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### 1.Description

XY-SK35 is a DC adjustable constant voltage constant current automatic buck-boost power supply module with LCD display.HD display input voltage and output voltage, current, power, display status, capacity, energy and time.Adjustable stable output voltage and current.Set output current to meet the demand.It can be used as ordinary buck power supply module, charger and LED constant current driver.Simple and efficient, practical.

It supports solar charging and can be connected to solar battery.

### 2.Features

- 1>.High quality heat sink
- 2>.Multiple parameters are displayed simultaneous
- 3>.Enabled/disabled output
- 4>.Automatic buck/boost voltage
- 5>.Constant voltage constant current output
- 6>.Solar charging
- 7>.Lock output current
- 8>.Support anti-reverse protection
- 9>.Support anti-backflow protection
- 10>.Support output short circuit protection
- 11>.Support over-voltage protection
- 12>.Support over-current protection

- 13>.Support over power protection
- 14>.Support over temperature protection
- 15>.Support display input voltage
- 16>.Support display output voltage, current, power
- 17>.Support working status indicator

### 3.Parameters

- 1>.Product Name:XY-SK35 Step UP Down Power Supply Module
- 2>.Product Number:XY-SK35
- 3>.Working Voltage:DC 5V-30V
- 4>.Output Voltage:DC 0.6V-30V
- 5>.Output Power:50W(Max and need fan.Default 35W)
- 6>.Voltage Display Precision:0.5%
- 7>.Voltage Display Resolution:0.01V
- 8>.Current Display Precision:0.8%
- 9>. Current Display Resolution:0.001A
- 10>.Conversion efficiency:About 88%
- 11>.Anti-reverse Protection:Yes
- 12>.Anti-backflow Protection:Yes
- 13>.Short Circuit Protection:Yes
- 14>.Work frequency:180KHz
- 15>.Over-temperature Protection:100°C
- 16>.Working Temperature range:-20°C~100°C
- 17>.Working Humidity range:0%-95%RH
- 18>.Size: 3.1\*1.6\*1.9 inches

### 4.Normal Display Mode

- 1>.Default normal display.
- 2>.Short press button 'ON/OFF' to enabled/disabled output.
- 3>.Long press(keep press 2second) button 'ON/OFF' to switch display input voltage and output voltage.
- 4>.Short press button 'ON/OFF' to clear value when display capacity, energy and time.
- 5>.Rotary potentiometer:Adjust output voltage at default display mode. LCD display CV symbol.
- 6>.Short press potentiometer:Switch display output current A, output power W, capacity Ah, energy Wh, work time h.
- 7>.Long press potentiometer:Keep press 1second to adjust output constant current value. Then rotary potentiometer to set value. LCD display CC and SET

symbol.

8>.Long press potentiometer:Keep press 3second enter into parameter set mode.It is used to set LVP/OVP/OCP/OPP/OAH/OPH/Default Power-ON State.

9>.Long press potentiometer:Keep press 5second to lock and unlock output voltage and output constant current values.

## 5.Parameter Set Mode

1>.Long press(keep press 3second) potentiometer enter into parameter set mode at normal display mode.

2>.Short press potentiometer to switch select parameters: LVP, OVP, OCP, OPP, OAH, OPH, OHP at Parameter Set Mode.

3>.Rotary potentiometer to set value directly for LVP/OVP/OCP/OPP parameters.

4>.User need press ON/OFF button to enabled/disabled OAH/OPH/OHP three parameters and then rotary potentiometer to set value.LCD will display '----' if disabled OAH/OPH/OHP function.

5>.Long press button 'ON/OFF' to set statistical range value when select OAH or OPH.The range of OAH is 9.999Ah/99.99Ah/999.9Ah/9999Ah.The range of OPH is 9.999Wh/99.99Wh/999.9Wh/9999Wh.

6>.Long press(keep press 3second) potentiometer to save and quit parameter set mode to normal display mode.

## 6.Auxiliary Function

1>.Statistics Capacity, Energy and work time:The statistics are started when turn ON output, and the statistics are stopped when the turn ON at next time.

2>.Set Maximum Output Capacity OAH:XY-SK35 disabled output and LCD flashing display OAH when Statistics Capacity Value is more than set maximum value OAH if enabled OAH function.Automatically clear capacity statistics after the alarm is cleared.XY-SK35 will automatically count whether or not OAH is enabled.But output will not disabled output if disabled OAH function.

3>.Set Maximum Output Energy OPH:XY-SK35 disabled output and LCD flashing display OPH when Statistics Energy Value is more than set maximum value OPH if enabled OPH function.Automatically clear energy statistics after the alarm is cleared.XY-SK35 will automatically count whether or not OPH is enabled.But output will not disabled output if disabled OPH function.

4>.Set Maximum Running Time OHP:XY-SK35 disabled output and LCD flashing display OHP when Statistics Work Time is more than set maximum value OHP if enabled OHP function.Automatically clear work time statistics after the alarm is cleared.XY-SK35 will automatically count whether or not OHP is enabled.But output will not disabled output if disabled OHP function.It is countdown mode if enabled

OHP.

5>.CC and CV display:LCD will display CC in the upper right corner if output current reaches the set current value.Otherwise display CV.

## 7.Protection mechanism

1>.XY-SK35 supports reverse protection at input terminal.

2>.XY-SK35 supports short circuit protection at output terminal.

3>.OVP over voltage protection.The default protection value is 31V.But user can modify the values as required.Screen will display OVP and flashing after start over voltage protection.

4>.OCP over current protection.The default protection value is 4.10A.But user can modify the values as required.Screen will display OCP and flashing after start over current protection.

5>.OPP over power protection.The default protection value is 35W.But user can modify the values as required.Screen will display OPP and flashing after start over power protection.

6>.OTP over temperature protection.The default protection value is 100°C.It can not be modified!Screen will display OTP and flashing after start over temperature protection.

7>.LVP under voltage protection.The default protection value is 4.7V.But user can modify the values as required.Screen will display LVP and flashing after start under voltage protection.In the battery discharge test, setting the appropriate LVP can effectively prevent the battery from being over-discharged, so as not to damage the battery.

## 8. Steps

1>.As a ordinary step up/down power module:

1.1>.Connect right input voltage at input terminal;

1.2>.Rotary potentiometer to set output voltage according to require.LCD display CV symbol.

1.3>.Keep press potentiometer 1second to adjust output constant current value. Then rotary potentiometer to set value. LCD display CC and SET symbol.

1.4>.Test and using(E.g:Module's maximum output current is 2A if display 2A on multimeter.LCD will display symbol CC if output reach to 2A.Otherwise display CV.)

1.5>.The output voltage will decrease due to the current sampling resistor at the output. The higher the current, the more the voltage is reduced.

2>.As a charger:

2.1>.Tops:Power module can not be used as charger module if it does not

support constant current function. The voltage difference between the battery with insufficient voltage and the charger is very large. Causes excessive charging current even damage the battery. So it need keep charging in constant current mode to reaching a certain level. Then automatically switch back to constant voltage charging.

2.2>.Make sure floating charge voltage and charge current for battery. If the lithium battery's parameter is 3.7V/2200mAh, then the float charge voltage is 4.2V, and the maximum charging current is 1C, which is 2200mA.

2.3>.Connect right input voltage at input terminal.(Note:Please don't connect load during set parameter).

2.4>.Rotary potentiometer to set output voltage according to require.LCD display CV symbol.

2.5>.Keep press potentiometer 1second to adjust output constant current value. Then rotary potentiometer to set value. LCD display CC and SET symbol.

2.6>.Connect battery at output terminal and start to charging.

3>.As a high power LED constant current driver:

3.1>.Make sure LED working current and maximum working voltage.

3.2>.Connect right input voltage at input terminal.(Note:Please don't connect load during set parameter).

3.3>.Rotary potentiometer to set output voltage according to require.LCD display CV symbol.

3.4>.Keep press potentiometer 1second to adjust output constant current value. Then rotary potentiometer to set value. LCD display CC and SET symbol.

3.4>.Connect LED and test.

## 9.Note

1>.Input undervoltage protection voltage is 4.7V. Module need re-power if input less than 4.7V.

2>.It is a DC power module,So it can not connect to AC power.

3>.Please connect input before connect battery when use as charge and make sure output voltage is higher than battery voltage.

4>.'VIN-' and 'OUT-' can not be connect together.Otherwise module can not support constant current output.

5>.Keep input more than 8V is need XY-SK35 output in maximum power. It just can output about 15W when input 5V.

6>.Please make sure input power is more than load power.

7>.Please step down output power if module is hot.

8>.Please read use manual and description before use.

## **10.Application**

- 1>.Ordinary power supply;
- 2>.Battery charger;
- 3>.LED drive power;
- 4>.Instrument voltage display;
- 5>.Test meter;
- 6>.Circuit test;
- 7>.Power conversion.

## **11.Package**

- 1>.1pcs XY-SK35 Step UP Down Power Supply Module