

USER MANUAL OF MPPT SOLAR CHARGE CONTROLLER

A: How to choose solar panels?

For example, when dealing with a 12V battery and 60A solar controller, the PV array Open Circuit Voltage does not exceed 80V. Additionally, the Nominal PV power should not exceed 720W.

Please select the appropriate PV array for the specific requirements as below.

MiniSolar Charge Controller	30A-V123	40A-V123	60A-V123
Nominal PV Power for 12V Battery	≤400W	≤480W	≤720W
Nominal PV Power for 24V Battery	≤720W	≤960W	≤1440W
Nominal PV Power for 48V Battery	≤1200W	≤1700W	≤2800W
PV Open Circuit Voltage for 12V Battery	20V~80V		
PV Open Circuit Voltage for 24V Battery	37V~100V		
PV Open Circuit Voltage for 48V Battery	72V~160V		
Maximum PV Array Open Circuit Voltage	For 12V battery: 80V For 24V battery: 100V For 48V battery: 160V		

B: How to select the appropriate DC circuit breaker and accompanying cables?

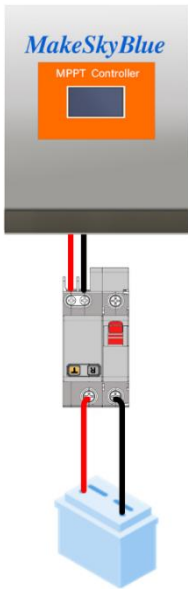
Use flexible multi-stranded copper cable for the battery and PV connections.

MiniSolar Charge Controller	30A-V123	40A-V123	60A-V123
Pure copper cables	4pcs 6mm ² / 9 awg		8pcs 6mm ² / 9 awg
Connection	One cable to one PV+ Another cable to one PV- One cable to one BAT+ Another cable to one BAT-		Two cables to two PV+ Another two cables to two PV- Two cables to two BAT+ Another two cables to two BAT-
DC Circuit Breaker	2pcs 63A		2pcs 100A

C: Installation steps

Connection order electrical connections:

1. Connect the battery: allow the solar charger to automatically recognise the system voltage.



DC circuit breaker→OFF

Install the circuit breaker→Between Controller and Battery (Above 12V)

Check Battery polarity

DC circuit breaker→ON

The initiate LCD displays→Current and Version

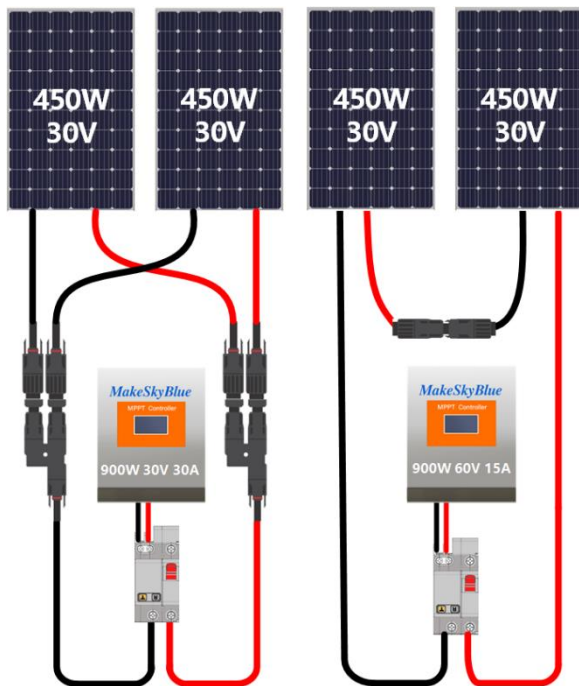
Set the controller parameters

DC circuit breaker→OFF

2. GND: Connect a cable to Battery negative from controller screw.

3. Connect the DC loads if need.

4. Connect the PV.



DC circuit breaker→OFF

Install the circuit breaker→Between Controller and PV modules

Check PV polarity

DC circuit breaker→ON

DC circuit breaker→OFF

5. Turn “ON” the circuit breaker between controller and batteries, and turn “ON” the circuit breaker between controller and PV modules.

6. The controller LCD displays the parameters if all is correct.

7. Connect the Wifi CloudBox (The Wifi CloudBox is excluded for V123).

D: Initial Page:



60: Current is 60A 123: Version is 123

E: LCD

LCD data		Working mode	
1	PV voltage / Output power	3.0	Night mode, no charging
2	Battery voltage / Charging current	4.0	MPPT mode
3	Working mode/Error code/Temperature	7.0	Absorption mode
4	ACC Power Generation	8.0	Floating mode

F: Troubleshooting

Code	Description	How to solve
18	Input PV voltage is low	Increase the PV voltage
60	Over-temperature protection	The fan will work automatically for temperature reduction
63	Battery voltage is high	Battery high voltage protection with automatic recovery
65	Battery voltage is low	Battery over-discharge protection with automatic recovery
71	Input PV voltage is high	Decrease the PV voltage/power to be within the correct Voc (open-circuit voltage) range
73	Over-charging current	Decrease the PV voltage/power to be within the correct Voc (open-circuit voltage) range
74	Output load is short	Disconnect the load, then press and hold the "ENT" button for over 5 seconds

G: Manual Setting

Caution! Disconnect the PV modules before setting up the solar charge controller.

Press the "PRG" button to begin setting the parameters.

Use the "UP" and "DOWN" buttons to select the desired value or navigate to the next page of settings. Press the "ENTER" button to confirm the selected value.

D00 Set the load working time (Default is 24-hour).

The load output is only for DC loads with a current less than 5 Amps, and the output voltage will be the same as the battery voltage.

D01 Set the floating charge voltage between 12V to 17V.

D02 Set the absorption voltage (constant voltage) between 12V to 17V.

D03 Set the battery discharge protection voltage.

D04 Set the battery type:

00 for lead-acid battery

01 for lithium battery

D05 Clear the password for the Wifi version.

D06 If you have an accurate device and need to calibrate the battery voltage, then use parameter D06 to do so. For example, if your accurate meter measures the battery voltage as 24.5V, but the controller is reading 24V, use D06 to calibrate the voltage to 24.5V. However, please be cautious when using this function.

Reminder:

The controller will work well on the default settings for lead-acid batteries.

After connecting all the cables and setting up the solar controller, reboot it to ensure all settings are successful.

Please use only the screws provided by us, as using other screws may damage the internal PCB.

When pushing the screws into the casing, please use the proper torque to avoid damaging the internal PCB due to excessive force.

H: Content Included:

1 Solar Controller

1 English User Manual

4 Mounting Brackets

4 Screws for the controller casing

If you have purchased the WiFi CloudBox, please refer to the manual for the SmartLife mobile app for further instructions.

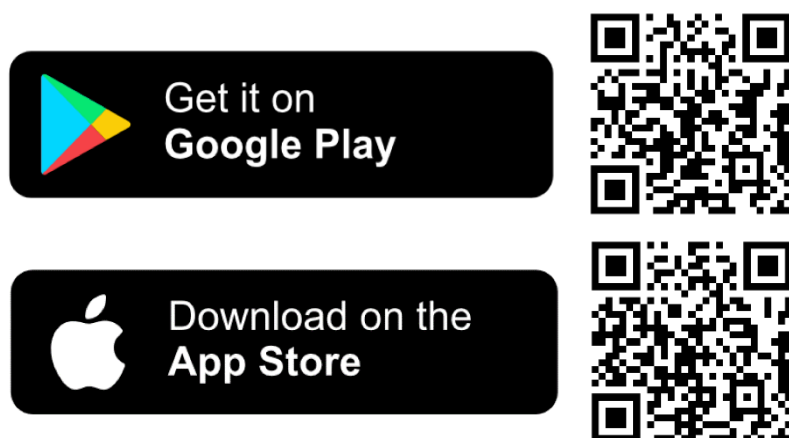
SmartLife APP Operation Manual

The WiFi feature provides a cloud service accessible via the Internet for iOS and Android mobile phones.

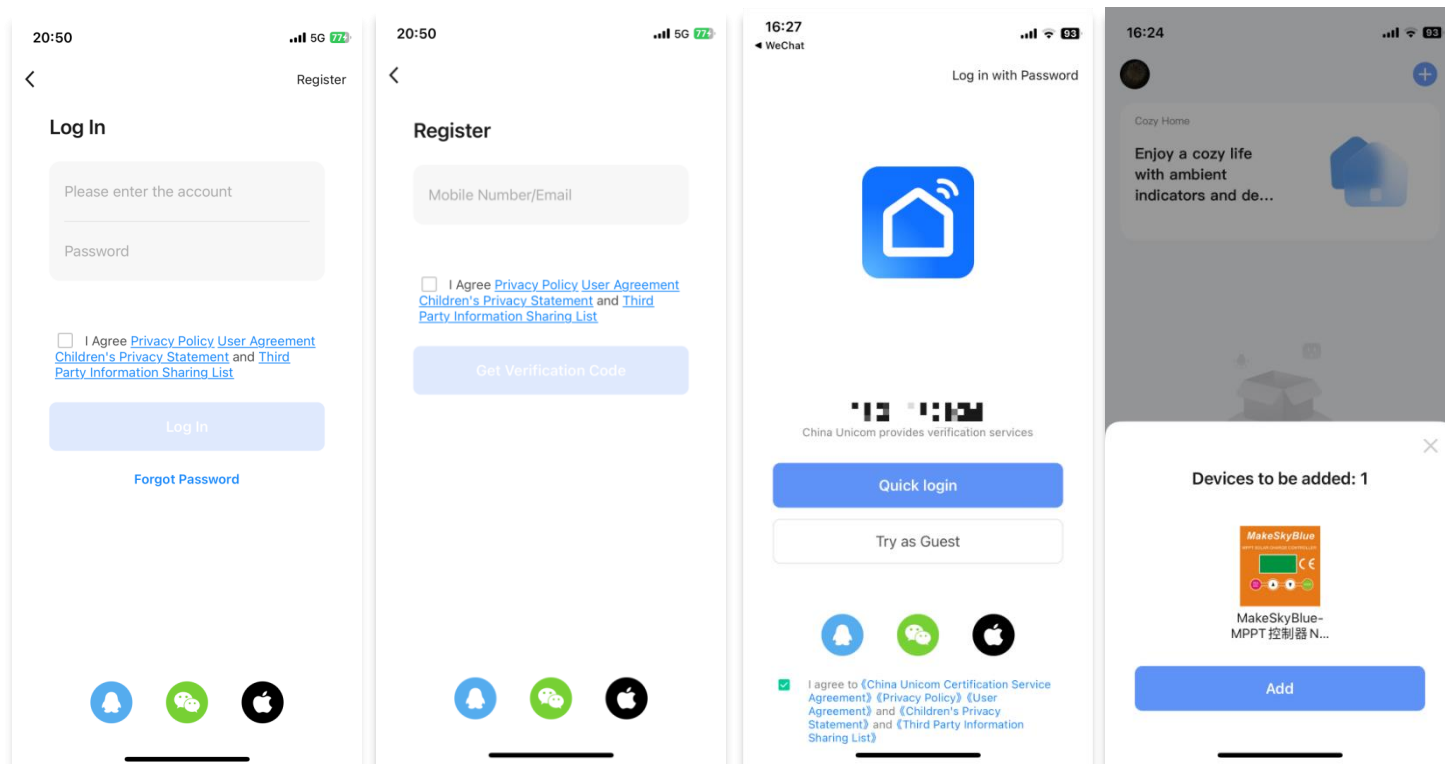
I: APP download

Please search for "SmartLife" in the Google Play Store or App Store to download the mobile app.

Alternatively, you can use your phone to scan the barcodes provided to download the APK.



II: Log In>>>Register>>>Login>>> Add device



Register

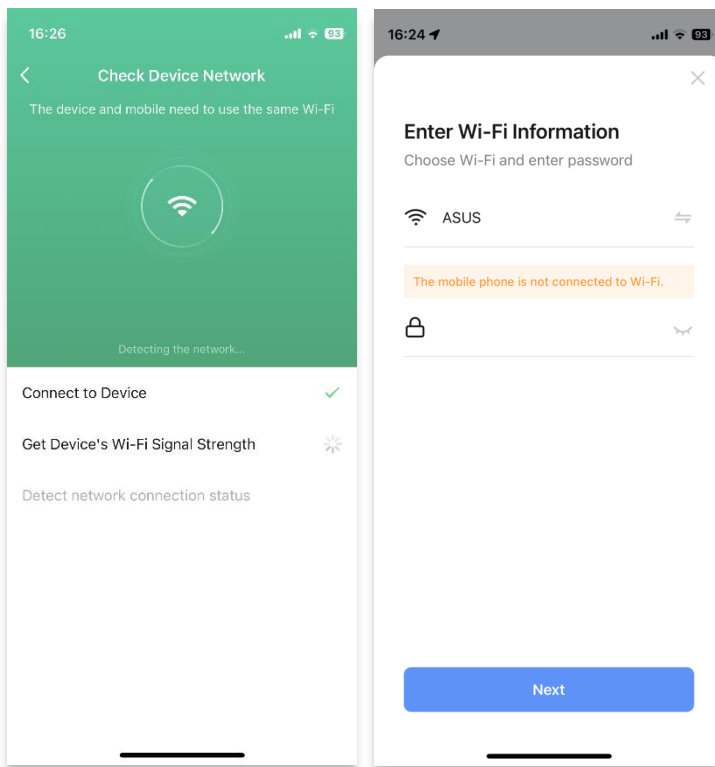
Users can choose to register using their phone number or email address, or they can choose to log in using a third-party account binding.

Add device

If no project is available, click the + icon in the upper right corner and select "Create project" to create a new project. The APP will automatically detect nearby machines and add devices based on the corresponding machine name.

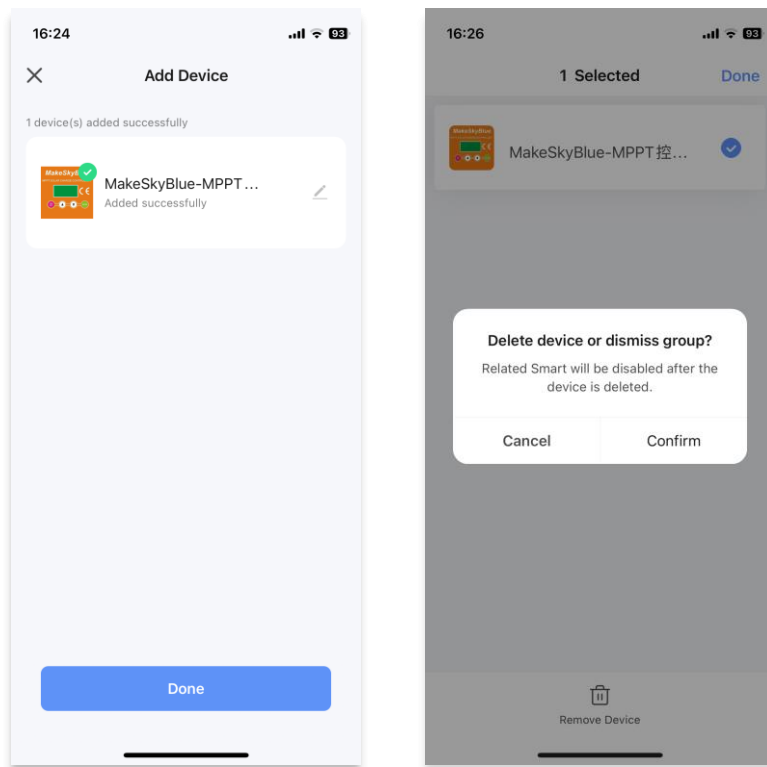
III: Configure network

Select the corresponding WIFI and enter the password to complete network configuration.



IV: Delete Device

The user needs to change the device binding or delete the device after not using the machine. Click the button in the upper right corner to view the machine information.



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