## Introduction

This is a MPPT (maximum Power Point Tracking) smart solar controller, with charging and discharging function, increasing 30%~60% efficiency than traditional PWM controller. It has automatic recognition function, three Stages charging function, also supports many kinds of battery charging and discharging, RS232 communication etc, It's our company's MPPT solar controller e-SMART series.

### **Features**

- 1. MPPT charging mode, peak efficiency up to 99%;
- 2. DC12V/24V/48V battery system automatic recognition;
- 3. Maximum PV input voltage up to DC100V;
- 4. Three stages charge: fast charge(MPPT), constant voltage charge, floating charge;
- 5. Three option of discharge: on mode and off mode and PV voltage(solar) control mode.
- 6. Users can choose 4 kinds of commonly standard batteries(Sealed lead acid, Vented, Gel, NiCd);
- 7. Digital tube can display battery voltage and charging current;
- 8. RS232 communication, we can offer communication protocol also;
- 9. This controller can be paralleled infinitely.
- 10. CE, RoHS and FCC Certifications are approved.
- 11. 2 years warranty; 3~10 years extended technical service.

#### Parameter

MPPT solar con I-P-e-SMART-12	troller modes[] V/24V/48V-series	40A	
Charge mode	MPPT(maximum power point tracking)		
Charge method	Three stages: constant current(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	≤3S	

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Dynamic				
response	12V/24V/48V	500us		
recovery and	system			
range				
MPPT efficiency	12V/24V/48V system	≥96.5%,≤99%		
INPUT CHARACTER				
MPPT working	12V system	DC14V~DC100V		
voltage and	24V system	DC30~DC100V		
Range	48V system	DC60~DC100V		
Range	-	DC14V		
Low voltage input Protection point	12V system	DC30V		
	24V System			
	48V system	DC60V		
Low voltage input	12V system	DC18V		
Recovery point	24V system	DC34V		
	48V system	DC65V		
Input over voltage protection point	12V/24V/48V system	DC110V		
Input over voltage recovery point	12V/24V/48V system	DC100V		
	12V system (W)	568		
Maximum PV	24V system (W)	1136		
power	48V system (W)	2270		
CHARGE CHREC				
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)[]		
	12V/24V/48V	Please check the charge voltage according to the		
Constant Voltage	system	battery type form.		
Floating Charge	12V/24V/48V	Please check the charge voltage according to the		
Voltage	system	battery type form.		
Rated Input	12V/24V/48V			
Current	system	40A		
Current-limiting	12V/24V/48V			
Protection	system	45A		
Temperature	12V/24V/48V			
Factor	system	±0.02%/°C		
Temperature	12V/24V/48V			
Compensation	system	14.2V-(The highest temperature-25°C)*0.3		
Output				
Ripples(peak)				
inhhies(heak)	12V/24V/48V	200mV		
Output Voltage	system	200mV		
Output Voltage				
Stability	system	200mV ≤±1.5%		
Stability Precision	system 12V/24V/48V system	≤±1.5%		
Stability Precision Output Discharg	system 12V/24V/48V system	≤±1.5% s		
Stability Precision <b>Output Discharg</b> Output voltage	system 12V/24V/48V system <b>je Characteristic</b>	≤±1.5%		
Stability Precision <b>Output Discharg</b> Output voltage Low voltage outpu	system 12V/24V/48V system Je Characteristic	≤±1.5% s Base on battery voltage		
Stability Precision <b>Output Discharg</b> Output voltage Low voltage outpu Protection point	system 12V/24V/48V system <b>je Characteristic</b> it	≤±1.5% s Base on battery voltage Default 10.5V; recovery 11V; custom available ;		
Stability Precision <b>Output Discharg</b> Output voltage Low voltage outpu	system 12V/24V/48V system <b>je Characteristic</b> it	≤±1.5% s Base on battery voltage		

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Check the input characteristics	
Check the input characteristics	
yes	
yes	
g	
Imported material, with EU standards.	
CE\FCC\ROHS	
IP25	
0~3000m	
-20°C ~ +50°C	
-40°C ~ +75°C	
70~106kPa	

# **Products photos**

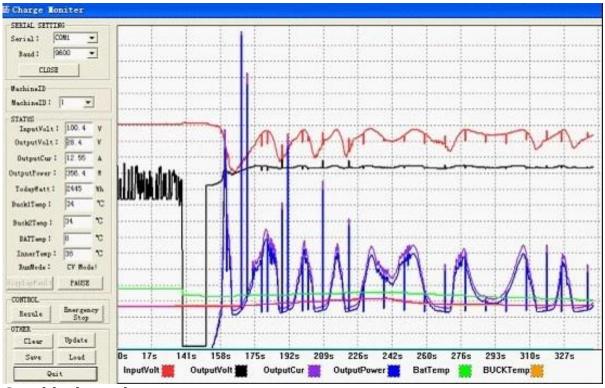




Upper software and test software display information and set parameters

SolarEagle					
System(S) Control(C) Statistics(T) Language(L) Help(H)					
x 🔊 🗶 🍬	Guest Monitored device: Device mode:				
Devices	Overview Parameters setting Real-time control	A			
		Input information			
	Battery type: Load type: Main fireware version: Model name:	PV voltage: 0.0 V Environment temperature: 0.0 °C			
-	Charge information	Real-time events			
	Charge voltage: 0.0 V Charge power: 0.0 W Charge current 0.0 A Total power: 0.0 Wh Battery temperature: 0.0 °C	ID Level Time Event			

#### Graphical: upper software



Graphical: testing ware