

# Wireless 3-Phase Current Meter Interface

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Wireless Sensor Network Based on LoRa Technology



## R718N360 Data Sheet

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### Introduction

The NETVOX wireless three-phase current interface which can detect the current can be connected with the different CTs by the user. The device is compatible with the LoRaWAN protocol and integrates a chip module that conforms to the LoRaWAN wireless protocol to display the collected data in the gateway. The device is powered by battery and obtains the load AC current value through the current transformer.

### Main Characteristic

- Apply SX1276 wireless communication module
- 2 ER14505 battery AA size (3.6V / section) in parallel power supply
- Protection level: host body IP53
- 3-phase current raw data detection
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Improved power management for longer battery life
- Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
- Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne
- Battery Life\*2:

Please refer to web: [http://www.netvox.com.tw/electric/electric\\_calc.html](http://www.netvox.com.tw/electric/electric_calc.html)

At this website, users can find battery lifetime for various models at different configurations.

\*1. Actual range may vary depending on environment.

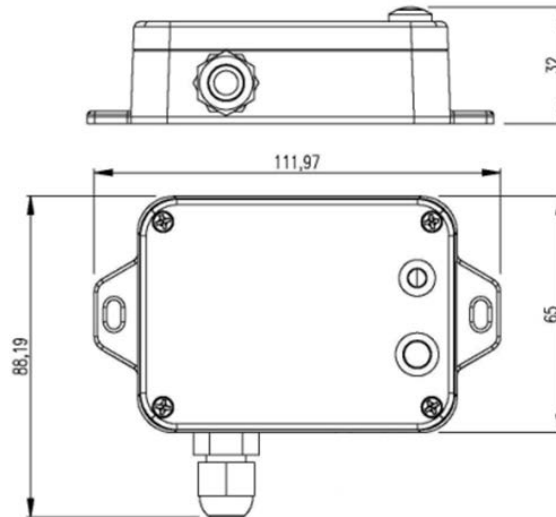
\*2. Battery life is determined by sensor reporting frequency and other variables

**Wireless 3-Phase Current Meter Interface**

**Application**

- Indoor current detecting devices for homes, hotels, office buildings, shopping malls, etc.
- Smart city
- Thermal system equipment

**Dimension**



**Electric**

Power Supply	2 ER14505 lithium batteries (3.6 V, 2400mAh / section) in parallel
Battery Life	Battery life are 3.82 years (condition: Ambient temperature 25 °C, report once every 60mins, txpower = 20dBm, LoRa spreading factor SF = 10)
Standby Current	25uA
Wakeup Current	7mA
Battery Measurement Accuracy	± 0.1V
Current Resolution	1mA
Current Measurement Range	It is recommended that the primary side current be at most 600A, and the secondary side current of the current transformer is at most 1A. If the accuracy of CT current transformer is 1%, the accuracy of R718N360 is 1.5%. (According to the current ratio configuration of the current transformer, as long as the secondary side current of the current transformer specification is at most 1A, the current transformer can be connected to R718N360 theoretically.)

**Wireless 3-Phase Current Meter Interface**
**Module-R100H**

Wakeup Current	(0.8mA-8mA)@3.3V
RF Receiving Current	11 mA @ 3.3V
RF Emission Current	120 mA @ 3.3 V

\* Specific electrical characteristics may vary depending on the power supply voltage.

**Frequency**

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
Receiving Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bit Rate = 293bps) -121 dBm (FSK, Frequency deviation = 5kHz, Bit Rate = 1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	10 km (the actual transmission distance depends on the environment. )
Data Transfer Rate	0.3kbps~50kbps (LoRa) 1.2kbps~300kbps (FSK)
Modulation	LoRa / FSK (Note: you can choose one of them)
Available LoRaWAN Band	EU863-870,US902-928,AU915-928,KR920-923,AS923-1,AS923-2,AS923-3,IN865-867,CN470-510 (Note: optional, to be done in the factory configuration)

**Physical**

Dimension	Host body: L: 112 mm *W: 88.19 mm *H: 32 mm
Host body Weight	About 141 g
Environment Temperature Range	-20°C ~ 55°C
Storage Temperature Range	-40°C ~ 85°C
Environment Humidity Range	<90% RH (No condensation)
Mounting	Screw / Magnet

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**CT Specifications Used for Testing****Electrical Specification**

Rated Primary Current	300A
Saturation Current	$\geq 600A$
Rated Secondary Current	500mA
Accuracy	1% (6A - 600A)
Electrical Strength	3000VAC 1mA60s
Load Resistance	10 $\Omega$