Wireless 2-Gang

Resistance Temperature Detector

Wireless Sensor Network Based on LoRa Technology

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Wireless 2-Gang Resistance Temperature Detector

Introduction

R718B2 is a device used to detect the temperature of objects and it can connect two-way PT1000 platinum thermal resistance and join the gateway to display the collected data in the gateway. It adopts SX1276 wireless communication module.

Operating principle

PT1000 platinum thermal resistance is connected to the detection input of max31865 chip for digital conversion. Max31865 chip communicates with the module through SPI.

Main characteristics

- Adopt SX1276 wireless communication module

- 2- way PT1000 platinum thermal resistance detection

- R718B2 can detect the temperature range: -40° ~ 200°

- 2 sections of ER14505 battery AA Size (3.6V / section) parallel power supply

- Host protection level IP65/ IP67 (optional)

- The base is equipped with a magnet that can be attached to the iron object.

- Compatible with LoRaWAN^{TM} Class A

- Frequency hopping spread spectrum technology

- Parameters can be configured through a third-party software platform, data can be read, and alerts can be set through SMS text and e-mail (optional)

- Applicable to third-party platforms: Actility / ThingPark, TTN, MyDevices / Cayenne

- Low power consumption and long battery life

  Note:

  Battery life is determined by the sensor reporting frequency and other variables , please refer to

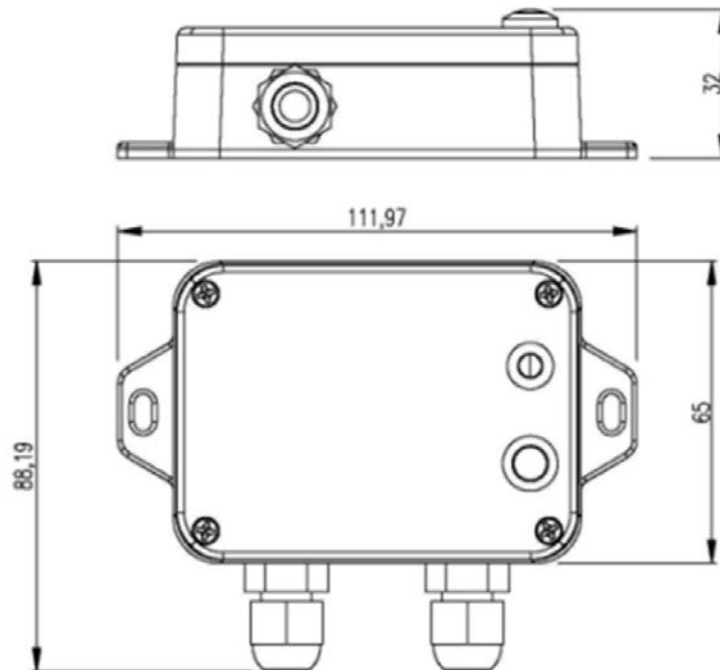 http://www.netvox.com.tw/electric/electric_calc.html

  On this website, users can find battery life of various models in different configurations.

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Application

- Temperature measuring device

- Thermal system equipment device

- Food industry

Dimensions

Electric

Power Supply	2 ER14505 lithium batteries (3.6 V, 2400 mAh /section) in parallel The specifications are subject to actual shipment.
Operating Voltage Range	3.1V-3.65V
Battery Life	Battery life are about 5 years (Condition: ambient temperature 25 ° C, report once every 15 min, txpower = 20 dBm, SF = 10)
Standby Current	24uA
Wakeup Current	Wakeup current range 0.8mA-20mA * When not transmitting /receiving LoRa data
Low Battery Voltage Threshold	3.2V
Battery Measurement Accuracy	± 0.1V

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Module-R100H

Wakeup Current	(0.8mA - 8mA) /3.3V
RF Receiving Current	11mA /3.3V
RF Emission Current	120mA /3 .3 V

* Specific electrical characteristics will vary depending on the power supply voltage

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
Receiving Sensitivity	-136dBm(LoRa, Spreading Factor=12, Bit Rate = 293bps); -121 dBm(FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	Up to 10 km (visible linear obstacle-free transmission distance, actual transmission distance depends on the environment)
Data Transfer Rate	LoRa: 0.3kbps～50kbps FSK: 1.2kbps～300kbps
Modulation	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment)

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PT1000 Platinum Thermal Resistance

PT1000 Temperature Range	-40 - 200°C
Measurement Range & Accuracy	1. The external PT1000 temperature measurement range: - 40 ≤ T2 ≤ 200 ℃ 2. PT1000 accuracy range: The host body and the external PT1000 are in the same temperature range: Temperature Range: 0℃ ≤ t ≤ 55℃, Accuracy: ±0.5℃ The host body and the external PT1000 are in different temperature ranges: Temperature Range T1: 0℃ ≤ T1 ≤ 55℃ (Host body) Temperature Range T2: -40℃ ≤ T2 < 0℃ (PT1000) Accuracy: ±{(0.15 + 0.002*|T2|)+1}℃ Temperature Range T1: 0℃ ≤ T1 ≤ 55℃ (Host body) Temperature Range T2: 55℃ < T2 ≤ 200℃ (PT1000) Accuracy: ±{(0.15 + 0.002*|T2|)+0.3}℃ * t, T1, T2 refers to temperature
Lead Length	2m (default)
Probe Specifications	1: Probe diameter 5mm, needle probe 15cm (316 stainless steel) 2: Probe diameter 5mm, round head probe 30mm (316 stainless steel) 3: Probe diameter 5mm* length 100+60mm L-type probe (316 stainless steel) Choose one of the above probe specifications.
Wiring	4-wire system
Protection Level	IP67
ROHS Standard	Meet ROHS standards

Physical

Body Size	L: 112 mm*W: 88.19 mm*H: 32 mm
Body Weight	About 141g
Ambient Temperature Range	-20 °C to 55°C
Ambient Humidity Range	<90% RH (no condense)