

## Introduction:

This is a smart solar charge controller which has advanced MPPT technology. [Solar charge controller](#) is one of the important parts in the off-grid solar system. For having the advanced MPPT technology, the controller can trace the peak power with 99% conversion efficiency. MPPT microprocessor, inside the controller making 30% more charge current with significantly less power than tradition. In addition to this, easier installing and supporting to expand volume are other advantages. It can also store energy to different kinds of batteries. We provide battery choice(Vented Sealed Gel NiCd).

## Feature:

1.MPPT charge mode,conversion efficiency upto 99%,can save 30%~60% of the power than traditional controller.

2.With high efficient MPPT operation scheme and adopting TI28035 chip,make the Solar panels utilization rate upto 99%.

Intelligent design,the device can be upgraded online,customers enjoy the lifelong upgrade service.

4.Compliance with the 2002/95/EC environment protecting demand,doesn't include the Cadmium, hydride and fluoride

5.Adopting the well-known brand components,the devices can suffer the temperature not less than 105°C.The service life is designed to extend to 10 years in theory.

6.Charge mode: three stages (fast charge,constant charge,floatting charge)

7.12V/24V/48V system auto recognize for easy control.

8.Nominal maximum solar input is DC 150V

9.Connected Battery Type choosing: Sealed lead acid, vented, Gel, NiCd battery. Other types of the batteries can also be defined.

10. LCD and LEDs show all kinds of parameter like products model, PV input voltage,battery voltage,charge current,charge power,work condition,and also can add customers'company name and website.

11. Communication Port.RS232 communication can provide communication protocol, This make the unified and integrated management more convenient to customers.

12. With providing a Microsoft by connecting with PC that can show the working state and all parameters in 7 languages.

13. Extensible LAN remote control.

14.Equipment integrity: controller+CD-ROM(microcomputer software) + communication wire+Anderson terminals;

15.CE,ROHS,FCC,PSE certifications approved.The device also can support to pass the other certifications.

16. 2 years warranty. And 3~10 years extended warranty service also can be provided.



**Parameters:**

MPPT solar controller modes		30A
I-P-e-SMART-12V/24V/48V-series		
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%
<b>INPUT CHARACTERISTICS</b>		
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	12V system	DC18V
Recovery point	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)	450
	24V system (W)	850
	48V system (W)	1700
<b>CHARGE CHRECTRESTICS</b>		
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	30A
Current-limiting Protection	12V/24V/48V system	35A
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%
<b>Output Discharge Characteristics</b>		
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	
<b>Display</b>		
LED digital tube display	Battery voltage, charge current	
LED light display	Charging indicator light, LOAD indicator light	
PC□communication port□	RS232	
<b>Protection</b>		
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	
<b>Other Parameters</b>		
Noise	≤40dB	
Thermal heat-dissipating method	Itself cooling	fan cooling
Components	Imported material, with EU standards.	
Certification	CE\FCC\ROHS	
<b>Physical</b>		
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	
<b>Environment</b>		
Humidity	0~90%RH ( no condense)	
Altitude	0~3000m	
Operating Temperature	-20°C ~ +50°C	
Storage Temperature	-40°C ~ +75°C	
Atmospheric Pressure	70~106kPa	

**Pictures:**



**The Figures of the PC Firmware and Testing Software**

The screenshot shows the SolarEagle software interface. At the top, there is a menu bar with 'System(S)', 'Control(C)', 'Statistics(T)', 'Language(L)', and 'Help(H)'. Below the menu is a toolbar with various icons. The main window displays the following information:

- System Information:** Guest, Monitored device: COM1[01]\_1234567890123456, Device mode: Constant voltage charging.
- Devices:** A tree view showing 'COM1[01]\_1234567890123456'.
- Overview Tab:**
  - Diagram: A schematic showing solar panels connected to a DC-DC converter, which is connected to a battery.
  - Battery type: Gel
  - Model name: IPANDA-MPPT-60A
  - Main firmware version: 1.0
- Input information:**
  - PV voltage: 105.1 V
  - Environment temperature: 38.0 °C
- Output information:**
  - Output voltage: 27.1 V
  - Output power: 0.0 W
  - Output current: 0.0 A
  - Total power: 3.9 kWh
  - Battery temperature: 0.0 °C
- Real-time events:**

ID	Level	Time	Event
3001	Messa...	2011-11-05 15:20:...	Communication restore
3002	Messa...	2011-11-05 15:20:...	Communication lost
3001	Messa...	2011-11-05 15:20:...	Communication restore

Figure 1: PC Firmware

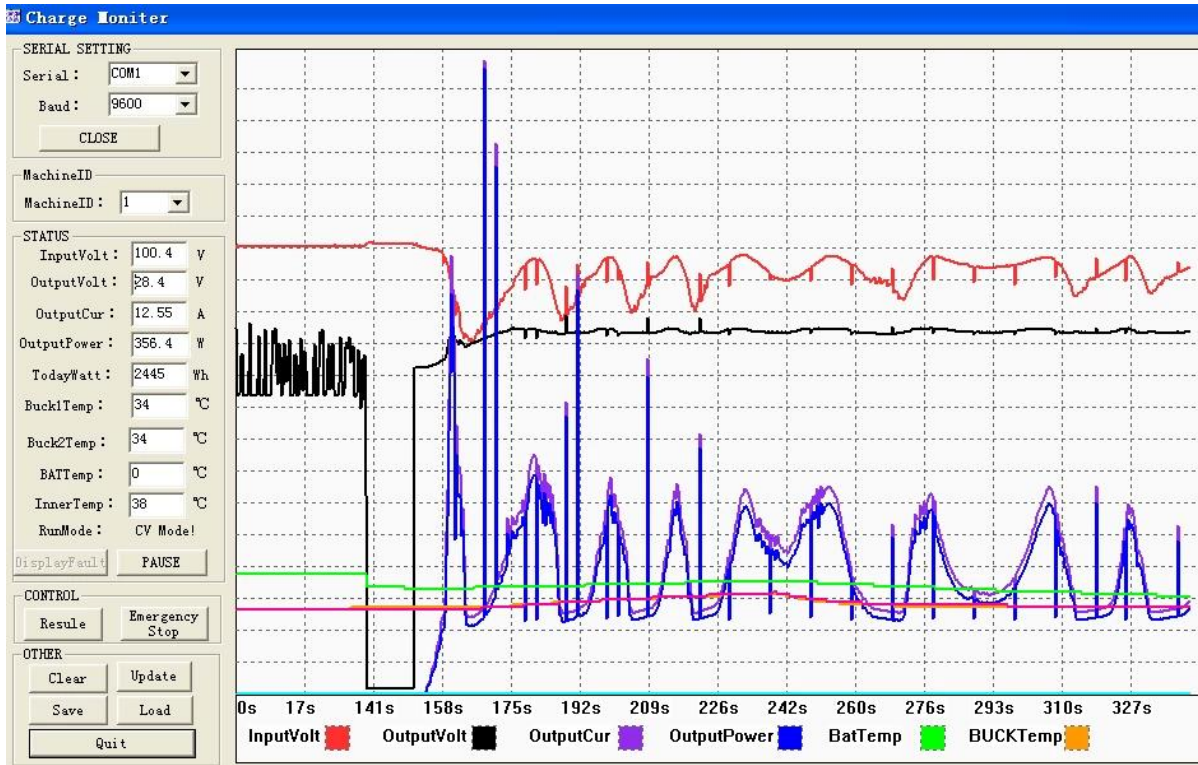


Figure: Testing Software

Welcome to order I-Panda [MPPT Solar Charge Controller Smart1 12V 24V 48V 20A~30A](#)

## Company





