MK117 WIFI Smart Plug

User Manual

Version V1.1

Contents

1. About This Manual

MK117 is a WIFI smart plug, which supports connecting to the customer's own server. Users can view the power and energy data uploaded by the plug and control the switch status through MQTT commands.
MOKO provides a Demo APP for customers to quickly configure the plug. This document will take the MOKO APP as an example to guide users to configure the smart plug to connect their own server and remotely control the plug.

2. APP Guide

MK117 can connect to standard MQTT brokers (such as EMQTT, Mosquitto and etc.), and also can work with AWS iot and Ali iot. This section will guide users configure the plug connect to EMQTT and AWS iot with MOKO MokolifeX APP.

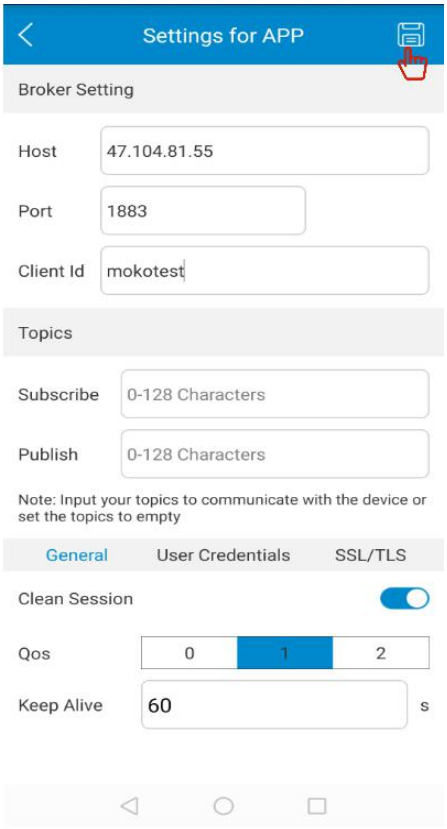
2.1 APP Download

Scan the following QR code to download MokolifeX APP. You can also search for the APP directly in Google play or APP store.

2.2 Configure Server Information

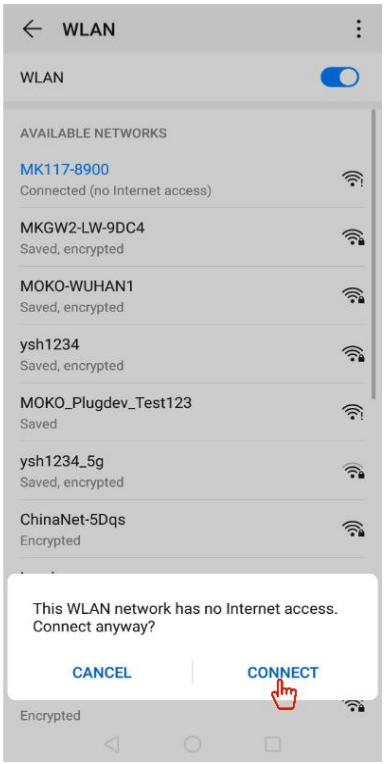
2.2.1 Configure APP and Device connect to EMQTT

1. If the plug is configured for the first time, after it is powered, it will enter the AP mode, and the indicator flashes yellow.
2. Run the MokolifeX APP, click the icon in the upper right to enter the "Settings for APP" page, fill in the configuration information and save it.

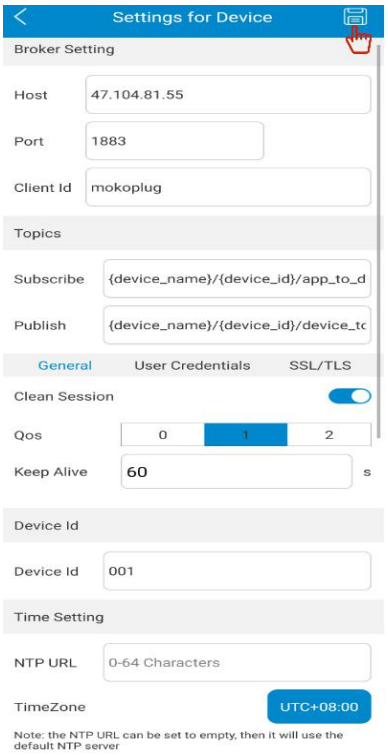


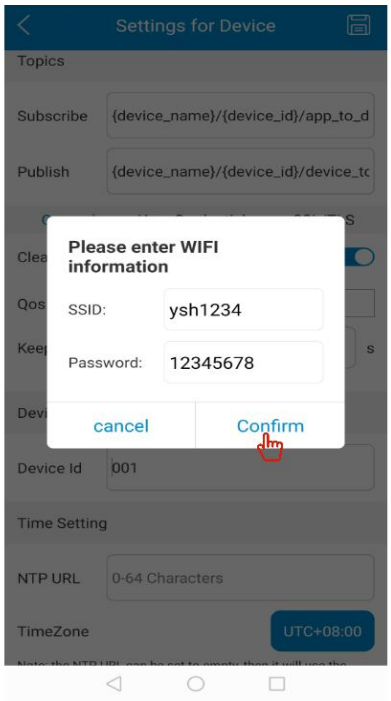
Type	Parameter	Description
Broker setting	Host	The IP address or domain name of your server.
	Port	Server port number.
	Client id	MQTT client id, each device connected to the server should have a unique client id.
Topics	Subscribe	It is a setting item only for Aliyun iot. If configure it connect to AWS iot or a MQTT server, please keep it blank.
	Publish	It is a setting item only for Aliyun iot. If configure it connect to AWS iot or a MQTT server, please keep it blank.
General	Clean session	Default: Enable, range: Enable/Disable
	Qos	Quality of service. Default: 1, range: 0-2
	Keep Alive	Default: 60, range: 10-120
User Credentials	Username	If access to your server doesn't require a username and password, it can be blank.
	Password	
SSL/TLS	SSL/TLS	Enable means SSL mode Disable means TCP mode
	Certificates	It supports three types of certificates: CA signed server certification CA certificate file Self signed certificates

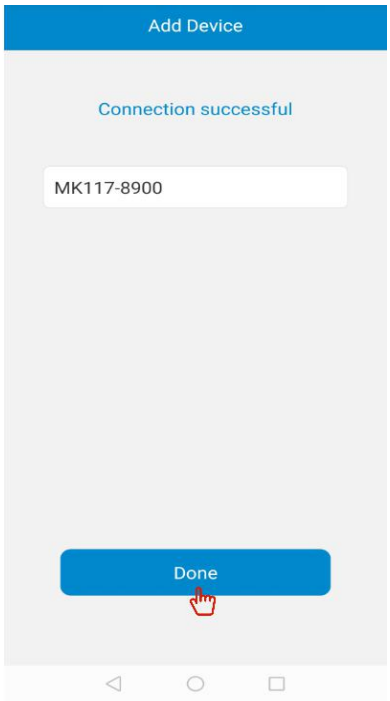
3. Click the "Add Devices" button to select a plug, the connection password is **Moko4321**. If your mobile phone prompts that the network has no internet access, please continue to connect.



4. Fill in the configurations for the device, and configure an available WIFI SSID and password. The plug will automatically connect to the WIFI and server, and the indicator will flash blue.
5. Waiting for a few seconds, if the plug is successfully connected to the server, the indicator will change to solid blue, and the APP will prompt "Connection successful", you can edit a local name for the plug here.



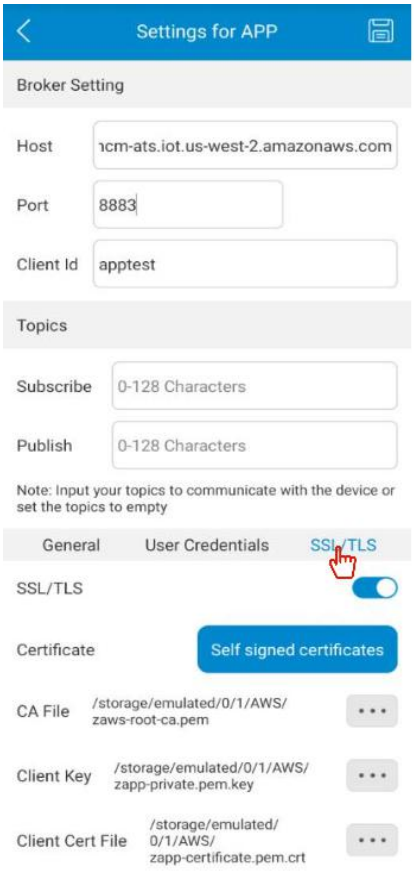


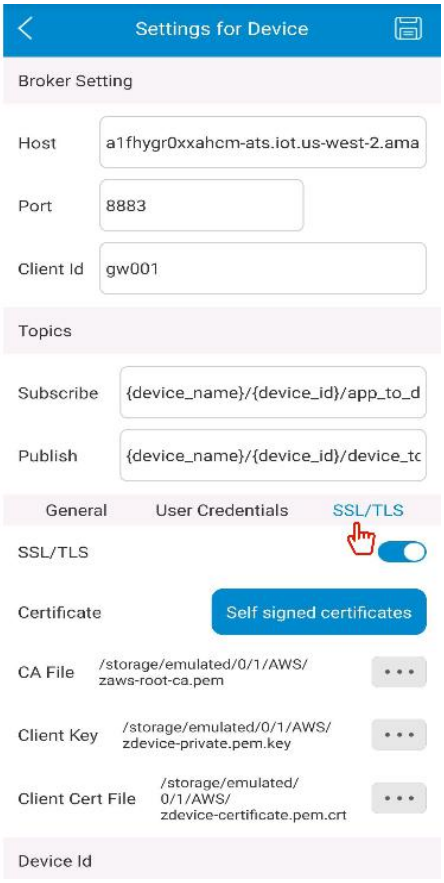


Type	Parameter	Description
Broker setting	Host	The IP address or domain name of your server.
	Port	Server port number.
	Client id	MQTT client id, each device connected to the server should have a unique client id.
Topics	Subscribe	The plug uses it to subscribe messages from the MQTT. You can use the default topic directly or modify it.
	Publish	The plug uses it to publish messages to the MQTT. You can use the default topic directly or modify it.
General	Clean session	Default: Enable, range: Enable/Disable
	Qos	Quality of service. Default: 1, range: 0-2
	Keep Alive	Default : 60, range: 10-120
User Credentials	Username	If access to your server doesn't require a username and password, it can be blank.
	Password	
SSL/TLS	SSL/TLS	Enable means SSL mode Disable means TCP mode
	Certificates	It supports three types of certificates: CA signed server certification; CA certificate file; Self signed certificates
Device Id	Device Id	Each added device should have a unique device id.
Time setting	NTP URL	NTP server IP or domain name, it can be blank, then device will use the default NTP server.
	Timezone	Default: UTC+0, range: UTC-12 - UTC+12

2.2.2 Configure APP and Device connect to AWS iot

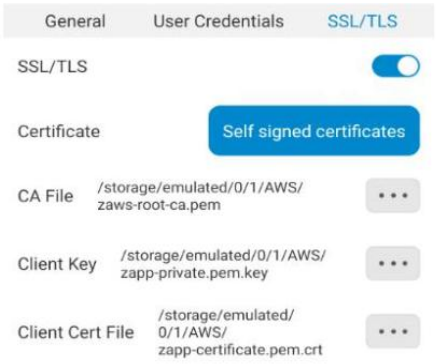
When configuring the plug to connect to AWS iot, please enable the SSL/TLS option, then select the certificate files locally from the mobile phone.

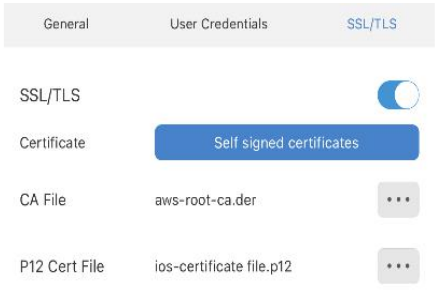




Note: When use an Android phone to configure the plug, the certificate files must be saved in the root directory of the internal storage, otherwise the APP cannot obtain the files correctly.

Since the certificate format required by the iOS is different from that of the Android, there is slight difference between Android and iOS page. (The left picture is the "MQTT settings for APP" page of Android APP, and the right picture is the "MQTT settings for APP" page of iOS APP).

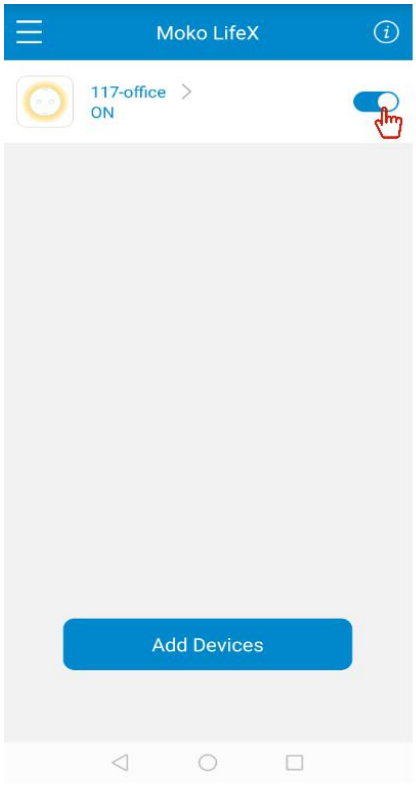


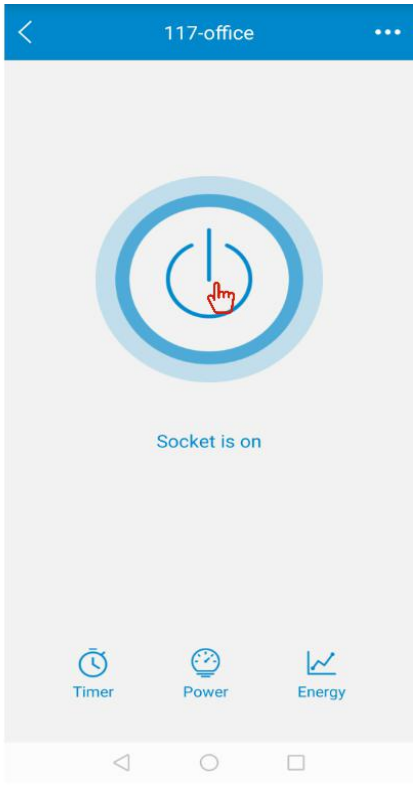


Note: When use an iOS phone to configure the gateway, first you should convert the AWS files into iOS required format. Then, import the certificate files to your iOS phone via iTunes. Please refer to the *MOKO Smart Plug FAQ* document to get the detailed steps.

2.3 ON/OFF Control

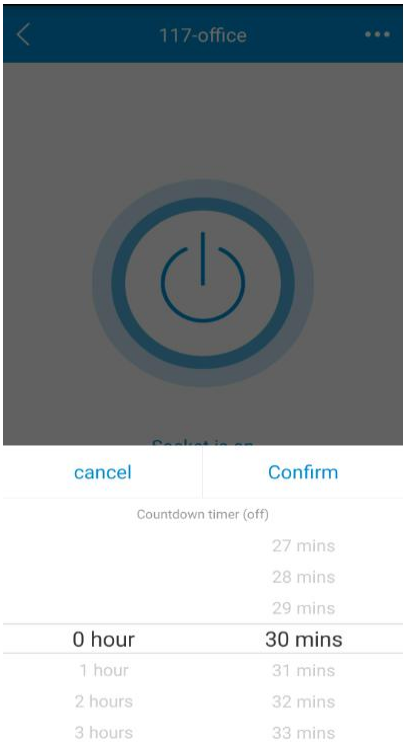
When the plug is successfully added by the APP, it will appear in the device list, you can use the APP to remotely control the plug.

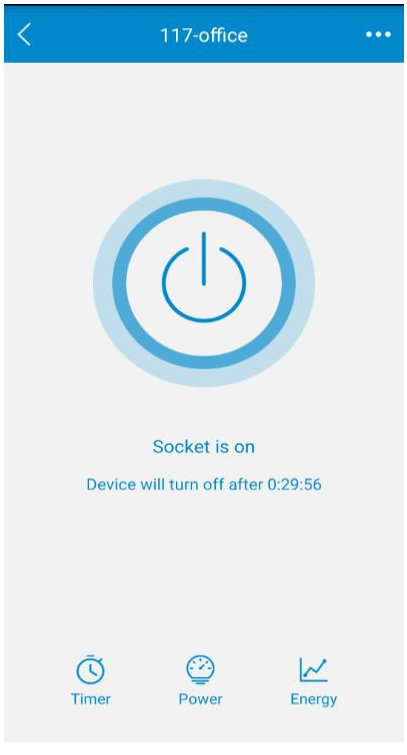




2.4 Timer

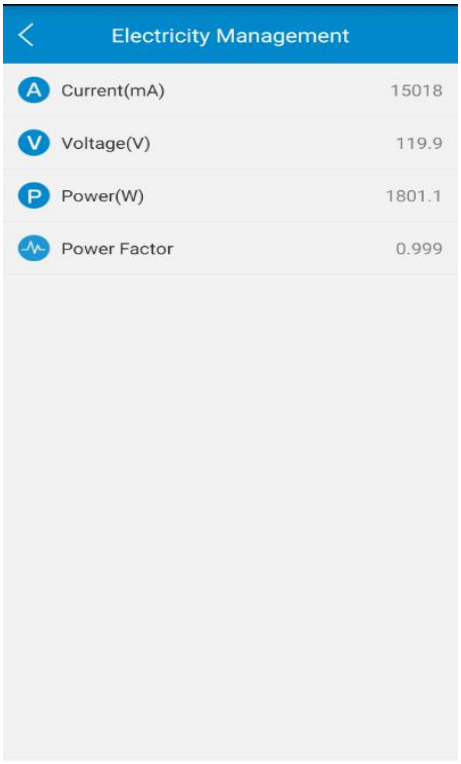
“Timer” is used to set a timer for the plug, when the timer completes, the plug will automatically change the switch state.





2.5 View the Power Data

“Power” is used to read the instant voltage, current, active power and the power factor.

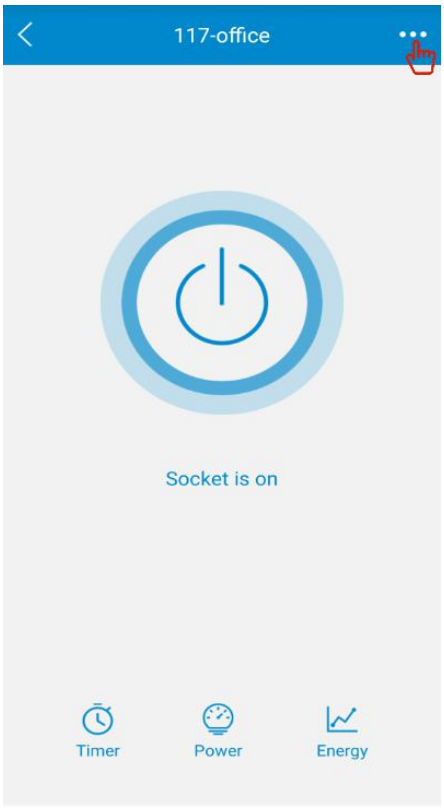


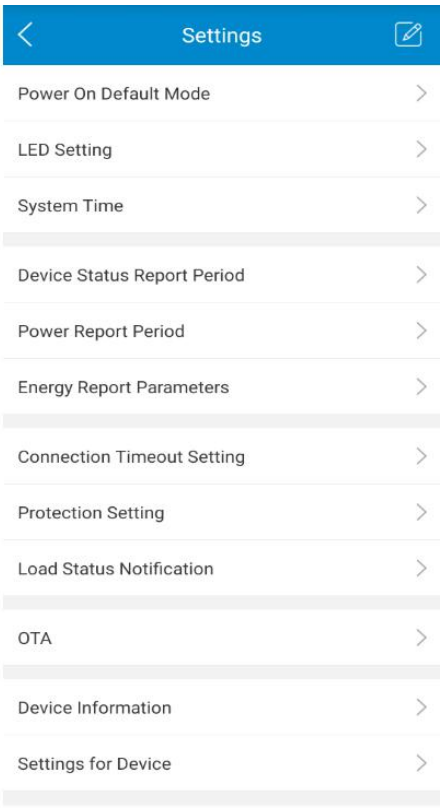
2.6 View the Energy Data

“Energy” is used to read the daily, monthly and historical total energy data. The “delete” icon on the page is used to reset energy data, when click it and confirm, all energy memory will be deleted. The KWh.EC list is the electricity rounds. Energy consumption in KWh = electricity rounds/ EC (EC=3200)

2.7 Set Device Parameters

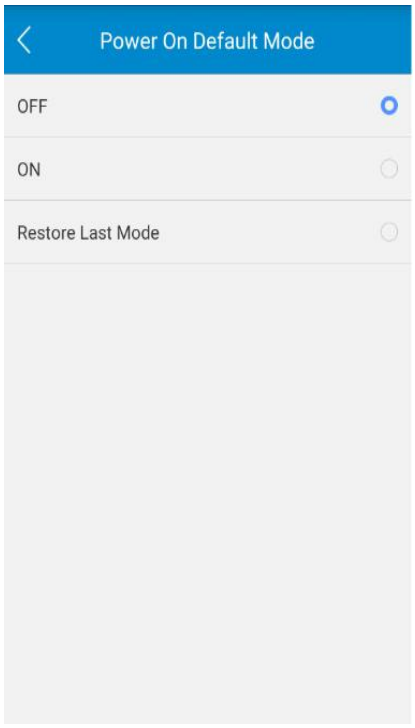
The plug supports user to flexibly modify the device parameters according to their application. All parameters on this page can be modified.





2.7.1 Power On Default Mode

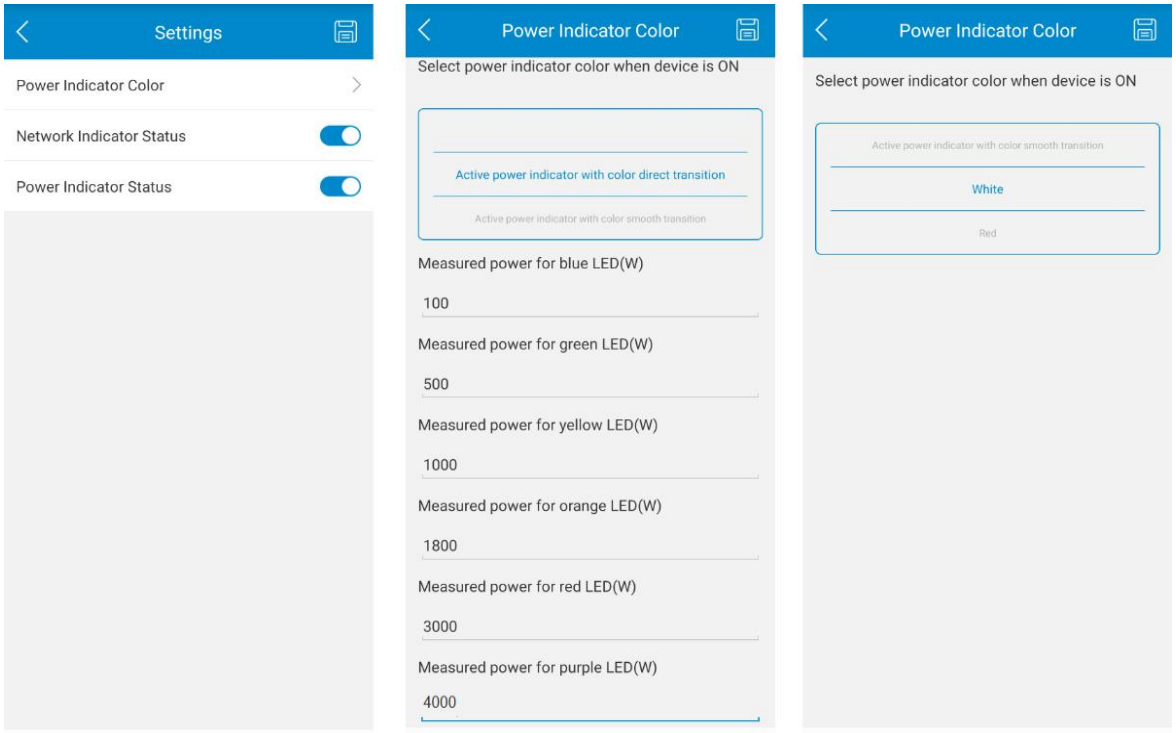
This parameter defines the default switch state when the plug is powered on. After the plug is connected to the power supply, it will react according to the configuration.



Parameter	Description
Power on default mode	Default: OFF, range: OFF/ON/Restore last mode

2.7.2 LED Setting

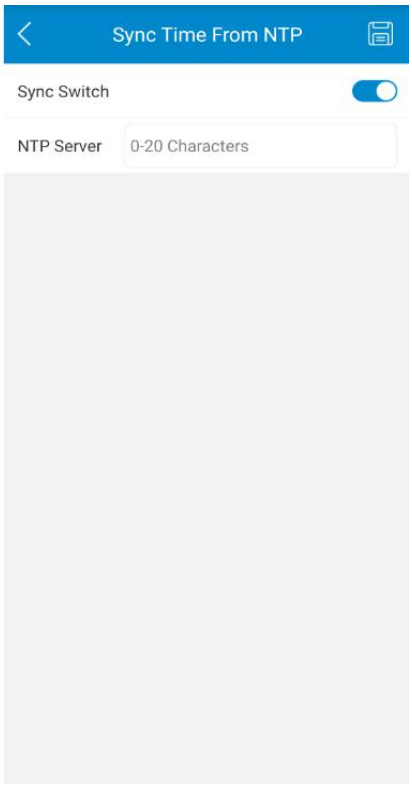
On this page, you can set the power indicator color and the function switch of the two indicators. The max power of different plug types are not the same, so the configuration ranges of the power indicator are also different, please set the measured power value according to the plug types.



Parameter	Description
Power indicator color	Range: 0 - Active power indicator with color direct transition 1 - Active power indicator with color smooth transition 2 - White, 3 - Red, 4 - Green, 5 - Blue, 6 - Orange, 7 - Cyan, 8 - Purple Default: 1- Active power indicator with color smooth transition
	The measured power setting rules: **EU/FR plug:** 1<= P(blue LED) <P(green LED)<P(yellow LED)<P(orange LED) <P(red LED) <P(purple LED)<4416 **US plug:** 1<= P(blue LED) <P(green LED)<P(yellow LED)<P(orange LED) <P(red LED) <P(purple LED)<2160 **UK plug:** 1<= P(blue LED) <P(green LED)<P(yellow LED)<P(orange LED) <P(red LED) <P(purple LED)<3588
Network indicator status	Default is enabled, when it is disabled, the LED will be OFF
Power indicator status	Default is enabled, when it is disabled, the LED will be OFF

2.7.3 System Time

The plug supports to synchronize time from NTP server and the mobile phone.
Click "Sync time from NTP" to enter the settings page, you can set the synchronization switch and edit the NTP server, click the “save” button to take effect.
The "Sync" button is used to require the current UTC time from your phone, you also need to select the Timezone to get the local current time. If the plug has successfully synchronized time from NTP, it will ignore the time synchronized from the phone.



2.7.4 Device Status Report Period

This parameter defines the time interval of the device reporting the switch status to the server.

Parameter	Description
Device status report period	Default: 30, range: 1-600 (unit: second)

2.7.5 Power Report Period

This parameter defines the time interval of the device reporting the voltage, current, and power data to the server.

Parameter	Description
Power report period	Default: 30, range: 1-600 (unit: second)

2.7.6 Energy Report Parameters

The energy data reporting rule is related to the following two parameters:

- Power report interval: The time interval of the device reporting energy data to the server.
- Power change notification: When the device detects that the power change of the plugged load exceeds the set ratio, it will report the current energy data to the server.

Parameter	Description
Energy report period	Default: 1, range:1-60 (unit: minute)
Power change notification	Default: 15, range: 1-100 (unit: %)

2.7.7 Connection Timeout Setting

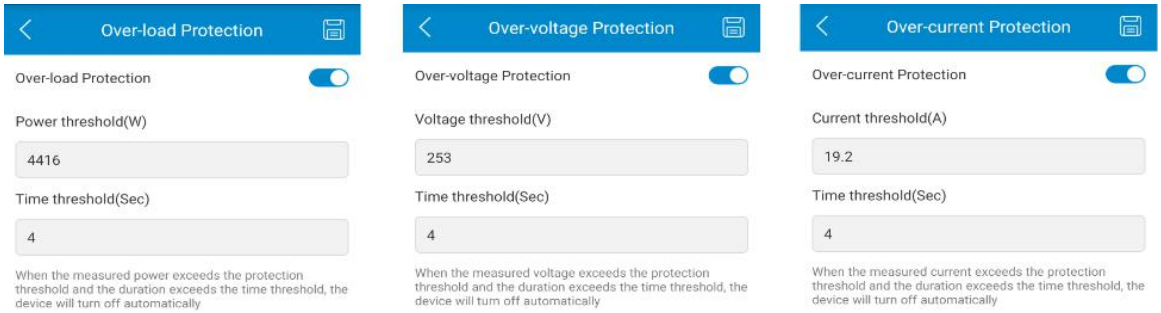
The plug will automatically reboot once when it connects to server exceeding the configured timeout.

Parameters	Description
Connection timeout	Default: 3, range: 0-1440 (unit: minute) Value 0 means that the device will not reboot

2.7.8 Protection Setting

When the plug detects that the measured voltage/current/power exceeds the safe range for a period of time, it will automatically turn off the switch.

The rated current and voltage of different plug types are not the same, so the power, voltage and current threshold configurations are also different, please set the threshold value according to the plug types.

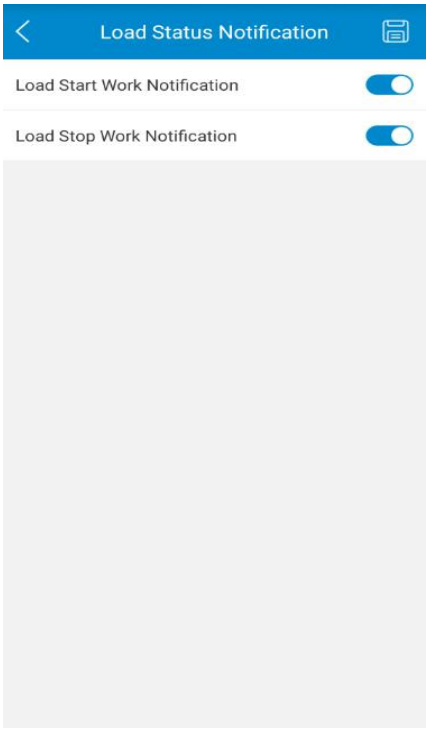


Type	Parameter	Description
Over-load protection	Power threshold	**EU/FR plug:** Default: 4416, range: 10-4416 (unit: W)
		US plug: Default: 2160, range: 10-2160(unit: W)
		UK plug: Default: 3588, range: 10-3588 (unit: W)
	Time threshold	Default: 4, range: 1-30 (unit: second)
Over-voltage protection	Voltage threshold	**EU/FR plug:** Default: 253, range: 200-264 (unit: V)
		US plug: Default: 132, range: 100-138 (unit: V)

		UK plug: Default: 253, range: 200-264 (unit: V)
	Time threshold	Default: 4, range: 1-30 (unit: second)
Over-current protection	Current threshold	**EU/FR plug:** Default: 19.2, range: 0.1-19.2 (unit: A)
		US plug: Default: 18, range: 0.1-18 (unit: A)
		UK plug: Default: 15.6, range: 0.1-15.6(unit: A)
	Time threshold	Default: 4, range: 1-30 (unit: second)

2.7.9 Load Work State Detection

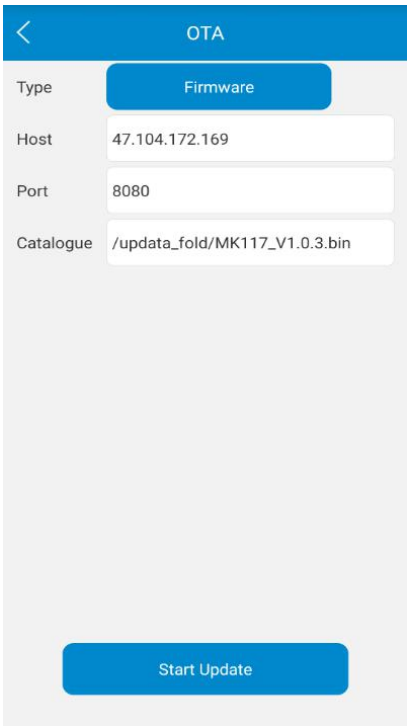
When the plug detects that the load starts/stops working, it will immediately report a notification to the server.



Parameters	Description
Load start work notification	Default is enabled, when it is disabled, the plug will not report the notification
Load stop work notification	Default is enabled, when it is disabled, the plug will not report the notification

2.7.10 OTA

The plug has the ability to update firmware over the air. After filling in the OTA information, click the “Start Update” button, the plug will enter the update process.
During the OTA process, LED will flash blue, if OTA succeed, LED turns solid blue, if failed, LED turns solid red.



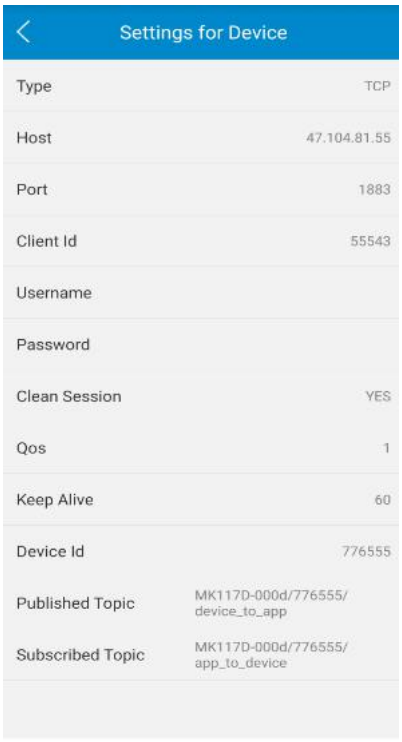
Note: The demo OTA information (**47.104.172.169:8080/updata_fold/MK117_V1.0.3.bin**) in the above picture is only available for your test. MOKO also can provide you with the firmware upgrade file, you can upgrade the plug with your own OTA server information.

2.7.11 Device Information

Users can get the device information in this page.

2.7.12 Settings for device

Users can get the MQTT settings of your device in this page.



2.8 Remove Device

The “Remove Device” button is used to remove the device from APP. After removed, the device will disappear in the device list.

2.9 Reset Device

The “Reset Device” button is used to send a reset command to the device. After that, the device will restore to factory setting, and the indicator will flash blue and yellow once.
You can also press and hold the button for 10 seconds to reset the plug.

3.Revision History

Revision	Description	Editor	Date
V1.0	Initial Release, based on firmware V1.0.3	Weiguifen	2021.9.25
V1.1	Improve description	Weiguifen	2022.4.7

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