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www.e4g.pl   **User's Manual**   p@e4g.pl

SAFETY INSTRUCTIONS

1. Make sure your battery has enough voltage for the controller to recognize the battery type before first installation.
2. The battery cable should be as short as possible to minimize loss.
3. The regulator is only suitable for lead acid batteries:OPEN,AGM,GEL it is not suited for nickel metal hydride,lithium ions or other batteries.
4. The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.

PRODUCT FEATURES

1. Build-in industrial micro controller.
2. Large screen LCD display, charge and discharge parameters can be adjusted, with power off memory function.
3. Screen with backlight, even more high-grade (Note: some models have no backlight, backlight in no operation after 5S or so automatically shut down)
4. Dual USB output, the maximum current of 2.5A, to support Apple's mobile phone charging.
5. Fully 4-stage PWM charge management.
6. Build-in short-circuit protection,open-circuit protection,reverse protection,over-load protection.
7. Reverse current protection,low heat production.

SYSTEM CONNECTION

1. The battery positive and negative pole according to the icon access controller, the controller will automatically detect the battery voltage, the load positive and negative pole according to the icon access controller, pay attention not to answer, the solar panel according to the icon access controller.
Note: 1, please strictly follow the above order to access, otherwise it may damage the controller or other components; the disassembly sequence is contrary to the wiring order.
2. 12V system with 17.5V solar panels, 24V system with 36V solar panels.
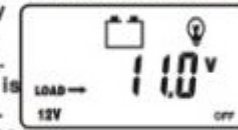

B) Low Voltage Reconnection Voltage(LVR)
When the voltage of battery is low,the control will stop offer power to the load. If the controler needs reconnected the output.the voltage of battery must be higher than LVD voltage or press[⊃]button force to release.the procedure is same with (a).
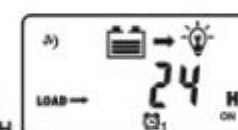
C) Low Voltage disconnection Voltage
when the voltage of battery is low,the load output will be cut off. When the controller detected the battery voltage was less then LVD point, the cut off function will be immediately working. at the same time,the status of controller is in lock.Users have to charge the battery. Voltage is higher than LVD voltage of press [⊃]button force to release.the load output will be back.The procedure is same with(a).

⚠ Above a,b,c three parameter default data was fully considered by designer for actual use. Generally users don't need to adjust.Please must be Refer to battery supplier's suggestion,or the battery will be damaged or irreparable destroy.

D) Load Working Mode Selection
The control default load working 24hours. When the load Working Time set to 24hours, the load will keep working 24hours in no fault status.When the load working time set to≤23H,it means the load start timer or sensor function.If the battery capacity is enough,the load will be started at sunset.The load will work under timer setting hours or stop working till sunrise.

⚠ When the load join into timer or sensor mode,if the reset working time more than actual night time,the working time is not reach to setting hours,For example,the local actual night time is 10hours,user reset the working time at night is 12hours,but 10hours later the output will be closed automatically,the balance hours will be back to zero.the load will be working with next sunset signal.

E) System Voltage Select
This parameter designed for customers wide range voltage requiring.The default display "UTO" system voltage 12/24V auto.
                                    System voltage select
When battery voltage is more than 18V,the controller will be auto change to 24v system with 24v control data.when battery voltage is less than 18V,the controller will be auto change to 12V system with 12V control data.
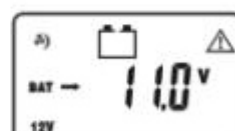If the system voltage is set to "1", the controller will be work under 12V version forever,The battery voltage is not valid.The reset data will be working after reconnection.
If the system voltage is set to "2", the controller will be work under 24V version forever,The battery voltage is not valid.The reset data will be working after reconnection.

■ Protection Function

● Battery Low Voltage Protection(LVD)
When the battery voltage less than 11V,the LVD protection started.The out put cut off, at the same time the battery symbol and warningflash.please increase charge current or increase charge time.When the battery voltage more than 12.6v,the protection will be closed.The load output is come back or press "⊃" button force to unlock at main interface.
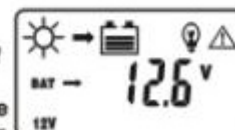
● Battery Over Voltage Disconnection(OVD)
When the voltage of battery more than 16.5V, the over voltage protection will be started. The load cut off,at the same time the load and warning symbol flash.When the voltage of battery was decreased to 15V,the protection will be release.The output of the load is back.
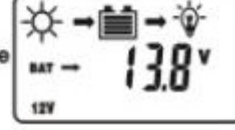
● Load Over Current Protection
When the load is short circuit or overload, the output cut off,at the same time the load symbol and warning flash.Please confirm if there is short circuit on the load terminal, decrease the power of the load.30s later the controller will be auto restart with unlock,or press "⊃" button force to unlock at main interface.

● High Voltage Disconnection Protection (HVD)
When the battery was charged to 13.8v,the PWM function will be started,the charge symbol will be flash,and the voltage of battery has been limited.

TROUBLE SHOOTING

Situation	Probable cause	Solution
Charge icon not on when sunny	Solar panel opened or reversed	Reconnect
Load icon off	Mode setting wrong	Set again
	Battery low	Recharge
Load icon slow flashing	Over load	Reduce load watt
	Short circuit protection	Remove short circuit, 1 minutes or so automatic recovery
Power off	Battery too low/ reverse	Check battery/connection