

## High Conversion Efficiency Wide Range Input Voltage DC12V/24V/48V System Automatic Identification

I-P- SMART1-DC12V/24V/48V-40A MPPT Solar chargeController. With MPPT, it can target the highest output possible from PV panels,make efficiency higher upto 30%~60% than traditional PWM ones. It can storeenergy to different kinds of batteries(Gel,Vented, Sealed, NiCd etc.). For all ofour products has passed CE, ROHS, FCC etc.Unlimited connect in parallel.

### System



### Features

1. Peak efficiency upto 99% with [MPPT](#),increasing30%~60% efficiency than traditional controller.
2. [12v/24v/48v](#) system voltage automatic recognize.
3. Max. input PV voltage upto DC150V.
4. 105degrees can be suffered by good components.
5. Charge mode: three stages (fast charge,constant charge, floating charge)
6. Support kinds of batteries:Gel,Sealed leadacid,vented,NiCd,etc.
7. LCD and LEDs show parameters and systeminformation,like PV input voltage,battery voltage,charge current,chargepower,etc.
8. Port RS232 or connects to PC with uppersoftware to show working state and parameters in 11 languages.
9. CE,RoHS, FCC certificatons approved.
10. 2 years warranty;3~10 years extended technicalservice.

### Parameter

Model:I-P-SMART1-DC12V/24V/48V-series	40A
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	DC9V~DC15V
	24V system	DC18V~DC30V
	48Vsystem	DC36V~DC60V
Soft Start Time	12V/24V/48Vsystem	≤10S
Dynamic Response Recovery Time	12V/24V/48Vsystem	500us
Conversion Efficiency	12V/24V/48Vsystem	≥96.5%,≤99%
PV Modules Utilization Rate	12V/24V/48Vsystem	≥99%
<b>Input Characteristics</b>		
MPPT Working Voltage and Range	12V system	DC18V~DC150V
	24V system	DC34~DC150V
	48V system	DC65~DC150V
Low Voltage Input Protection Point	12V system	DC16V
	24V system	DC30V
	48V system	DC60V
Low Voltage Input Recovery Point	12V system	DC22V
	24V system	DC34V
	48V system	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	570W
	24V system	1130W
	48V system	2270W
<b>Output Characteristics</b>		
Selectable Battery Types (Default type is GEL battery)	12V/24V/48Vsystem	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	
Over Charge Protection Voltage	12V system	14.6V
	24V system	29.2V
	48V system	58.4V
Rated Output Current	12V/24V/48V system	40A
Current-limiting Protection	12V/24V/48V system	44A
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>Display</b>		
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)
<b>Protection</b>		
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.
<b>Other Parameters</b>		

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
<b>Physical</b>	
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
<b>Environment</b>	
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

### RS232 Connect Way



