

Wireless 2-Gang Temperature Sensor PT1000 Patch Probe

Wireless Network Based on LoRa Technology



R718BP2 Datasheet

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Wireless 2-Gang Temperature Sensor - PT1000 Patch Probe

Introduction

R718BP2 is a wireless 2-gang temperature sensor that can measure temperature from -50 to 150°C. With two patch probes, users can fix it on the surface and easily measure the temperature of an object.

Features

- SX1276 wireless communication module
- PT1000 RTD with two patch probes
- Temperature detection: -50 to 150°C
- 2* ER14505 lithium batteries in parallel
- IP65 (main body)
- Magnetic base
- Compatible with LoRaWANTM Class A
- Frequency spread spectrum technology
- Applicable to third-party platforms: Actility / ThingPark, TTN, MyDevices / Cayenne
- Low power consumption and long battery life

Note: Please visit http://www.netvox.com.tw/electric/electric_calc.html for more information of battery lifespan.

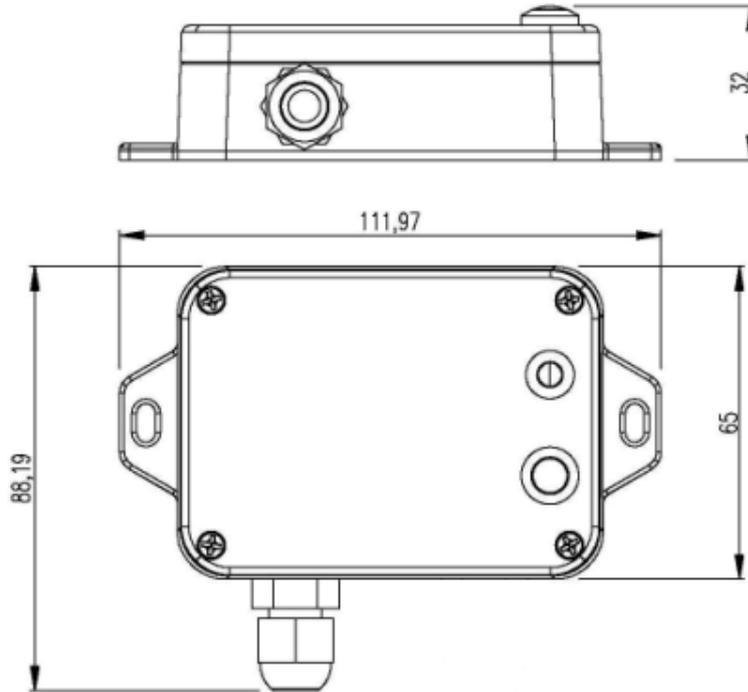
Applications

- Temperature Detection
- Thermal system Equipment

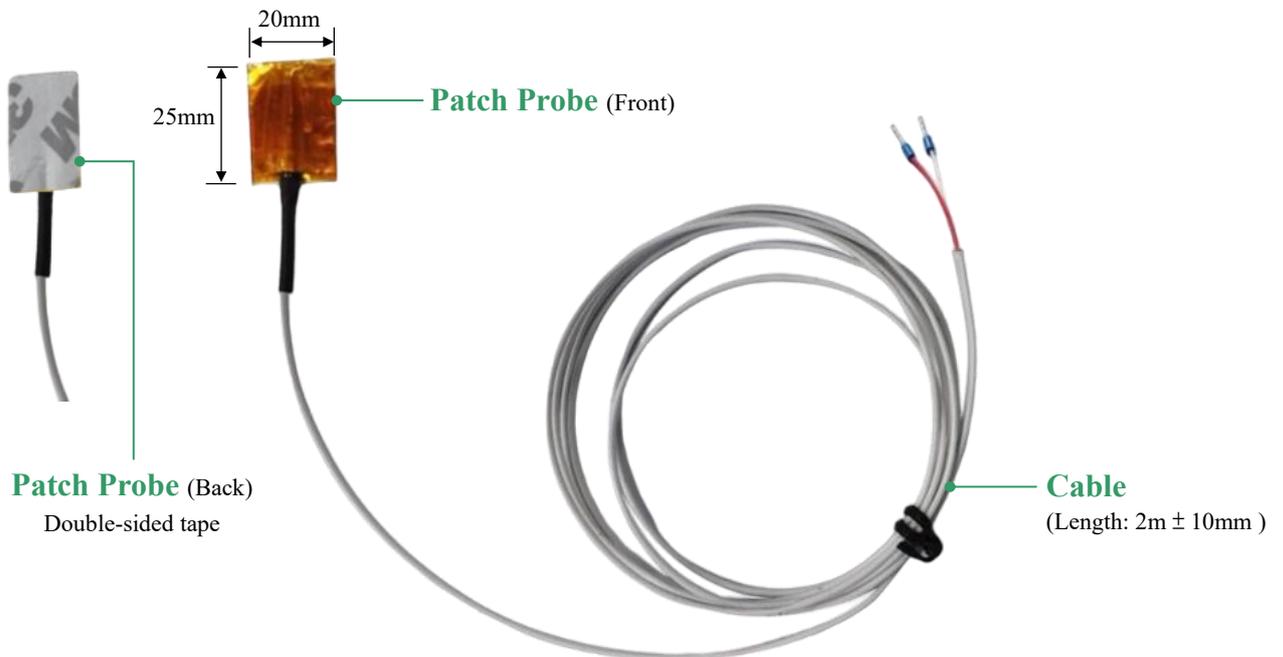
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Dimensions

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



▼ Patch Probe



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Electrical Specifications

Power Supply	2* ER14505 AA 3.6V 2400mAh lithium batteries in parallel
Operating Voltage	3.1V – 3.65V
Battery Lifespan	5 years (conditions: ambient temperature 25°C, report every 15 minutes, TX power = 20dBm, LoRa spreading factor SF = 10)
Wake-up Current	9.94mA (typical value) 0.8mA – 20mA (without transmitting /receiving LoRa data)
Low Voltage Alarm	3.2V
Battery Measurement Accuracy	±0.1V

R100H Module

Wake-up Current	0.8mA – 8mA @3.3V
RF Receiving Current	11mA @3.3V
RF Transmitting Current	120mA @3.3V

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

PT1000 Patch Probe

Measurement Range	$-50^{\circ}\text{C} \leq T \leq 150^{\circ}\text{C}$
Accuracy	± 2°C
Cable Length	2m
Dimensions	20mm x 25mm
Wiring	2-wire connection
Protection	IP65
Certification	RoHS
Installation	<ol style="list-style-type: none"> 1. Remove the liner of the double-sided tape. 2. Place the patch on the surface of an object. 3. Fix the patch with PTFE tape.

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Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
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: The actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbp–50kbps (LoRa); 1.2kbps–300kbps (FSK)
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 and need to be configured before shipment

Physical Properties

Dimensions	112mm (L) x 88.19mm (W) x 32mm (H)
Ambient Temperature	-20°C – 55°C
Ambient Humidity Range	<90%RH (no condensation)