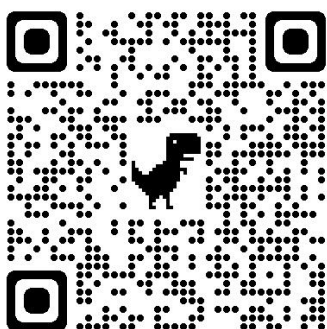


## SolarGate 20W

Solar panel system kit



Website: [www.gatexper.com](http://www.gatexper.com)

E-mail: [sales@gatexpert.com](mailto:sales@gatexpert.com)

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## WARRANTY

1. To repair against this warranty card and invoice during the warranty period.
2. Warranty period: 1 year after the date of invoice.
3. Without unauthorized dismantling, any product broken or damage due to quality problem, we' ll offer the repair service for free or replace for free.
4. The malfunction and damages caused by incorrect use or man fault is not covered by this warranty.

## CONTACT US

E-mail: [sales@gatexpert.com](mailto:sales@gatexpert.com)

- Please fill in the order information in the form below.
- All personal information you provided will be only used for warranty service and kept strictly confidential.
- Refer to this list when contacting GATEXPERT for technical service or assistance with your automatic gate opener.

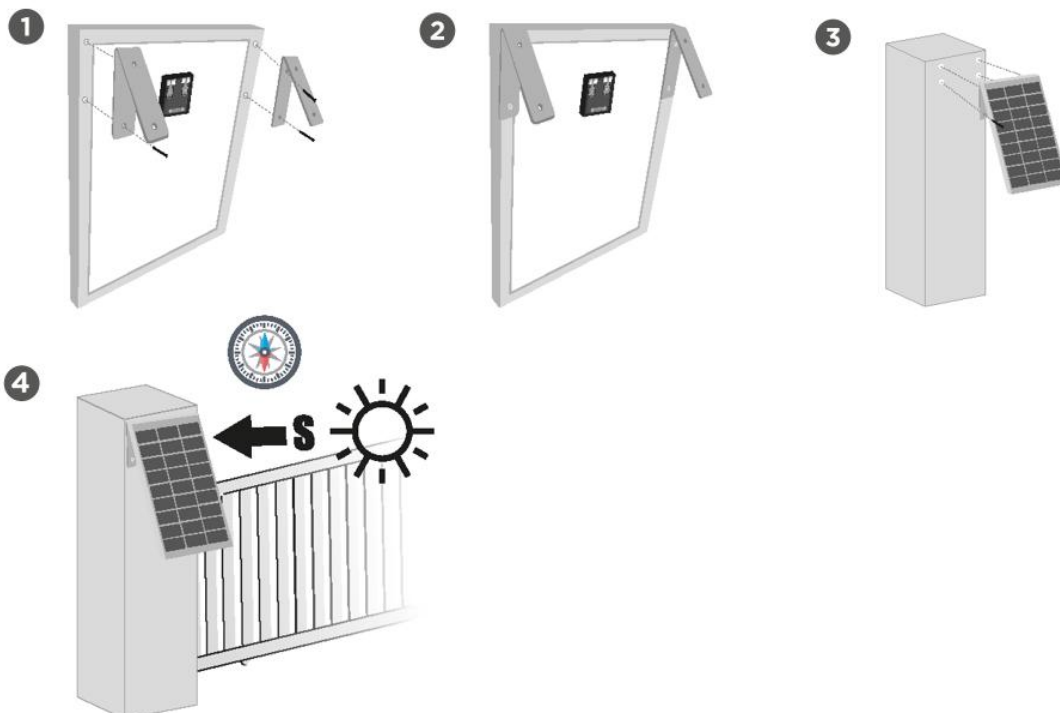
Order Number	Product Model	Purchase Date	Country / Region
Email Address			
Issue Details			

## A- TECHNICAL PARAMETER

1. VOLTAGE: 24V
2. RATED AMP: 10A MAX INPUT <50V
3. BATTERY TYPE:  
B01=LEAD-ACID 12V  
B02=LITHIUM ION 3s 3x3.7V=11.1V  
B03= LIFePO4 4s 4x3.2V=12.8V
4. USB OUTPUT: 5V/2A
5. STANDBY LOST: <10mA
6. WORKING TEMP: -35~+60 °C

## B- INSTALLATION

1. No shadow is requested.
2. The solar panel works properly when there is no shade cast upon it.
3. Charging :8 hours of sun exposure.

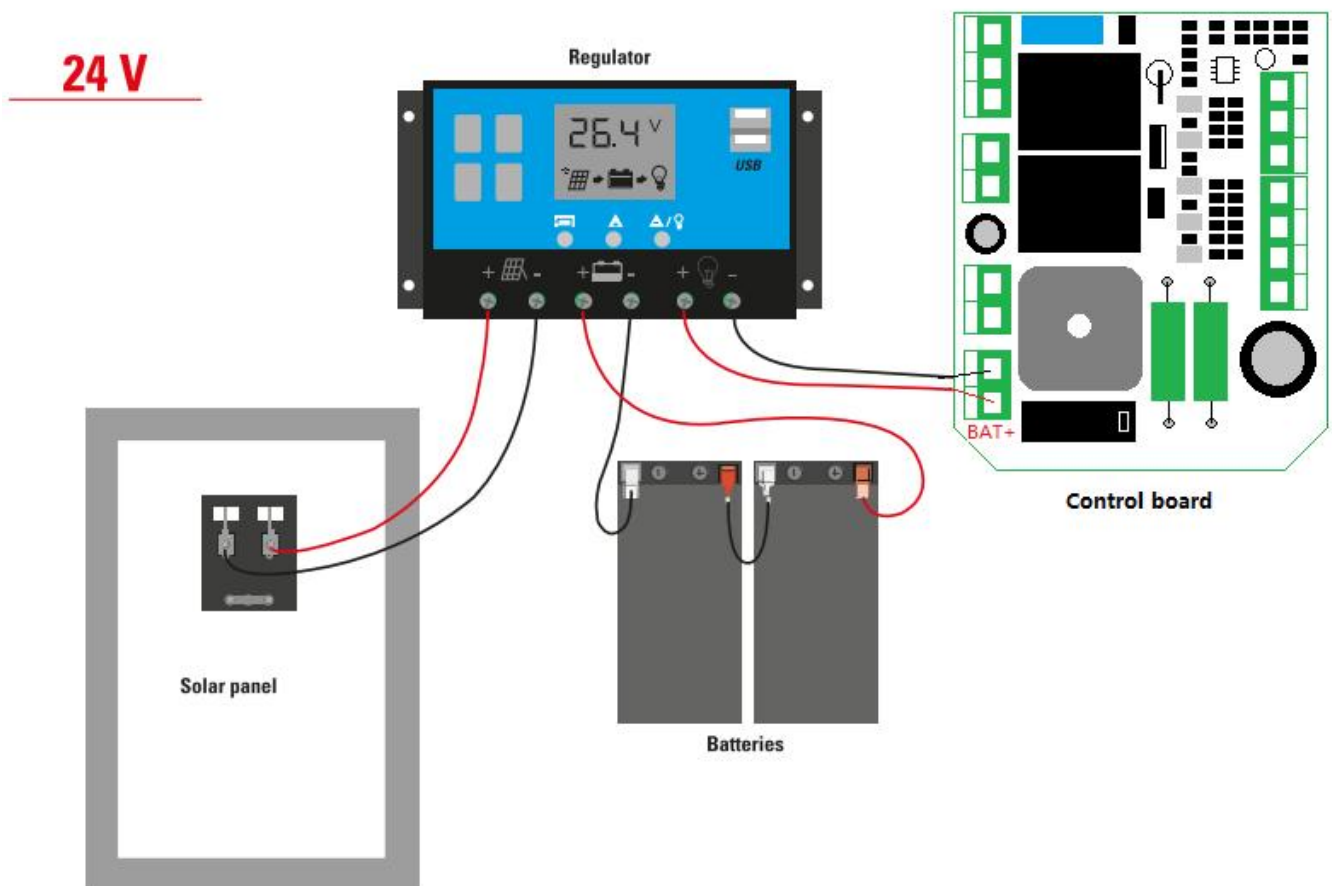


## C- SYSTEM CONNECTION

1. Connect the battery to the charge regulator - plus and minus.
2. Connect the solar module to the regulator - plus and minus.
3. Connect the consumer to the charge regulator - plus and minus.

**The reverse order applies when deinstalling!**

**An improper sequence order can damage the controller!**



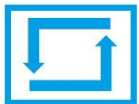
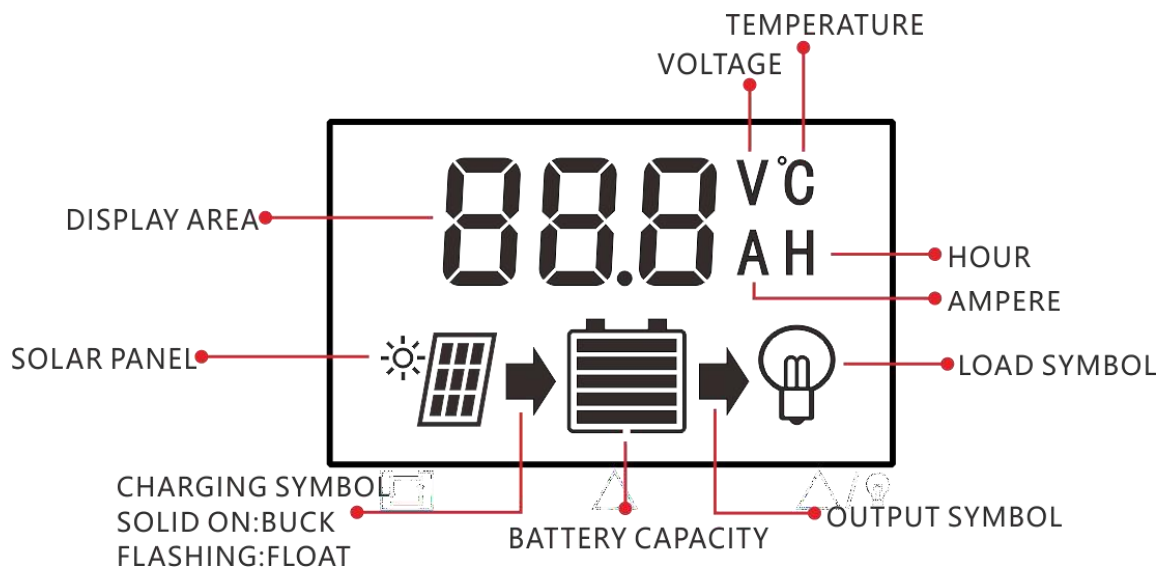
## D- LCD DISPLAY/KEY

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, lithium ions and LiFePO4 batteries.
4. The charge regulator is only suitable for regulating solar modules. Never connect another charging source to the charge regulator.

## E- SETTING

Main display, it shows battery voltage, battery capacity, charging and discharging status. Press [MENU] to enter next display tab.



**MENU**: Switch between different display , or to enter/exit setting by long press.



**UP**: Press to increase value.

**DOWN**:



Press to decrease value.



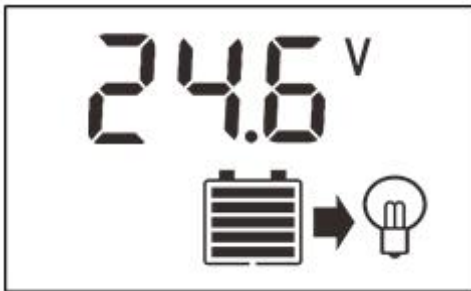
### Controller's body temperature display

If the controller gets hot during running, it will automatic shut down and wait for the temperature to drop to normal level, and then it will work again.



### Charging voltage display

When battery is charged to this voltage, it will maintain and keep float charging. Long press the [MENU] key until the numbers flashes, use [UP]/[DOWN] to select the voltage desired, then long press the [MENU] again to exit setting.



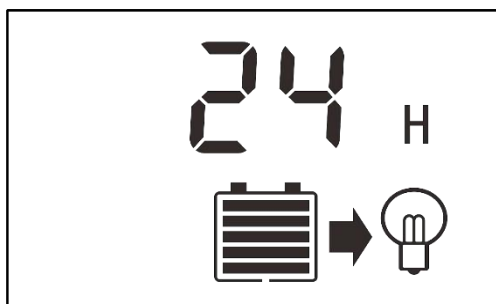
### Low voltage re-connect display

When a low voltage disconnect happens, the controller will wait until the voltage raise more then this voltage, then it will re-connect the load again. The setting is the same as above.



### Low voltage disconnect display

When battery voltage is lower than this voltage, the controller will cut off the output automatically .the setting is the same as above.



### Load working mode

For 24H means the controller will continuously supply power to your load. For 0H means Dusk to Dawn. For 1-23H means enable output after sun goes down and run a 1-23H then close output. The setting is the same as above.



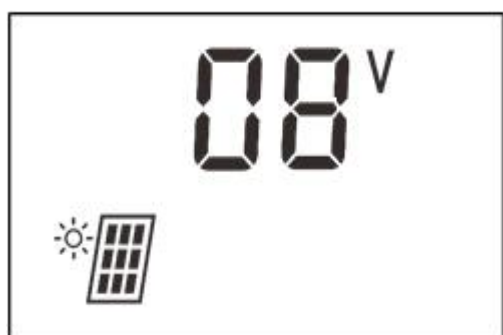
### Battery type setting

B01=LEAD-ACID 12V

B02= LITHIUM ION 3s 3x3.7V=11.1V

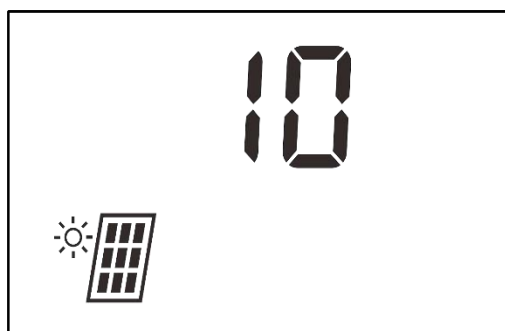
B03= LIFePO4 4s 4x3.2V=12.8V

The setting is the same as above.



### D2D trigger value (solar panel voltage)

When the work mode is D2D or Timer, the controller will detect the solar panel voltage to decide whether its day or night, so to decide to enable load output or not. The higher this value is, the earlier it enables the load output. The setting is the same as above.

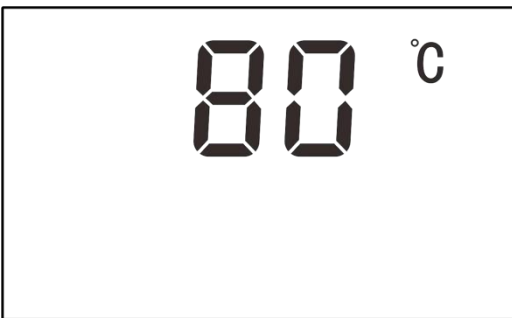


### D2D trigger delay value(Second)

When the controller detect the solar panel voltage is lower then trigger value, it will delay for 10S and detect again to make sure night falls, then enable the load output. Some car light or thunder lighting

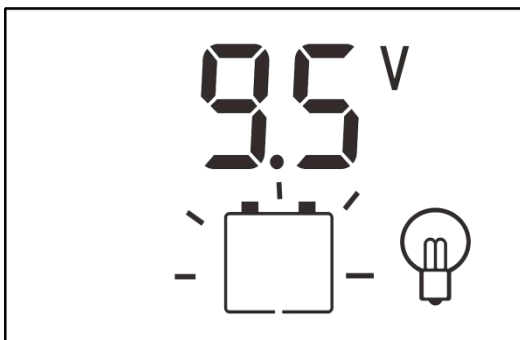
will confuse the controller and make it think its daytime, using this delay can prevent interference. Default values are recommended. The setting is the same as above.

## F- UNUSUAL DISPLAY



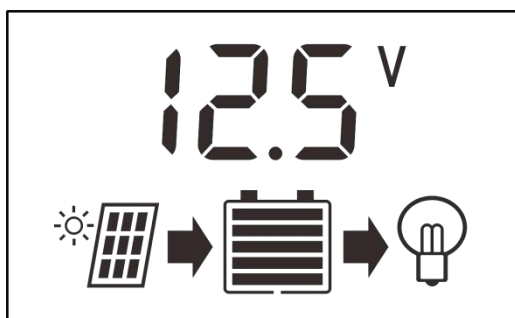
### High temperature anomaly interface

When the controller's body temperature is too high, it will enter stand-by mode and stop charging or discharging, when temperature drop down to a safe level, it will work again. Press any key to ignore for one time and force to work again.



### Low voltage protection interface.

Empty battery symbol flashing means the battery is discharged lower than the LVD voltage. The controller has disabled the output. User should charge the battery until it raises up to LVR voltage and then the controller will recover the output status. Press any key to ignore for one time and force to work again.



### Over-current or short-circuit protection

The load symbol flashing means an output over-current or short-circuit protection occurs. The controller now will disable the output and wait for 30s delay then try to recover again. User should check and remove the trouble in time.



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## G- FAQ

### Q1: why the controller is not showing charging when I connect the solar panel?

A: please carefully check the solar panel wires are connected correctly, and there is no reverse. The PV voltage should be higher than the voltage of the battery, any sewage or shadow on the PV will cause the voltage drop. Please use a 18v PV to charge a 12V battery under normal circumstances.

### Q2: why is my charging current very small?

A: use more solar panel and stronger sun light will increase the charging current, otherwise, using the wrong PV voltage or sewage and shadow on the PV will reduce the charging current. In addition, when the battery voltage is high it will enter float charging mode, also the charging current will become smaller.

### Q3: why my consumer is off?

It could be wrong working mode, like setting the work mode to D2D, but you are asking why my consumer is off during the daytime, or battery is not enough and a low-voltage disconnect has happened, or your consumer is broken, to check that, you can directly connect your consumer to the battery to see if it is working, please carefully check the wires and so.

### Q4: the solar power stored is not enough to supply the consumer?

A: If the power generated by the solar panel is less than the consumer used, the consumer will have to get the power from the battery storage and day by day, it will cause a LVD finally at some moment. Please use more solar panel and add more battery capacity to prevent cloudy or rainy day, or you can reduce the watt of the consumer or working time to balance the system.

### Q5: why my battery runs out of power very quickly after it is fully charged?

A: your battery could have been used for a very long time, and after few hundred of cycling, its dying. A dying battery will not have the capacity to keep the electricity. Run a simple test like this, when you charge your battery, the voltage raise very quickly, and when you discharge it again, it drops very quickly, this means you should change your battery.