Wireless Wall-Mounted Power Socket with Consumption Monitoring and Power Outage Detection

Wireless Network Based on LoRa Technology

R816B01
Data Sheet

Introduction

R816B01 (wireless wall socket with energy consumption monitoring (US)) is a smart electrical switch socket for indoor use. It is suitable for US standard wall cassette installation. The output socket is suitable for US standard 2 or 3 pole plug; rated output load is 15A/120V.

R816B01 integrates LoRa/FSK modulation communication wireless module SX1276, which can realize wireless remote control. It can control the single-channel power output to be turned on and off through internal relay, and can detect the current, voltage, power, and electrical energy of the device connected to it.

Note:

The output of the upper socket is uncontrolled, the output of the lower socket is the relay control output, and the output power detection function is provided. There is a relay control button and two LED indicators between the two sockets.)

Main Characteristics

- Can be embedded in indoor walls such as home or business
- LoRa/FSK modulation communication, long-distance wireless communication
- Adopt SX1276 wireless communication module
- Compatible with LoRaWAN ™ Class C
- Detect electrical parameters such as output current, voltage, power, and electrical energy
- Power output switch can be controlled by network
- Power output switch can be manually controlled in the unit
- Rated 15A/120VAC power output
- When R816B01 is powered off, R816B01 will send a power-off alarm

Technical Parameter

Electrical Characteristics

Input Power	100-240VAC, 50/60Hz
Typical Power Consumption	13mA/120VAC/0.8W
Built-In Relay Load Characteristics	Resistive load: 16A/250VAC; P: 4000VA Inductive load:8A/220VAC; P:1760VA (COS φ =0.4) Motor load: 0.5HP/120VAC Incandescent, fluorescent, gold halogen lamps: 3000W/220VAC Anti-surge current 200A/2ms
Relay Switch Life Time (On/Off)	100,000 times (pure resistive load)
Energy Measurement Error	<±1%
Energy Measurement Accuracy	100mA~15A
Flammability Rating	UL 94V-0

Frequency

Frequency Range	863MHz-928MHz, 470MHz-510MHz
Power Output	19 dBm ±1dBm
Receiving Sensitivity	-121 dBm (Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	4km (visible straight line distance)
Data Transfer Rate	0.3kbps to 50k bps
Modulation System Mode	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment)

Physical

Shape Size	113.0 mm x 69.0 mm x 39.5 mm (without wires)
Wire Length (Exposed)	160mm
Working Environment Humidity	5% to 85% RH (No condensation)
Working Environment Temperature	-10°C to 50°C
Storage Ambient Temperature	-40°C to 85 °C