

# INTELLI-CHARGE

## BATTERY/SOLAR TO BATTERY CHARGER

### 45 Amp, 3 Stage Charging Method



\*The IMAGE SHOWN HERE IS INDICATIVE ONLY, PLS REFER TO ACTUAL PRODUCT.

## **IMPORTANT INFORMATION**

Thank you for purchasing our DC to DC charger. Please read this instruction manual carefully before operating the device. Keep this manual in a safe place for future reference. This instruction manual is part of the product. It must be handed over along with the device if it is passed on to a third party.

## **WARNINGS:**

Explosive gases may escape from the battery during charging. Prevent flames and sparks and provide adequate ventilation.

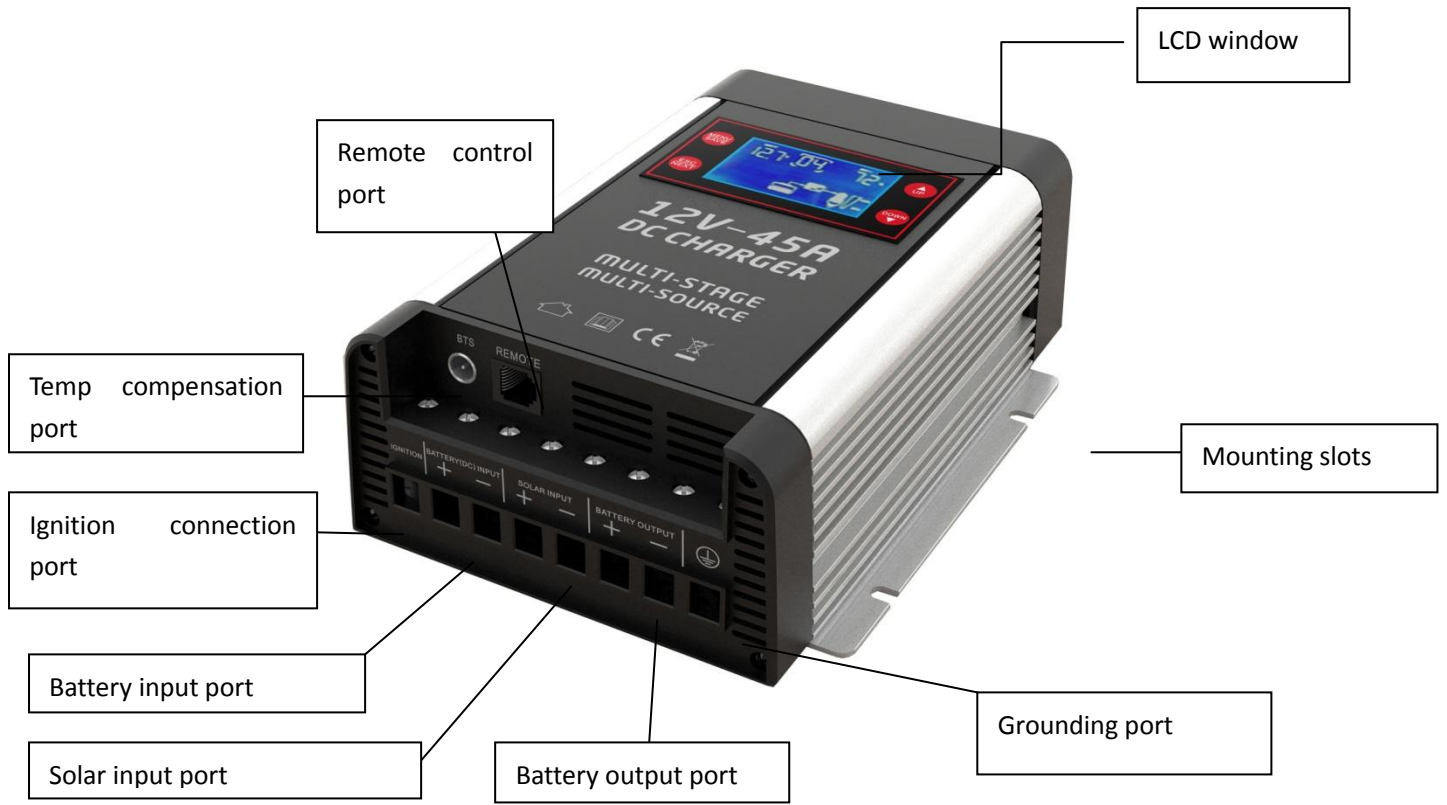
- Before charging, read the instructions
- In door use only
- Do not attempt to charge non-rechargeable batteries
- Never charge a frozen battery
- Corrosive substances may escape from the battery during charging and damage delicate surfaces. Store and charge in suitable area.
- This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised to ensure that they can use the appliance safely.
- Risk of electric shock! Do not open the device if it has been connected to the AC power source.

## **FEATURES**

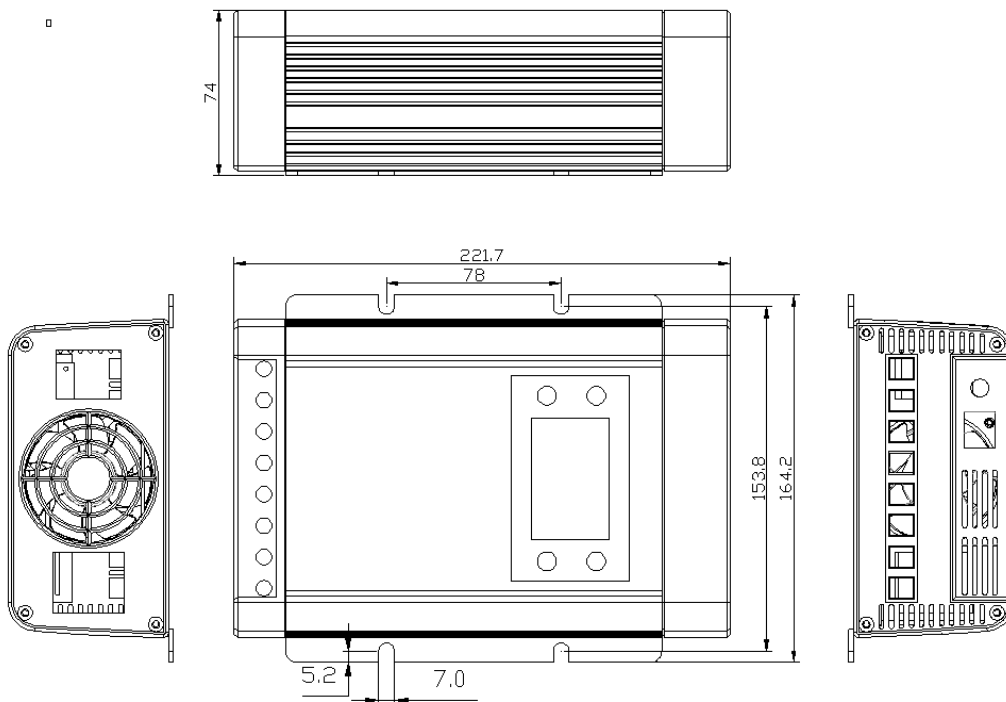
The DC to DC charger is purposely designed for charging auxiliary batteries. It includes all the features needed to maintain the auxiliary battery to its optimum condition and to prolong the battery life.

This product will offer you reliable service for providing a multistage, dual-input battery charger to charge the different types of batteries you have installed in either your home, boat, caravan, 4WD or commercial vehicle. It also supports solar charger from solar panels. This manual will explain how to use this unit safely and effectively.

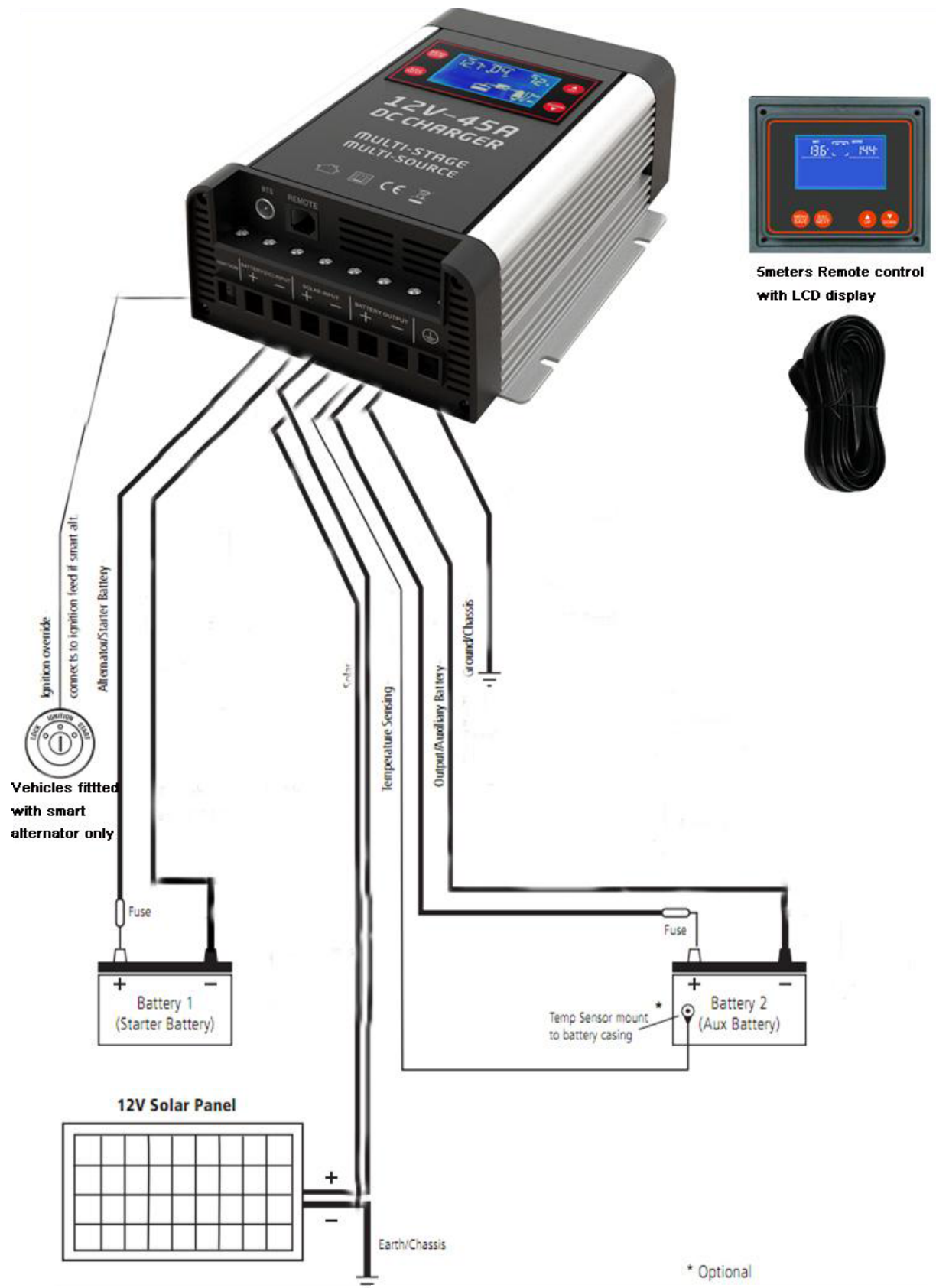
## PRODUCT OVERVIEW



## DIMENSION

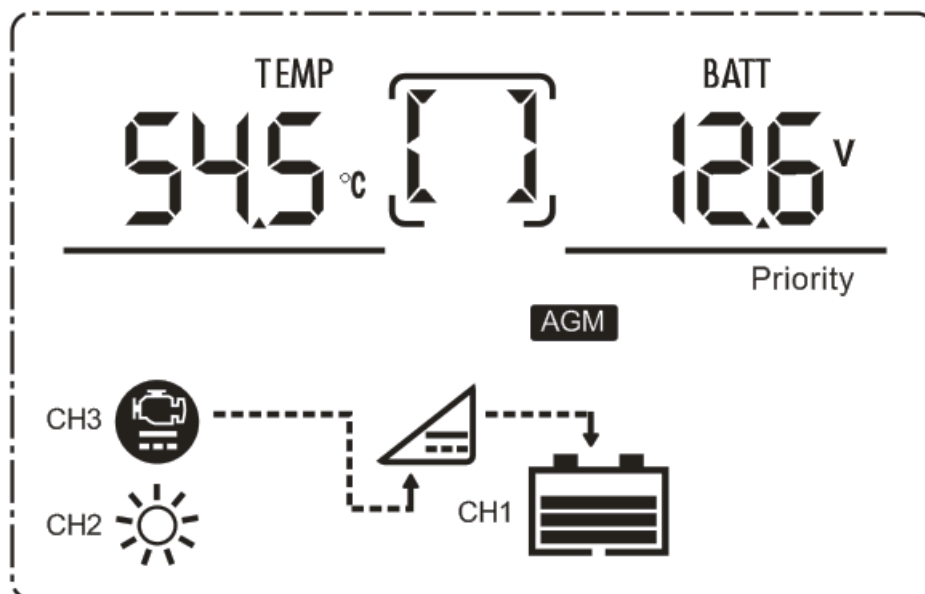


# WIRING INSTALLATION



## INTRODUCTION

### 1. DISPLAY INTERFACE:



No.	Icon	Function description
1		Indicate PV/DC input voltage, inner temperature, external temperature (BTS connected)
2		Indicate the setting programs or warning and fault codes (When the product runs normally: the icon rotates clockwise; when the product fails, display the fault codes.)
3		Indicate battery voltage, charging current, charging stage (Bulk charge -BUL, Constant voltage -ABS, Floating -FUL, No charging -NO)
4		Indicate battery capacity bar, it is displayed only when the battery is connected. It is dynamically displayed when charging.
5		Indicate the input status. When PV / DC is connected, its corresponding icons are displayed.
6		Battery type: AGM, WET, GEL, LI, Custom Program

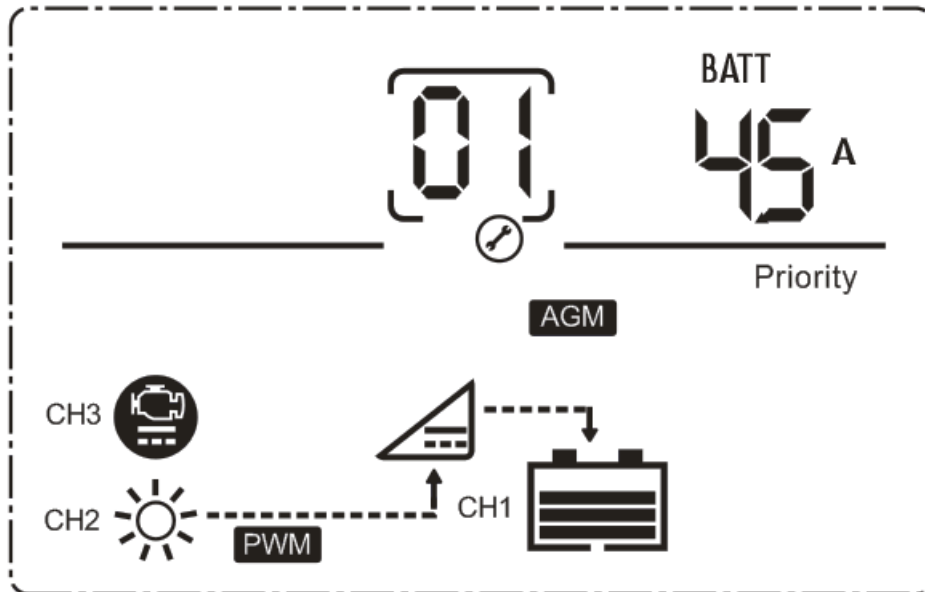
7	Priority	Ignition enable (Priority): The word is only displayed when the ignition terminal is available
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## 2. THE BUTTON SET:



- MENU/SAVE: Setting, enter and save button
- ESC/NEXT: Set and exit the menu interface, fixed display / circular display switching
- UP: Adjust the parameter (increase), view and restore fixed display data, force output on
- DOWN: Adjust the parameter (decrease), view and restore fixed display data, force output off

Note: The external LCD display operation is the same.



- Long press button 'MENU/SAVE' for 5s to enter the interface, '2' and '3' flash and display the data, '2' display the setting code; Press 'UP', 'DOWN' to set parameters, then press 'SET' to save.
- Press 'ESC/NEXT' to cancel the data adjustment and enter into next setting surface.
- Long press the 'ESC/NEXT' for 5s, exit the setting surface to main surface. More than 10s without any operation, the interface will automatically return to the main interface.
- When there is no fault, display backlight close automatically after 30s; when there is a fault or press the button, the display lights.
- Press 'ESC/NEXT' to set the display/cycle switching '1' and '3', display data PV/DC input voltage, internal temperature, external temperature (BTS connected), battery voltage, charging current.
- Press the "ESC/NEXT" key to set the display/cycle switching '1' and '3' display PV/DC input voltage, internal temperature, external temperature (BTS needs to be connected), battery voltage, charging current.
- Under the press the 'UP' or 'DOWN' switch '1' and '3' data.
- Press 'UP' and 'DOWN' for 5s, background flash three times, data will recover to factory set.

- The main LCD and the external LCD can both display (the external LCD supports hot swapping) and set the parameters, but only one can operate in the meantime(for example, when mainone is setting, the external LCD will flashes to indicate that the main LCD is working )

### Interface Setting Code

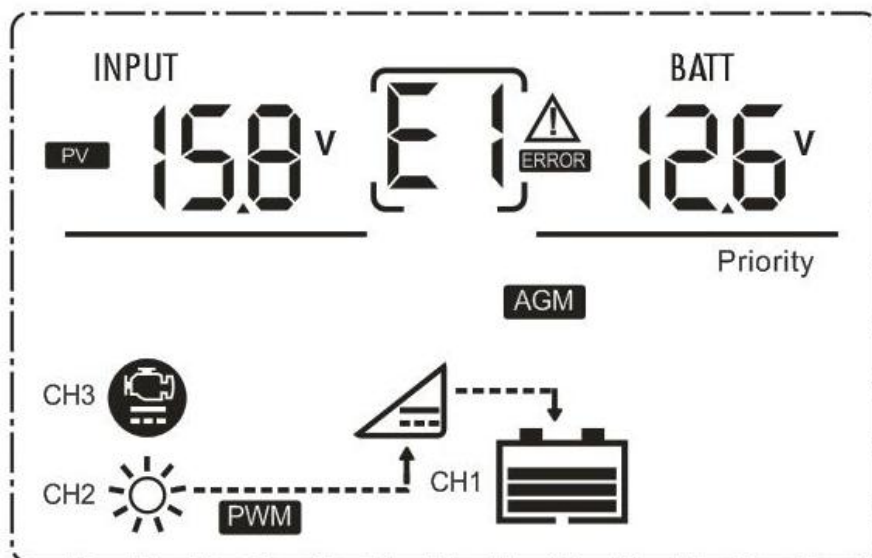
Setting Interface	Code	Range
Rated charging current	01	Default: 45A    Setting:10/15/20/25/30/35/40/45A
Battery type	02	Default: 1 Setting: 1-5(1:AGM,2:WET,3:GEL,4: LI, 5: Custom Program)
Constant voltage	03	When battery type is: 4(LI) Default: 14.4V    Setting: 12.6-14.8V 5(Custom Program) Default:14.2V    Setting:13.8-14.8V
Floating voltage	04	Only available when battery type is: 5(Custom Program) Default:13.8V    Setting:13.0-14.0V

#### Remark:

GEL Constant voltage 14.2V, floating charging voltage 13.6V  
 AGM Constant voltage 14.4V, floating charging voltage 13.8V  
 WET Constant voltage 14.6V, floating charging voltage 14.0V

## 2. TROUBLE SHOOTING:

When the product fails, there is corresponding code showed on the '2' part, the LCD backlight is always on and the failure icon flashes.





Faulty	Code	Faulty	Code
DC low voltage	E1	Internal over temperature warning	A1
DC over voltage	E2	external over temperature warning	A2
PV low voltage	E3	Internal&External over temperature warning	A3
PV over voltage	E4		
Internal over temperature	E5		
external over temperature	E6		
Internal&External over temperature	E7		

### 3. CHARGING TEST:

- When the ignition terminal is not enabled (ignition terminal have no voltage), PV has priority. The battery is normally connected. Under normal PV conditions, the battery is charged through the PV (charging voltage and current are based on product settings). If the PV fails (DC normal), the battery is automatically transferred to DC to charge the battery. After the PV is restored, the battery is automatically switched to PV, if it is not normal, stop charging.
- When the ignition terminal is enabled ( $10V < \text{Ignition port voltage} < 15VDC$ ), DC has priority. The battery is connected normally. Under normal DC conditions, the battery is charged through DC (charging voltage and current are based on product settings). If the DC fails (PV is normal), the battery is automatically transferred to the PV to charge the battery. When the DC is restored, the battery is automatically switched back To DC, if it is not normal, stop charging.
- Fan control:  
 OPEN: Internal temperature  $> 45^{\circ}C$  or Current  $> 30\%$  Setting charge current  
 CLOSED: Internal temperature  $< 35^{\circ}C$  and current  $< 20\%$  setting charge current.
- Internal or external temperature reach the protection value, stop charging; Auto. Recover when temperature is normal

Note: 1. Internal temp. protection  $> 65^{\circ}C$ ; External temp. protection  $< 55^{\circ}C$   
 2. External temp. protection  $> 60^{\circ}C$ ; Internal temp. protection  $< 50^{\circ}C$ , External compensation  $-3mv.^{\circ}C$   
 3. PV/DC protection and recover value find in below:

### 5. DATASHEET

INPUT	
Battery Input ( Start battery / DC generator )	
Input Voltage	12.9-16 VDC
Low voltage shut down	<12.5 VDC (After 2 minutes, if the voltage of charger is under 12.5V, the charger will shut off, or continue to work; if the voltage is less than 12VDC, the charger will shut off directly.)
Low voltage recovery	≥13 VDC
Over voltage shut down	≥15.8 VDC
Over voltage recovery	≤15 VDC
Solar Input	
Input voltage	15-45V(Open circuit voltage )
Low voltage shut down	≤15 VDC
Low voltage recovery	≥15.5 VDC
Over voltage shut down	≥45 VDC
Over voltage recovery	≤44 VDC
Power of solar panel	600W Max

OUTPUT				
Output voltage	12 VDC ( nominal voltage )			
Output current	45A Max			
Applicable battery type	GEL	AGM	WET	Lithium / program ( Custom settings )
Constant voltage / voltage range	14.2 VDC	14.4 VDC	14.6 VDC	13.8-14.8 VDC ( settable )
Float charging voltage range	13.6 VDC	13.8 VDC	14 VDC	13-14.2 VDC ( settable )
Charging current	45A default, optional 10/15/20/25/30/35/40A			
Charging mode	3-stage			
Open circuit losses	≤50mA			
Frequency	Max.90%			

OTHERS	
Internal over-temperature protection	temperature >65°C, the charger shut down; temperature <55°C, the battery recover to charge again

BTS	Temperature of battery > 60°C the charger shut down to protect the battery; temperature of battery <50°C , the battery recover to charger again
	Temperature compensation coefficient-3mV/°C
Product size	Undetermined

**Warranty**

Only covers the cost of parts and labor for the repair service within the warranty period. Warranty will not apply where the device has been misused, altered, neglected, improperly installed, or physically damaged, either internally or externally or damaged from improper use or use in an unsuitable environment. We shall not be liable for damages, whether direct, incidental, special or consequential, or economic loss even though caused by negligence, or other fault. if the device requires warranty service, please return it to the place of purchase along with a copy of the receipt with purchasing date.

**Disposal**

When the device has become unusable, dispose of it in accordance with the appliance disposal regulations.



Tips: the picture and function description just for reference, we reserve the right to change it and have no notice