

Wireless Single-Phase Current Meter R718N17D DataSheet

Wireless Sensor Network Based on LoRa Technology



R718N17D

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Wireless Single-Phase Current Meter

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 and DC-powered. R718N17D ensures users' safety.

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)
- Configure parameters and read data via third-party software platforms; set alarms via SMS and email (optional)
- Available third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne

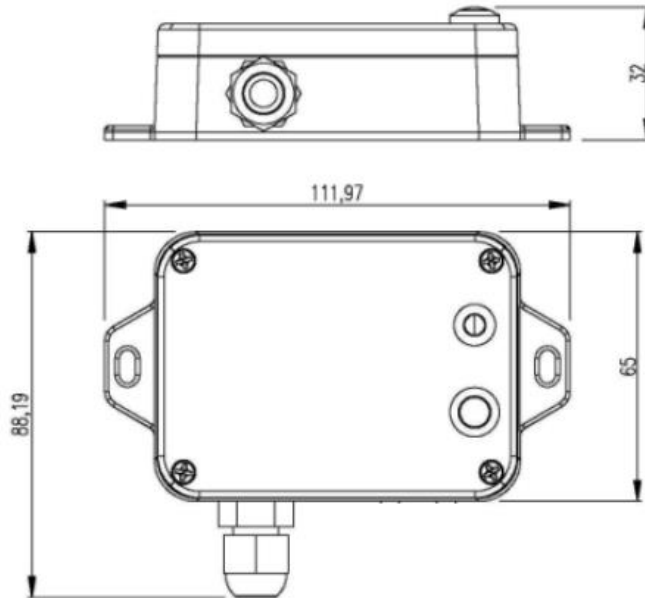
Applications

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

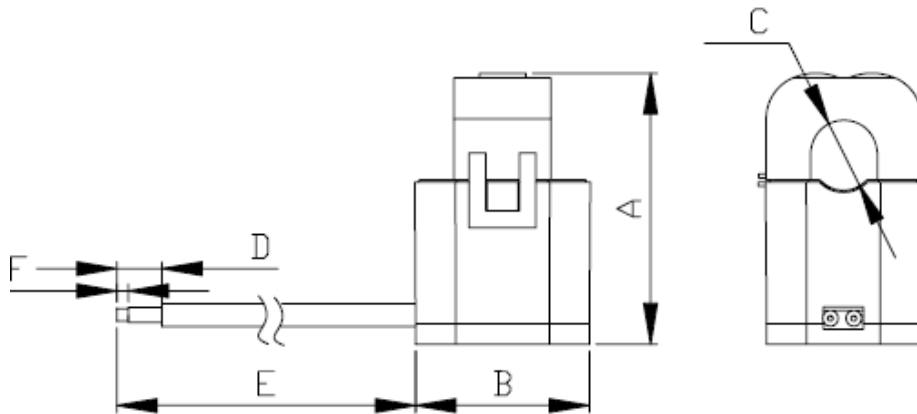
Wireless Single-Phase Current Meter

Dimensions

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



CT: 27.5mm (L) x 25mm (W) x 41mm (H)



A	B	C	D	E	F
41max	27.5max	10±0.2	25±5	900±30	6±1

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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
Main Body Voltage Accuracy	±0.1V
CT Current Measurement Accuracy	<±1%
Current Resolution	1mA
Current Measurement Range	100mA – 75A

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 (Actual transmission distance may vary due to the environment.)
Data Transfer Rate	Lora: 0.3 – 50kbps FSK:1.2 – 300kbps

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Modulation	LoRa/FSK (Note: One modulation method is required.)
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)

Clamp-on Current Transformer Parameter

Rated Primary Current	30A, 50H – 60Hz
Rated Secondary Current	10mA
Saturation Current	≥75A
Ratio	3000:1
Load Resistance	10Ω
Accuracy	1%
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: 27.5mm (L) x 25mm (W) x 41mm (H)
Main body Weight	About 141g
Sensor Weight	About 49.6g
Sensor External Wiring Length	About 900mm
Ambient Temperature Range	-20°C – 55°C
Storage Temperature Range	-40°C – 85°C
Ambient Humidity Range	<90% RH (No condensation)
Mounting	Screw/Magnet