Wireless Multi-Sensor Interface for 0-24V ADC, Dry Contact and 4-20mA Sensors

Wireless Sensor Network Based on LoRa Technology

R718IJK

Data Sheet

Introduction

The device is used to detect 4mA-20mA signal, 0-24VDC ADC sampling and the function of dry contact. It adopts SX1276 wireless communication module.

R718IJK can detect 4mA-20mA signal, 0-24V DC ADC sampling signal and dry contact input signal. The device adds the detection signal data to the gateway and displays the collected data in the gateway.

Main characteristic

- Adopt SX1276 wireless communication module
- 2 sections of ER14505 battery in parallel (AA size 3.6V / section)
- Protection level IP65/ IP67 (optional)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- 4mA-20mA signal detection
- Dry contact detection
- 0-24V ADC detection (the red wire is connected to the positive 0-24V, the black wire is connected to the negative GND, be careful not to be reversed)
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum technology
- Applicable to third-party platforms: Actility / ThingPark, TTN, MyDevices / Cayenne
- Low power consumption and long battery life

Note:

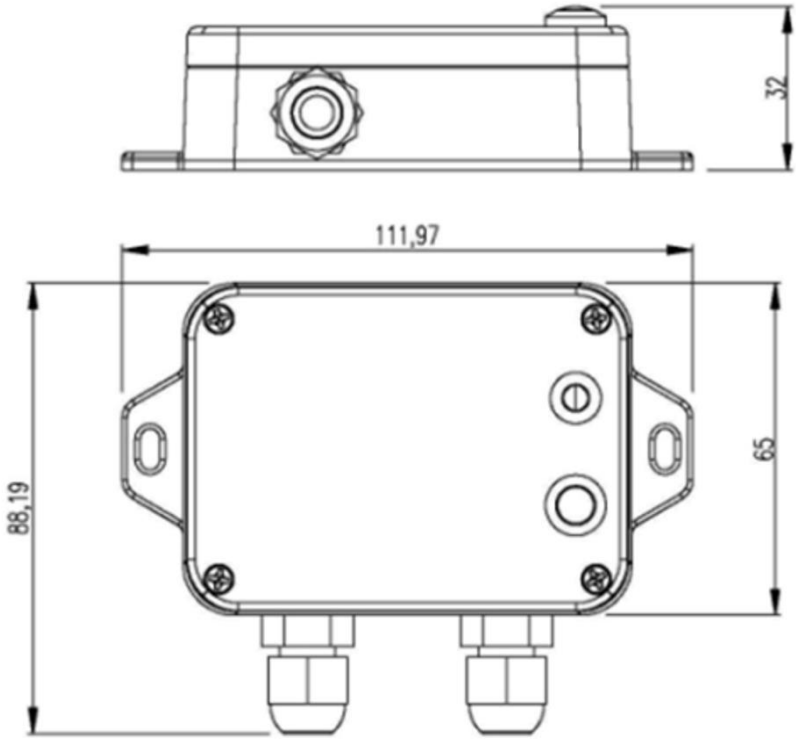
Battery life is determined by the sensor reporting frequency and other variables, please refer to http://www.netvox.com.tw/electric/electric_calc.html

On this website, users can find battery life of various models in different configurations.

Application

- Sensor
- Measuring equipment
- Instrumentation
- Other

Dimension



Electric

Power Supply	2 x ER14505 AA size lithium batteries (3.6V 2400mah/section) Specific specifications are subject to actual shipment.
Battery Life	5 years (Conditions: ambient temperature 25 °C, 15 min report once, TX power = 20dBm, LoRa spreading factor SF = 10)
Standby Current	22.7uA
Wakeup Current	Wakeup current range 0.8mA-20 mA * When not transmitting /receiving LoRa data
Battery Measurement Accuracy	±0.1V
Current Measurement Range	4mA to 20mA
ADC Measurement Range	0-24V

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 will vary depending on the power supply voltage.

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	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

Dimension	L: 112 mm*W: 88.19 mm*H: 32 mm
Host Body Weight	About 141g
Ambient Temperature Range	-20 °C to 55°C
Ambient Humidity Range	<90% RH (no condensation)