

Wireless Thermocouple Sensor Type R



R718CR

Data Sheet

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Introduction

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

Features

- SX1276 wireless communication module
- 2 ER14505 batteries AA size in parallel (3.6V / section)
- R-type thermocouple: IP60
- Magnetic base
- 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 platforms: Actility/ThingPark, TTN, MyDevices/Cayenne
- Improved power management for longer battery life

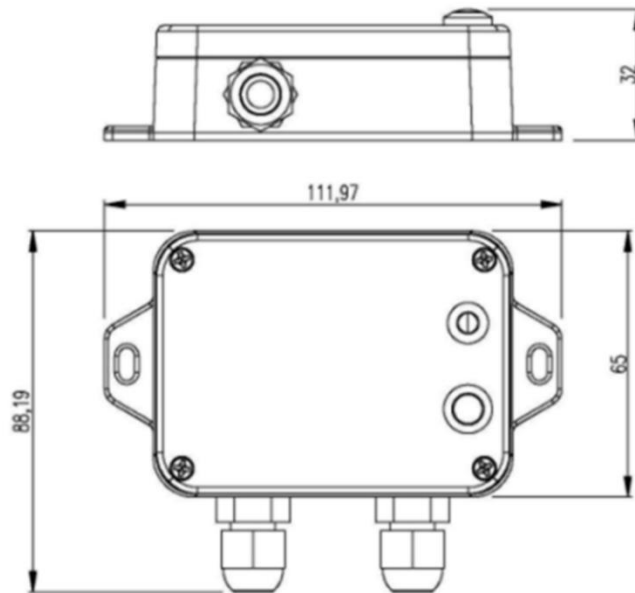
Note: Please visit http://www.netvox.com.tw/electric/electric_calc.html for more information about battery lifespan.

Applications

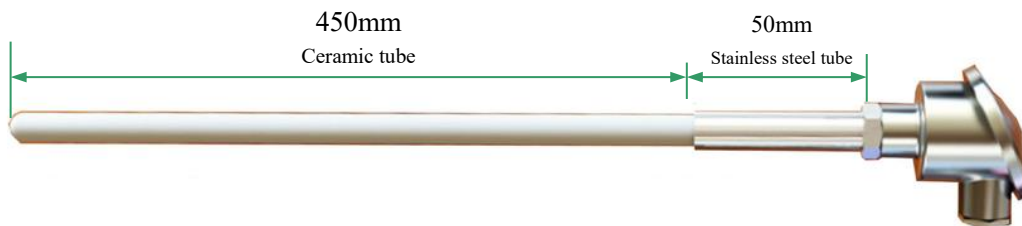
- Temperature Measuring
- Thermal system Equipment

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Dimensions



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



R-type thermocouple: 500mm

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Electrical Specifications

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	34uA
Wakeup Current	7.33mA (typical value); 0.8mA–20 mA (without 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

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

R-Type Thermocouple

Measurement Range	$0^{\circ}\text{C} \leq t \leq 1400^{\circ}\text{C}$
Measurement Accuracy	$\pm 1.5^{\circ}\text{C}$ ($0^{\circ}\text{C} \leq T_2 \leq 600^{\circ}\text{C}$); $\pm 0.0025 * T_2^{\circ}\text{C}$ ($600^{\circ}\text{C} < T_2 \leq 1400^{\circ}\text{C}$) Note: (1) Temperature range of the main body: $0^{\circ}\text{C} \leq T_1 \leq 55^{\circ}\text{C}$. (2) T_1 : the temperature of the main body; T_2 : temperature of the thermocouple
Wire Length	2m
Wire Material	Platinum rhodium
Probe Length	500mm (customizable)

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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	Build-in antenna
Communication Range	10km (line of sight) Note: The actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbps–50kbps (LoRa); 1.2kbps–300kbps (FSK)
Modulation Method	LoRa/FSK Note: One modulation method is required.
Available Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867, CN470-510 Note: Optional, configured before shipment

Physical Properties

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