Wireless Plug-and-Play Power Outlet with Consumption Monitoring and Power Outage Detection

R809A01 Data Sheet

Wireless Network Based on LoRa Technology

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1. Introduction

R809A01 is a wireless plug-and-play power outlet with indoor consumption monitoring and power outage detection. With the wireless SX1276 module of LoRa/FSK modulation communication, the device can remotely control the switches and detect the output power. R809A01 is used to measure the power consumption of electrical appliances and remote control of switches. Even when it is powered off, the R809A01 supports the wireless module to send a power-off alarm signal to the gateway.

The specifications of the plug and socket supported by R809A01 are B, G, and I.

R809A**B**01: US type

R809A**G**01: UK type

R809A**I**01: AU type

2. Features

- LoRa/FSK modulation for long-distance wireless communication
- SX1276 wireless communication module
- Compatible with LoRaWAN™ Class C
- Built-in memory for storing power (Active Power) consumption data
- After the power is cut off, a power-off alarm signal will be sent.

3. Applications

- Indoor electric energy testing device for home, hotel, office building, shopping mall, etc.
- Smart city
- Thermal system device

4. Electrical Specifications

Rated Operating Power Supply	100-240VAC, 50/60Hz
Typical Operating Current	15mA/220VAC/1W (max: 120mA)
Typical Load Characteristics	Resistive load: 16A/250VAC; P:4000VA Inductive load (max.): 8A/220VAC; P:1760VA (COSφ=0.4) Rated Load: UK type: 13A/250VAC AU type: 10A/250VAC US type: 15A/125VAC Electric motor (max.): 1.5HP/240VAC White lamp/fluorescent lamp/gold halogen lamp: 3000W/220VAC LED lamp (max.): less than 400W (within 8 LED lamps) Note: The device's overload protection would automatically cut off the power in 2 seconds after detection.
Relay Switch Lifetime	100,000 times
Current Measurement Range	100mA to 16A
Energy Measurement Error	< ±1%

5. Frequency

Frequency Range	863MHz-928MHz, 470MHz-510MHz
Power Output	19dBm ± 1dBm (max.)
TX Power	US915 20dBm AS923 16dBm AU915 20dBm CN470 19.15dBm EU868 16dBm KR920 14dBm IN865 20dBm

Receive Sensitivity	-136 dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121 dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Range	10km (line of sight) Note: The actual range may vary due to the environment.
Data Transfer Rate	LoRa: 0.3kbps to 50kbps FSK: 1.2kbps to 300kbps
Modulation	LoRa/FSK (Note: One modulation method is required.)
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3,IN865-867,CN470-510 (Note: optional, to be configured before shipment)

6. Physical Properties

Dimension	95mm * 58mm * 42.5mm (not including the plug)
Ambient Humidity Range	5 to 85%RH (No condensation)
Ambient Temperature Range	-10°C to 50°C
Storage Temperature Range	-40°C to 85°C