Wireless 3-Phase Current Meter with 3 x 60A Solid Core CT R718N3 Data Sheet

Wireless Sensor Network Based on LoRa Technology

R718N3

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General Description

The NETVOX wireless 3-phase current detector is used to detect 3-phase electrical input current. The device is compatible with the LoRaWAN protocol, and integrates a chip module that conforms to the LoRaWAN wireless protocol, and joins the gateway to display the collected data in the gateway.
The device is powered by batteries and receives the load AC current through a current transformer.
This device applies solid core CT.

Working Principle

This device is connected to a current transformer. The current transformer is an instrument that converts the primary side large current into a secondary side small current according to the principle of electromagnetic induction, and the primary side large current is isolated from the secondary side small current. This device is to monitor the secondary side small current and is powered by batteries to ensure the safty of the users.

Example Applications

• Smart current detection equipment in the city such as home or business
• Smart city
• Thermal system equipment

Features of NETVOX Sensors

• LoRaWAN™ Class A compatible
• Frequency Hopping Spread Spectrum (FHSS)
• Protection level: IP30
• Improved power management for longer battery life
• Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
• Battery Life[2]:
         Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html
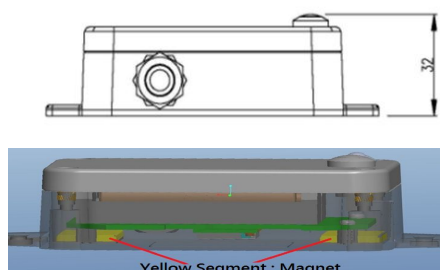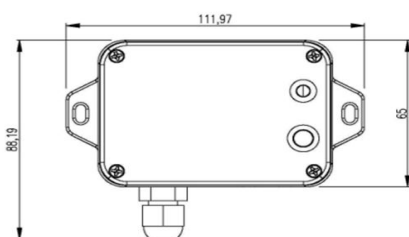   At this website, users can find battery life time for varier models at different configurations.
• Over-the-air updates (future)
• Third-Party online wireless sensor monitoring and notification system to configure sensors, view data
   and set alerts via SMS text and email (optional)
• Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne
• R718X series carry magnets which can be attached to ferromagnetic materials and objects

[1]. Actual range may vary depending on environment.
[2]. Battery life is determined by sensor reporting frequency and other variables

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Technical Specifications (Main Part)

(Uni. mm)

1. Main part size: L: 112x W: 88.19 x H: 32mm
2. External current transformer size: H: 37.5 * L: 39 * W: 14mm

Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V2400mah/section）
Sleeping Current	25uA
Wake up Current	7mA
Receiving Current (max)	11mA @3.3V
Transmitting Current (max)	127mA/3.3V
Battery Voltage Measurement Accuracy	±0.1V
Low Voltage Threshold	3.2V
Current Measurement Accuracy	<+-1%
Resolution	1mA
Current measurement Accuracy Range	1A to 50A (depending on the current transformer configuration)

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

TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa，Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Range	Up to 10 km, the actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbps～50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Configured before shipment)

Wireless 3-Phase Current Meter with 3 x 60A Solid Core CT

Current Transformer

Rated Input Current	60A，50Hz~60Hz
Rated Output Current	20mA
Ratio	3000:1
Load Resistance	10 Ω
Linearity	0.1%
Isolation Withstand Voltage	3000V
Housing Material	Flame Retardant Grade 94-V0 UL Material
Environmentally Friendly	In line with ROHS
Working Temperature	-40°C~+85°C

Physical

Dimension	Main Part: L: 112mm*W: 65mm*H: 32mm Sensor Size: H:37.5*L:39*W:14mm
Weight	141g
Sensor Weight	48.7*3 (g)
Sensor Cable Length	900mm
Environment Temperature Range	-20℃ ～ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ～ 85℃
Mount	Screw / Magnet

Contact:

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