

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).



Parameter:

Model: I-P-MSC-DC12V/24V/48V/96V-series		20A	30A
Charge Mode	Maximum Power Point Tracking		
Method	3 stages: fast charge(MPPT), constant voltage, floating charge		
System Type	DC12V/24V/48V/96V	Automatic recognition	
System Voltage	12V system	DC9V~DC15V	
	24V system	DC18V~DC30V	
	48V system	DC36V~DC60V	
	96V system	DC72V~DC120V	
Soft Start Time	12V/24V/48V/96V	≤10S	

Dynamic Response Recovery Time	12V/24V/48V/96V	500us	
Conversion Efficiency	12V/24V/48V/96V	≥96.5%, ≤99%	
PV Modules Utilization Rate	12V/24V/48V/96V	≥99%	
Input Characteristics			
MPPT Working Voltage and Range	12V system	DC18V~DC150V	
	24V system	DC34~DC150V	
	48V system	DC65~DC150V	
	96Vsystem	DC125~DC300V	
Low Voltage Input Protection Point	12V system	DC16V	
	24V system	DC30V	
	48V system	DC60V	
	96Vsystem	DC120V	
Low Voltage Input Recovery Point	12V system	DC22V	
	24V system	DC34V	
	48V system	DC65V	
	96Vsystem	DC125V	
Max DC Voltage	12V/24V/48V system	DC160V	
	96Vsystem	DC300V	
Input Overvoltage Protection Point	12V/24V/48V system	DC150	
	96Vsystem	DC300V	
Input Overvoltage Recovery Point	12V/24V/48V system	DC145V	
	96Vsystem	DC295V	
Max. PV Power	12V system	280W	450W
	24V system	560W	850W
	48V system	1120W	1700W
	96Vsystem	2240W	3400W
Output Characteristics			
Selectable Battery Types (Default type is GEL battery)	12V/24V/48V/96Vsystem	Sealed lead acid, vented, Gel, NiCd battery (Other types of the batteries also can be defined)	
Constant Voltage Floating Charge Voltage	12V/24V/48V/96Vsystem	Please check the charge voltage according to the battery type form.	
Over Charge Protection Voltage	12V system	14.6V	
	24V system	29.2V	
	48V system	58.4V	
	96V system	116.8V	
Rated Output Current	12V/24V/48V/96Vsystem	20A	30A
Current-limiting Protection	12V/24V/48V/96Vsystem	25A	35A
Temperature Factor	12V/24V/48V/96Vsystem	±0.02%/°C	
Temperature Compensation	12V/24V/48V/96Vsystem	14.2V-(The highest temperature-25°C)*0.3	
Output Ripples(peak)	12V/24V/48V/96Vsystem	200mV	
Output Voltage Stability Precision	12V/24V/48V/96Vsystem	≤±1.5%	
Display			

LCD display	Input,output parameter and output power etc (check the LCD display instruction)
LED display	3 LEDs indicates:Fault indicate light,charge indicate light, power source indicate light(check the LED instruction)
Software Control through PC(communication port)	RS232 (matching) or LAN(optional)
Protection	
Input Low Voltage Protection	Check the input characteristics
Input Overvoltage Protection	Check the input characteristics
Input Polarity Reversal Protection	yes
Output Overvoltage Protection	Check the output characteristics
Output Polarity Reversal Protection	yes
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.
Components	World brand raw materials. Compliance with EU standards. All rated temperature of electrolytic capacitors not less than 105°C
Smell	No peculiar smell and and toxic substances.
Environment Protection	Meet the 2002/95/EC,no cadmium hydride and fluoride
Physical	
Measurement DxWxH(mm)	270*185*90
N.G(kg)	3
G.N(kg)	3.6
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

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.

Pictures:



The Figures of the PC Firmware and Testing Software

SolarEagle

System(S) Control(C) Statistics(T) Language(L) Help(H)

Guest Monitored device: COM1[01]_1234567890123456 Device mode: Constant voltage charging I-Panda®

Devices

COM1[01]_1234567890123456

Overview Parameters setting Real-time control

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

Battery type: Gel Model name: IPANDA-MPPT-60A

Main firmware version: 1.0

Figure 1: PC Firmware

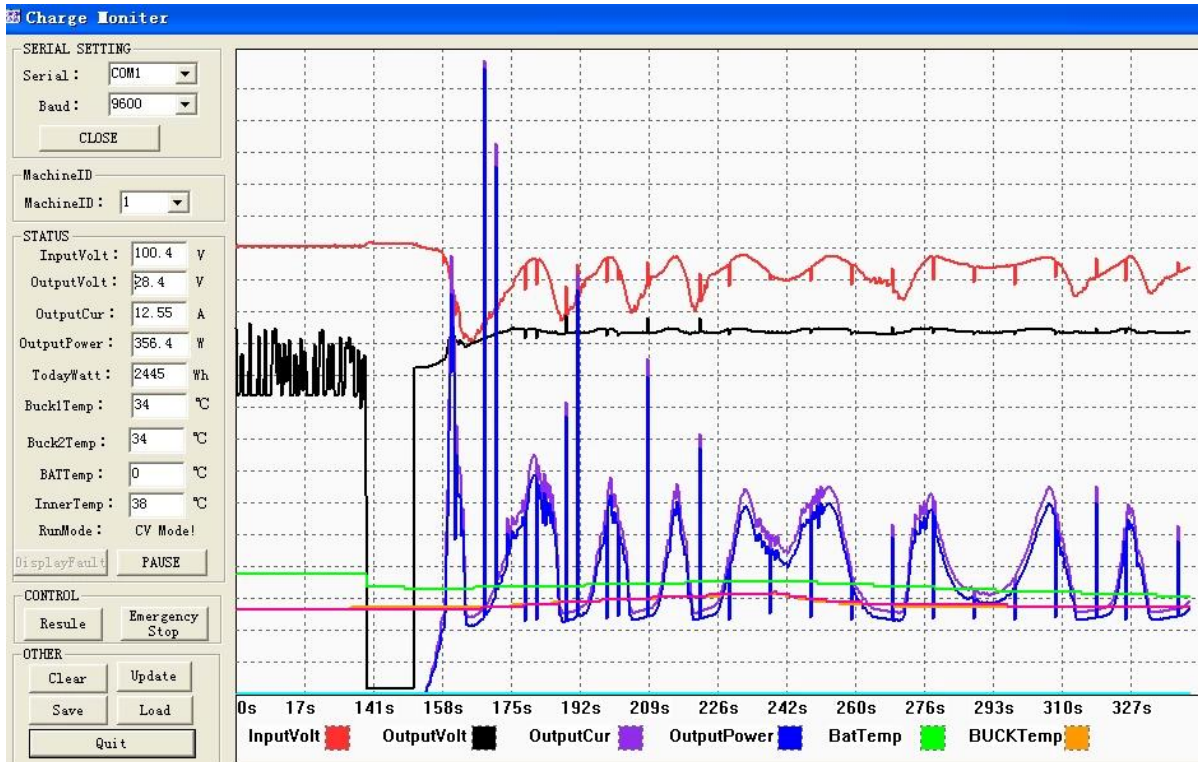


Figure:Testing Software

Applications

1. Industrial,commercial,household off-grid solar power system
2. moveable off-grid solar power system
3. Communication base stations
4. Energy knowledge popularization

Welcome to order I-Panda [MPPT Solar Charge Controller Smart1 48V 40A](#)