

XY-SK60 finished product

Third generation upgrade

60W

Full view VA color LCD screen Nc DC power supply

Constant voltage, constant current, constant power

6.0-36.00V

Input voltage

0-36.00V

Output voltage

0-5.000A

Output current

60W

Output power

10 groups

Storage space



The LCD screen
is larger than
1.8 inches!

Support firmware upgrade
Support MPPT solar charging

Supports serial communication
standard Modbus protocol

XY-SK120 finished product

120W

Full view VA color LCD screen

Nc DC power supply

Constant voltage, constant current, constant power

6.0-36.00v	0-36.00v	0-6.000A	120w	10 groups
Input voltage	Output voltage	Output current	Output power	Storage space



The LCD screen
is larger than
1.8 inches!

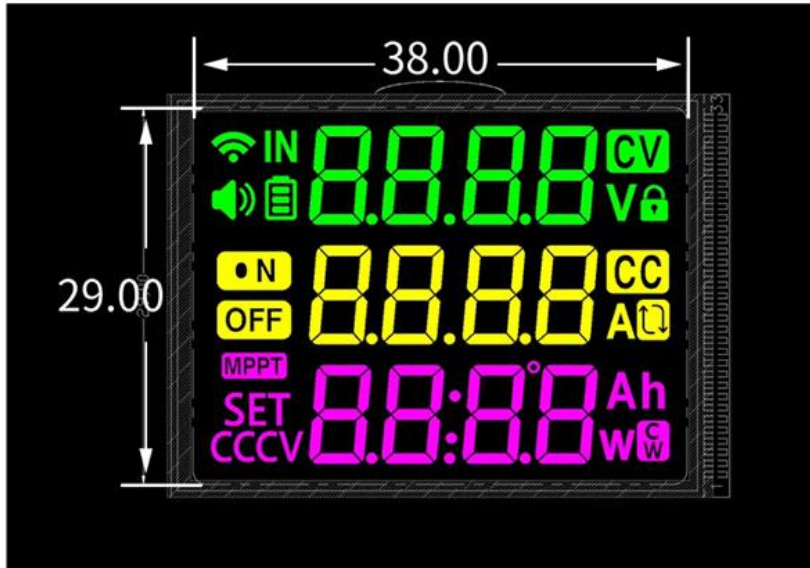
Support firmware upgrade
Anti-backflow support MPPT solar charging

Supports serial communication
standard Modbus protocol

True third-generation upgraded version

The all-viewing-angle VA color LCD

Colorful LCD with large font



Visual range: 38*29mm The LCD screen is over 1.8 inches!

The LCD screen has a reasonable layout with large, full, and rounded fonts.

This professional power supply LCD screen has all the features you want!

Button Function Introduction

VSET Button

Short Press: Set voltage CV
Long Press: Enter or exit the callout data group UI

Encoder Button

Short Press: Switch between output power W/capacity Ah/energy Wh/time h/temperature °C/display in rotation
Long Press: Turn on/off the key lock

SW Button

Short Press: Switch between input/output voltage or shift
Long Press: Enter or exit the system settings UI



Main UI

ISET Button

Short Press: Set current CC
Long Press: Enter or exit the data group settings UI

Power Button

Short Press: Turn on/off the power output
Long Press: Reset in the capacity Ah/energy Wh/time h UI by long pressing

Product parameters

Product name	DC buck-boost power supply	Model	XY-SK120
Input voltage	6.0~36V	Output voltage	0~36V
Output current	0~6.000A	Accuracy of voltage	±0.5%+1 word
Power output	120W	Accuracy of current	±0.5%+3 word
Resolution of voltage	0.01V	Resolution of current	0.001A
Storage data group	10 groups	Soft start	YES
Screen size	Over 1.8-inch LCD with a viewable area of 38*29mm		
MPPT function	Support MPPT solar charging	Buzzer	YES
Efficiency of conversion	About 88%	Number of buttons	five
Product size	79*50*43mm	Product weight	108g
Package size	104*70*52mm	with packaging	127g

Protection mechanism

Anti-reverse	YES	anti-backflow	YES
under-voltage	(Adjustable 5.5-36V, default 5.5V)		
over-voltage	(Adjustable from 0 to 38V, default is 38V)		
over-current	(Adjustable from 0 to 6.2A, default 6.2A)		
over-power	(Adjustable from 0 to 150W, default is 125W)		
over-temp	Adjustable from 0 to 110 °C , default is 95 °C		
over-time out	(Adjustable from 0 to 100h, off by default)		
over-capacity	(Adjustable from 0 to 9999Ah, disabled by default)		
over-energy	(Adjustable from 0 to 4200KWh, off by default)		

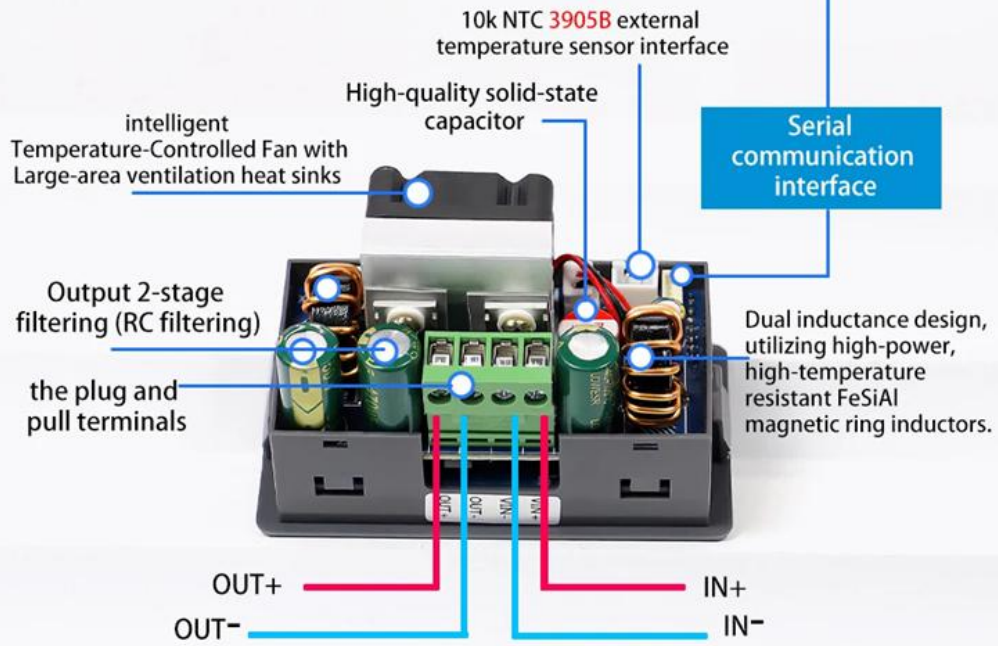
Introduction to Functional Interfaces and Wiring



Can also connect our XY-K485X module to achieve 485 bus control



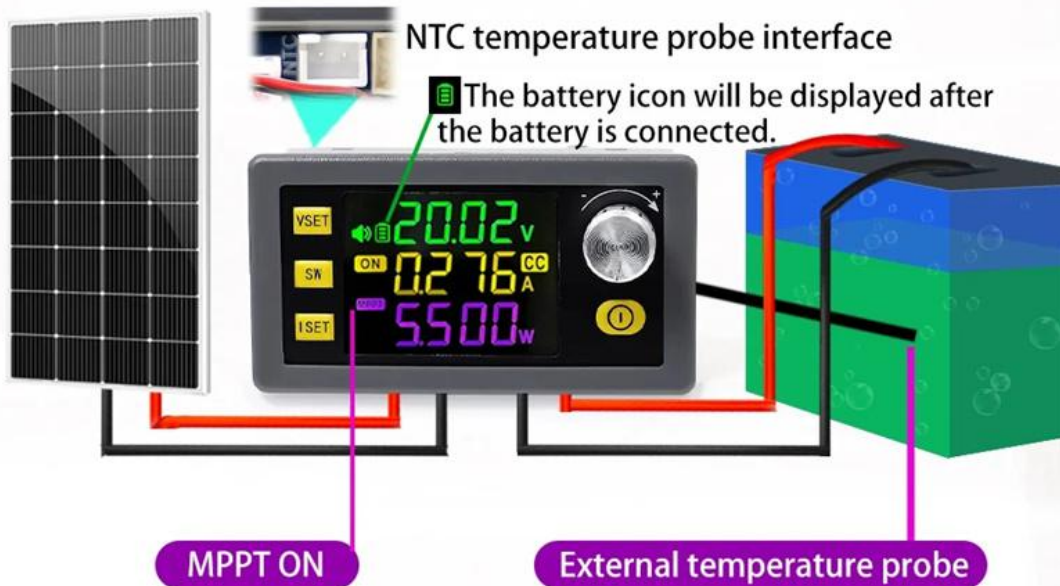
Connect our WIFI module to enable remote control via APP and web-based networking control



With anti-backflow function, it can charge various rechargeable batteries.

With MPPT function, it supports MPPT solar charging.

External temperature probe can be connected, supporting over-temperature protection. Attach the external temperature probe to the battery, and it will automatically stop charging in case of over-temperature.



Attention: This product does not have output reverse connection protection. Reversing the positive and negative terminals of the battery will damage the device.

Battery charging requires certain professional knowledge. Non-professionals are not allowed to charge directly to prevent fire and explosion.

Introduction to CV/CC/CW Functions



1 When the constant power function is not turned on, the power supply only has the functions of constant voltage (CV) and constant current (CC), which automatically switch based on the load;

1.1 When the load current is less than the set constant current value, the power supply is in the constant voltage mode, where the output voltage is the set voltage value CV, and the current is adaptive;

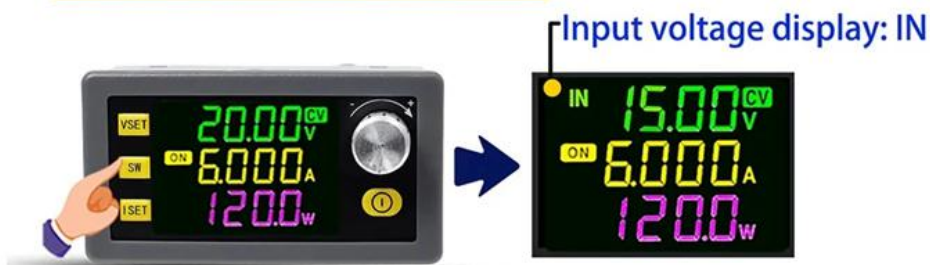
1.2 When the load current exceeds the set constant current value, the power supply automatically enters the constant current mode. At this time, the output current is the set constant current value CC, and the voltage is adaptive;

2 After the constant power function is turned on, the constant current value defaults to the maximum value, and the constant voltage value CV serves as the initial voltage (set to a reasonable value based on actual conditions). After the power supply is turned on, the equivalent resistance R of the load is calculated using Ohm's law $R=U/I$. Then, the corresponding voltage can be calculated based on the set constant power value using the power formula $P=U^2/R$. At this point, the constant power point algorithm automatically follows, and the constant power is achieved.

Constant Power Switch and Constant Power Value Setting

1. Press and hold SW on the main UI to enter system set.
2. Press ISET/VSET briefly to switch to the "-CP-" constant power switch option. Press ON to enable constant power and OFF to disable it.
3. After enabling constant power, press ISET briefly on the main interface to modify the value of constant power.

3. Input/output voltage display:



On the main UI, press the **SW** button briefly to switch between input and output voltage displays.

4. Checking power (W)/capacity (Ah)/energy (Wh)/time (h):



On the main UI, press the encoder button briefly to switch between displaying power (W)/capacity (Ah)/energy (Wh)/time (h)/temperature (°C) in rotation.

5. key lock:



On the main UI, press and hold the encoder button for 2 seconds to lock the set voltage and current to prevent misoperation; press and hold the encoder button for 2 seconds after locking to unlock.

Set UI System Parameter Settings

Press and hold the SW button on the main interface to enter the settings menu. The first parameter is the buzzer setting (bEP). Press VSET briefly to select the next parameter and press ISET briefly to select the previous parameter.

After completing the settings, press and hold the SW/encoder button to exit the settings.

 <p>SET On</p> <p>Turn on/off the buzzer (bEP), default is on</p>	 <p>SET 5</p> <p>LCD brightness adjustment (b-L), default is the brightest</p>	 <p>SET -C-</p> <p>Celsius (°C) and Fahrenheit (°F), selection (C-F), default is °C</p>
 <p>SET CV</p> <p>Quick voltage or current adjustment (FET), default is voltage CV</p>	 <p>SET 001</p> <p>Set the device address (Add)</p>	 <p>SET 6</p> <p>Set the device communication baud rate (bRE), default: 115200</p>
 <p>SET OFF</p> <p>MPPT solar charging settings (PPT), default is off</p>	 <p>SET OFF</p> <p>Constant Power CW ON/OFF, Default Off</p>	 <p>SET ---</p> <p>Set the charging cut-off current (bTF), default is off</p>
 <p>SET ---</p> <p>Calibrate the output voltage (CLU)</p>	 <p>SET ---</p> <p>Calibrate the output current (CLA)</p>	 <p>SET 0.000</p> <p>Current zero calibration (ZERO)</p>
 <p>SET OFF</p> <p>Force the power output to turn off when retrieving data groups (CLOF)</p>	 <p>SET ---</p> <p>Restore factory settings (RET)</p>	 <p>SET 1.0.1</p> <p>Firmware version number (UER)</p>

Set UI Parameter Settings within Data Groups

Press and hold the ISET button on the main interface to enter the settings menu.

The first parameter is to select the data group Cd0-9.

Press VSET briefly to select the next parameter, and press ISET briefly to select the previous parameter. After completing the settings, press and hold the ISET/SW/encoder button to exit the settings interface.

...

SET Cd0

Select the data group to be set Cd0-Cd9 (default is Cd0).

Cd0
ON -CV-
SET CV 05.00

Set the voltage CV.

Cd0
-CC-
SET CC 6.100

Set the current CC

IN Cd0
LVP
SET 05.50

Set the input undervoltage protection value (LVP) default 5.5V.

Cd0
OVP
SET 38.00

Set the output overvoltage protection value (OVP) default 38V.

Cd0
OCP
SET 6.200

Set the output overcurrent protection value (OCP) default 6.2A.

Cd0
OPP
SET 1250W

Set the output overpower protection value (OPP) default 125W.

Cd0
OAH
SET - - - - Ah

Set the overcapacity protection value (OAH) default off.

Cd0
OPH
SET - - - - h

Set the overenergy protection value (OPH) default off.

Cd0
OHP
SET - - : - - h

Set the overtime protection value (OHP) default off.

Cd0
OTP
SET 095C

Set the overtemperature protection value (OTP) default 95°C.

Cd0
ETP
SET - - - C

Set the external overtemperature protection value (ETP) default off.

Cd0
POn
SET OFF

SET 0n
SET OFF

Automatically enabled during power-on(POn) default off

The product supports firmware upgrade to obtain new functions.

At present, it only supports firmware upgrade through our WiFi module. In the future, it will also be able to upgrade through our multi-serial port host computer software (under development). Stay tuned!

sinilink
cloud

Upgrade Package

Version Number

Upgrade Steps
+ Status

Upgrade progress



**Note: Do not power off during the product upgrade process.
If the product upgrade fails, you can press and hold the power button
to power on the product and force it into the upgrade mode.**

Instructions for Use

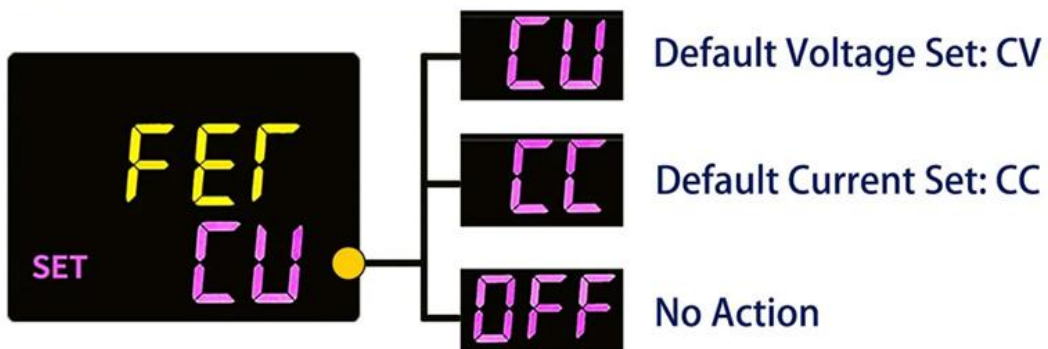


1. Setting Voltage and Current:



On the main UI, briefly press the **VSET** button to set the voltage. The LCD will display "SET" in the lower row, and "CV" will flash to indicate that the voltage setting position is selected and blinking. Then, briefly press the **SW** button or the encoder button to switch the voltage setting position. Adjust the value by rotating the encoder. After setting is complete, briefly press the **VSET** button to exit and save. To set the current, briefly press the **ISET** button, and the setting steps are the same as for voltage.

2. Quick Setting of Voltage or Current:



In the system parameter settings UI, set the parameter FET to CV or CC. Rotate the encoder on the main UI to enter the voltage or current setting UI. Rotate the encoder to quickly set the voltage or current.

6.Data Group Function

This product has a total of 10 data groups from Cd0 to Cd9. Press and hold the VSET button on the main UI to access the data group UI



You can press VSET/ISET briefly to switch between constant voltage (CV) and constant current (CC) settings. It supports quick viewing and modification of voltage and current in the data group, as well as SW shift operation.

After confirming the data group, press and hold the VSET/SW button or press the encoder button briefly to select the desired data group.

XY-SK120

Product UI function details

When the power supply is on, it is displayed ON



constant voltage CV

Output voltage

Output current

38.90_w power W

13.18^{Ah} capacity Ah

4360_w^h energy Wh

00:06^h time h

043^{°C} temperature °C

On the Main UI, short pressing the Encoder button toggles between displaying output power (W), capacity (Ah), energy (Wh), time (h), temperature (°C), showing them in rotation.

When connected to an external temperature probe (10K 3950B NTC), it will automatically display the probe's temperature.

Constant current display: CC



Constant power display: CW



"OFF" is displayed when the power is off



SET CV 24.00 Set voltage CV

SET CC 6.100^A Set current CC






043^{°C} External probe temperature








When the power is off, the set voltage and current are displayed downward in turn.

Data Group Parameter Settings

Press and hold the ISET button on the main interface to enter the settings menu.
The first parameter is to select the data group Cd0-Cd9.

Press VSET briefly to select the next parameter, and press ISET briefly to select the previous parameter. After completing the settings, press and hold the ISET/SW/encoder button to exit the settings interface.










<p>Data Group Selection Cd0-Cd9</p> 	<p>Rotate the encoder to select the desired data group Cd0-Cd9.</p> <p>For example, if Cd2 is selected, subsequent parameter settings will be for the Cd2 data group.</p>
<p>Setting Voltage CV</p> 	<p>Briefly press SW or the encoder button to select the position, and rotate the encoder to adjust the value.</p> <p>For instance, setting 12.00 will result in a CV voltage of 12.00V when this data group is accessed.</p>
<p>Setting Current CC</p> 	<p>Briefly press SW or the encoder button to select the position, and rotate the encoder to adjust the value.</p> <p>For example, setting 6.000 will result in a CC current of 6.000A when this data group is accessed.</p> <p>Note: The CV and CC modes switch automatically based on the load. When the load reaches the set CC value, it automatically switches to CC mode.</p>
<p>LVP Settings (Input Under-Voltage Protection)</p> 	<p>Briefly press SW or the encoder button to select the position, and rotate the encoder to adjust the value.</p> <p>For instance, if LVP is set to 12.00V, the output will be shut off for protection when the input voltage drops below 12.00V.</p> <p>After protection, "LUP" will be displayed on the bottom line. Press any button to cancel the alarm. When the input voltage rises above LUP, protection is automatically canceled.</p>
<p>OVP Settings (Over-Voltage Protection)</p> 	<p>Short press SW or encoder button to select the position, rotate the encoder to adjust the value.</p> <p>For instance, if OVP is set to 24.00, when the output voltage exceeds 24.00V, the output will be shut off for protection, thus protecting the load from burnout due to overvoltage.</p> <p>After protection, "OVP" will be displayed on the bottom line. Press any button to cancel the alarm.</p>
<p>OCP Setting (Over-Current Protection)</p> 	<p>Short press SW or encoder button to select the position, rotate the encoder to adjust the value.</p> <p>For example, if OCP is set to 2.000, when the output current exceeds 2.000A, the output will be shut off for protection, protecting the load from burnout due to overcurrent.</p> <p>After protection, "OCP" will be displayed on the bottom line. Press any button to cancel the alarm.</p>
<p>OPP Setting (Over-Power Protection)</p> 	<p>Short press SW or encoder button to select the position, rotate the encoder to adjust the value.</p> <p>For instance, if OPP is set to 100.0W, when the output power exceeds 100.0W, the output will be shut off for protection, preventing the load from burnout due to overpower.</p> <p>After protection, "OPP" will be displayed on the bottom line. Press any button to cancel the alarm.</p>
<p>OAH Setting (Over-Capacity Protection)</p> 	<p>Short press the power button to turn on/off the over-capacity protection function. ---- This function is off by default.</p> <p>Short press the power button to activate this function, then short press SW or encoder button to select the position, rotate the encoder to adjust the value. Long press the power button to switch the decimal point position (0.000Ah, 00.00Ah, 000.0Ah, 0000Ah). The maximum setting is 9999Ah.</p> <p>For example, if OAH is set to 2.000Ah, when the cumulative output capacity exceeds 2.000Ah, the output will be shut off for protection.</p> <p>After protection, "OPP" will be displayed on the bottom line. Press any button to cancel the alarm and reset the cumulative capacity.</p>






<p style="text-align: center;">CLU Setting (Calibrate Output Voltage)</p> 	<p>If the output voltage is inaccurate, you can calibrate it (do not connect any load during calibration).</p> <ol style="list-style-type: none"> 1. Press and hold the power button to start calibration, and "01" will be displayed on the first line. 2. Measure the output voltage using a high-precision multimeter and input the actual voltage into the third line (SW shift operation is supported). 3. Press the power button briefly to enter the second step of calibration, and "02" will be displayed on the first line. 4. Repeat step 2 and input the actual voltage into the third line. 5. Press the power button again briefly, and "03" will be displayed on the first line. Wait for calibration to complete without any other operation. If successful, "SUC" will be displayed; if failed, "ERR" will be displayed. <p>Note: If calibration fails, you can try again. If you accidentally enter the calibration state, you can exit by pressing and holding the power button, and the parameters will not be saved after exiting.</p>
<p style="text-align: center;">CLA Setting (Calibrate Output Current)</p> 	<p>If the output current is inaccurate, you can calibrate it.</p> <ol style="list-style-type: none"> 1. Connect a multimeter in current mode or an electronic load (the electronic load needs to be set to the maximum range of the product) directly to the output terminal. 2. Press and hold the power button to start calibration, and "01" will be displayed on the first line. Input the actual current value from the multimeter or electronic load into the third line (SW shift operation is supported). 3. Press the power button briefly to enter the second step of calibration, and "02" will be displayed on the first line. 4. Repeat step 2 and input the actual current into the third line. 5. Press the power button again briefly and wait for calibration to complete without any other operation. If successful, "SUC" will be displayed; if failed, "ERR" will be displayed. <p>Note: If calibration fails, you can try again. If you accidentally enter the calibration state, you can exit by pressing and holding the power button, and the parameters will not be saved after exiting.</p>
<p style="text-align: center;">ZERO Setting (Current Zero Calibration)</p> 	<p>If there is a small current within 100mA when the output is not connected to a load, you can press and hold the power button to calibrate the zero point. Do not connect any load to the output terminal during zero calibration</p>
<p style="text-align: center;">CLOF Setting (Force Power Output Off When Switching Data Sets)</p> 	<p>Rotate the encoder to select ON or OFF for this function.</p> <p>ON: Enable this function. After enabling, when switching data sets, the power will be forcibly turned off to prevent high voltage from damaging the load.</p> <p>OFF: Disable this function. After disabling, the power switch state will be maintained when switching data sets.</p>
<p style="text-align: center;">RET Setting (Restore Factory Settings)</p> 	<p>Press and hold the power button ---- it stops blinking to restore factory settings.</p>
<p style="text-align: center;">POFF (ShutDown Function)</p> 	<p>ON: Enable the ShutDown function. Press and hold the Power Key for 5 seconds to shut down; In the shutdown state, click the Power Key to start up;</p> <p>OFF: Disable the shutdown function;</p>
<p style="text-align: center;">UER View (Firmware Version Number)</p> 	<p>The firmware version number of the program. The product will support firmware upgrades to access new features.</p>

System Parameter Settings

Press and hold the SW button on the main interface to enter the settings menu. The first parameter is the buzzer setting (bEP). Press VSET briefly to select the next parameter and press ISET briefly to select the previous parameter.

After completing the settings, press and hold the SW/encoder button to exit the settings.

<p>bEP Settings (Beeper Enable)</p> 	<p>Rotary encoder to turn on/off the beeper.</p> <p>For example, selecting OFF will disable the beeper, and there will be no keystroke prompt tone or alarm one.</p>
<p>b-L Settings (LCD Brightness Adjustment)</p> 	<p>Rotary encoder to adjust the brightness level.</p> <p>1-5 levels, factory default is level 5 (brightest).</p>
<p>C-F Settings (Choice between Celsius °C and Fahrenheit °F)</p> 	<p>Rotary encoder to select 'C' or '°F'</p> <p>Meeting the needs of different countries and regions worldwide.</p>
<p>FET Settings (Quick Adjustment of Voltage, Current, or Power)</p> 	<p>Rotary encoder to select CV/CC/OFF/CP.</p> <p>CV: Quickly adjust voltage using the rotary encoder on the main interface. CC: Quickly adjust current using the rotary encoder on the main interface. OFF: No action when rotating the encoder on the main interface. CP: Quickly adjust power using the rotary encoder on the main interface (when constant power is enabled).</p>
<p>Add Settings (Power Supply Address)</p> 	<p>Pressing the SW/encoder button briefly to select the bit, and rotate the encoder to adjust the numerical value.</p> <p>Value range: 1~247, factory default is 001.</p> <p>The product with serial communication is a low-cost communication power supply that supports the standard ModBus protocol and can be networked through 485 modules or WIFI modules.</p>
<p>bRE Settings (Communication Baud Rate Settings)</p> 	<p>Rotary encoder to set different values from 0-8.</p> <p>0:9600 1:14400 2:19200 3:38400 4:56000 5:576000 6:115200 7:2400 8:4800</p> <p>Default baud rate is 115200 at level 6.</p>
<p>PPT Settings (MPPT Solar Charging Settings)</p> 	<p>Rotary encoder to turn on/off the MPPT function. OFF: Disable. ON: Enable.</p> <p>After enabling, press the SW or encoder button briefly to switch to setting the maximum power point coefficient. Rotate the encoder to adjust the coefficient value between 0.75-0.85, with a default of 0.8.</p>
<p>CW Settings (Constant Power CW ON/OFF)</p> 	<p>To enable or disable the constant power CW function using a rotary encoder</p> <p>After enabling constant power, press ISET briefly on the main interface to modify the value of constant power.</p>
<p>bTF Setting (Charge Cutoff Current)</p> 	<p>Press the power button briefly to turn this function on or off ----This function is off by default.</p> <p>After enabling this function, press the SW or encoder button briefly to select the digit, and rotate the encoder to adjust the value in mA.</p> <p>For example, if set to 10mA, when charging the battery, if the charging current is less than 10mA, it will be considered as fully charged, and the output will be disconnected to prevent overcharging and damaging the battery.</p>

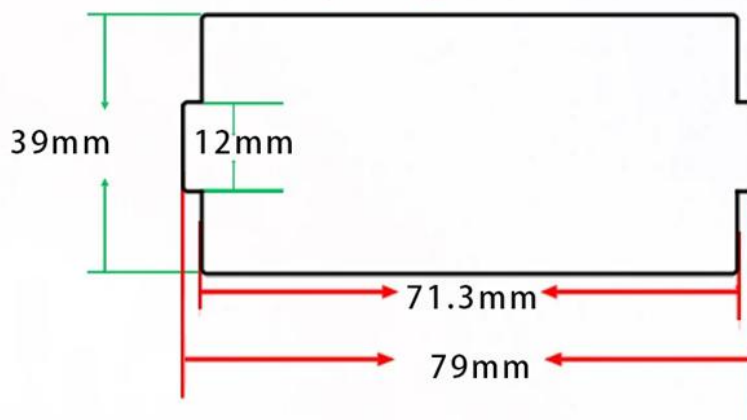
<p style="text-align: center;">OPH Setting (Over-Energy Protection)</p> 	<p>Short press the power button to turn on/off the over-energy protection function. ---- This function is off by default.</p> <p>Short press the power button to activate this function, then short press SW or encoder button to select the position, rotate the encoder to adjust the value. Long press the power button to switch the decimal point position (0.000Wh, 00.00Wh, 000.0Wh, 0000Wh, 0.0.0.0Wh (representing 0000KWh)). The maximum setting is 4200KWh.</p> <p>For instance, if OPH is set to 500.0Wh, when the cumulative output energy exceeds 5000.0Wh, the output will be shut off for protection.</p> <p>After protection, "OPH" will be displayed on the bottom line. Press any button to cancel the alarm and reset the cumulative energy.</p>
<p style="text-align: center;">OHP Setting (Over-Time Protection)</p> 	<p>Short press the power button to turn on/off the over-time protection function. ---- This function is off by default.</p> <p>Short press the power button to activate this function, then short press SW or encoder button to select the position, rotate the encoder to adjust the value. The minimum unit is 1 minute, and the maximum setting is 99:59 (99 hours 59 minutes).</p> <p>For example, if OHP is set to 02:30, when the output is on for more than 2 hours and 30 minutes, the output will be shut off for protection.</p> <p>After protection, "OHP" will be displayed on the bottom line. Press any button to cancel the alarm and reset the cumulative time.</p>
<p style="text-align: center;">OTP Setting (Over-Temperature Protection)</p> 	<p>Short press SW or encoder button to select the position, rotate the encoder to adjust the value in units of °C or °F (Switch between °C or °F in the system settings interface).</p> <p>For instance, if OTP is set to 90°C, when the PCB temperature near the power transistor reaches 90°C, the output will be shut off for protection.</p> <p>After protection, "OTP" will be displayed on the bottom line. Press any button to cancel the alarm. When the temperature drops below OTP, the protection will be automatically canceled.</p>
<p style="text-align: center;">ETP Settings (External Over-Temperature Protection)</p> 	<p>Press the power button briefly to enable/disable the external over-temperature protection function, which is defaulted to "off" when disabled.</p> <p>To enable this function, briefly press the power button, then press the SW or encoder button to select the position, and rotate the encoder to adjust the value.</p> <p>For example, if the ETP is set to 60°C, upon connecting an external temperature probe (10K, NTC probe), the output will automatically shut off for protection when the temperature exceeds 60°C.</p> <p>After protection is activated, "ETP" will be displayed on the bottom row. Press any button to cancel the alarm, and the protection will be automatically lifted when the temperature falls below the ETP setting.</p> <p>Application Scenario: Attach the external temperature probe to the load (such as a rechargeable battery). When the load temperature exceeds the set temperature, the output will be shut off for protection, effectively preventing the load from overheating and damaging.</p>
<p style="text-align: center;">PON Settings (Power-On Output)</p> 	<p>Rotate the encoder to select between OFF (output off upon power-on) and ON (output on upon power-on).</p> <p>For example, if PON is set to OFF, then the output is off when the power is just powered on, you need to press the power button to open the output; Otherwise, the output is directly turned on after the power-on.</p>

Product size

weight: 108g



The recommended opening size is as follows:



Package size

Package weight included: 127g

