

## 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		SMART2-20A/25A/30A -SERIES	20A	25A	30A
Charge Mode			Maximum Power Point Tracking		
Discharge Mode			Intelligent control		
System Type			12V 24V 48V Automatic recognition		
Soft Start Time			≤10S		
Dynamic Response Recovery Time			500us		
Conversion Efficiency			≥96.5%,≤99%		
PV Modules Utilization Rate			≥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		DC160V			
Input Overvoltage Protection Point		DC150			
Input Overvoltage Recovery Point		DC145V			
Max. PV Power	12V system	286W	357W	429W	
	24V system	572W	715W	858W	
	48V system	1144W	1430W	1716W	
CHARGE CHARACTERISTICS					
Selectable Battery Types		Sealed lead acid, vented, Gel, NiCd battery(Default type is GEL battery)			

Other types of Battery Setting	Constant charge	User-defined constant/floating charge voltage range between DC10V~DC15 ( based on 1 pcs 12V battery )		
Battery Type Setting	Floating charge	Controller and upper monitor		
Charge Type	12V/24V/48V SYS	Three Stages :Fast charge/Constant charge/Floating charge		
Rated Output Current	20A	25A	30A	
Current-limiting Protection	25A	30A	35A	
Temperature Factor	±0.02%/°C			
Temperature Compensation	14.2V-(The highest temperature-25°C)*0.3			
Output Ripples(peak)	200mV			
Output Voltage Stability Precision	≤±1.5%			
Charge voltage Peak-Peak Ripple	200mV			
Charger voltage accuracy	≤±1.5%			
DISCHARGE CHARACTERISTICS				
Setting Control	Controller or LAN			
Max discharge current	30A			
Max discharge power	420W	840W	1680W	
Discharge protection	fuse 40A*2			
Double-time control	On in morning ,off in morning / On in night ,off in night			
ON / OFF mode	ON / OFF			
PV voltage control	PV voltage on,PV voltage off			
PV voltage / time delay control	PV voltage on,time delay off			
Discharge voltage protection	Output off when it under setting voltage; Factory set is 10.5 .( Note : set based on 1 battery )			
COMMUNICATION PORT				
RS232 Communication	Chose COM communication			
LAN Communication	Set IP and Gate address for controller and solar eagle ;Then chose TCP communication			
PROTECTIONS				
Input Low Voltage Protection	Check the in/output characteristics			
Input Overvoltage Protection				
Input Polarity Reversal Protection				
Output Overvoltage Protection				
Output Polarity Reversal Protection				
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.			
Environment Protection	World brand raw materials. Compliance with EU standards. Meet the 2002/95/EC without cadmium hydride, fluoride, peculiar smell and toxic substances.All rated temperature of electrolytic capacitors not less than 105°C			
PHYSICAL				
Measurement DxWxH (mm)	270*185*90			
N.G(kg)	2.1			
G.N(kg)	2.4			
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: We provide OEM and ODM service.The 36V/72V/96V model also can be custom made for you.

## Product Parts:



Blue



Green



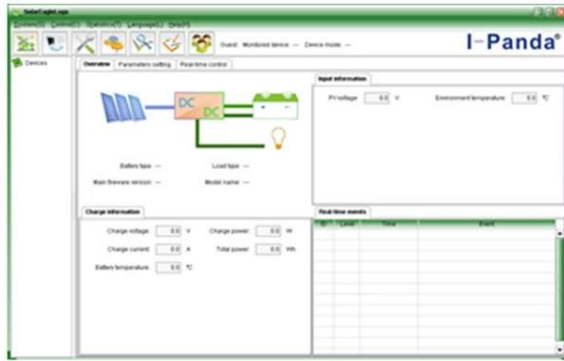
Upper Computer



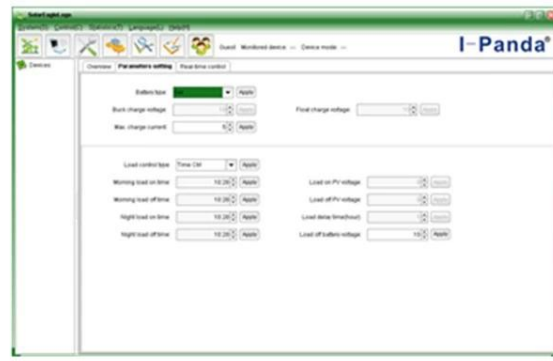
Package

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

## Upper Computer Software and testing Software:



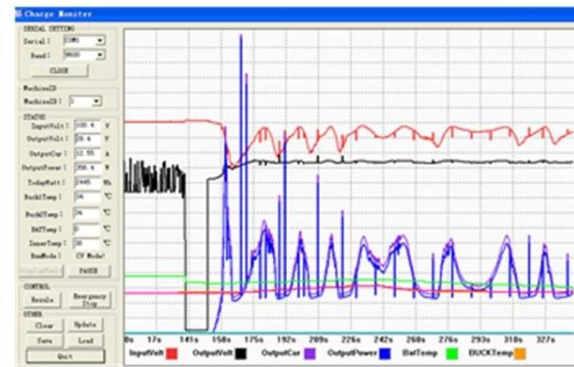
The interface of upper computer software working state



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.

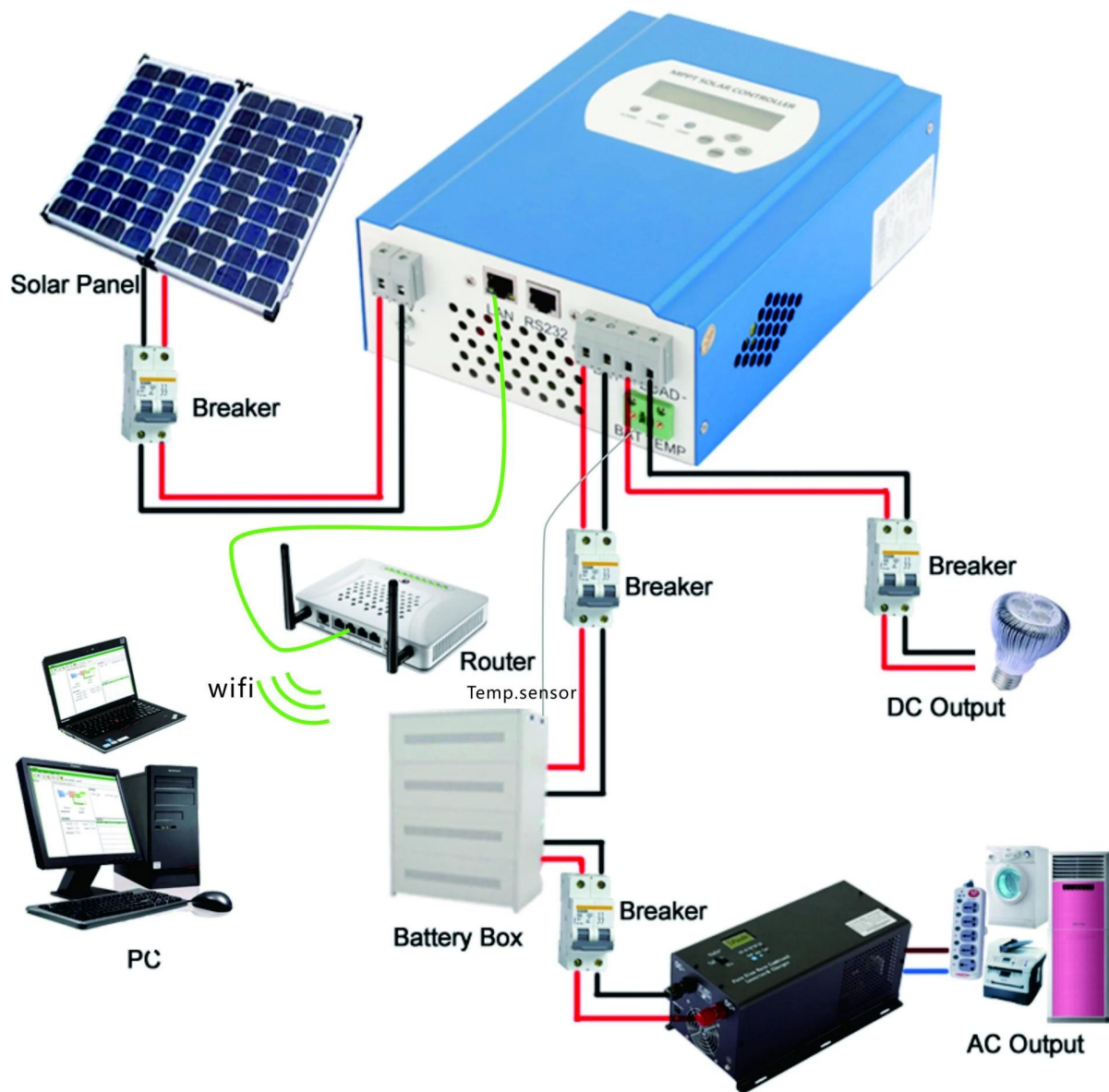
## Information on Display and Settable Parameters:



## 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 manul for details;

**Other Parameters:**

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