



## LoRa Takes Netvox's Intelligence One Step Further

The technology moves so fast and enables people to enjoy the convenience brought by it, but have you ever thought about what the home will be like in the future? For us, it should be a smart home that provides comfort, convenience, energy efficiency and security to the home owners, and it is what we are dedicated to achieving.

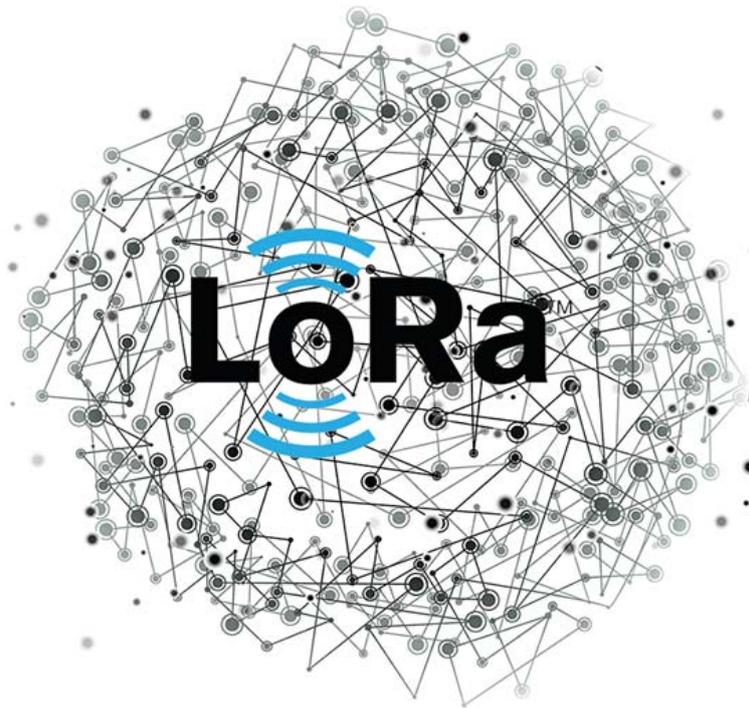
Netvox has been a developer and manufacturer of smart home products and solutions based on Zigbee for 13 years, and now, our product line is extended with LoRaWAN-based devices.

### **About LoRa**

LoRa, not a girl's name but an abbreviation of Long Range, is a technology first developed in the US. According to "What is LoRaWAN" released by the LoRa Alliance, LoRaWAN defines the communication protocol and system architecture for the network while the LoRa physical layer enables the long-range communication link.

The features of LoRa are:

- Long transmission distance
- Low power consumption
- Lots of nodes



In detail, LoRa is a low power wide area network of LPWAN communication technology designed for low bandwidth, low power, long distance, and large number of connected Internet of Things applications. It is a physical layer or wireless modulation used to establish a long distance communication link. Many traditional wireless systems use frequency shift keying (FSK) modulation as the physical layer because it is a very effective modulation to achieve low power consumption. LoRa is based on linear FM spread spectrum modulation, which maintains the same low power consumption characteristics as FSK modulation, but significantly increases the communication distance. LoRa technology itself has ultra-high reception sensitivity (RSSI) and superior signal to noise ratio (SNR). In addition, the use of frequency hopping technology and the pseudo-random code sequence for frequency shift keying enables the carrier frequency to jump and expand the spectrum continuously to prevent fixed frequency interference.

The following Netvox products are LoRaWAN compatible:

R311A - Wireless Door/Window Sensor: R311A detects the status of the door or window. It reports the change of status when the door/window is opened and closed.

R311G - Wireless Light Sensor: R311G is an ambient light sensor that reports the light level regularly.

R711 - Wireless Temperature/Humidity Sensor: R711 is an indoor ambient temperature and humidity sensor that reports the values regularly.

RB11E - Wireless Occupancy/Light/Temperature Sensor: RB11E is a PIR-based motion detector that sends a report when it senses movements of people, animal or other objects. In addition, it reports the light level and temperature values.

**Upcoming LoRaWAN products:**

RA07A - Wireless Indoor PM2.5/Temperature/Humidity Sensor

R726 series - Wireless Solar-powered Sensor Hub (based on RS-485)

R801A - Wireless Temperature Sensor with a Thermocouple

R311W - Wireless Water Sensor



**R311A**  
Door/Window Sensor



**RB11E**  
Occupancy/Light/Temperature Sensor



**R311G**  
Light Sensor



**R726**  
Outdoor Sensor Hub with Solar Panel



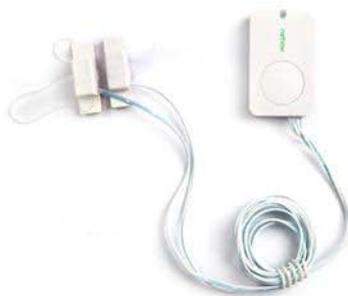
**RA07A**  
Indoor PM2.5/Temperature/Humidity Sensor



**R801A**  
Temperature Sensor with a Thermocouple



**R712**  
Outdoor Temperature/Humidity Sensor



**R311W**  
Water Sensor

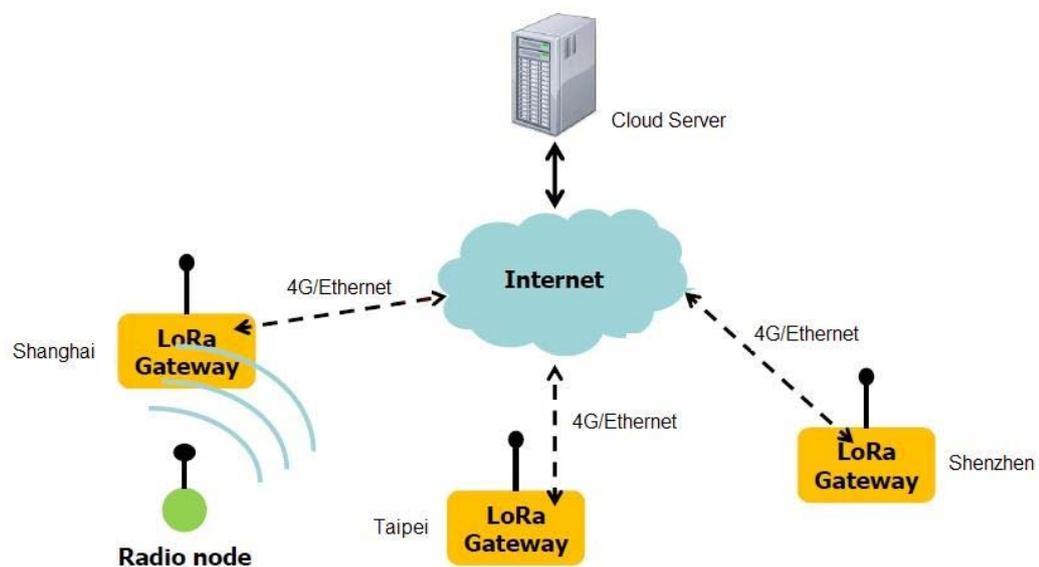


**R711**  
Indoor Temperature/Humidity Sensor

The development of LoRaWAN products signifies that smart home products are no longer confined at home. The communication range has been expanded to cover a floor or even a building. LoRaWAN technology takes smart home devices away from home!

### Meet Market Needs

Netvox has more than 250 Zigbee products in the fields of Smart home, Smart Industry, Smart Building, Smart Agriculture and Environmental Monitoring. These devices can be converted to be LoRaWAN-based soon.



Some of the advantages of LoRa wireless transmission are:

1. The wireless transmission solves the problems of wiring installation and maintenance in complex environments like a building.
2. With high sensitivity, the transmission distance of LoRa is twice as long and the network coverage is twice as wide as conventional communication systems.
3. Stable communication and strong anti-interference ability
4. Super-low power consumption and super-long battery life

Some may ask, "How about Zigbee? Does LoRa take the place of Zigbee?" In fact, their roles are different. Zigbee applies for low power and low data rate communication between various electronic devices within a short distance as well as applications with periodic, intermittent and low latency data

transmission. In short, Zigbee is more than enough if you want to use smart home products at home, but for the entire community, LoRa will be your best choice.

### **Upcoming events:**

#### **Hong Kong Electronics Fair 2017 (Autumn Edition):**

Hours: 9:30 - 18:30 Oct 13th - 15th, 2017

9:30 - 17:00 Oct 16th, 2017

Netvox Booth No.: Hall of Fame, 1A-F08

Venue: Hong Kong Convention & Exhibition Center

Address: 1 Expo Drive, Wanchai, Hong Kong

Please pre-register and receive a free admission badge at:

[https://form.hktdc.com/UI\\_RegistrationSite/Registration/RegistrationForm.aspx?FORMID=1192192b-99e4-4594-a874-17083abc3b23&BYPASS=YES&LAN GID=1&URLEVENTNAME=Hong+Kong+Electronics+Fair+2016+\(Autumn&URLFORMNAME=HK+Electronics+Fair+2016\(AE\)&URLDATESCODE=00](https://form.hktdc.com/UI_RegistrationSite/Registration/RegistrationForm.aspx?FORMID=1192192b-99e4-4594-a874-17083abc3b23&BYPASS=YES&LAN GID=1&URLEVENTNAME=Hong+Kong+Electronics+Fair+2016+(Autumn&URLFORMNAME=HK+Electronics+Fair+2016(AE)&URLDATESCODE=00)

#### **9th LoRa Alliance All Members Meeting, Open House & Market Place in Suzhou, China:**

Market Place

Hours: 12:00PM–7:30 PM October 18<sup>th</sup>, 2017

9:00AM–5:30 PM October 19<sup>th</sup>, 2017

Venue: 2<sup>nd</sup> floor foyer, Shangri-La Hotel, Suzhou, China

Address: 168 Tayuan Road, Suzhou Shi, Jiangsu Sheng 215000, China

Online registration (before Oct 6<sup>th</sup>):

<https://www.regonline.com/builder/site/Default.aspx?EventID=2029560>

Please feel free to contact us if you would like to set up a meeting with Netvox.

#### **Netvox Technology Co., Ltd.**

No. 21-1, Sec. 1, Zhong Hua West Rd., Tainan, Taiwan

TEL: +886-6-2617641

FAX: +886-6-2656120

[www.netvox.com.tw](http://www.netvox.com.tw)

Wechat



Netvox Smart Butler



Netvox Smart Life

 **LoRa Alliance Member™**

**zigbee alliance member**