

## Connection Diagram:



## feature:

1. MPPT charging mode, peak efficiency of up to 99%, saving 30% to 60% of solar panels than traditional PWM controllers.
2. DC12V / 24V / 48V battery system is automatically recognized, users can easily use in different systems.
3. The maximum PV input voltage can reach DC100V.
4. Three-level charging: fast charging (MPPT), constant voltage charging, floating charging, can protect the battery well.
5. Three discharge options: open mode and off mode and PV voltage (solar) control mode.
6. Users can choose 4 commonly used standard batteries (sealed lead acid, aeration, gel, nickel cadmium). Other types of batteries can be defined by the user.
7. The digital tube can display the 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 integrated management.

9. The controller can be connected infinitely in parallel.
10. CE and RoHS certifications are 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		30A
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)	426
	24V system (W)	852
	48V system (W)	1704
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	30A
Limiting protection	12V / 24V / 48V system	35A
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:

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

## Product packaging

number	Quantity	Included items
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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**