

### Key Features

- eSmart Controller with peak efficiency up to 99% under MPPT charging mode, can save 30%~60% power compared with traditional PWM controller.
- DC12V/24V/48V battery system automatic detect, users can use it in different system easily.
- Maximum PV input voltage up to DC100V.
- Three stages charging: fast charge(MPPT), constant voltage charge, floating charge, which can protect batteries well .
- Three option of discharge: on mode , off mode and PV (Solar) voltage control mode.
- Users can choose 4 kinds of commonly standard batteries (Sealed lead acid, Vented, Gel, NiCd). Other kinds of batteries can be defined by users.
- Digital tube 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, working condition.
- RS232 communication, we can offer communication protocol also, it's convenient for user's integration management.
- This controller can be paralleled infinitely.
- Approved CE and RoHS Certifications. Can help clients pass other certifications.
- 2 years warranty; 3~10 years extended technical service.



## MPPT Solar Charge Controller

### eSMART Series 12V/24V/48Vdc 15Amp - 40Amp

#### Technical Specification

eSmart Series		15A	20A	25A	30A	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/24V/48V system	DC9V-DC15V/DC18V-DC30V/DC36V-DC60V				
Soft start time		≤3S				
Dynamic response recovery time		500us				
MPPT efficiency		≥96.5%, ≤99%				
<b>INPUT CHARACTERISTICS</b>						
MPPT working voltage range	12V/24V/48 system	DC14V-DC100V/DC30-DC100V/DC60-DC100V				
Low input voltage protection point		DC14V/DC30V/DC60V				
Low input voltage Recovery point		DC18V/DC34V/DC65V				
High input voltage protection point		DC110				
High input voltage recovery point		DC100V				
Maximum PV 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
<b>CHARGE CHRETRACTISTICS</b>						
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		Please check the charge voltage according to the battery type form.				
Floating Charge Voltage						
Rated Input Current		15A	20A	25A	30A	40A
Current Limit Protection		20A	25A	30A	35A	45A
Temperature Factor		±0.02%/℃				
Temperature Compensation		14.2V-(The highest temperature-25℃)*0.3				
Output Ripples(peak)		200mV				
Output Voltage Stability Precision		±1.5%				
<b>Output Discharge Characteristics</b>						
Output voltage	Base on battery voltage					
Low voltage output Protection point	Default 10.5V; Recovery 11V; It can be adjustable.					
Rated output Current	30A					
The output control	On mode, Off mode, PV voltage control mode					
Output control set mode	Controller button or PC software					
Display						
LED digital tube display	Battery voltage, Charge current					
LED light display	Charging indicator light, LOAD indicator light					
PC (communication port)	RS232					
<b>Protection</b>						
Low input voltage protection	Check the input characteristics					
High input voltage protection	Check the input characteristics					
Charge overpower protection	yes					
Discharge low voltage protection	yes					
Discharge high current protection	yes					
Temperature protection	yes					