

Wireless Temperature Sensor PT1000 Patch Probe

Wireless Network Based on LoRa Technology



R718BP Datasheet

Copyright©Netvox Technology Co., Ltd.

This document contains proprietary technical information which is the property of NETVOX Technology and is issued in strict confidential and shall not be disclosed to others parties in whole or in parts without written permission of NETVOX Technology. The specifications are subjected to change without prior notice.

Wireless Temperature Sensor - PT1000 Patch Probe

Introduction

R718BP is a wireless temperature sensor that can measure temperature from -50 to 150°C. With a patch probe, users can fix it on the surface and easily measure the temperature of an object.

Features

- SX1276 wireless communication module
- PT1000 RTD with patch probe
- 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.

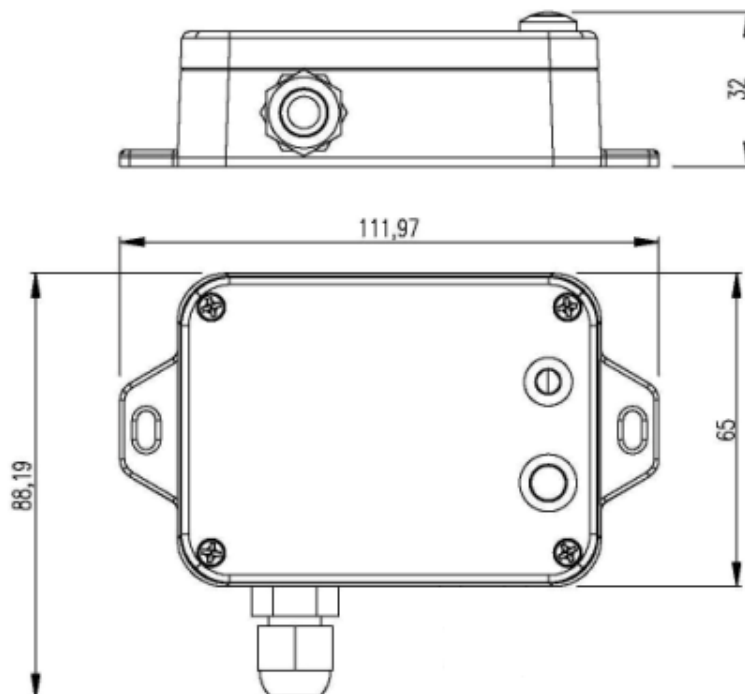
Applications

- Temperature Detection
- Thermal system Equipment

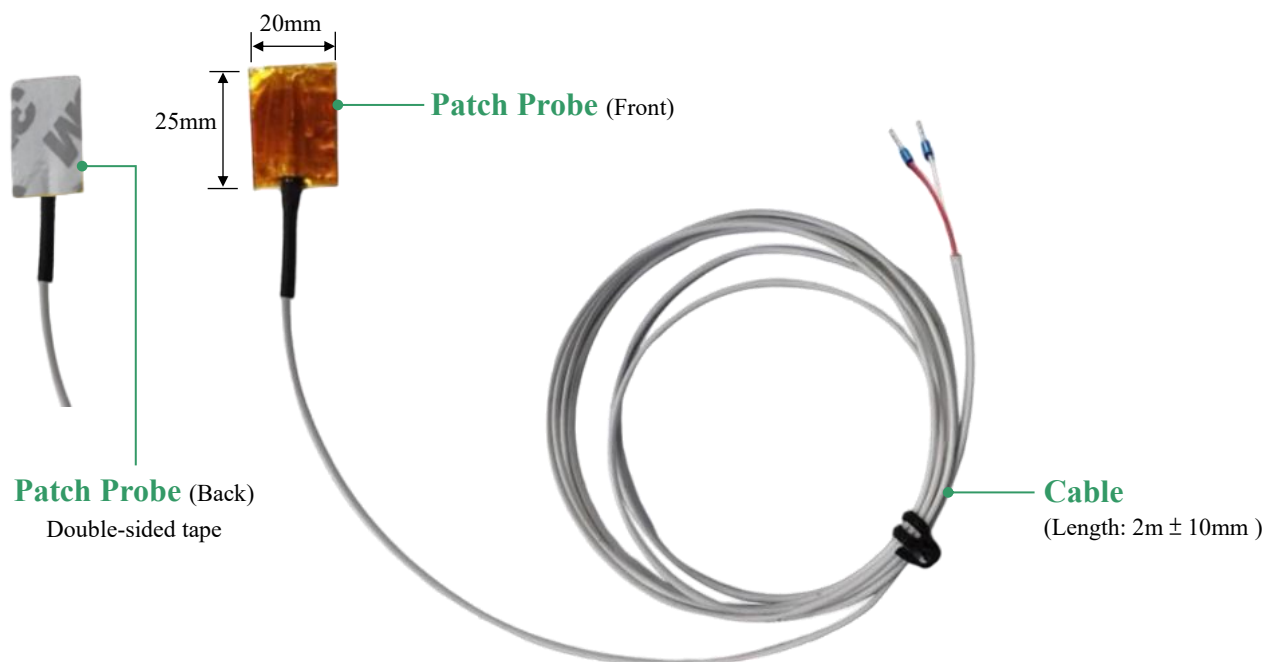
Wireless Temperature Sensor - PT1000 Patch Probe

Dimensions

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



▼ Patch Probe



Wireless Temperature Sensor - PT1000 Patch Probe

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	$\pm 2^{\circ}\text{C}$
Lead Wire 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.

Wireless Temperature Sensor - PT1000 Patch Probe

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)