

Wireless 3-Phase Current Meter with 3 x 630A Clamp-On CT R718N363 Data Sheet

Wireless Sensor Network Based on LoRa Technology



R718N363

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Wireless 3-Phase Current Meter with 3 x 630A Clamp-On CT

General Description

The NETVOX wireless three-phase current detector is used to detect three-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 a battery and receives AC current through a current transformer. This device adopts clamp-on current transformer, which can be easily connected to the device to be tested.

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 safety of the users.

Example Applications

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

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Features of NETVOX Sensors

- Apply SX1276 wireless communication module
- LoRaWAN™ Class A compatible
- 2 section of ER14505 battery in parallel (AA SIZE 3.6V / section)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- Clamp-On CT detection
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum
- Configuration parameters can be configured via a third-party software platform, data can be read and alerts can be set via SMS text and email (optional)
- Applicable to third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne
- Improved power management for longer battery life
- **Battery Life:**

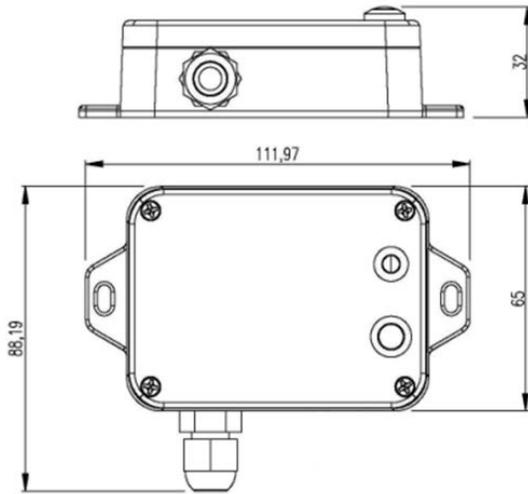
–Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html

–At this website, users can find battery life time for variety models at different configurations.

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

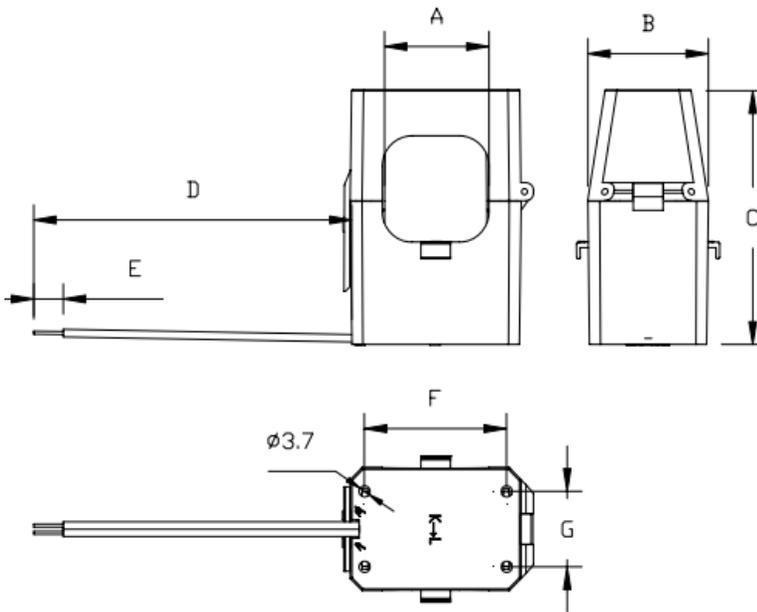
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Technical Specifications



Main part

(Unit. mm)



Clamp-on CT

A	B	C	D	E	F	G
35±0.5	40.3±0.3	84.8 max	900±30	6±1	48±0.3	25±0.3

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Electric

Power supply	2 section of ER14505 battery (3.6V / section) in parallel
Battery life	Battery life are 5 years (condition: ambient temperature 25 °C, report once every 15 mins, txpower = 20dBm, LoRa spreading factor SF = 10)
Stand-by current	25uA
Wake-up current	7mA
Receiving Current (max)	11 mA @ 3.3V
Transmitting Current (max)	127 mA @ 3.3 V
Battery measurement accuracy	± 0.1V
Current Measurement Accuracy	± 1%
Current resolution	1mA
Current measurement accuracy	10A to 630 A (varies according to the configuration of the current transformer)

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

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Frequency

Frequency range	863MHz-928MHz 470MHz-510MHz
TX Power	US915 20dbm ; AS923 16dbm ; AU915 20dbm ; CN470 19.15dbm ; EU868 16dbm ; KR920 14dbm ; IN865 20dbm ;
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
Modulation	LoRa/FSK
Available Frequency	EU863-870 , US902-928 , AU915-928 , KR920-923 , AS923 , CN470-510 Configured before shipment

Current Transformer

Rated Primary Current	300A, 50Hz~60Hz
Rated Secondary Current	50mA
Saturation Current	≥630A
Ratio	6000:1
Load Resistance	10Ω
Accuracy	1% (5A-720A)
Electrical Strength	3000V
Housing Material	Flame Retardant Grade 94-V0 UL Material
Environmentally Friendly	In line with ROHS
Working Temperature	-40° C ~ +85° C

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Physical

Dimension	Main part size: L: 112x W: 88.19 x H: 32mm External current transformer size: H:84.8*L:40.8*W:48mm
Weight	141g
Sensor Weight	365.4*3 (g)
Sensor Cable Length	900mm
Environment Temperature Range	-20°C ~ 55°C
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40° C ~ 85° C
Mounting	Screw / Magnet

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