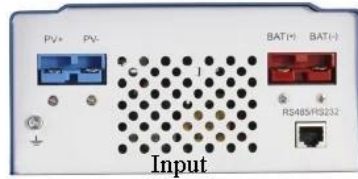


## Feature:

- 1.MPPT charge mode,conversion efficiency up to 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 up to 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,floating charge)
- 7.12V/24V/48V/96V system auto recognize for easy control.
8. 12V/24V/48V /96V system maximum solar input is DC 300V ;
- 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) +temperature sensing wire+ 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.

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
	48Vsystem		DC36V~DC60V
	96Vsystem		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		280W450W
	24V system		560W850W
	48V system		1120W1700W
	96Vsystem		2240W3400W
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	12V/24V/48V/96Vsystem		Please check the charge voltage according to the battery type form.
Floating Charge Voltage	12V/24V/48V/96Vsystem		

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 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®**

Parameters setting Real-time control

Devices

COM1[01]\_1234567890123456

English(E)  
French(F)  
German(G)  
Italian(I)  
Polish(P)  
Portuguese(T)  
Russian(R)  
Spanish(S)  
Ukrainian(U)  
Turkish(T)  
Chinese(C)

Battery type: Gel Model name: IPANDA-MPPT-60A  
Main firmware version: 1.0

**Input information**

PV voltage: 144.7 V Environment temperature: 37.0 °C

**Output information**

Output voltage: 28.4 V Output power: 822.4 W  
Output current: 28.96 A Total power: 0.0 kWh  
Battery temperature: 0.0 °C

**Real-time events**

ID	Level	Time	Event
3001	Messa...	2011-11-11 16:01:...	Communication restore

↓ 0.05K/S ↑ 1.9K/S

Figure 1: PC Firmware

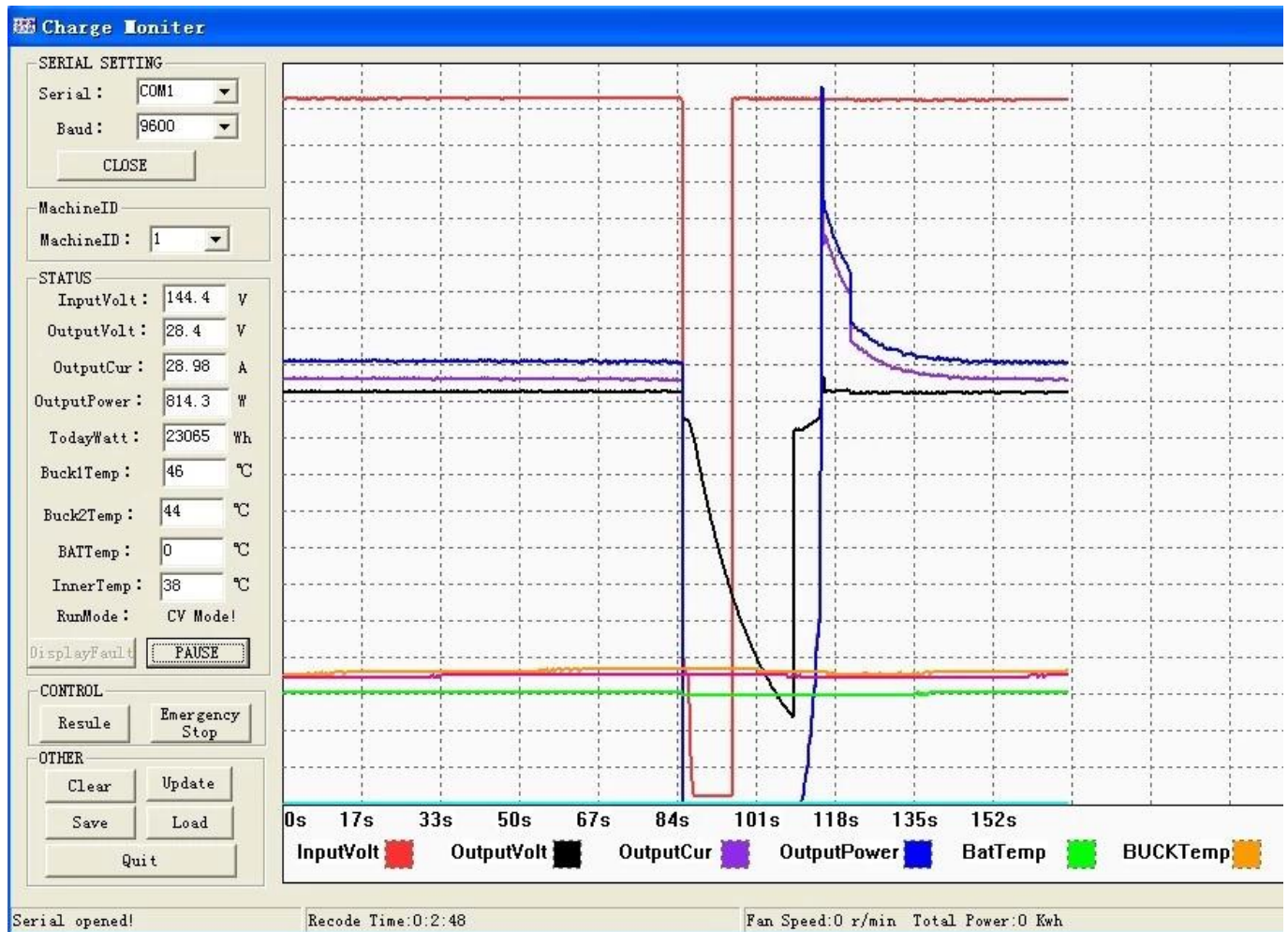


Figure: Testing Software

## System

