

# Cloud-Based Wireless Smart Controller

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Wireless Sensor Network Based on WiFi / Zigbee /LoRa Technology



## R206A Data Sheet

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### General Description

R206A is a smart gateway for Smart and high reliability. As the core of the entire Smart system, R206A is the first to achieve the perfect combination of cloud technology / WiFi and Netvox LoRa / ZigBee proprietary protocol Internet of Things. R206A 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 of devices through the cloud access R206A, and easily realize the real remote control of Smart, and achieve the functions of energy saving, emission reduction and green environmental protection.

### Working Principle

The R206A integrates a chip module that conforms to the ZigBee Pro™ wireless protocol and also integrates a chip module and a WiFi module that conform to the LoRaWAN wireless protocol. The coexistence of LoRa and Zigbee technology can easily connect with LoRa sensor and Zigbee sensor in the wireless intelligent IoT system. The LoRa protocol combined with long-distance transmission and the stable and reliable short-distance Zigbee protocol can provide customers with complete and more suitable solutions.

### Main Characteristics

- Support LoRa wireless network
- Support Zigbee wireless network
- Support for Netvox Cloud
- Support USB dongle
- Support Gateway mode
- Has two RJ-45 data interfaces
- The Zigbee communication distance is 210 meters (in an open space)
- Wifi communication distance of 250 meters (in an open space)
- Simple operation through third-party software control

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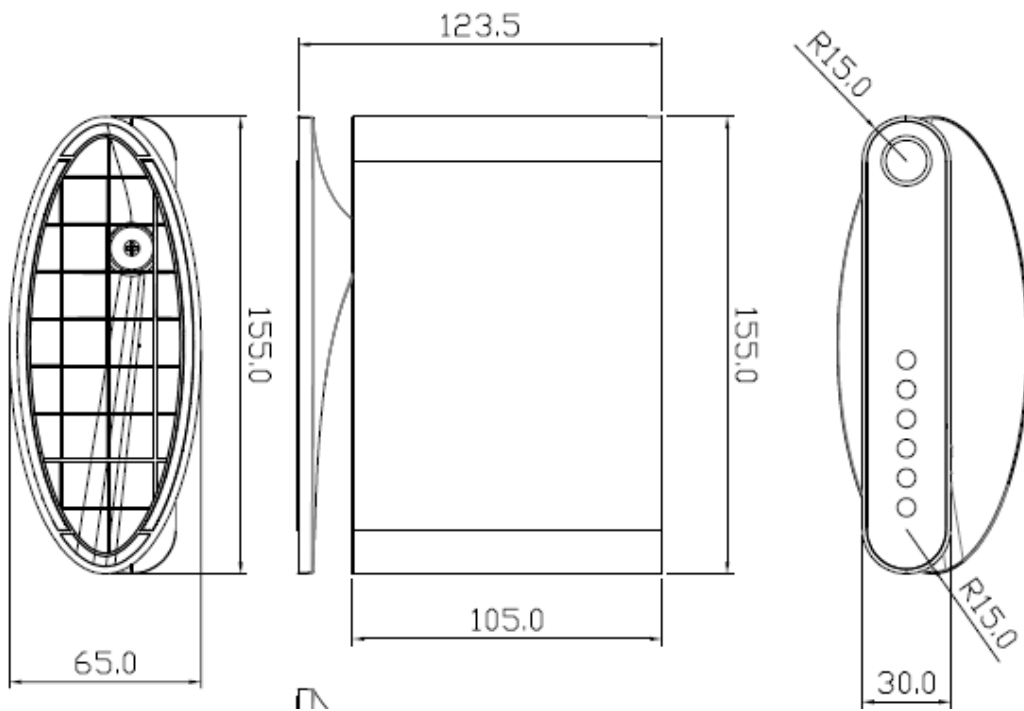
## Cloud-Based Wireless Smart Controller

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### Example Applications

- Smart city
- Intelligent building
- Smart Home
- Smart transportation
- Smart logistics
- Smart meter reading

### Technical Specifications



Dimensions: 123.5\*155\*65mm

## Cloud-Based Wireless Smart Controller

**Hardware Description**

	Description	Remarks
Main chip	MT7620A	Ralink Mediatek
Flash	32MB	
DDR2	128MB	
LoRa	R100 (SX1276)	Netvox
Zigbee	Z100B (EM357)	Netvox
Ethernet Port	Two RJ45 ports (LAN/WAN)	
USB Port	USB 2.0	
LED Indicator	Power / LAN / WAN / WiFi / Cloud / WPS / LoRa	
Debug Port	UART 4pin pin header	
Reset Button	Tact Switch	
Power Adapter	Input: 100 ~ 240V AC Output: 12V/1.5A DC	

**Indicator Description**

Indicator	Status	Description
Power	on	Power on
	off	Power off
LAN	on	Connected
	off	Not connected
	flash	Data transmitting
WAN	on	Connected
	off	Not connected
	flash	Data transmitting
WiFi	on	WiFi on
	off	WiFi off
	flash	Data transmitting
WPS	on	Connected
	off	WPS off
	flash	Turn on WPS
LoRa	on	Connected
	off	Not connected
	flash	Turn on LoRa

## Cloud-Based Wireless Smart Controller

**Button Description**

Button	Description
LoRa Function Key	Press to turn on the screen and then press to turn off the screen
WPS Button	Press to turn on the WPS function
Reset Button	Press to restart the device. Press and hold for 5 seconds, and then release to reset and restart.

**Electric**

Working Power	Input: 100~240V AC Output: 12V/1.5A DC (Power Adapter)
Power Consumption	2.2W (28mA @230V 50Hz) (typical)

**Frequency**

	LoRa	ZigBee	WiFi
Frequency Range	410-525MHz 862-1020MHz (User can select the desired frequency band)	2.4~2.4835 GHz	2.4~2.4835 GHz
Communication Channel	(User can select the desired frequency band)	16 ISM 11th ~26th channel	11, 13 or 14 Ch1—2412MHz Ch2—2417MHz Ch3—2422MHz ... Ch14—2477MHz
Bandwidth	TBD	2MHZ	20/40MHz
Antenna Type	Built-in antenna	Built-in antenna	Built-in PCB antenna
TX Power	19dBm±1dBm ( maximum, can be set according to requirements )	7dBm (Max.)	18.5dBm (maximum, can be set according to requirements )
Communication Distance	Up to 10 km, the actual transmission distance depends on the environment.	210 meters, the actual transmission distance depends on the environment.	250 meters, the actual transmission distance depends on the environment.

## Cloud-Based Wireless Smart Controller

Rx Sensitivity	-136dBm (LoRa , Spreading Factor=12, Bit Rate=293bps )  -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)	-100dBm	-75.5dBm
Data Transfer Rate	0.3 ~ 50kbps ( can be set according to requirements )	250Kbps	>120Mbps
Modulation	LoRa / FSK	DSSS(O-QPSK)	DSSS

## Physical

Dimensions	123.5mm * 155mm * 65mm
Shell Material	PC510
Operating Temperature	-10°C ~ 50°C
Storage Temperature	-20°C ~ 60°C
Working Humidity	0 ~ 95%RH
Storage Humidity	0 ~ 95%RH
Mounting Method	Keep flat

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