ntroduction

This is a MPPT (maximum Power Point Tracking) smart solar controller, with charging and discharging function, increasing 30%~60% efficiency than traditional PWM controller. It has automatic recognition function, three Stages charging function, also supports many kinds of battery charging and discharging, RS232 communication etc, It's our company's MPPT solar controller e-SMART series.

Remarks:DC12V/24V/48V battery system automatic recognised.

Features

1. MPPT charging mode, peak efficiency up to 99%, saving 30%~60% solar panel than traditional PWM controller.

2. DC12V/24V/48V battery system automatic recognition, users would like to use in different system conveniently.

3. DC12V/24V/48V system, maximum PV input voltage up to DC100V.

4. Charge type: three stages charge fast charge(MPPT), constant voltage,floating charge, protected our battery, lead to a long use age.

5. Discharge type owns always on pattern and always off pattern, it also has PV voltage solar controlling switch pattern.

6. Clients can auto selects any one in the 4 kinds of commonly used batteries, Sealed lead acid, vented, Gel, NiCd and custom other batteries.

7. Digital tube display controller battery voltage and charging current,upper computer display various parameters, such as model, PV input voltage, battery types, battery voltage, charging current, charging power, working condition etc.

8. RS232 communication, and that providing communication protocol, it's convenient for customer's integration management.

9. This controller could be paralleled infinitely.

10. CE, RoHS Certifications approved; cooperating with clients through the other certifications.

11. 2 years warranty; 3~10 years extended technical service.

Parameters:

MPPT solar controller modes I-P-e-SMART-12V/24V/48V-series		40A
Charge mode	MPPT(maximum power point tracking)	
Charge method	Three stages: constant current(MPPT),constant voltage,floating charge	
System type	DC12V/24V/48V	Automatic recognition

System voltage	12V system	DC9V~DC15V
	24V system	DC18V~DC30V
	48V system	DC36V~DC60V
Soft start time	12V/24V/48V system	≤3S
Dynamic response recovery and range	12V/24V/48V system	500us
MPPT efficiency	12V/24V/48V system	≥96.5%,≤99%
INPUT CHARACTERISTICS		
MPPT working voltage and Range	12V system	DC14V~DC100V
	24V system	DC30~DC100V
	48V system	DC60~DC100V
Low voltage input Protection point	12V system	DC14V
	24V system	DC30V
	48V system	DC60V
Low voltage input Recovery point	12V system	DC18V
	24V system	DC34V
	48V system	DC65V
Input over voltage protection point	12V/24V/48V system	DC110V
Input over voltage recovery point	12V/24V/48V system	DC100V
Maximum PV power	12V system (W)	568
	24V system (W)	1136
	48V system (W)	2272
CHARGE CHRECTRESTICS		
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	Please check the charge voltage according to the battery type form.
Rated Input Current	12V/24V/48V system	40A
Current-limiting Protection	12V/24V/48V system	45A
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%
Output Discharge Characteristics		

Output voltage	Base on battery voltage
Low voltage output Protection point	Default 10.5V; recovery 11V; custom available ;
Rated output Current	30A
The output control	Always on, always off, PV voltage control switch
Output control set mode	Controller button or upper computer
Display	
LED digital tube display	Battery voltage, charge current
LED light display	Charging indicator light, LOAD indicator light
PC（communication port）	RS232
Protection	
Input Low Voltage Protection	Check the input characteristics
Input Overvoltage Protection	Check the input characteristics
Charge over voltage power Protection	yes
Low Voltage output Protection	yes
Rated output Current protection	yes
Temperature Protection	yes
Other Parameters	
Noise	≤40dB
Thermal heat-dissipating method	Itself cooling / fan cooling
Components	Imported material, with EU standards.
Certification	CE\FCC\ROHS
Physical	
Measurement D x W x H(mm)	205*168*60
package size D x W x H(mm)	265*196*110
N.G(KG)	1.8kg
G.N(KG)	2kg
Type of Mechanical Protection	IP25
Environment	
Humidity	0~90%RH (no condense)
Altitude	0~3000m
Operating Temperature	-20℃ ~ +50℃
Storage Temperature	-40℃ ~ +75℃
Atmospheric Pressure	70~106kPa

Remarks：

The specification is only for reference. Subject to change without prior notice

We provide OEM and ODM service. The 36V/72V/96V model also can be custom made for you.

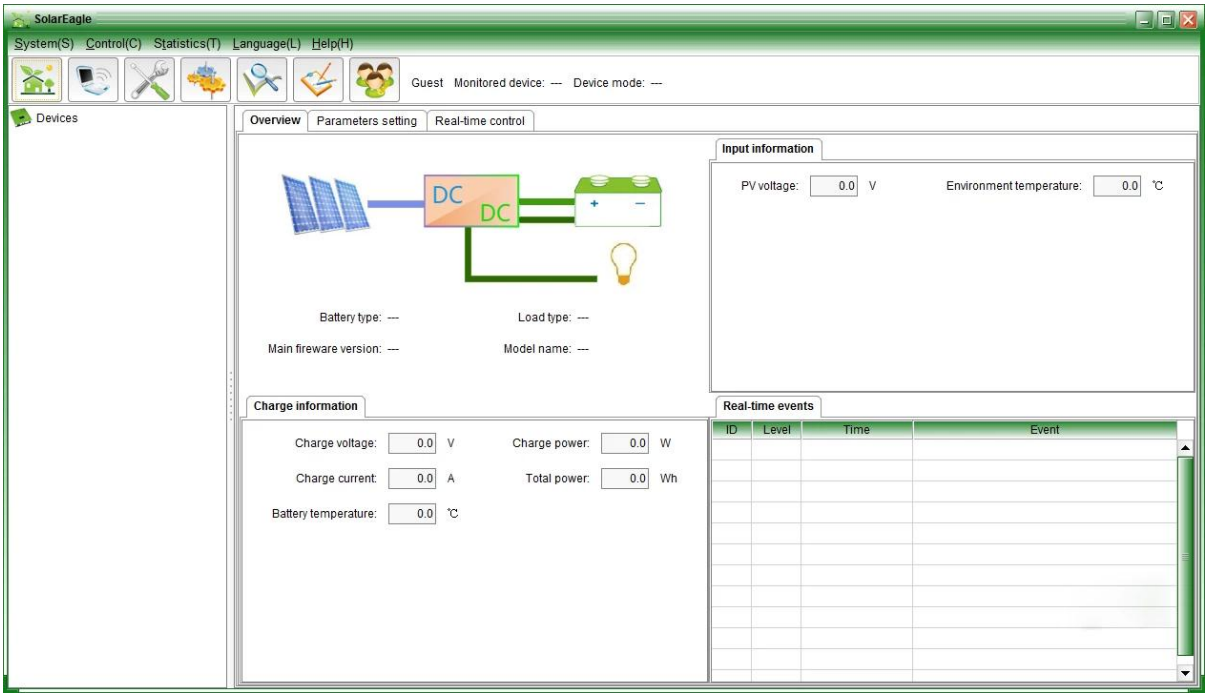
Products Package

Number	quantity	parets name
1	1 pc	Controller appearance(blue or green is optional，OEM is available also)
2	2 pc	hangers（Used in the controller hanging）
3	4 set	screw（Used for hanging ear lock in the controller）
4	1 pc	RS232 port
5	1 pc	Battery temperature sensing lines
6	2 pc	fuse（DC output）

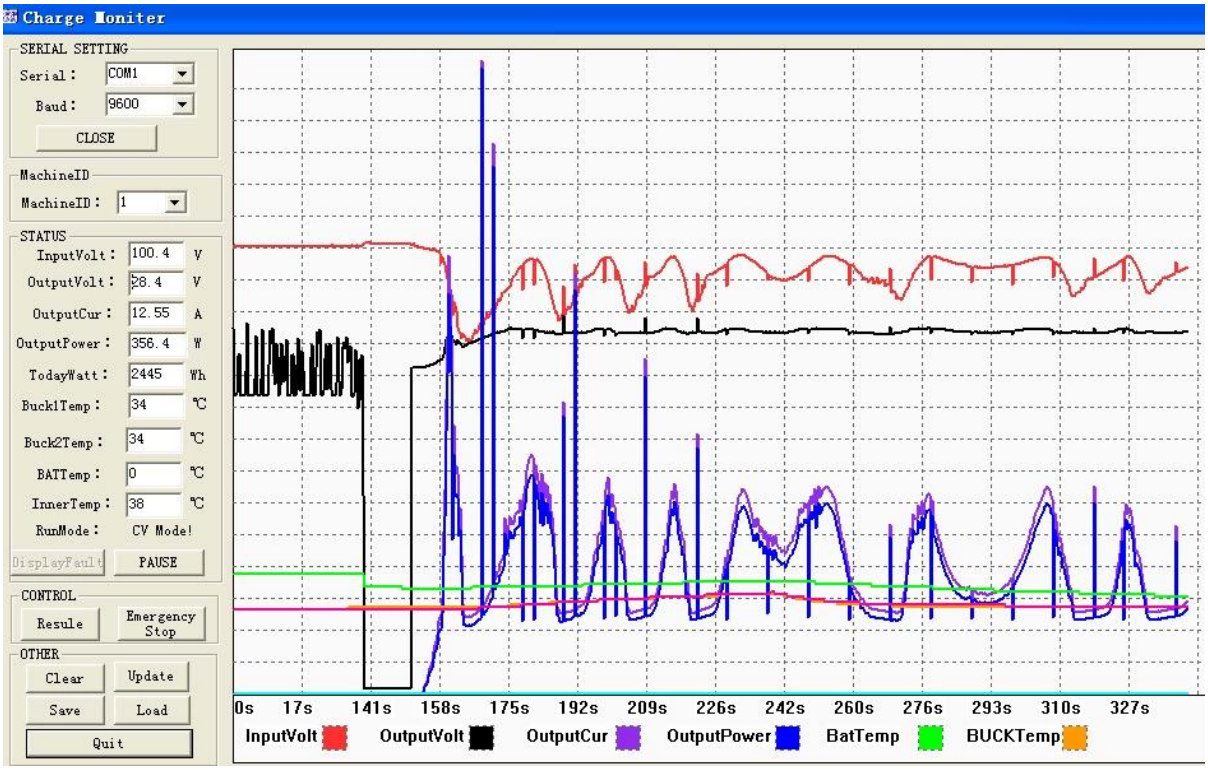
7	1 pc	specification，manual，
8	1 pc	CD，Built-in upper software，

Controller upper software testing software display information and set parameters.

1.Upper software and test software display information and set parameters



Graphical: upper software



Graphical: testing ware

charge Current etc, and setting the type of the batteries, LOAD output control method.

1.2 Product standard upper software; testing software is not provided(Due to testing software need clients' PC has software development platform, if clients have the requests, please apply to our company for taking)

Remarks: the PC software is offered freely by our company.

2. Information display and parameter setting.

2.1 ENTER1 button: press left ENTER1 show 2 digital battery voltage（if it is charging, then shows 2 digital charge voltage), for example,the battery voltage or charge voltage is 13.5V, it shows13.

Press ENTER1 for a long time, you can set battery types; more informations please see the specification.

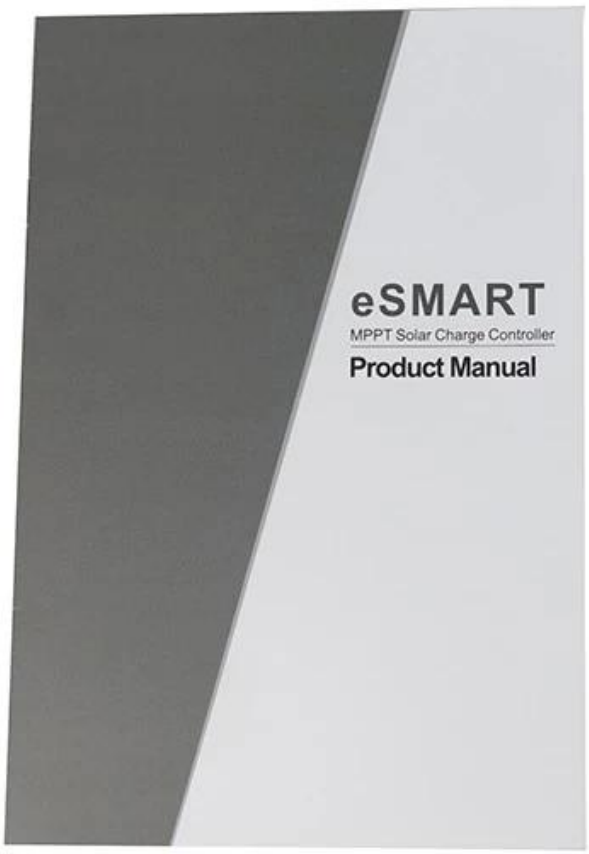
2.2 ENTER2 button: press right ENTER2 show 2 digital battery current（if it has n't been charging, then display 00, if the charge current is 20.5A, then it shows 25; press ENTER2, you can set always on and aways off pattern, you can see more details in the specification.

Other detailed parameters

Please see the outline of the design, technical documents, product manuals etc.

Engineering department custom 2th version on May 5, 2014.


Solar Eagle
Solar Eagle
Professional MPPT solar charge
controller manufacturer


eSMART
MPPT Solar Charge Controller
Product Manual


Solar Eagle
Professional MPPT solar charge controller manufacturer


MAINTENANCE CARD
Name
Tel
Address
Brand
Model
Serial No.
Bought From
Date Purchased
Invoice Number
Invoice Price
Conditions of warranty:
1.The above appliance is guaranteed, under normal use, for two year from date of purchase. During the period. We will repair or at its option replace, free of charge, any damaged parts.
2.Defects caused by accident, negligence, misuse, transportation, normal wear and tear, or any alteration that affects the reliability or performance of the machine will not be covered by this warranty.
3.this warranty does not cover cosmetic part and like used in condition No.2, and after the warranty period. As well as the cost of any on-site visits and service are the product owner's responsibility.
4.No alteration of this certificate will be allowed.
5.Please keep your invoice and present with this warranty card for maintenance service.
Issued By


CERTIFICATE
Model:
Specifications:
Inspector:
Date:
Products have been tested qualified by standard and permitted to deliver.