

# Wireless 2-Gang Thermocouple Sensor - Type T



## R718CT2 Data Sheet

**Copyright©Netvox Technology Co., Ltd.**

This document contains proprietary technical information which is the property of NETVOX Technology. It shall be maintained in strict confidence and shall not be disclosed to other parties, in whole or in part, without written permission of NETVOX Technology. The specifications are subject to change without prior notice.

---

## Wireless 2-Gang Thermocouple Sensor - Type T

---

### Introduction

This equipment is used to detect temperature of the object and medium which thermocouple is contacted. It uses SX1276 wireless communication module.

### Main Characteristic

- Apply SX1276 wireless communication module
- 2 ER14505 batteries AA size in parallel (3.6V / section)
- IP rating - Host body:IP65/IP67(Optional) ,T type thermocouple sensor:IP67
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- Thermocouple detection
- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
- Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne
- Improved power management for longer battery life
- Battery Life:

-Please refer to web: [http://www.netvox.com.tw/electric/electric\\_calc.html](http://www.netvox.com.tw/electric/electric_calc.html)

- At this website, users can find battery lifetime for varier models at different configurations

\*1. Actual range may vary depending on environment

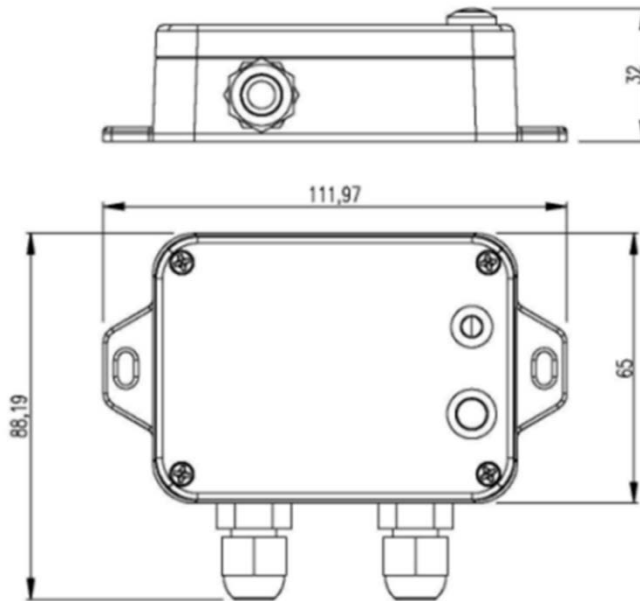
\*2. Battery life is determined by sensor reporting frequency and other variables

### Application

- Temperature Measuring
- Thermal system Equipment

**Wireless 2-Gang Thermocouple Sensor - Type T**

**Technical Specification**



Unit. mm

**Electric**

Input Power	2 x 3.6V ER14505 AA size lithium batteries (3.6V2400mah/section)
Operating Voltage	3.1V ~ 3.65V
Battery Life	4.8 years (Conditions: ambient temperature 25 °C, 15 min report once, txpower = 20dBm, LoRa spreading factor SF = 10)
Standby Current	36uA
Wakeup Current	7.33mA (Typical value) Wakeup current range 0.8mA-20 mA * When not transmitting /receiving LoRa data
Low Battery Voltage Threshold	3.2V
Battery Measurement Accuracy	±0.1V

**Module-R100H**

Wake-up Current	0.8mA - 8mA@3.3V
RF Receiving Current (max)	11mA/3.3V
RF Transmitting Current (max)	120mA/3.3V

\* Specific electrical characteristics may vary depending on the power supply voltage

**Wireless 2-Gang Thermocouple Sensor - Type T**
**Thermocouple Characteristic**

Measurement Range	-40°C to 125°C
Measurement Accuracy	<p><b>The host body and T-type thermocouple are in the <u>same temperature range</u>:</b>            Temperature Range: <math>0^{\circ}\text{C} \leq t \leq 55^{\circ}\text{C}</math>, Accuracy: <math>\pm 0.8^{\circ}\text{C}</math></p> <p><b>The host body and T-type thermocouple are in <u>different temperature ranges</u>:</b>            Temperature Range T1: <math>0^{\circ}\text{C} \leq T1 \leq 55^{\circ}\text{C}</math> (Host body)            Temperature Range T2: <math>-40^{\circ}\text{C} \leq T2 &lt; 0^{\circ}\text{C}</math> (Sensor)            Accuracy: <math>\pm 2^{\circ}\text{C}</math></p> <p>Temperature Range T1: <math>0^{\circ}\text{C} \leq T1 \leq 55^{\circ}\text{C}</math> (Host body)            Temperature Range T2: <math>55^{\circ}\text{C} &lt; T2 \leq 125^{\circ}\text{C}</math> (Sensor)            Accuracy: <math>\pm 1.5^{\circ}\text{C}</math></p> <p>* t, T1, T2 refers to temperature</p>
Thermocouple Wire Length	1m

**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	Build-in antenna
Communication Range	10 km (The actual transmission distance depends on the Environment.)
Data Transfer Rate	0.3kbps~50kbps (LoRa) 1.2kbps~300kbps (FSK)

**Wireless 2-Gang Thermocouple Sensor - Type T**

Modulation Method	LoRa/FSK (Note: choose one of them)
Available Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867, CN470-510 (Note: Configured before shipment)
Communication Range	Up to 10 km (The actual transmission distance depends on the Environment.)

**Physical**

Dimension	Main Body: L:112mm*W:88.19mm*H:32mm
Environment Temperature Range	-20°C ~ 55°C
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40°C ~ 85°C