# *Wireless* PT1000 platinum thermal resistance

## Wireless Sensor Network Based on LoRa Technology

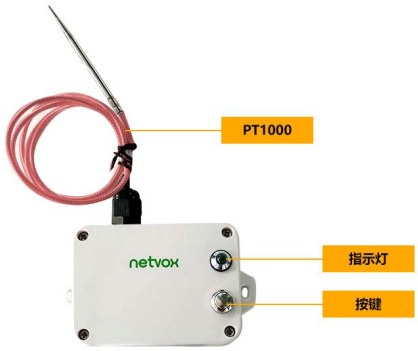


Fig. 1 R718B (PT1000) appearance
(subject to the actual object)

# History

| Version | Date | Note |
|---|---|---|
| 0.1 | 2019-07-12 | Initial Release |
| 0.2 | 2019-09-11 | Modify the main features (host protection level IP65 ) |

## Notes:

Hardware Version
61R718R6801V0.3

## Overview

P718B is connected to one-way PT1000 platinum thermal resistance and the collected data will be shown in other devices such as the third party platform.

## Main characteristics

- Adopt SX1276 wireless communication module
- One-way PT1000 platinum thermal resistance detection
- R718B accuracy: TBD
- R718B can detect the temperature range: -70 degrees ~200 degrees
- 2 sections of ER14505 battery AA SIZE (3.6V / section) parallel power supply
- Host protection level IP65
- The base is equipped with a magnet that can be attached to the iron object.
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum technology
- Configuration parameters can be configured through a third-party software platform
- 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.

## Application scenario

- Temperature measuring equipment
- Thermal system equipment
- Food industry

## Dimensions

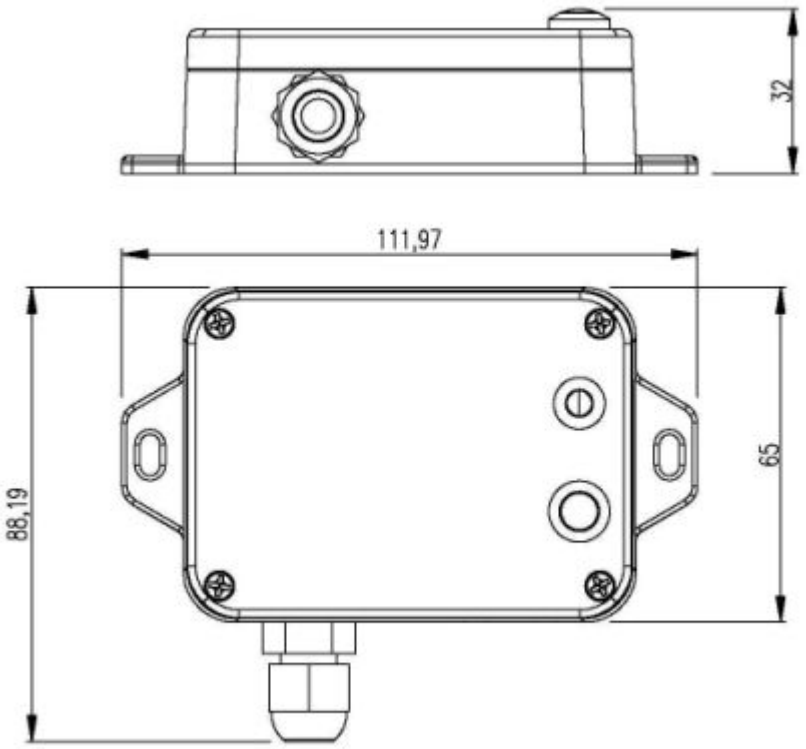


Fig. Main unit housing size

Main unit case size: 112 mm x 88.19 mm x 32 mm

## Electrical characteristics

| | |
|---|---|
| Power supply | 2 ER14505 lithium batteries (3.6 V, 2400 mAh /section) in parallel |
| 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 | 23uA |
| Awakening current | 6.3mA @3.3V |
| RF receiving current | 11 mA @3.3V |
| RF emission current | 120mA @3 .3 V |
| Battery measurement accuracy | ± 0.1V |

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

## Radio frequency characteristics

| | |
|---|---|
| Frequency range | 863MHz-928MHz 470MHz-510MHz |
| Power output | 19 dBm ±1dBm |
| Receiving sensitivity | -136dBm<br>(LoRa, Spreading Factor=12, Bit Rate = 293bps);<br>-121 dBm<br>( 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 | 0.3kbps to 50kbps |
| Modulation system mode | LoRa/FSK (Note: choose one of them) |
| Supportable LoRaWAN band | EU863-870, US902-928, AU915-928, KR920-923, AS923 , CN470-510 (Note: The frequency band is optional and needs to be configured before shipment) |

## PT1000 platinum thermal resistance specifications

| | |
|---|---|
| PT1000 temperature range | -70-200°C |
| Lead length | 2m (default) |
| PT1000 accuracy | +-(0.15+0.002*t) degrees |
| Probe specifications | 1: Probe diameter 5mm, long pointed 316 stainless steel probe 15cm .<br>2: Probe diameter 5mm, round head 316 stainless steel probe 15cm.<br>3: Probe diameter 5mm* length 100+60mm L-type probe, 316 stainless steel probe.<br>Choose one of the above probe specifications. |
| Wiring | 4-wire system |
| Protection level | IP67 |
| ROHS standard | Meet ROHS standards |

## Physical characteristics

| | |
|---|---|
| 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) |