
Cloud-Based Wireless Smart Home Controller

Wireless Sensor Network Based on LoRa Technology



R207

Data Sheet

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Introduction

R207 is a smart gateway for smart home and high reliability. As the core of the entire smart home system, R207 is the first to achieve the perfect combination of cloud technology and Netvox LoRa proprietary protocol Internet of Things. R207 acts as a gateway in the LoRa network and can be automatically screened and configured. Third-party software can control the device through it, for example, the Android client side can achieve mode control. At the same time, users can monitor all the changes in the home through the cloud access R207, and easily realize the real remote control of smart home, and achieve the functions of energy saving, emission reduction and green environmental protection.

Main Characteristic

- Support Netvox LoRa proprietary protocol wireless network
- Support Netvox cloud
- Support Gateway mode
- One RJ-45 data interfaces
- LoRa communication distance is 10km (depending on the specific environment)
- Easy to operate through third-party software control

Application

- Cloud Smart Gateway for IoT Systems

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Hardware Description

	Description	Remarks
Main chip	RTL8196EU	Realtek
DDR1	32MB	
Flash	16MB	
Ethernet Port	One RJ45 port (WAN)	
LoRa	R100H	Netvox
LED Indicator	Cloud / LoRa	
Reset Button	Tact Switch	
Power Adapter	Input: 100 ~ 240V AC Output: 5V/1A DC	

Indicator Description

Indicator	Status	Description
WAN	on	Connection status
	off	Not connected
	flash	Data transmission
LoRa	on	Network building is successful
	off	Unbuilt network
	flash	Allow network joining

Button Description

Button	Description
Reset button	Press and hold reset button for five seconds to reset and restart.

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Electric

Working Power	Input: 100~240V AC Output: 5V/1A DC
Power Consumption	5V/0.12A/0.6W (typical)

Frequency

	LoRa
Frequency Bandwidth	410-525MHz 862-1020MHz (User can select the desired frequency band)
Communication Channel	(Users can choose according to their needs)
Antenna Type	Built-in antenna
TX Power	20dBm±1 dBm (maximum, can be set according to requirements)
Communication Distance	Up to 10 km, the actual transmission distance depends on the environment.
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Data Transfer Rate	1.2 ~ 300kbps (can be set according to requirements)
Modulation	LoRa/OOK

Physical

Dimensions	76.5mm * 37.0mm * 22.0mm
Shell Material	PC510
Operating Temperature	-10°C ~ 50°C
Storage Temperature	-20°C ~ 60°C
Working/ Storage Humidity	0 ~ 95%RH