

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% |
| 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 | 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 |
| 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 | 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% |
| 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°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, it displays 'System(S) Control(C) Statistics(T) Language(L) Help(H)'. Below this is a toolbar with various icons and a status bar indicating 'Guest Monitored device: COM1[01]_1234567890123456 Device mode: Constant voltage charging'. The main interface is divided into several sections:

- Overview:** Shows a diagram of a solar panel connected to a DC-DC converter, which is connected to a battery. Below the diagram, it lists 'Battery type: Gel', 'Model name: IPANDA-MPPT-60A', and 'Main firmware version: 1.0'.
- Input information:** Displays 'PV voltage: 105.1 V' and 'Environment temperature: 38.0 °C'.
- Output information:** Displays 'Output voltage: 27.1 V', 'Output power: 0.0 W', 'Output current: 0.0 A', 'Total power: 3.9 kWh', and 'Battery temperature: 0.0 °C'.
- Real-time events:** A table listing recent 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

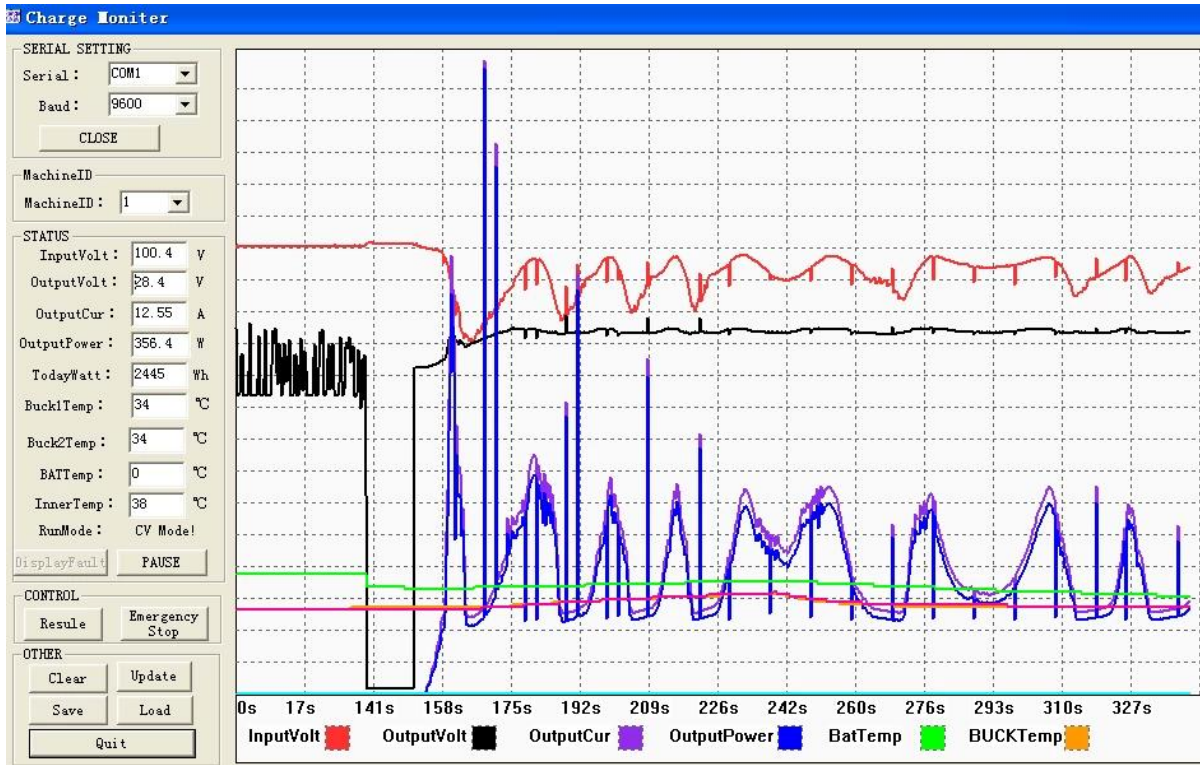


Figure: Testing Software

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

Company





