

Wireless Single-Phase Current Meter with 1 x 250A Clamp-On CT

Wireless Sensor Network Based on LoRa Technology

R718N125D(E) DataSheet



R718N125D

R718N125DE
(with detachable cable)

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Wireless Single-Phase Current Meter with 1 x 250A Clamp-On CT (DC-powered)

Introduction

The NETVOX wireless single-phase current meter is used to detect single-phase electrical input current. 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 obtains the load AC current value through the current transformer, which can be conveniently connected to the measured device.

Working Principle

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. The primary side large current is isolated from the secondary side small current, and the secondary side of the device is monitored. Low current, battery-powered, to ensure safe use of the device.

Features

- Clamp-on current transformer
- DC power supply (input: AC 100V to 240V 50/60Hz; output: DC 3.3V/1A)
- IP30 main body and sensor
- Magnetic base
- LoRaWAN™ Class C compatible
- SX1276 wireless communication module
- Frequency-hopping spread spectrum (FHSS)
- Available third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne

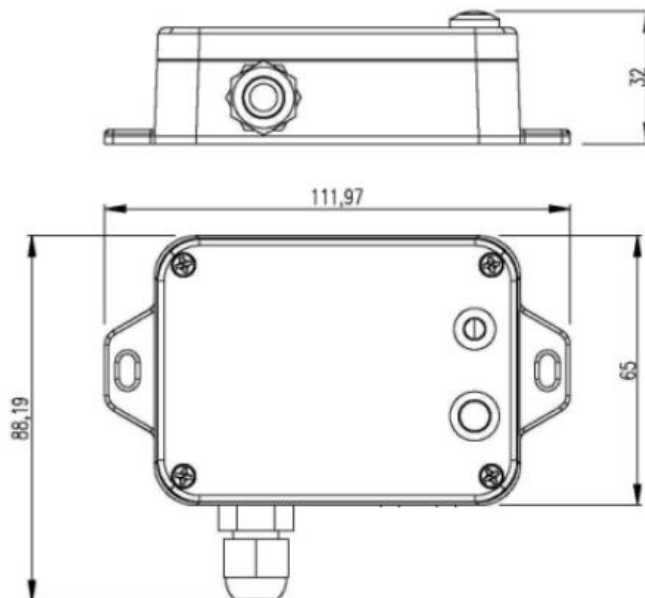
Applications

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

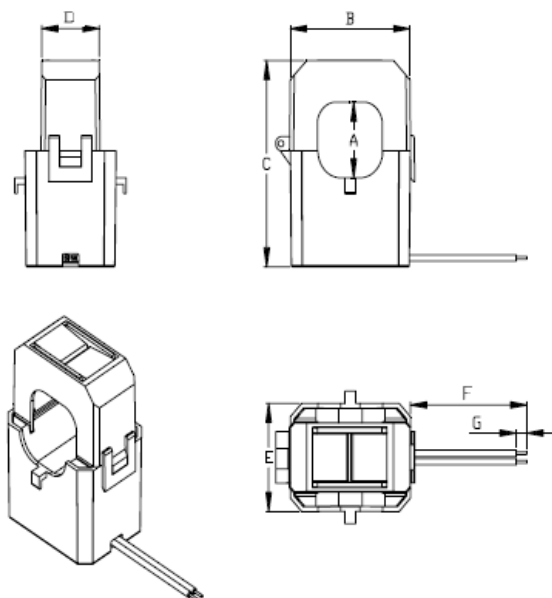
Wireless Single-Phase Current Meter with 1 x 250A Clamp-On CT (DC-powered)

Dimensions

Main body: 112mm (L) x 88.19mm (W) x 32mm (H)



CT: 46mm (L) x 34mm (W) x 66mm (H)



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

Wireless Single-Phase Current Meter with 1 x 250A Clamp-On CT (DC-powered)**Electrical Specifications**

Power Supply	DC 3.3V/1A
Power Consumption	≤ 0.5W
RF Receiving Current	11mA / 3.3V
RF Emission Current	120mA / 3.3 V
Current Measurement Accuracy	< ± 1%
Current Resolution	1mA
Current Measurement Range	1A – 250A

Note: The electrical specifications may vary due to the voltage of power supply.

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	19dBm±1dBm (max)
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	Built-in antenna
Communication Range	10km (line of sight) Note: Actual transmission distance may vary due to the environment.
Data Transfer Rate	Lora: 0.3 – 50kbps; FSK:1.2 – 300kbps
Modulation	LoRa/FSK Note: One modulation method is required.

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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 factory configuration
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Clamp-on Current Transformer Parameter

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
Case Material	Flame Retardant Grade 94-V0 UL Material
Environmentally Friendly	ROHS compliant
Operating Temperature	-40 °C – 85 °C

Physical Properties

Dimensions	Main body: 112mm (L) x 88.19mm (W) x 32mm (H) Sensor: 46mm (L) x 34mm (W) x 66mm (H)
Main body Weight	About 141g
Sensor Weight	About 150.6g
Sensor External Wiring Length	R718N125D: About 900mm R718N125DE: About 1200mm (detachable cable)
Ambient Temperature Range	-20°C – 55°C
Storage Temperature Range	-40°C – 85°C
Ambient Humidity Range	<90% RH (No condensation)
Mounting	Screw / Magnet