay control	12V/24V/48V System	PV voltage on□time delay off
Discharge voltage protection	12V/24V/48V System	Output off when it under setting voltage; Factory set is 10.5 .(Note : set based on 1 battery)
Communication Features		
RS232 Communication	12V/24V/48V System	Chose COM communication
LAN Communication	12V/24V/48V System	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℃
Temperature protection		Above 85℃,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℃
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℃ ~ +40℃	
Storage Temperature	-40℃ ~ +75℃	
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

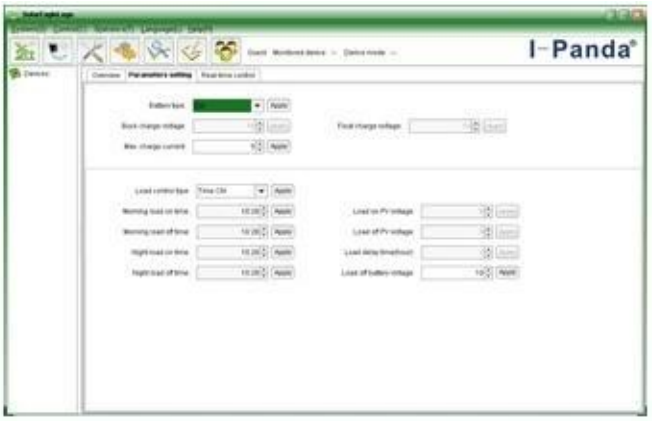
Upper Computer Software

Parts

Package

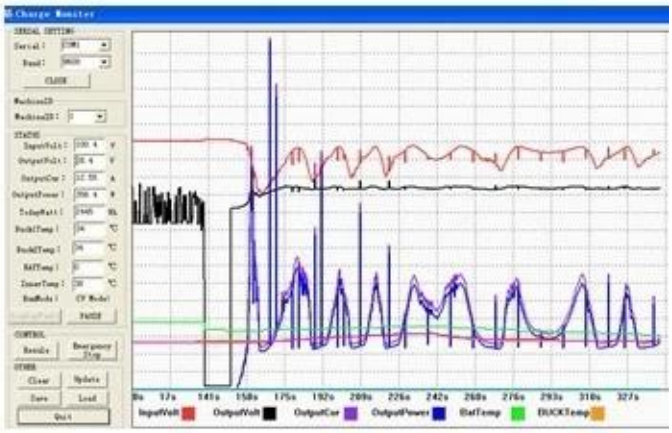
Upper Computer Software and Test Software

The interface of upper computer software working state



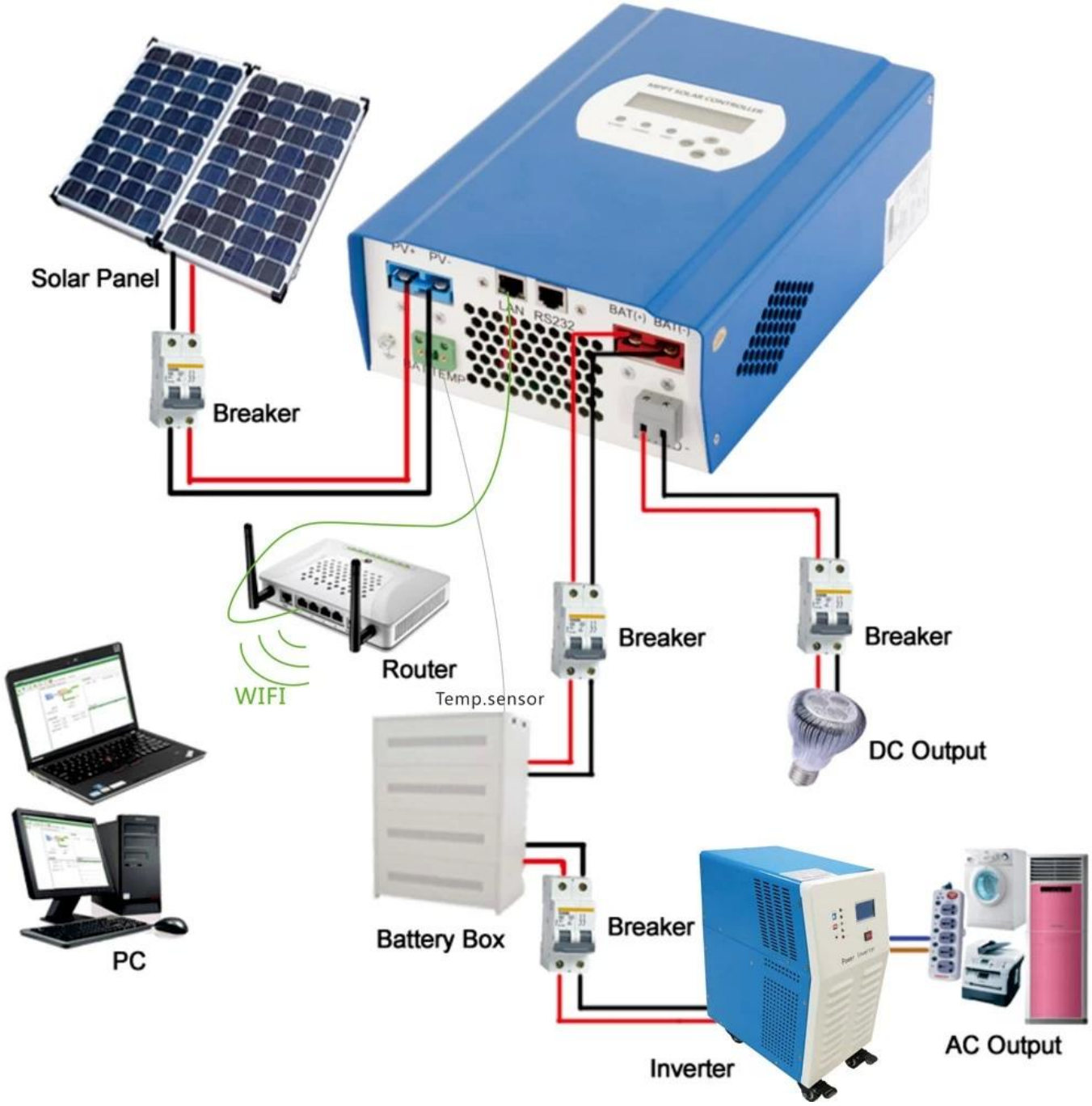
The interface of upper computer software parameter setting state

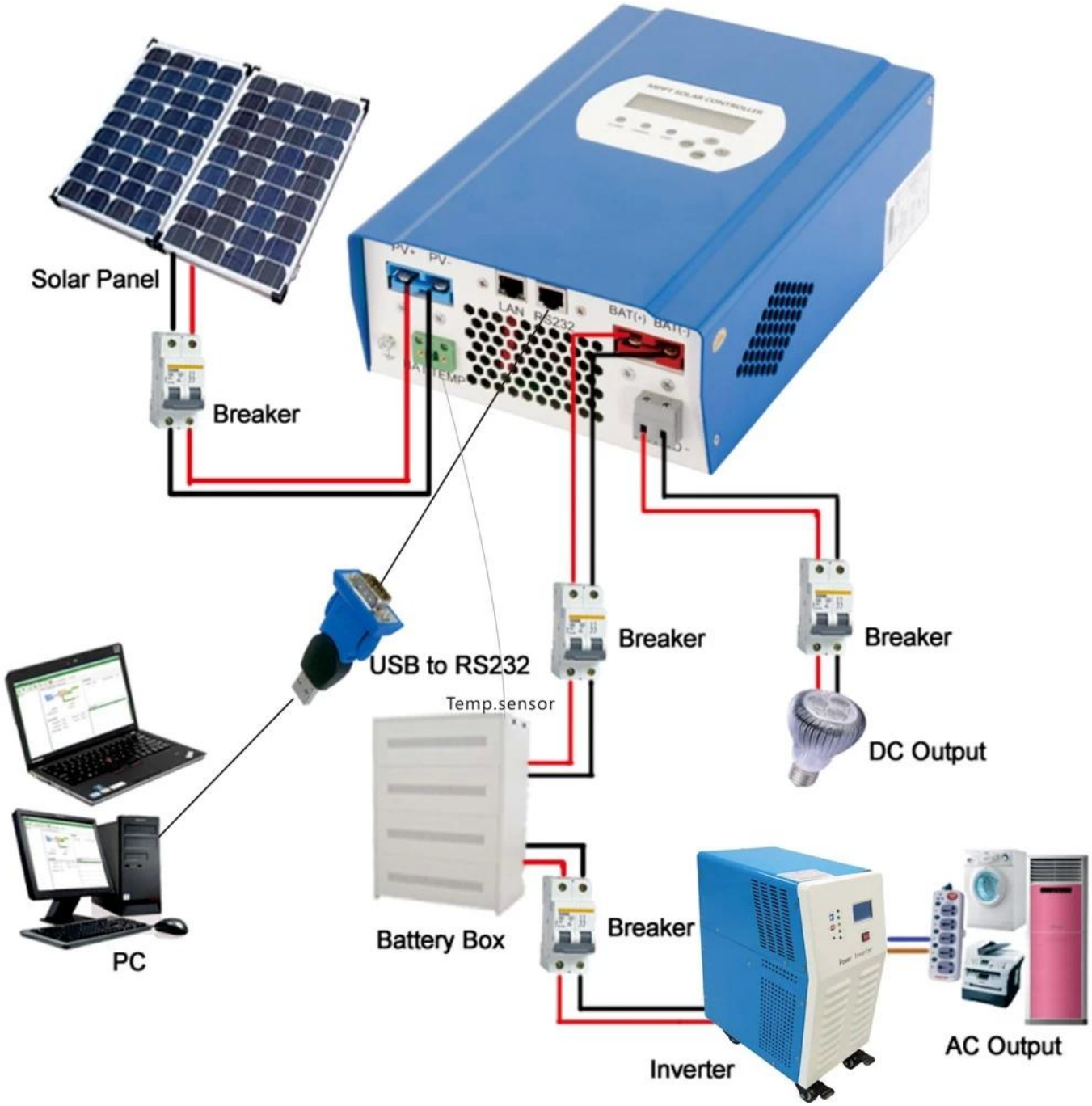
Upper computer software on/off interface and generating capacity record clean interface



The interface of test software working state

MPPT Connection





Certificates

ISO2008
ISO2004
CE
FCC
ROHS

Service and Contact

1. Warranty

1.2 years warranty, lifelong technical assistance.

2. Conditions and Terms

2.1 The warranty starts from the delivery date from our factory.
2.2 During the warranty, any defective product will get repaired or replaced for free.
2.3 The warranty is unavailable for those products which are broken by the violence or the carelessness or repaired or altered without the authorization.

3. Lead Time

3.1 Sample orders will be delivered from our factory within 5-7 working days.

3.2 General orders will be delivered from our factory within 7-15 working days.

3.3 Big orders will be delivered from our factory within 25 working days at most.

4. Shipment

4.1 By EMS,DHL,FedEx or other express.

4.2 By our forwarding agent(by air or by sea).

4.3 By your own forwarding agent.

5. OEM and ODM

5.1 This page shows basic data, we can provide OEM, ODM service for you.