## 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.

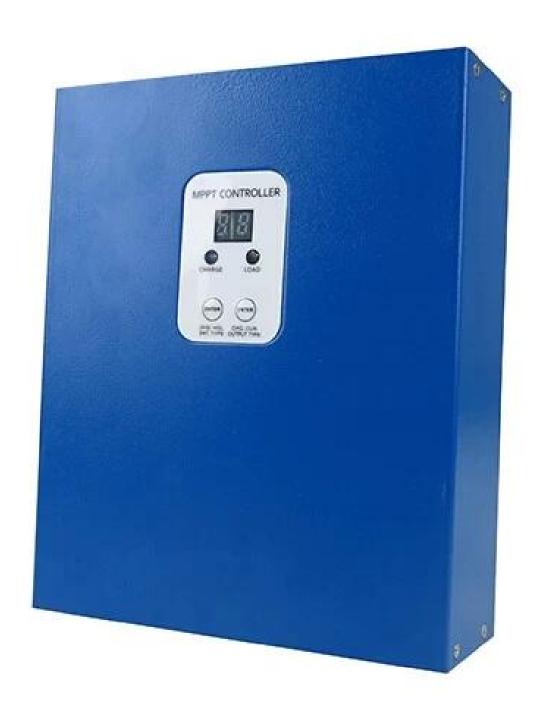
## **Parameters**

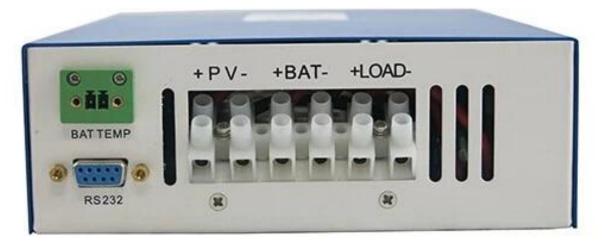
MPPT solar controller modes I-P-e-SMART-12V/24V/48V-series		40A
Charge mode	MPPT(maximum power point tracking)	
Charge method	Three stages: constant current(MPPT),constant voltage,floating charge	
System type	DC12V/24V/48V	Automatic recognition
, ,	12V system	DC9V~DC15V
	24V system	DC18V~DC30V
	48V system	DC36V~DC60V
Soft start time	12V/24V/48V system	≤3\$

recovery and rangesystem   P00005   MPPT efficiency   12V/24V/48V   system   296.5%, ≤99%   MPPT working   12V system   DC30-DC100V   24V system   DC30-DC100V   24V system   DC30-DC100V   24V system   DC30-DC100V   24V system   DC30V   24V	Dynamic response	12V/24V/48V				
MPPT efficiency   System   296.5%,≤99%   System   NPUT CHARACTERISTICS	Dynamic response   12V/24V/48V recovery and rangesystem		500us			
NPUT CHARACTERISTICS						
INPUT CHARACTERISTICS   IZV system   DC14V~DC100V   May system   DC30~DC100V   May system   DC30~DC100V   May system   DC30V   May system   DC34V   May system   May son, always off, PV voltage control switch   Display   DC34V   May son, always off, PV voltage control switch   Display   DC34V   May son, always off, PV voltage control switch   Display   DC34V   May son, always off, PV voltage control switch   Display   DC34V   May son, always off, PV voltage control switch   Display   DC34V   May son, always off, PV voltage control switch   Display   DC34V   May son, always off, PV voltage control switch   Display   DC34V	MPPT efficiency	1 ' '	≥96.5%,≤99%			
MPPT working voltage and Range   24V system   DC30~DC100V						
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Input over voltage recovery point   12V/24V/48V system   12V system (W)   136   24V system (W)   136   24V system (W)   1270   270			DC110V			
recovery point   System   DC100V						
Table   Tabl	, .		DC100V			
Maximum PV power 24V system (W) 2270  CHARGE CHRECTRESTICS  Selectable Battery Types (Default type is Sattery)  Constant Voltage 12V/24V/48V system battery type form.  Floating Charge Voltage system battery type form.  Rated Input 12V/24V/48V system battery type form.  12V/24V/48V system battery type form.  45A  **Temperature 12V/24V/48V system battery type form.  12V/24V/48V system battery type form.  14.2V-(The highest temperature-25°C)*0.3  **Output Voltage base on battery voltage base on battery voltage base on battery voltage befault 10.5V; recovery 11V; custom available; pefault 10.5V; recovery 11V; custom available; pefault 10.5V; recovery 11V; custom available; always on, always off, PV voltage control switch control on the potential pound of the potential pound of the potential pound of the pound of t		1 -	568			
Dower   A8V system (W)   2270						
CHARGE CHRECTRESTICS Selectable Battery Types (Default type is GEL battery)  Constant Voltage Floating Charge Voltage Rated Input Current system Current-limiting Protection Temperature	power					
Selectable Battery Types (Default type is GEL battery)  Constant Voltage Floating Charge Voltage System  Floating Charge Voltage Rated Input Current System  Current-limiting Protection  Temperature Temperature Temperature System  Output Voltage Stability Precision  Output Voltage Stability Precision  Output Voltage Stability Protection  Dutput Voltage Stability Precision  Dutput Voltage Stability Precision  Dutput Voltage Stability Precision  Dutput Voltage Stability Precision  Dutput Voltage Low voltage output Protection point Rated output Current Always on, always off, PV voltage control switch Output control set mode Controller button or upper computer  Display  LED digital tube display  Battery voltage, charge current LED light display  Protection  Protection  Protection  Protection  Battery voltage, charge current Charging indicator light, LOAD indicator light Protection  Protection	CHARGE CHRECT		F=: -			
Types (Default type is GEL battery)  Constant Voltage 12V/24V/48V system Please check the charge voltage according to the battery type form.  Floating Charge 12V/24V/48V please check the charge voltage according to the battery type form.  Floating Charge 12V/24V/48V please check the charge voltage according to the battery type form.  Floating Charge 12V/24V/48V please check the charge voltage according to the battery type form.  Rated Input 12V/24V/48V please check the charge voltage according to the battery type form.  Rated Input 12V/24V/48V please check the charge voltage according to the battery type form.  ### 40A  ### 40A  ### 45A  ### 54A  ### 54		1				
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Voltage     system     battery     type form.       Rated Input     12V/24V/48V     40A       Current     system     40A       Current-limiting     12V/24V/48V     45A       Protection     system     ±0.02%/°C       Temperature     12V/24V/48V     ±0.02%/°C       Temperature     12V/24V/48V     200mV       Compensation     system     200mV       Output     12V/24V/48V     200mV       Stability     system     ≤±1.5%       Precision     12V/24V/48V     system       Output Discharge Characteristics     Output voltage     Base on battery voltage       Output voltage output     Default 10.5V; recovery 11V; custom available;       Protection point     Always on, always off, PV voltage control switch       Output control set mode     Controller button or upper computer       Display     LED digital tube display     Battery voltage, charge current       LED digital tube display     Battery voltage, charge current       LED light display     Charging indicator light, LOAD indicator light       PC[communication port[]     RS232       Protection	Floating Charge					
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LED digital tube display       Battery voltage, charge current         LED light display       Charging indicator light, LOAD indicator light         PC□communication port□       RS232         Protection		mode	Controller button or upper computer			
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PC[communication port[] RS232  Protection						
Protection						
·		port[]	JRS232			
Input Low Voltage Protection Check the input characteristics						
			Check the input characteristics			
Input Overvoltage Protection Check the input characteristics	<u> </u>		·			
Charge over voltage power Protection yes						

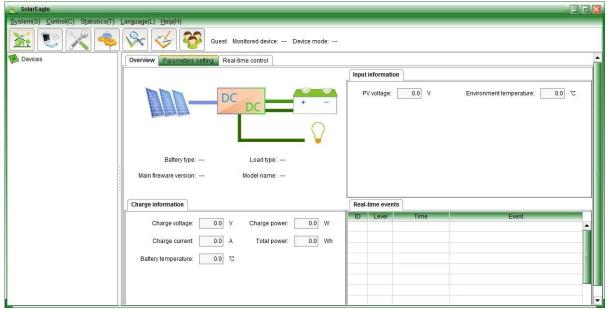
Low Voltage output Protection	yes				
Rated output Current protection	yes				
Temperature Protection	yes				
Other Parameters					
Noise	≤40dB				
Thermal heat-dissipating method	Itself cooling	fan cooling			
Components	Imported material, with EU standards.				
Certification	CE\FCC\ROHS				
Physical					
Measurement D x W x H(mm)	205*168*60				
package size D x W x H(mm)	265*196*110				
N.G(KG)	1.8kg				
G.N(KG)	2kg				
Type of Mechanical Protection	IP25				
Environment					
Humidity	0~90%RH ( no condense)				
Altitude	0~3000m				
Operating Temperature	-20°C ~ +50°C				
Storage Temperature	-40°C ~ +75°C				
Atmospheric Pressure	70~106kPa				

# **Products photos**

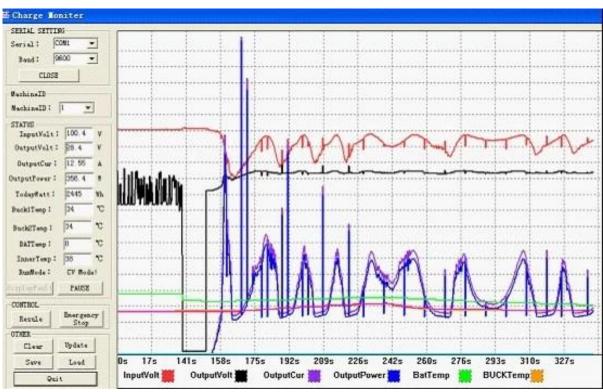




### Upper software and test software display information and set parameters



Graphical: upper software



Graphical: testing ware