

Wireless 3-Phase Current Meter with 3 x 250A Clamp-On CT R718N325 Data Sheet

Wireless Sensor Network Based on LoRa Technology



R718N325

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Wireless 3-Phase Current Meter with 3 x 250A 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
- 2 ER14505 batteries in parallel (3.6V / section)
- Protection level: Main body-IP53; CT-IP30
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- Current detection
- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- 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
- Improved power management for longer battery life
- 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.
 1. Actual range may vary depending on environment.
 2. Battery life is determined by sensor reporting frequency and other variables

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Electric

Input Power	2 x 3.6V ER14505 AA batteries (2400mah/section)
Standby Current	25uA
Wake up Current	7mA
Receiving Current (max)	11mA @3.3V
Transmitting Current (max)	127mA @3.3V
Battery Measurement Accuracy	±0.1V
Current Measurement Accuracy	<±1%
Resolution	1mA
Current measurement Range	1A to 250A (depending on the current transformer configuration)

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

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 to10 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

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Current Transformer

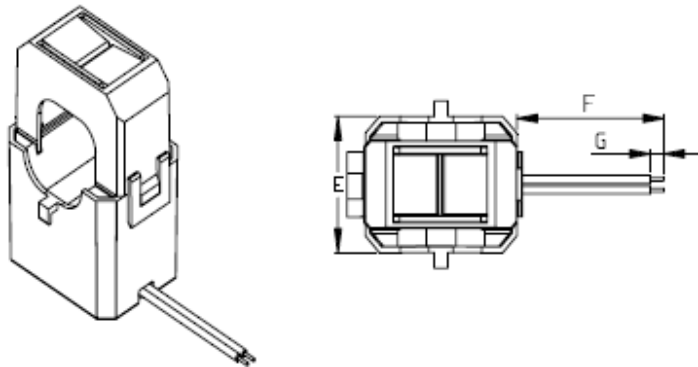
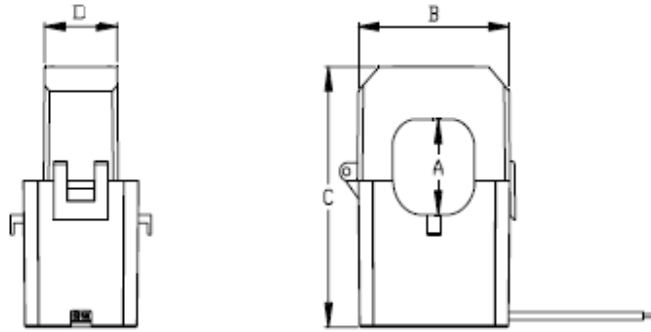
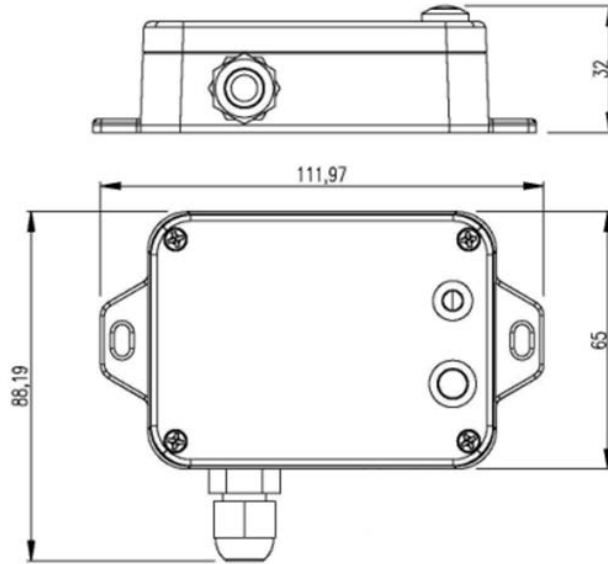
Rated Primary Current	200A, 50Hz~60Hz
Rated Secondary Current	66.66mA
Saturation Current	≥250A
Ratio	3000:1
Load Resistance	10Ω
Accuracy	1% (1A-250A)
Electrical Strength	3000V
Housing Material	Flame Retardant Grade 94-V0 UL Material
Environmentally Friendly	In line with ROHS
Working Temperature	-40° C~+85° C

Physical

Dimension	Main part size: L: 112x W: 88.19 x H: 32mm External current transformer size: H:66*L:46*W:34mm
Weight	141g
Sensor Weight	150.6*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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Technical Specifications



A	B	C	D	E	F	G
24.3±0.5	46 max	66 max	22 max	34 max	900±30	6±1