User's Manual

Safety Attentions

1.Get the tools and cables ready. Select the appropriate cable to ensure that the current density is less than <6A/ mm², which is conductive to reduce the cable voltage damage.

- 2. This controller will be heat when working. Please install the controller on the flat, well ventilated
- 3.In the process of connecting wires please connect the battery first (in order to ensure the correct indentification of the battery voltage level) ,then connect the solar panel. After the controller completes the battery voltage lever indentification, manually close the load output of the controller and connect the controller finally.

4.In order to use security please do not use solar panels that exceed the rated current of the solar controller; please do not connect the load over rated current ;please do not use AC/DC switching power supply instead of solar panel to connet the controller.

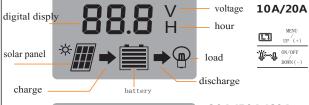
Product Features

protection

- Simple button operation
- Battery over discharge/overvoltage/low voltage Adjuatable charging and discharging control
- Load overcurrent/short-circuit protection
- Various load mode
- 5V/2A USB (WP20D/WP30D)
- Support Lead-acid battery and lithium battery charging and discharging

- 12/24/36/48V full automatic indentification
- Voltage temperature compensation
- Remote monitoring and communication function
 Accumulated amper hours
- Solar controllers can be work from the solar panel when the voltage of lithium battery is 0V

LCD Display/Button



30A/50A/60A:

Inteligent 3-stage PWM charging mode

Battery reverse discharge protection

Solar panel/Battery reverse connect protection

LCD display screen with backlight function

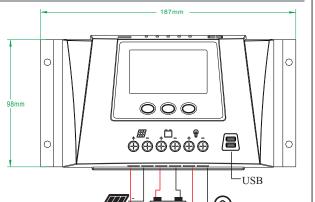
Reverse light control mode







WP30D System Connection



2 float/recovery voltage

144 \

12.5



ress menu to browse different interface

main display

battery type

6 load mode

PO 8

WP20D Display/Setting

WP20D System Connection

---- USB









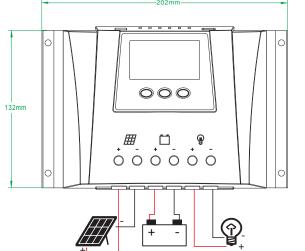


4 low-voltage recovery





WP50D/WP60D System Connection

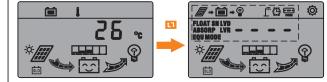


.First,according to the diagram,connect the positive and negative electrodes of the battery to the con troller, it will auto-indentify the battery voltage

- Then connect the solar panles to the controller. 3. Finally, connect the positive and negative electrodes of the load to the controller, prevent reverse. 4. When using lithium battery with protective panel, set the voltage level to be a fixed value. Do not set the battery to be automatic indentification. In order to prevent the protection of the lithium battery board from the solar input after starting the controller to indentify the error voltage. 5. The open-circuit voltage of the solar panels must be smaller than the maxium allowable voltage required by the lithium battery to prevent battery damage from excessive voltage. 6. When using the lithium battery, the short-circuit current of solar panel should be less than 0.3C (Lithium battery capacity).
 - .When using lithium battery in the environment below 0°C, lithium battery should be work well at
 - .Solar controllers do not have the equalizing function for lithium battery.So, the lithium battery mu build-involtage equalizing function.
 - 3.Please strictly connect the controller in the right order, otherwise it may damage the controller. 4. When remove the cables, please in the reverse order.

Factory Default Settings

At main loop interface 2,long press Menu till the symbols in the dotted column starts flashing,the controlling parameters will recover to the default value. Controller will restart automatically to renew the controller data



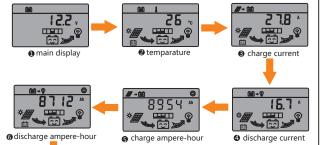
Various Working Modes For Load

There are four control modes for load.(1)nomal control mode,(2)light control on and delayed off mode,(3)light control mode,(4)reverse light control mode. The delayed duration can be Following are the working introduction for each mode:

Load mode dawn setting time 24H nomal control mode ~23H light control on and Load off Load off delayed off mode 0H light control mode Load on -Load off CH reverse light control Load off Load on

Note: WP20D do not have reverse light control mode

WP30D/WP50D/WP60D Display/Setting



ress menu to brows

ifferent interface

battery type auto-indentify of system voltage g press menu for 5 seconds to set the battery type Lithium battery typ

et Paramete

n main interface ns

oress menu to enter the

oop interface. Within 50

econds without any op-

ation and the controller

g recovery voltage

cut-off voltage

cut-off current







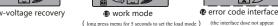












WP30D/WP50D/WP60D Error Code and Solution

		Error code	Cause	Solution
		E01	Low voltage of battery,load off	Charge the battery or change a new battery.
		E02	Overload,load off	Decrease the load, then use Minus button to turn on the load or the load will be automati- cally turn on after 2 minutes.
		E03	Load short-circuit,load off	Remove the short-circuit load,use Minus button to turn on the load.
		E04	Over-voltage of battery,load off	Check the connection of battery, and whether if the capacity of battery is too small, check if there is another charger connected with the ba- ttery.
		E05	troller stop charging	Check whether the power of solar panel has been over power ,decrease the panels and then the controller can be start to charging automa- tically after 2 minutes.

Technology Parameters

Temperature

Constant

Recorvery

charge voltage

Cut-off charge

Lithium

C-1	Model	WP20D	WP30D	WP50D	WP60D	
Solar Input	Rated Current	20A	30A	50A	60A	
_	Input Voltage	≤ 50V (12V/24V Auto)		≤ 100V (12V/24V/36V/48V Auto)		

Storage temperatur 3-stage charging(bulk charge, absorption charge, float charge) Working humidity 13.8V 13.8V (9~15Vadjustable) Dimension 13.8V 14.4V 14.0V 14.6V 14.4V (9~15V adjustable) Absorpion voltage Waterproof Absorption time 12.6V 15.5V te: Above parameters apply to system 12V as an example, if 24V/36V/48V system, the voltage parameter

-4mV/cell/ °C

2A(0.1A~30 A adjustable)

13.6V

16.0V

3-stage charging(bulk charge,constant-voltage charge,stop charge) b01 : Sealed latters

17.0V

13.6V(9~17V

3.7-3	3.7-4	3.2-4	3.2-5	USE2	b 03 : Flood ba
12.6V	16.8V	14.4V	18.0V	14.4V(9~17V adjustable)	b04 : Lithium b00 : Lead-ac

value should*2/*3*4 ote: WP20D controller without temperature compensation /backlight function.without cut-off current.

Lithium Battery

13.2V

14.8V

3.7-4

≤34.6V

≤50.8V

3.2-4

11.2V

12.8V

18.5V

18.0V

Lithium Battery

3.2-4

≤16.4V

≤29.8V

≤43.6V

>50.8V > 43.6V

-20 °C ~50 °C

-30 °C ~70 °C

WP20D: 166*88*38mm

WP30D: 187*98*50mm

270g/370g/665g/730g

IP30

WP50D/WP60D: 202*132*61mm

10%~90%, no condensation

6mm²(AWG #9) /16mm²(AWG#5) /25mm²(AWG#3)

3.2-5

14.0V

16.0V

3.2-5

≤20V

≤37V

≤54.4V

> 54.4V

11.2V(9~17V

12.8V(9~17V

Low-voltage 10.7V(9~15V

Low-voltage 12.6V(9~15V)

USB power 5V USB , the maxium output current is 2A

≤ 30V

≤40.8V

fv Range Of Batte

> 38.2V

protection

Over-voltage

Over-voltage

System

voltage

12V

24V

Max wire size

Working temperatu

Weight

protection