- **feature:**

1. MPPT charging mode, the peak efficiency is up to 99%, saving 30%~60% of the traditional PWM controller of solar panels.

2. The DC12V / 24V / 48V battery system is automatically recognized, so users can easily use it in different systems.

3. The MaximumPV input voltage is up to DC100V.

4. Three-level charging: fast charging (MPPT), constant voltage charging, floating charging, can protect the battery well.

5. Three discharges: about mode and off mode and PV voltage (solar) control mode.

6. Users can choose 4 commonly used standard batteries (sealed lead acid, Vented, Gel, NiCd). Other types of batteries can be defined by the user.

7. Digitaltube can display battery voltage and charging current. The software can display various parameters such as model number, PV input voltage, battery type, battery voltage, charging current, charging power, and working status.

8. RS232 communication, we can also provide communication protocols to facilitate user integration management.

9. This controller can be connected infinitely in parallel.

10. CE and RoHS certifications have been approved. We can help customers approve other certifications.

11. 2 year warranty; 3 to 10 years extended technical service.

- parameter:

MPPT solar controller mode: I-P-E-SMART-12V / 24V / 48V Series		15A	20A	25A	30A	40A
Charging mode	MPPT (maximum power point tracking)					
Charging method	Three phases: constant current (MPPT), constant voltage, floating charge					
System type	DC12V / 24V / 48V	auto recognition				
System voltage	12V system	DC9V~DC15V				
	24V system	DC18V~DC30V				
	48V system	DC36V~DC60V				
Soft start time	12V / 24V / 48V system	≤3S				
Dynamic response recovery time	12V / 24V / 48V system	500US				
MPPT efficiency	12V / 24V / 48V system	≥96.5%, ≤99%				

Input characteristics						
MPPT operating voltage range	12V system	DC14V~DC100V				
	24V system	DC30~DC100V				
	48V system	DC60~DC100V				
Low input voltage Protection point	12V system	DC14V				
	24V system	DC30V				
	48V system	DC60V				
Low input voltage Recovery point	12V system	DC18V				
	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				
Maximum photovoltaic power	12V system (W)	213	284	355	426	568
	24V system (W)	426	568	710	852	1136
	48V system (W)	852	1136	1420	1704	2272
Charge science						
Optional battery type (default gel battery)	12V / 24V / 48V system	Sealed lead acid, Vented, Gel, NiCd battery (You can also define other types of batteries))				
Constant pressure	12V / 24V / 48V system	Please confirm the charging voltage according to the battery type.				
Floating charge	12V / 24V / 48V system					
Rated input current	12V / 24V / 48V system	15A	20A	25A	30A	40A
Limiting protection	12V / 24V / 48V system	20A	25A	30A	35A	45A
Temperature Coefficient	12V / 24V / 48V system	±0.02%/°C				
Temperature compensation	12V / 24V / 48V system	14.2V- (maximum temperature -25 ° C) * 0.3				
Output ripple (peak)	12V / 24V / 48V system	200mV				
Output voltage stability accurate	12V / 24V / 48V system	≤±1.5%				
Output discharge characteristics						
The output voltage		Battery based voltage				
Low voltage output Protection point		The default is 10.5V; restore 11V; it can be adjusted.				
Rated output current		30A				
Output control		On mode, off mode, PV voltage control mode				
Output control setting mode		Controller button or PC software				
display						
LED digital tube display		Battery voltage, charging current				
LED light display		Charging indicator				
PC (communication port)		RS232				
protection						
Low input voltage protection		Check input characteristics				
High input voltage protection		Check input characteristics				

|		
Overcharge protection	Yes	
Low voltage discharge protection	Yes	
High current protection	Yes	
Temperature protection	Yes	
Other parameters		
noise	≤40dB	
Heat dissipation method	Cool yourself	Fan cooling
Component	Imported materials comply with EU standards.	
prove	CE \ FCC \ RoHS Directive	
physical		
Measuring D x W x H(mm)	205 * 168 * 60	
Package size D x W x H(mm)	265 * 196 * 110	
N.G (KG)	1.8 kg	
G.N (KG)	2KG	
Mechanical protection	IP25	
surroundings		
humidity	Relative humidity 0~90% (no condensation)	
height	0~3000 meters	
Operating temperature	-20°C~+ 50°C	
Storage temperature	-40°C~+ 75°C	
Air pressure	70~106kPa	

Remarks:

This specification is for reference only. Subject to change without noticeWe offer OEM and ODM services. The 36V / 72V / 96V models are also available for you.

- Product packaging

number	Quantity	Included items
1	1 item	Controller color (blue or green is optional OEM ODM order is very popular)
2	2	Hanger (for controllers hanging on the wall)
3	Set of 4	screw
4	1 item	RJ45 to RS232 cable
Fives	1 item	Battery temperature sensor line
6	2	Fuse (DC output)
7	1 item	User guidance (manual)
8	1 item	CD

- **Controller PC upper layer software and test software:**

1 Controller PC upper layer software and test software can display information. Users can set parameters through the upper software of the PC.
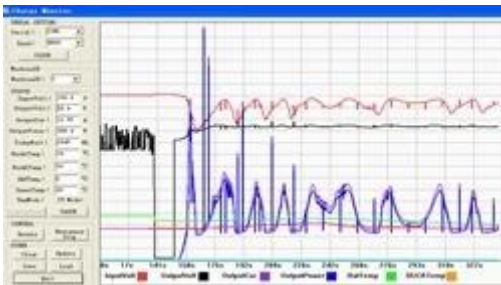
Graphics: PC upper layer software graphics: test software

1.1 The first picture shows the operating state (charge and discharge), PVV voltage, charging voltage, charging current, etc. of the solar controller. The user can select the type of battery and the DC load output control method.

1.2 We provide PC upper layer software. Test software is not included. (User's PC hassoftware development platform, if required, please apply)

2. Information display and parameter setting.

Figure 2.1

Figure 2.2

2.1 ENTER1 button: Press ENTER1 on the left to display 2 digital battery voltages (if charging, 2 digital charging voltages are displayed), for example, battery voltage or charging voltage is 13.5V, display 13, please see Figure 2.1; press ENTER1 a little bit For longer, the user can set the battery type.

2.2 ENTER2 button: Press ENTER2 to display 2 digital battery currents (if it is not charging, it will display 00. If the charging current is 22.5A, display 22, please refer to Figure 2.2); press ENTER2 button again to set DC load control (on mode, off mode, photovoltaic voltage control mode)

Please see the user manual for more details.

- Other detailed parameters

1. Please refer to the design outline, technical documentation, user manuals, etc.
2. The R&D department produced the second edition on May 5, 2014.