

## 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.Journal function, Save function set, Date, time, Generating capacity and so on.
- 5.Charge mode: three stages (fast charge, constant charge, floating charge) .It prolongs service life of the batteries.
- 6.Discharge mode: ON mode, OFF mode, double time control mode, PV voltage control mode, PV voltage plus time delay mode and so on.
- 7.Recommended battery types:. Sealed lead acid, vented, gel, NiCd battery Other types of the batteries can also be defined.
- 8.Most information could be provide by LCD and LED like: model number, PV input voltage, battery type, battery voltage, charging current, charging power, working status and so on Also customer information like company name, website and logo can be. added into Solar Eagle software.
- 9.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.
- 10.The upper computer software is displayed in 11 languages, it could show work status and set parameters of the discharge system.
- 11.With intelligent design, the device can be upgraded online lifelong.
- 12.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.
- 13.Compliance with the 2002 95 EC environment protecting demand, does not include the Cadmium, hydride and fluoride etc material
- 14.Equipment integrity: controller, CD-ROM (microcomputer software), communication wire, temperature sensing wire, Anderson terminals
- 15.CE, ROHS certifications approved.
- 16.2 years warranty. And 3 ~ 10 years extended warranty service also can be provided.

## Technical Specification:

Model: 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	12V/24V/48Vsystem	500us		
Recovery Time	12V/24V/48Vsystem	≥96.5%,≤99%		
Conversion Efficiency	12V/24V/48Vsystem	≥99%		
PV Modules Utilization Rate	12V/24V/48Vsystem			
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%/°C		
Temperature Compensation	12V/24V/48V system	14.2V-(The highest temperature-25°C)*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	Controller or LAN	
Setting Control	12V/24V/48V System	40A
Max discharge current	12V/24V/48V System	fuse 30A*2
Discharge protection	12V/24V/48V System	On in morning ,off in morning / On in night ,off in night
Double-time control	12V/24V/48V System	ON / OFF
ON / OFF mode	12V/24V/48V System	PV voltage on□PV voltage off
PV voltage control	12V/24V/48V System	PV voltage on□time delay off
PV voltage / time delay control	12V/24V/48V System	Output off when it under setting voltage; Factory set is 10.5 .( Note : set based on 1 battery )
Discharge voltage protection	12V/24V/48V System	
Communication Features	12V/24V/48V System	Chose COM communication
RS232 Communication	12V/24V/48V System	Set IP and Gate address for controller and solar eagle ;Then chose TCP communication
LAN Communication	12V/24V/48V System	
Protection	Check the input characteristics	
Input Low Voltage Protection	Check the input characteristics	
Input Overvoltage Protection	yes	
Input Polarity Reversal Protection	Check the output characteristics	
Output Overvoltage Protection	yes	
Output Polarity Reversal Protection	Recover after eliminating the Short-circuit fault, no problem for long term Short-circuit	
Short-circuit Protection	95℃	
Temperature Protection	Above 85℃,decrease the output power, decrease 3A per degree.	
Temperature protection		
Other Parameters	≤40dB	
Noise	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.	
Thermal methods	World brand raw materials. Compliance with EU standards. All rated temperature of electrolytic capacitors not less than 105℃	
Components	No peculiar smell and toxic substances.	
Smell	Meet the 2002/95/EC,no cadmium hydride and fluoride	
Environment Protection		
Physical	270*185*90	
Measurement DxWxH (mm)	3	
N.G(kg)	3.6	
G.N(kg)	Blue/Green (optional)	
Color	CE, RoHS, PSE,FCC	
Safety	EN61000	
EMC	IP21	
Type of Mechanical Protection		
Environment	0~90%RH ( no condense)	
Humidity	0~3000m	
Altitude	-20℃ ~ +40℃	
Operating Temperature	-40℃ ~ +75℃	
Storage Temperature	70~106kPa	
Atmospheric Pressure		

Note: We provide OEM and ODM service.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 Appearance



Green



Upper Computer Software

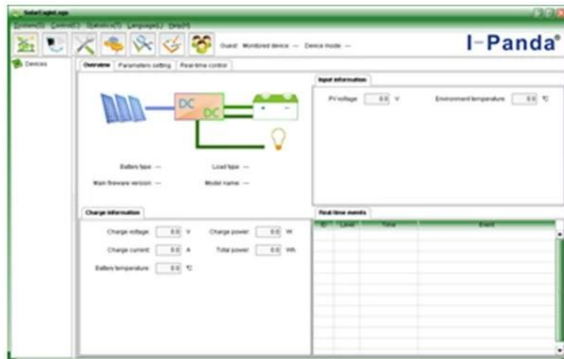


Parts

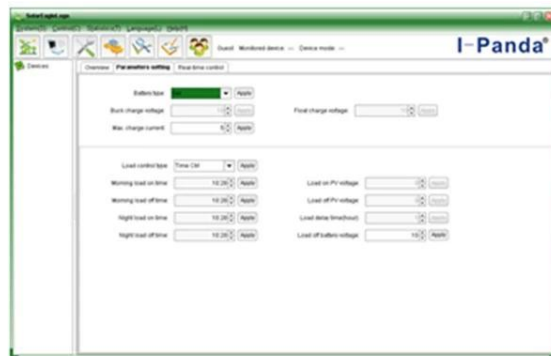


Package

## Upper Computer Software and testing Software:



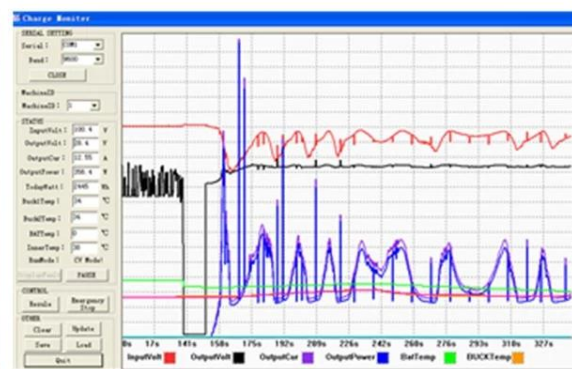
The interface of upper computer software working state



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

## Note:

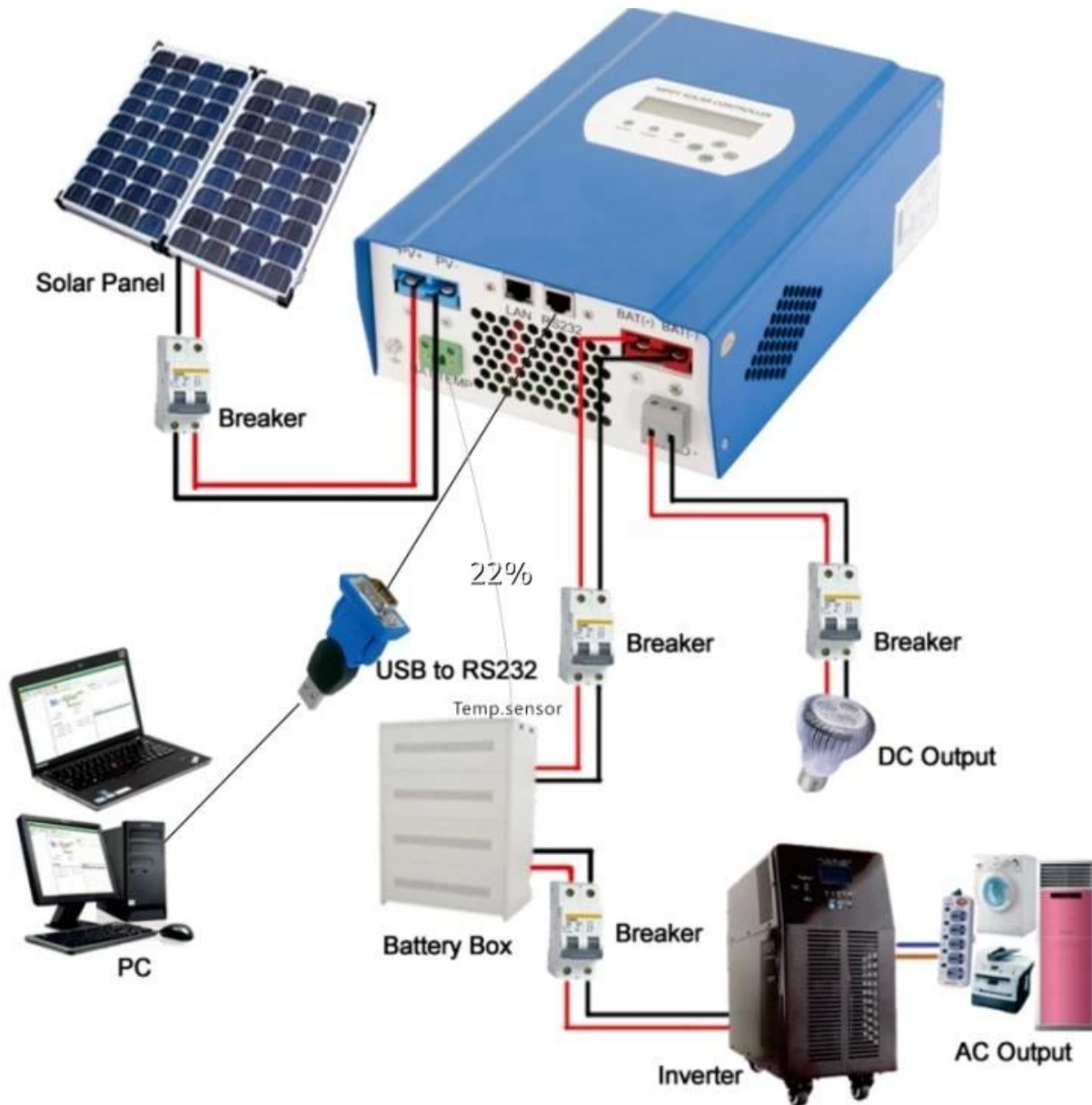
- 1) Attachment is upper computer software which is suitable for all computer systems.
- 2) Trafficker will provide neutral upper computer software and CD, or with customer's logo.
- 3) WIN7, IN8 system user, please log in as administrator. More details please check the manual.

## Information on Display and Settable Parameters:



**Note:**

- 1) All above information is a sample which is the working state of MPPT in sometime In different working stage the parameters will change like work mode, charge current, charge mode, charge power and so on; In the fault mode it will show fault mode;
- 2) If all above dates show means this could change; the details please check the manual.

**Installation****Note:**

- 1) Above is [off-grid solar system](#) connection picture;
- 2) Other ways for PC-communication, please check the manual for details;

**Other Parameters:**

Please check design brief, technical documents, product manual for more details.