# MOKO WIFI Smart Plug
## (MK116)

Datasheet

Version 1.0

# Contents

# 1.  Product Instruction

**MK116** is an ESP32 WIFI smart plug with **energy monitoring**, which can track your device's real-time power and energy consumption with  ±**0.5% measuring accuracy**.

The plug is built-in ESP32 module to realizes WIFI communication. It can access to multiple servers such as MQTT broker, Ali IOT, AWS IOT, also can connect to your own servers. Users can easily manage your electrical device from the cloud server or APP client.

## 1.1  Key Features

- Built-in ESP32 module and MOKO standard firmware
- Control from anywhere
- Timer control
- High accuracy power/energy reading
- Analyze real-time and historical consumption
- Detect if electrical device load is connected to it
- Overload protection to improve safety
- Multi-color LED codes device state and consumption
- Firmware update over the air (OTA)
- Supports Android & IOS APP SDK for APP developing
- Schematic diagrams are available for customers to develop firmware
- Australian approval standard: AS/NZS 3112:2017; AS/NZS 3122:2015; AS/NZS 3100:2017; AS/NZS CISPR 32:2015; AS/NZS4268:2017; AS/NZS2772.2

## 1.2  Applications

- Household appliance control
- Smart home/office energy monitoring
- Industrial electrical devices control
- Smart charging pile
- Energy management

# 2.  Physical Characteristics

| NO. | Item | Remarks |
|-----|------|---------|
| 1 | Wireless technology | WIFI |
| 2 | Input voltage | 100VAC-240VAC, 50/60HZ |
| 3 | Output voltage | 100VAC-240VAC |
| 4 | Max load | 10A, 2400W, continuous load |
| 5 | Operation temperature | 0 $^o$C~ 40 $^o$C ( 32$^o$F ~ 104$^o$F ) |
| 6 | Plug type | Type I |
| 7 | Certification | SAA&RCM |

# 3.  Technology Parameters

| NO. | Item | Remarks |
|-----|------|---------|
| Hardware | MCU | ESP32 |
| | Energy metering chip | RN8209C |
| Software | Communication protocol | MQTT V3.1.1 |
| | Firmware upgrade mode | OTA |
| | User configuration | MokolifeX APP supports Android& IOS |
| WIFI specification | Frequency | 2.4GHz-2.5GHz （2400MHz-2483.5MHz） |
| | WIFI protocol | 802.11b/g/n |
| | Encryption mode | OPEN/WEP/WPA_PSK/WPA2_PSK/WPA_WPA2_PSK |
| | Coverage | 100m in open space |
| | Transmission power | 13dB@11n; 18.5dB@11b |

# 4.  Indicator & Button Status

| Items | Indicator status | Operation | Remark |
|-------|-----------------|-----------|--------|
| Turn on | Solid yellow | Not connect to server and short press the button to switch ON | Low power mode |
| | Solid White/Blue/Cyan /Green/Yellow/Orange /Red/Purple | Connected to server and short press the button to switch ON | LED color can be selected through APP |
| SoftAP mode | Flash amber | Plug works as a hotspot, APP can connect to it | |
| Network Connection /OTA upgrading | Flash blue | Device is connecting to router and server/OTA updating | |
| OTA failed | Flash yellow | To indicate OTA result | |
| OTA successful | Solid Blue | To indicate OTA result | |
| Overload protection | Flash yellow and blue alternately | When the connected load exceeds the overload value set through APP, device will cut off automatically | |
| Disable/Enable the power indicator | Keep purple 2S | Press and hold the button, until LED turns **purple**, release the button, then immediately click it again | 1st menu position |
| Reset energy consumption | Keep green 2S | Press and hold the button, until LED turns **green**, release the button, then immediately click it again | 2nd menu position |
| Factory reset | Keep red 2S | Press and hold the button, until LED turns **red**, release the button, then immediately click it again | 3rd menu position |
| Disable/Enable the power indicator successfully | Triple white blinking | | |
| Reset energy consumption | Triple red blinking | | |
| Factory reset successful | Flash yellow and blue alternately once | | Then device enters softAP mode |
| Switch ON when the power indicator disabled | Triple purple blinking | When the power indicator disabled, turn ON the switch | |

# 5. Dimensions
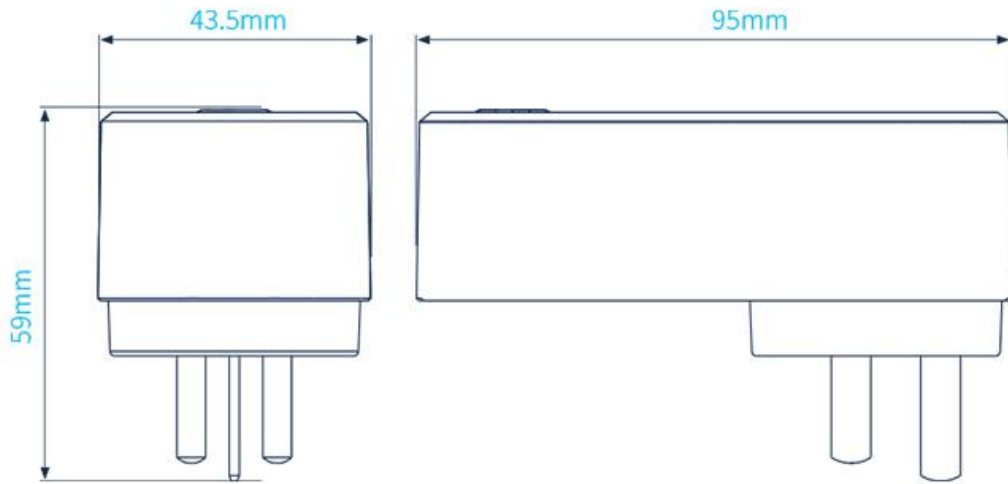


**Dimensions (Length x Width x Height):**
  **95mm x 43.5mm x 59mm**

# 6. Additional Assistance

Any other question, please contact our sales team for further assistance:
MOKO TECHNOLOGY LTD.
Website: www.mokosmart.com
Email: sales@mokosmart.com
Phone: 86-755-23573370
Address: 4F, Building2, Guanghui Technology Park, MinQing Rd, Longhua, Shenzhen, Guangdong, China

# 7.Revision History

| Revision | Description | Editor | Date |
|---|---|---|---|
| V1.0 | Initial Release | Weiguifen | 2020.10.21 |