Wireless 3-Phase Current Meter with 3 x 50A Solid-Core CT R718N3D DataSheet

Wireless Sensor Network Based on LoRa Technology

R718N3D

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1. Introduction

R718N3D, the three-phase current meter, is to detect the current of three-phase load. The device is compatible with the LoRaWan protocol and equipped with a wireless communication module to display the collected data in the gateway. The R718N3xxD series is powered by DC and receives AC through the solid-core/clamp-on current transformers (CTs), which proportionally convert high-voltage current in the primary winding into lower-value current into the second winding.

2. Features

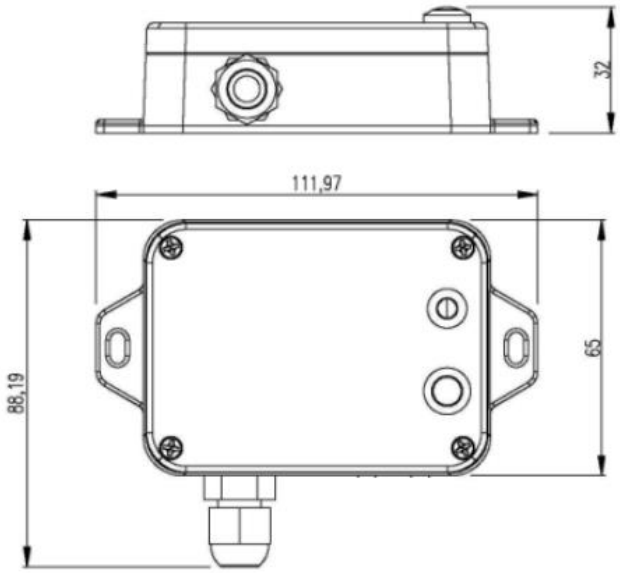
- Solid-core current transformers
- Power adapter (input: AC 100V to 240V, 50/60Hz; output: DC 3.3V/1A)
- IP30 main body and sensor
- SX1276 wireless communication module
- Magnetic base
- LoRaWAN™ Class C compatible
- Frequency-hopping spread spectrum (FHSS)
- Configure parameters and read data via third-party software platforms; set alarms via SMS and email (optional)
- Available third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne

3. Applications

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

4. Dimensions

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



CT: H:37.5 x L:39 x W: 28.5mm

5. 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% (within 300mA-50A)
Current Resolution	1mA
Current Measurement Range	100mA to 50A

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

6. Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	19dBm±1dBm

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 to 50kbps FSK:1.2 to 300kbps (could be configured)
Modulation	LoRa/FSK (Note: Please choose one modulation.)
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)

7. Solid-Core Current Transformer Parameter

Rated Primary Current	60A, 50Hz to 60Hz
Rated Secondary Current	20mA
Ratio	3000:1
Load Resistance	10Ω
Accuracy	0.1%
Electrical Strength	3000V
Case Material	Flame Retardant Grade 94-V0 UL Material
Environmentally Friendly	ROHS compliant
Operating Temperature	-40 ℃ to 85 ℃

8. Physical Properties

Dimensions	Main body: L: 112 mm *W: 88.19 mm *H: 32 mm Sensor: H:37.5 *L:39 *W:14mm
Main body Weight	About 141g
Sensor Weight	About 48.7*3g
Sensor External Wiring Length	About 900mm
Ambient Temperature Range	-20℃ to 55℃
Ambient Humidity Range	<90% RH (No condensation)
Mounting	Screw/Magnet