LW005-MP

CONTENT

1 About this Manual

The purpose of this manual is to outline how to use MKLoRa APP for LW005-MP parameters configuration.

2 MKLoRa APP

For the detailed operation of the MKLoRa app to configure and read device information, please refer to the following instructions:

2.1 Install MKLoRa APP

User can get the APP download link by search "MKLoRa" in your phone APP store: Please allow Bluetooth to be enabled during the installation process. This APP communicates with the device via Bluetooth, and it only supports above android 4.4 and IOS 9.0 system.

Note: After the successful installation of the APP, the APP will request some mobile phone permissions, such as Bluetooth access permissions. Please click "OK", otherwise the APP will not work well.

2.2 Connect to LW005-MP

After the device is turned on, the device Bluetooth will start broadcasting. Open the MKLoRa APP and choose LW005-MP on device option interface, then you can search the LW005-MP device by click the refresh icon. The default broadcast name of the device: LW005-MP-XXXX(XXXX is the last 4 bit of device MAC address).

The Edit Filter at the top can help user filter the keywords and RSSI. RSSI ranges from -127dBm to 0dBm;
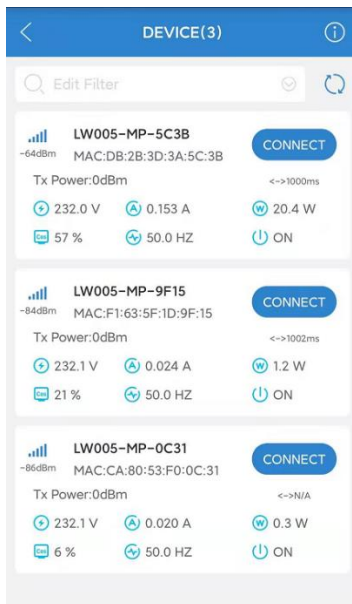
The distance between the phone and the device should be kept within 10m without wall obstruction. Otherwise, the device will not be searched. After searching for the device, click the "CONNECT" to connect the device that you want to configure.

Then you should enter the password, the default login password is "Moko4321".

Note: If a password is not entered within one minute, the login box will disappear, you should click "CONNECT" again.

*Note: If there is no action within 3 minutes after login, the system will automatically login out.*

2.3 Configure LW005-MP Parameters
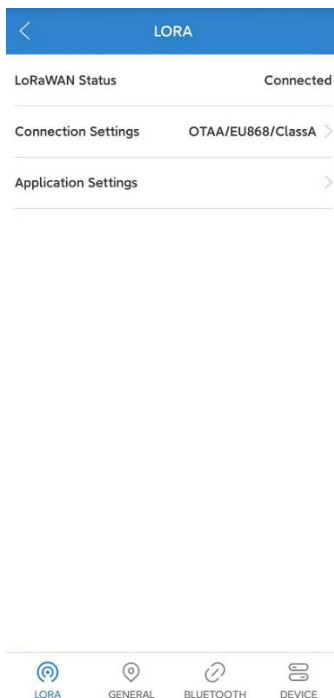
When you log into the device successfully, you will enter the main page. There are four parts of the parameter configuration: LORA, GENERAL, BLUETOOTH and DEVICE.

2.3.1 LORA Parameters

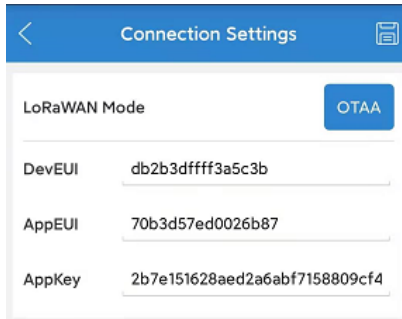In this page, user can configure parameter for LoRa Part:
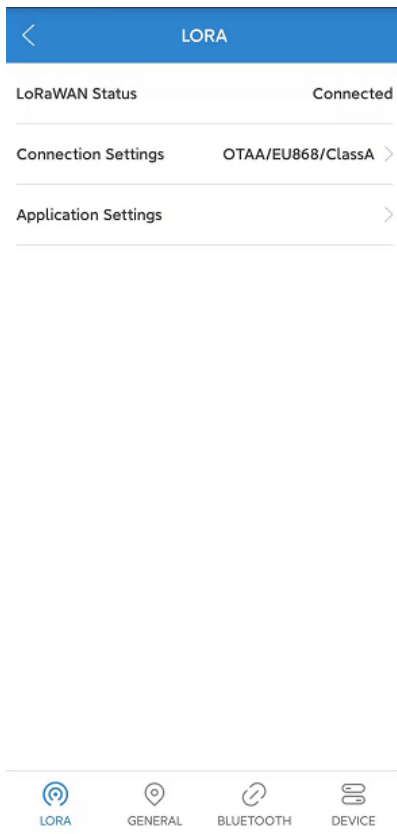
LoRaWAN Status: Indicates the status of the LoRaWAN network connection.

Connection Settings: Configure LoRaWAN network parameters.

Application Settings: Configure LoRaWAN application parameters.

2.3.1.1 Connection Settings

LoRaWAN Mode: LoRaWAN join-in mode selection

DevEUI/AppEUI/AppKey: Network parameters in OTAA mode.

DevEUI/AppEUI/DevAddr/AppKey/NwkSKey: Network parameters in ABP mode.

Region/Subnet: Device frequency band selection, AS923/ AU915 /CN470 /CN779 /EU433 /EU868 /KR920 /IN865 /US915 /RU864 can be set.

Device Type: LoRaWAN device mode; it can be set Class A or Class C, the default is Class C.

Message Type: Uplink payload type, it can be set unconfirmed or confirmed, the default is confirmed.

Advanced Setting: Some advanced parameter settings, if not necessary, it is not recommended to modify.

Duty-Cycle: It is only used for EU868, CN779, EU433 and RU864. The default is off.

DR for join: It is only used for CN470, CN779, EU433, EU868, KR920, IN865, RU864. DR selection for Join Request of OTAA mode. The default is DR0, it ranges from DR0 to DR5.

CH: Channel Setting, Generally, the default is fine.

Uplink Strategy:
Option1: ADR on, ADR mechanism following the standard protocol stack.

Option2: ADR off. The device will choose the DR to send the payload within the set DR range, and will try to ensure that the time taken to send the payload is the same every time.

Max retransmission times: Maximum number of retransmissions when selecting a confirmation frame to transmit an uplink Payload. The default is 3 times. The value ranges from 0 -7 times.

Note: If the data length of the current payload exceeds the transmission capacity of the selected DR, it will automatically make the DR plus one.
Note: Please do not modify advanced settings unless necessary.

2.3.1.2 Application Settings
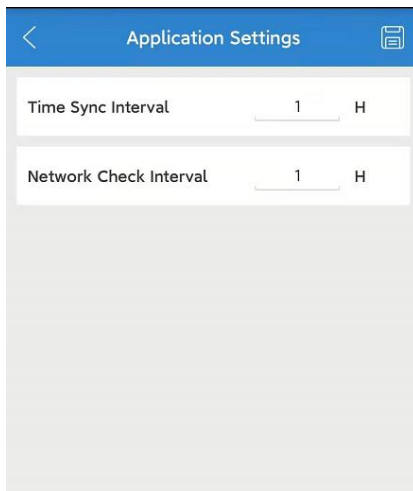
Time Sync Interval: It is used to sync the device time via MAC command. The default is 1, means that the device's time will be synchronized every 1 hour via LoRaWAN MAC commands.

The value ranges from 0 -255H. 0 means disable.

Network Check Interval: The device will periodically check the LoRaWAN network status via MAC command. The default is 1, means that the device will check the network status every 1 hour via LoRaWAN MAC commands.

The value ranges from 0 -255H. 0 means disable.
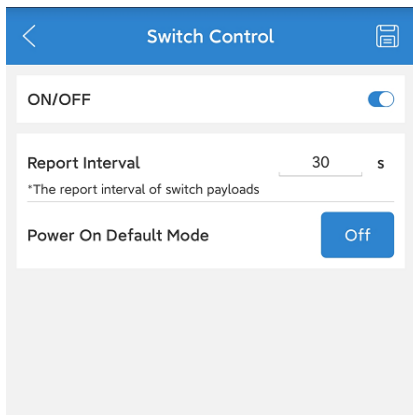
2.3.2 General Settings

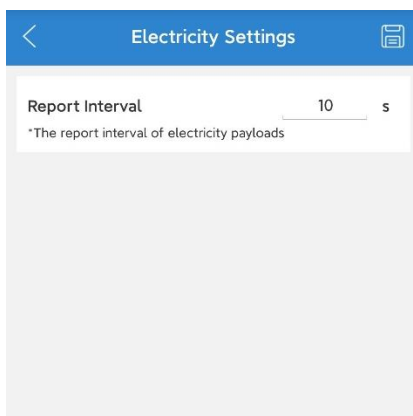In this page, user can configure general parameters:
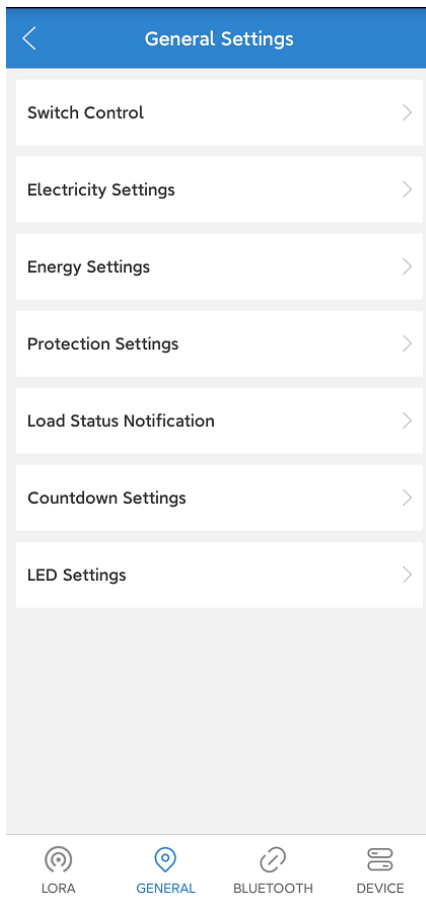
2.3.2.1 Switch Control

ON/OFF: User can control the AC output of the LW005-MP.

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Report Interval: The report interval of switch payloads.
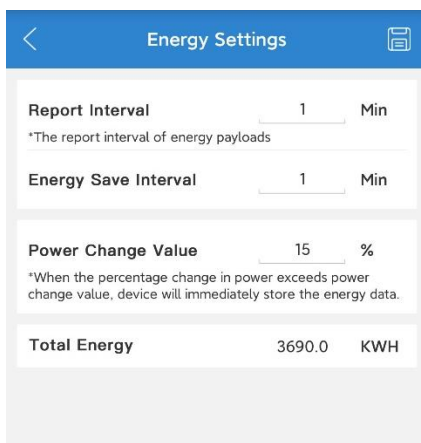The default is 30, the unit is s.
The value ranges from 10 -600s.

2.3.2.2 Electricity Settings

Report Interval: The report interval of electricity payloads.
The default is 10, the unit is s.
The value ranges from 5 -600s.

2.3.2.3 Energy Settings

Report Interval: The report interval of energy payloads.
The default is 1, the unit is minutes. The value ranges from 1 -60 minutes. It can't be less than **Energy Save Interval**.

Energy Save Interval: The save interval of energy data.
The default is 1, the unit is minutes. The value ranges from 1 -60 minutes.

Power Change Value: When the percentage change in power exceeds power change value, device will immediately store the energy data.
The default is 15%, it ranges from 1% to 100%.

Total Energy: Historical total accumulated energy data of LW005-MP.

## 2.3.2.4 Protection Settings

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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: 231-264 (unit: V)
		US plug: Default: 132, range: 121-138 (unit: V)
		UK plug: Default: 253, range: 231-264 (unit: V)
	Time threshold	Default: 4, range: 1-30 (unit: second)
Sag-voltage protection	Voltage threshold	**EU/FR plug:** Default: 207, range: 196-229 (unit: V)
		US plug: Default: 108, range: 102-119 (unit: V)
		UK plug: Default: 207, range: 196-229 (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)

2.3.2.5 Load Status Notification
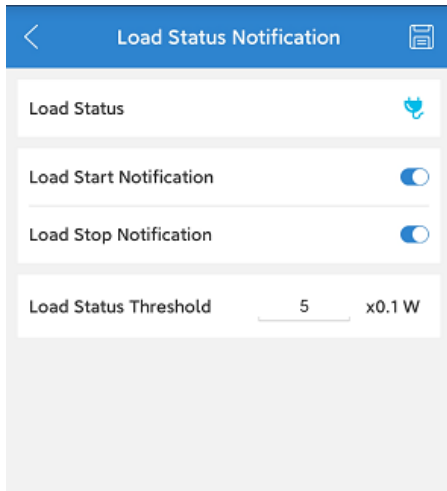
Load Status: The load status of LW005-MP.

Load Start Notification: When the plug detects that the load starts working, it will immediately report a notification to the server. The default is ON.

Load Stop Notification: When the plug detects that the load stops working, it will immediately report a notification to the server. The default is ON.

Load Status Threshold: The power when no load is connected to LW005-MP. The default is 0.5W. It ranges from 1-10, the unit is 0.1W.
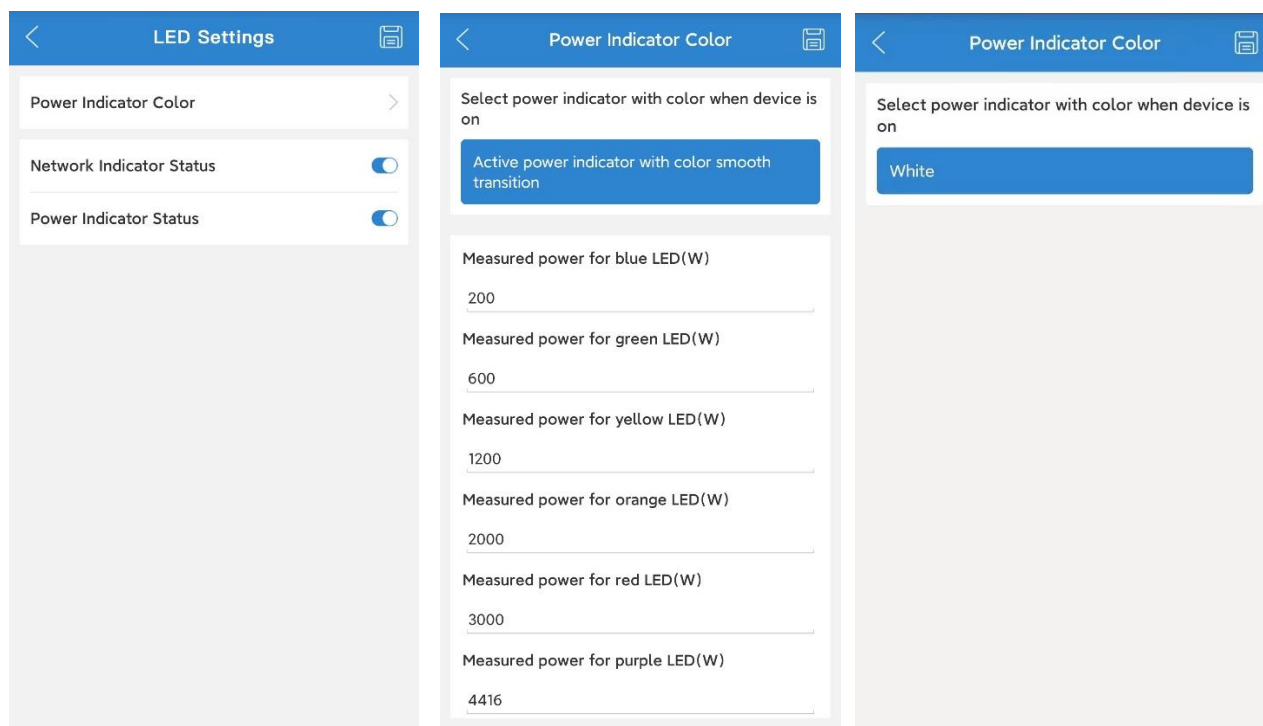
2.3.2.6 Count Down Settings
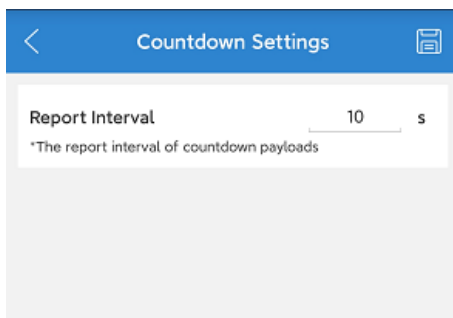
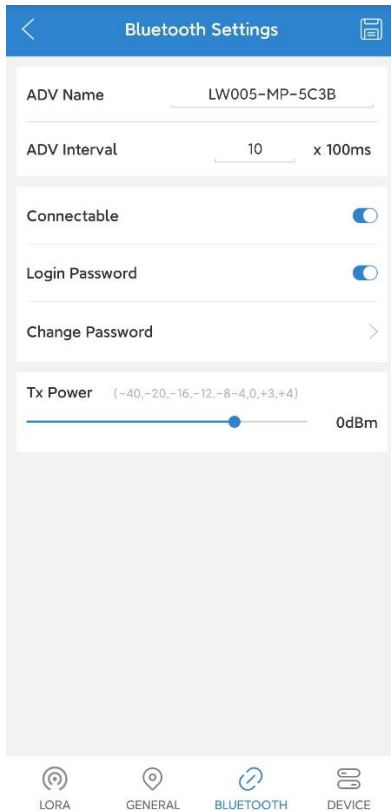**Report Interval:** The report interval of countdown payloads. The default is 10s, it ranges 10-60s.

2.3.2.7 LED Settings

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 isn't the same, so the configuration ranges of the power indicator is 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	The default is Enable, when it is disabled, the LED will be OFF
Power indicator status	The default is Enable, when it is disabled, the LED will be OFF

2.3.3 Bluetooth Settings

ADV Name: The advertising name of the device, up to 16 characters.

ADV Interval: Bluetooth advertising interval. The default is 1000ms. It ranges from 1-100, the unit is 100ms.

Connectable: User can select the connectable state or the unconnectable state. The default is connectable state.
When the device is on unconnectable state, the device only can be connected via Bluetooth in the first three minutes of power on.

Login Password: Does the user need to enter the login password when using the app to connect to the device. The default is need.

Change Password: User can change the login password, up to 8 characters.

Tx Power: Bluetooth Tx power. The default value is 0 dBm and Tx Power can be configured as one of the following data：-40dBm，-20dBm，-16dBm，
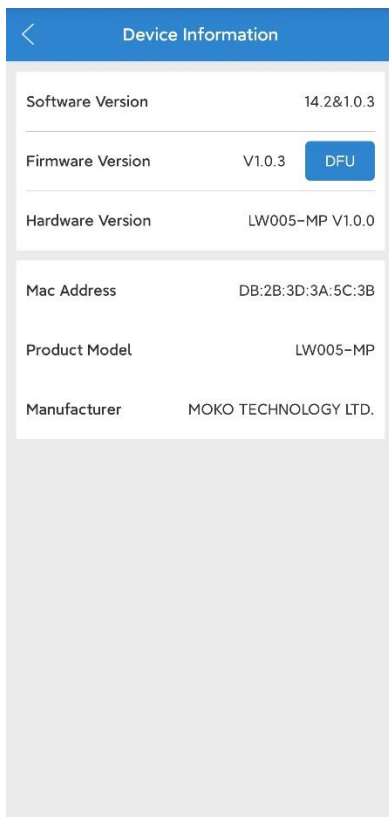
2.3.4 Device Settings
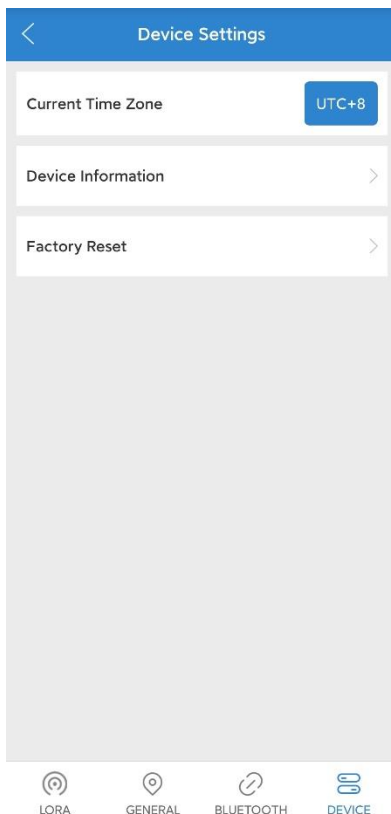
Current Time Zone: Selection of the time zone in which the current device is located.
The value ranges from UTC-12:00 to UTC+14:00, every half hour is a level. The default time zone is UTC+8.

2.3.4.1 Device Information

DFU (Update Firmware): To update the firmware via the DFU should use the upgrade package that MOKO provides with ZIP format.

If you use an android phone, place the ZIP file of firmware upgrade package into the phone folder, select the upgrade package file from the OTA page of the APP, and click to upgrade.

If you use an iPhone, user need to share the upgrade package file with MKLoRa via computers and iTunes tools. Then select the upgrade package file from the OTA page of the APP, and click to upgrade.

3 Revision History

Version	Description	Editor	Date
1.0	Initial version	Allen	2021-12-20

3 Revision History

MOKO TECHNOLOGY LTD.

4F,Buidling2, Guanghui Technology Park,
MinQing Rd, Longhua, Shenzhen, Guangdong, China

Tel:86-755-23573370-829

Support_lora@mokotechnology.com

https://www.mokosmart.com

MOKO