

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

I-P-SMART1-[DC12V/24V/48V-50A](#) MPPT Solar charge Controller. With [MPPT](#), it can target the highest output possible from PV panels, make efficiency higher up to 30%~60% than traditional PWM ones. It can store energy to different kinds of batteries (Gel, Vented, Sealed, NiCd etc.). For all of our products has passed CE, ROHS, FCC etc. Unlimited connect in

System



Features

1. Peak efficiency up to 99% with MPPT, increasing 30%~60% efficiency than traditional [controller](#).
2. 12v/24v/48v system voltage automatic recognize.
3. Max. input PV voltage up to 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 lead acid, vented, NiCd, etc.
7. LCD and LEDs show parameters and system information, like PV input voltage, battery voltage, charge current, charge power, etc.
8. Port RS232 or connects to PC with upper software to show working state and parameters in 11 languages.
9. CE, RoHS, FCC certifications approved.
10. 2 years warranty; 3~10 years extended technical service.

Parameter

Model: I-P-SMART1-DC12V/24V/48V-series		50A
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
	48V system	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/48Vsystem	≥99%
Input Characteristics		
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	700W
	24V system	1400W
	48V system	2800W
Output Characteristics		
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	50A
Current-limiting Protection	12V/24V/48V system	55A
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%
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

RS232 Connect Way

