### Introduction

This is a MPPT (maximum Power Point Tracking) smart solar controller, with charging and discharging function, i ncreasing 30%~60% efficiency than traditional PWM controller. It has automatic recognition function, three Stag es charging function, also supports many kinds of battery charging and discharging, RS232 communication etc, I t's our company's MPPT solar controller e-SMART series.

#### **Features**

- 1. **MPPT charging mode, peak efficiency up to 99%**, saving 30%~60% solar panel than traditional PWM con troller
- 2. **DC12V/24V/48V battery system automatic recognition**, users would like to use in different system conveniently.
- 3. DC12V/24V/48V system, maximum PV input voltage up to DC100V.
- 4. Charge type: **three stages charge** fast charge(MPPT), constant voltage, floating charge, protected our battery, lead to a long use age.
- 5. Discharge type owns always on pattern and always off pattern, it also has PV voltage solar controlling switch pattern.
- 6. Clients can **auto select any one in the 4 kinds of commonly used batteries**, Sealed lead acid, vented, Gel, NiCd and custom other batteries.
- 7. **Digital tube display** controller battery voltage and charging current,upper computer display various param eters, such as model, PV input voltage, battery types, battery voltage, charging current, charging power, workin g condition etc.
- 8. **RS232 communication**, and that providing communication protocol, it's convenient for customer's integrati on management.
- 9. This controller could be paralleled infinitely.
- 10. **CE, RoHS FCC Certifications approved**; cooperating with clients through the other certifications.
- 11. **2 years warranty**; 3~10 years extended technical service.

## **Products photos**









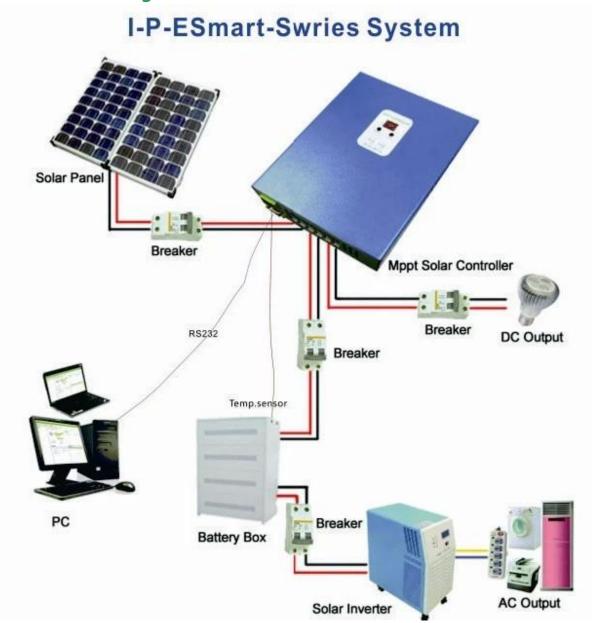
## **Parameters**

MPPT solar controller modes  I-P-e-SMART-12V/24V/48V-series		15A	20A	25A	30A	40A
Charge mode	MPPT(maximum power point tracking)					

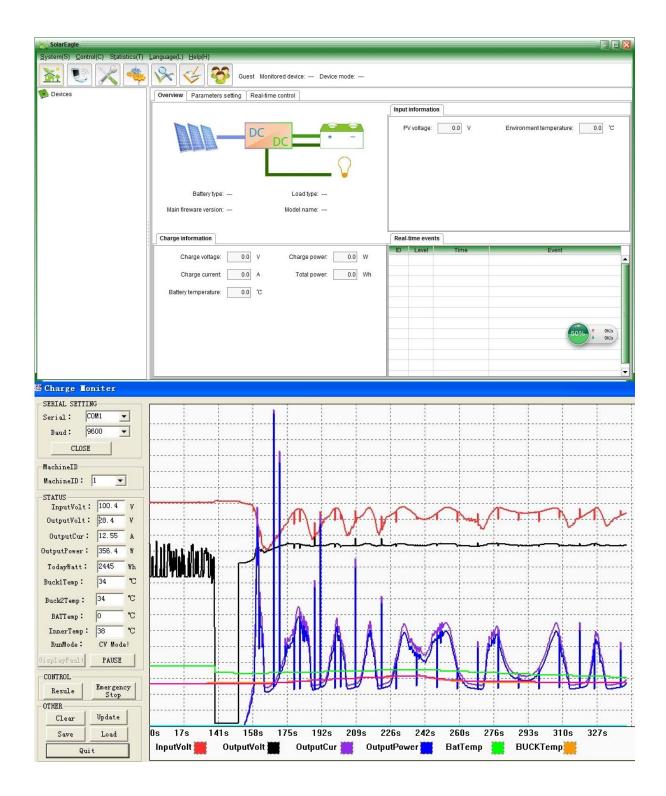
Charge method	Three stages: consta	nt current(M	1PPT),const	ant voltage	floating cha	rge		
System type	DC12V/24V/48V					··· <del>·</del>		
	12V system	DC9V~DC1						
System voltage	24V system	DC18V~DC						
	48V system	DC36V~DC60V						
Soft start time	12V/24V/48V system							
Dynamic response recovery time	12V/24V/48V system							
MPPT efficiency	12V/24V/48V system	≥96.5%,≤9	99%					
INPUT CHARACTER								
MDDT I'	12V system	DC14V~DC	C100V					
MPPT working	24V system	DC30~DC100V						
voltage range	48V system	DC60~DC100V						
l and langue males are	12V system	DC14V						
Low input voltage protection point  Low input voltage	24V system	DC30V						
	48V system	DC60V						
	12V system	DC18V						
Recovery point	24V system	DC34V						
	48V system	DC65V						
High input voltage protection point	12V/24V/48V system	DC110						
High input voltage recovery point	12V/24V/48V system	DC100V						
	12V system (W)	213	284	355	426	568		
Maximum PV power	24V system (W)	426	568	710	852	1136		
	48V system (W)	852	1136	1420	1704	2272		
CHARGE CHRECTRE	STICS							
Selectable Battery								
Types (Default 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	Disconsistent the player relieve and the barrier						
Floating Charge	12V/24V/48V system	Please check the charge voltage according to the battery						
Voltage Rated Input Current	12V/24V/48V system	1 .	20A	25A	30A	40A		
Current-limit	12V/24V/48V system		25A	30A	35A	45A		
Protection Temperature Factor	12V/24V/48V system							
Temperature								
Compensation	12V/24V/48V system	14.2V-(The	highest te	mperature-	25°C)*0.3			
	12V/24V/48V system	200mV						
Stability Precision	12V/24V/48V system	≤±1.5%						
Output Discharge (	haracteristics	÷ •						
Output voltage		Base on ba	itterv volta	ae				
Low voltage output								
Protection point			Default 10.5V; Recovery 11V; It can be adjustable.					
Rated output Current		30A						
The output control		On mode, 0	Off mode, I	PV voltage c	ontrol mode			
Output control set mode		Controller button or PC software						
Display								
LED digital tube displ	ay	Battery vol						
LED light display		Charging indicator light, LOAD indicator light						
PC∏communication p	ort[]	RS232						
Protection								
Low input voltage protection		Check the input characteristics						
High input voltage protection		Check the input characteristics						
Charge overpower protection		yes						
Discharge low voltage	nrotection	yes						
	nt protection	yes						
Temperature protecti	nt protection	yes yes						
Temperature protecti <b>Other Parameters</b>	nt protection	yes						
Discharge high currer Temperature protecti <b>Other Parameters</b> Noise Thermal heat-dissipat	nt protection on	··! <del>·</del> ·····			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			
Mechanical Protection	IP25			
Environment				
Humidity	0~90%RH ( no condense)			
Altitude	0~3000m			
Operating Temperature	-20℃ ~ +50℃			
Storage Temperature	-40℃ ~ +75℃			
Atmospheric Pressure	70~106kPa			

# **Connection diagram**



**Upper software** 



# **Company photos**









