

## 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 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 LED 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(local area network) remote control.
- 14.Equipment integrity: controller+CD-ROM(microcomputer software) + communication wire+manual+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.

## Parameter:

Model:I-P-SMART1-DC12V/24V/48V-series	40A	50A	60A	
Charge Mode	Maximum Power Point Tracking			
Method	3 stages: fast charge(MPPT),constant voltage,floating charge			
System Type	DC12V/24V/48V	Automatic recognition		
System Voltage	12V system 24V system 48V system	DC9V~DC15V DC18V~DC30V DC36V~DC60V		
Soft Start Time	12V/24V/48V system	≤10S		
Dynamic Response Recovery Time	12V/24V/48V system	500us		
Conversion Efficiency	12V/24V/48V system	≥96.5%,≤99%		
PV Modules Utilization Rate	12V/24V/48V system	≥99%		
Input Characteristics				
MPPT Working Voltage and Range	12V system 24V system 48V system	DC18V~DC150V DC34~DC150V DC65~DC150V		
Low Voltage Input Protection Point	12V system 24V system 48V system	DC16V DC30V DC60V		
Low Voltage Input Recovery Point	12V system 24V system 48V system	DC22V DC34V DC65V		
Max DC Voltage	12V/24V/48V system	DC160V		
Input Overvoltage Protection Point	12V/24V/48V system	DC150V		
Input Overvoltage Recovery Point	12V/24V/48V system	DC145V		
Max. PV Power	12V system 24V system 48V system	560W 1120W 2240W	700W 1400W 2800W	900W 1700W 3400W
Output Characteristics				
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			
Floating Charge Voltage	12V/24V/48V system	Please check the charge voltage according to the battery type form.		
Over Charge Protection Voltage	12V system 24V system 48V system	14.6V 29.2V 58.4V		
Rated Output Current	12V/24V/48V system	40A	50A	60A
Current-limiting Protection	12V/24V/48V system	44A	55A	66A
Temperature Factor	12V/24V/48V system	±0.02%/ <sup>o</sup> 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	$\leq \pm 1.5\%$
Display		
LCD display	Input, output parameter and output power etc (check the LCD display instruction)	
LED display	3 LEDs indicate: Fault indicate light, charge indicate light, power source indicate light (check the LED instruction)	
Software Control through PC(communication port)	RS232 (optional) 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	$\leq 40\text{dB}$	
Thermal methods	Forced air cooling, fan speed rate regulated by temperature, when inner temperature is too low, fan runs slowly or stops; when controller stops working, fan also stops running.	
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 no toxic substances.	
Environment Protection	Meet the 2002/95/EC, no cadmium hydride and fluoride	
Physical		
Measurement D x W x H(mm)	270*185*90	
N.G(KG)	3.6	
G.N(KG)	4.2	
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	

## Pictures:



## The Figures of the PC Firmware and Testing Software

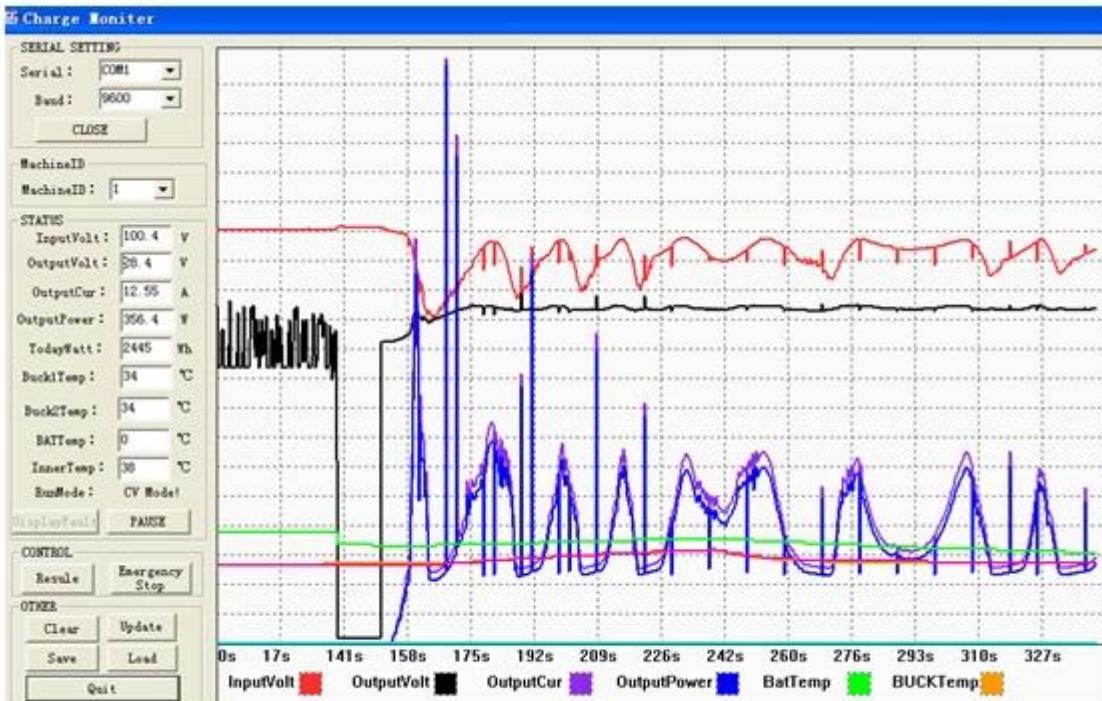


Figure2: Testing Software

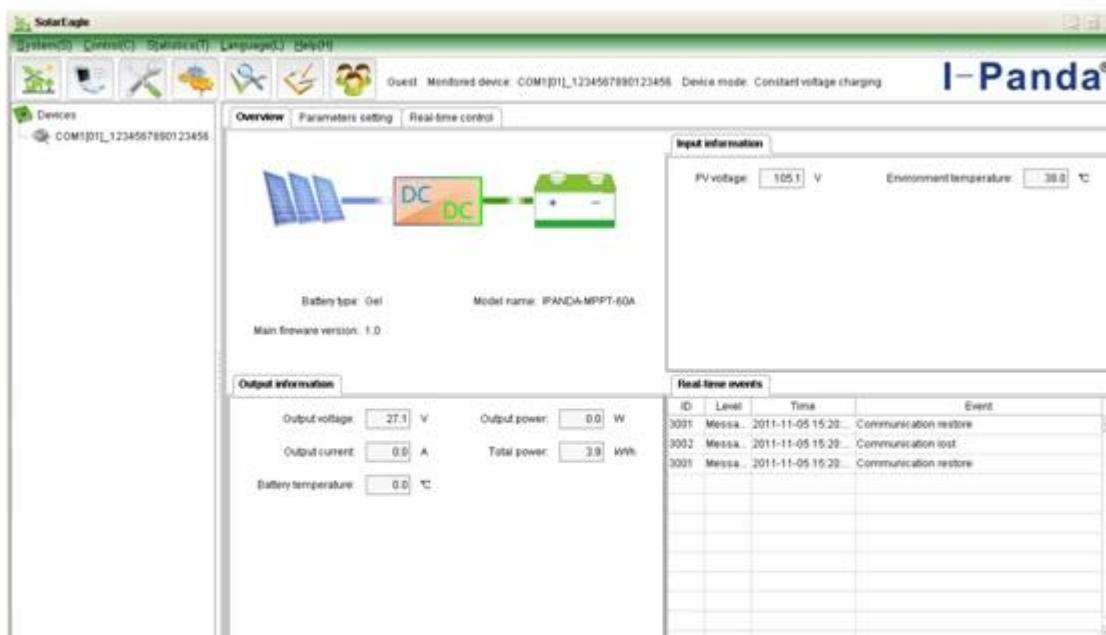


Figure 1: PC Firmware

- Note: 1) Attachment have upper computer software , suitable for all computer system .  
 2) Trafficker will provide neutral upper computer software and CD ,or software with customer's logo .  
 3) WIN7 , WIN8 system user , please log in as administrator: More details please check the manual.