Wireless Temperature Sensor

Wireless Sensor Network Based on LoRa Technology

R718AD
Data Sheet

Wireless Temperature Sensor

Introduction

The R718AD is a wireless communication device for detecting temperature. The temperature sensor probe contacts an object to detect the temperature, and the detected data is transmitted to other devices through a wireless network. The SX1276 wireless communication module is used.

Main Characteristic

- Adopt SX1276 wireless communication module
- Temperature detection (-40 ℃ to 125℃)
- 2 sections of ER14505 battery in parallel (AA size 3.6V / section)
- Protection level: Main body- IP65/ IP67 (optional), probe: IP67
- The base is attached with a magnet that can be attached to a ferromagnetic material 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

- Temperature measuring device

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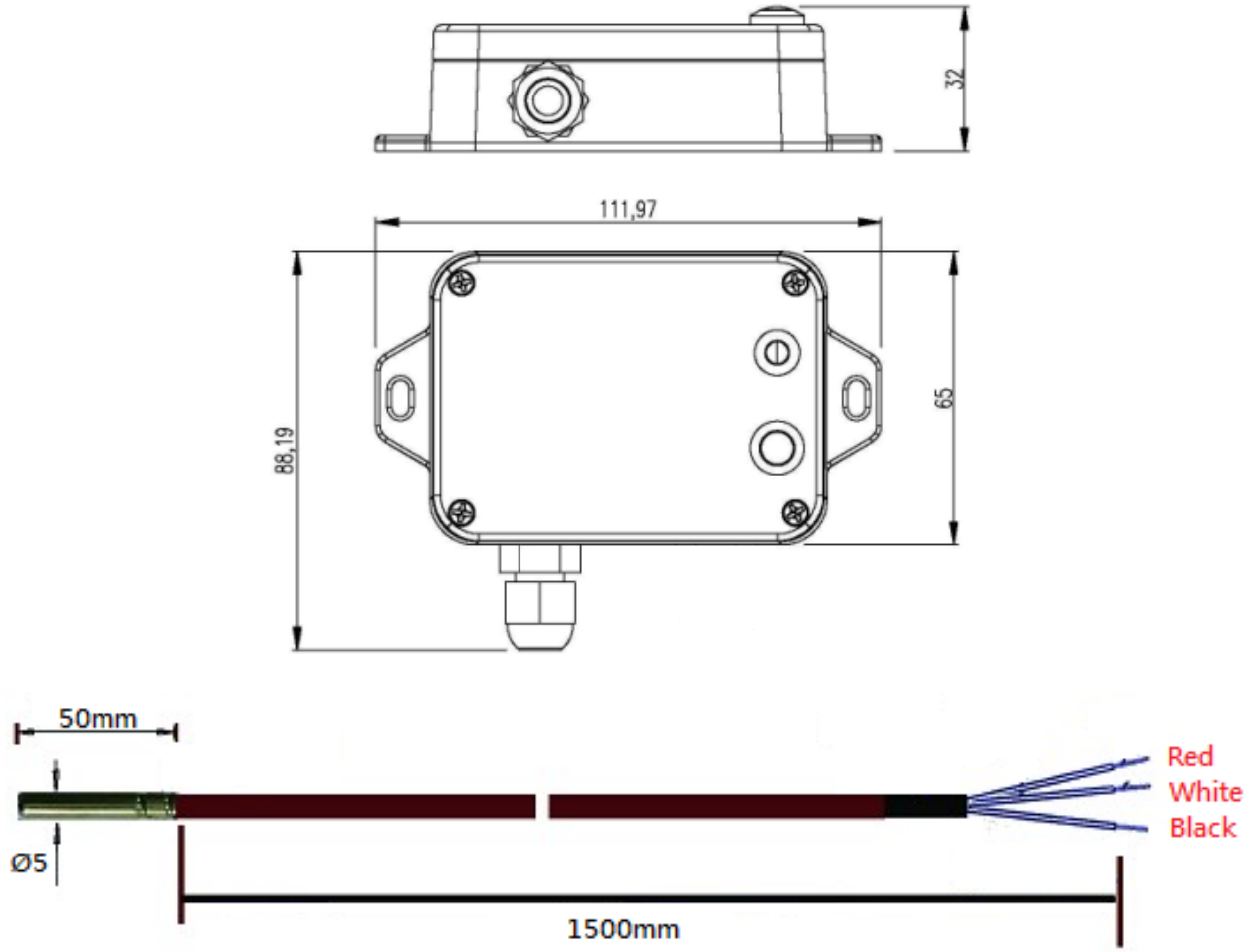
Dimension



Electric

Input Power	2 x ER14505 AA size lithium batteries (3.6V / section)
Operating Voltage	DC 3.1V to 3.65V
Battery Life	5 years(Conditions: ambient temperature 25 °C, 15 min report once, TX power = 20dBm, LoRa spreading factor SF = 10)
Standby Current	24uA
Wake-up Current	6.3 mA@3.3V
RF Receiving Current (max)	11mA / 3.3V
RF Transmitting Current (max)	120mA / 3.3V
Low Battery Voltage Threshold	3.2V
Battery Measurement Accuracy	±0.1V

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

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Measurement Range	-40°C to 125°C
Measurement Accuracy	< ±1 °C
Wire Length	1.5m
Wire Material	PTFE
Probe Size	Length: 50mm, outer diameter: 5mm
Probe Material	Stainless steel 316

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	US915 20dbm; AS923 16dbm; AU915 20dbm; CN470 19.15dbm; EU868 16dbm; KR920 14dbm; IN865 20dbm;
Receiving Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate = 293bps); -121 dBm (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 ~ 50kbps (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation System Mode	LoRa / FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870,US902-928,AU915-928,KR920-923,AS923-1,AS923-2,AS923-3,IN865-867,CN470-510 (Note: optional, to be done in the factory configuration)

Physical

Host Body Dimension	L: 112 mm*W: 88.19 mm*H: 32 mm
Ambient Temperature Range	-20 °C to 55°C
Storage Temperature Range	-40 °C to 85°C
Ambient Humidity Range	<90% RH (no condensation)