Introduction

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.

Feature

1. MPPT charging mode, peak efficiency up to 99%;

2. DC12V/24V/48V battery system automatic recognition;

3. Maximum PV input voltage up to DC100V;

4. Three stages charge: fast charge(MPPT), constant voltage charge,floating charge;

5. Three option of discharge: on mode and off mode and PV voltage(solar) control mode.

6. Users can choose 4 kinds of commonly standard batteries(Sealed lead acid, Vented, Gel, NiCd);

7. Digital tube can display battery voltage and charging current;

8. RS232 communication, we can offer communication protocol also;

9. This controller can be paralleled infinitely.

10. CE, RoHS and FCC Certifications are approved.

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

Protection

Input Low Voltage Protection;

Input Overvoltage Protection;

Charge over voltage power Protection;

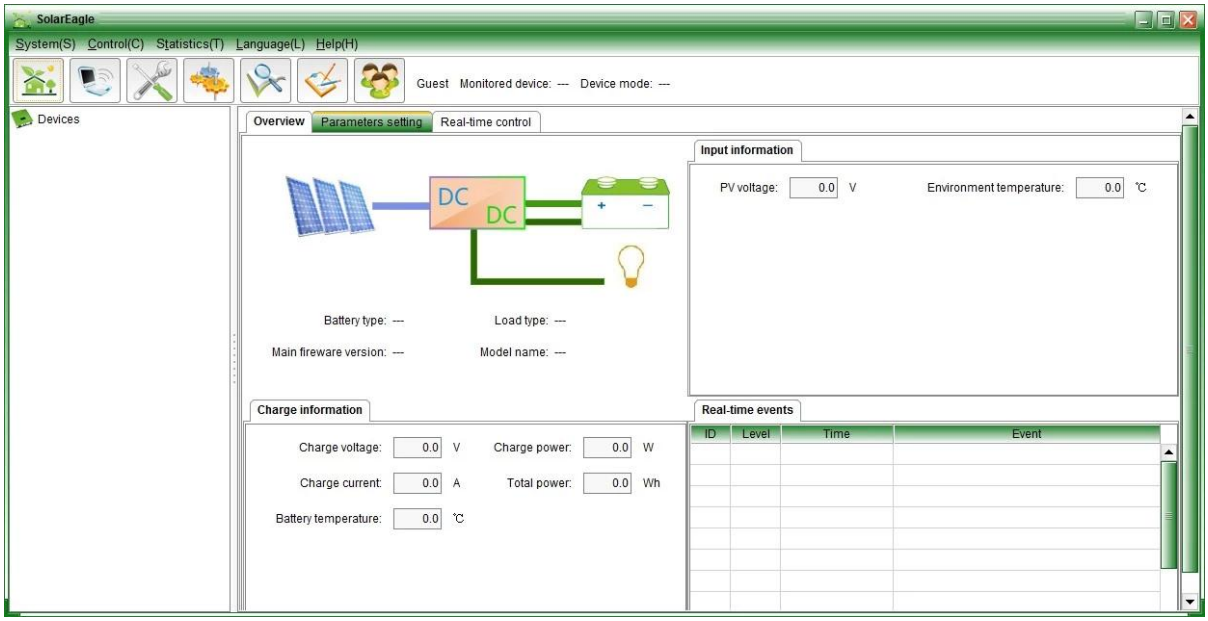
Low Voltage output Protection;

Rated output Current protection;

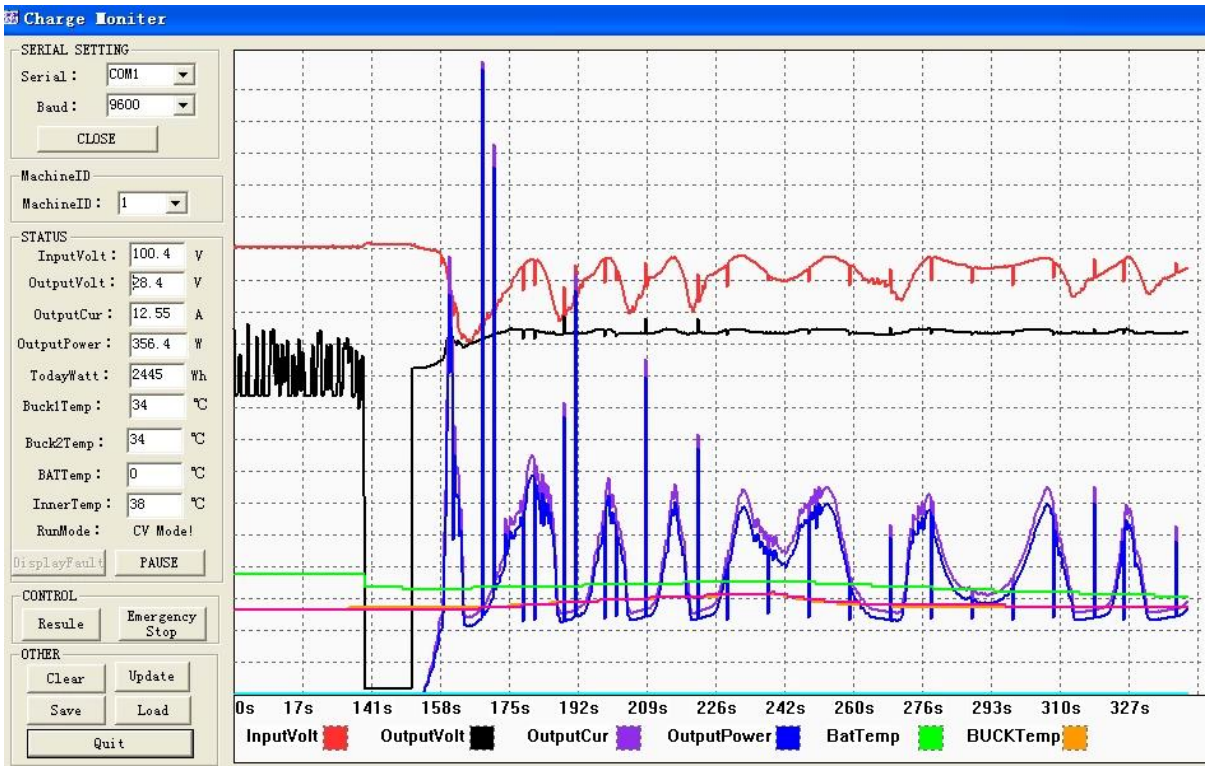
Temperature Protection.

Connection diagram

The interface of upper computer software working state



The interface of test software working state



Parameter

MPPT solar controller modes I-P-e-SMART-12V/24V/48V-series	20A
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)	426W
	24V system (W)	852W
	48V system (W)	1704W
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	20A
Current-limiting Protection	12V/24V/48V system	25A
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
Other Parameters		
Noise		≤40dB
Thermal heat-dissipating method		Itself cooling fan cooling
Components		Imported material, with EU standards.
Certification		CE\FCC\ROHS
Environment		
Humidity		0~90%RH (no condense)
Altitude		0~3000m

Operating Temperature	-20℃ ~ +50℃
Storage Temperature	-40℃ ~ +75℃
Atmospheric Pressure	70~106kPa

Packing and shipping

Company

I-Panda爱麦德

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大功率
自检区

Mundial SA