# Wireless 0-5V ADC Sampling Interface

Wireless Sensor Network Based on LoRa Technology


# R718IA

# Data Sheet

# Introduction

R718IA is a Wireless 0-5V ADC Sampling Interface. It can externally connect a device to measure ADC voltage, and the measuring range is 0 to 5v.

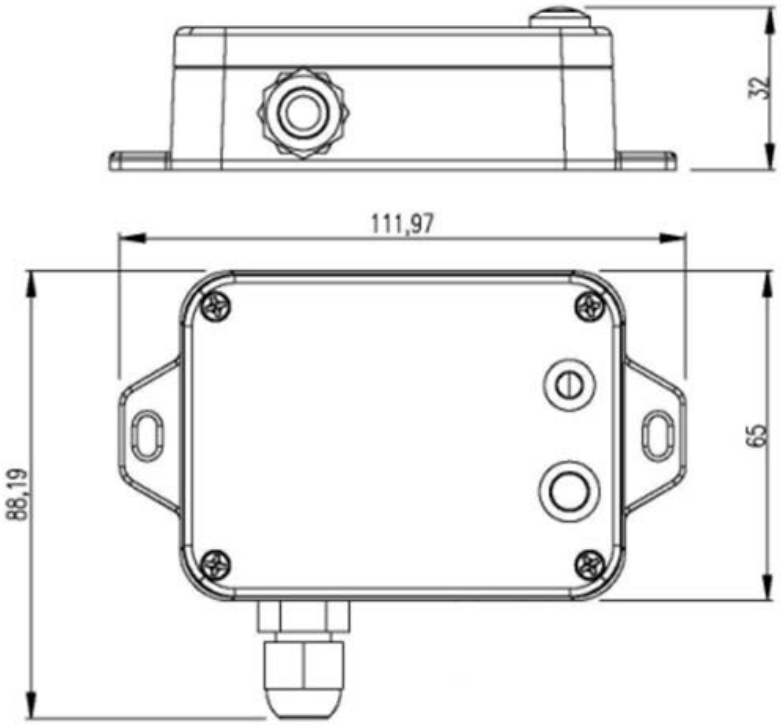
# Main Characteristic

- Apply SX1276 wireless communication module
- 2 ER14505 batteries AA size in parallel (3.6V / section)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- 0-5V ADC sampling interface
- IP rating IP65
- 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
  - 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

## Technical Specification




## Electric

| | |
|---|---|
| Input Power | 2 ER14505 AA size lithium batteries (3.6V, 2400mah / section) |
| Operating Voltage | 3.1V to 3.65V |
| Battery Life | 5 years (Conditions: ambient temperature 25 °C, 15 min report once, txpower = 20dBm, LoRa spreading factor SF = 10) |
| Standby Current | 22 uA |
| 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

## ADC Sampling

| | |
|---|---|
| ADC Sampling Range | 0-5V |
| ADC Resolution | 12 bits |
| ADC Conversion Rate | 1.14 Msps |
| External Cable Length | 1m |

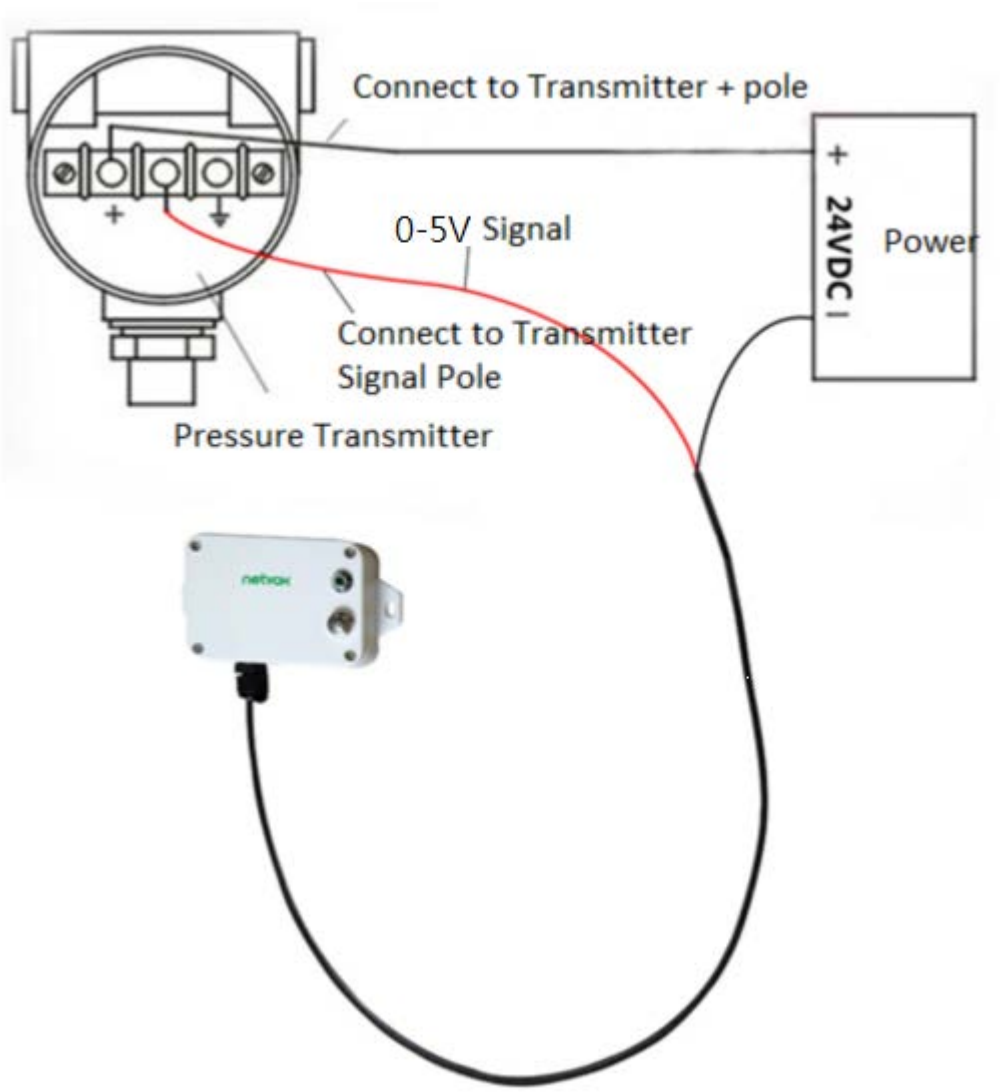
## Frequency

| | |
|---|---|
| Frequency Range | 863MHz-928MHz 470MHz-510MHz |
| TX Power | US915 20dbm<br>AS923 16dbm<br>AU915 20dbm<br>CN470 19.15dbm<br>EU868 16dbm<br>KR920 14dbm<br>IN865 20dbm |
| Rx Sensitivity | -136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps )<br>-121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps) |
| Antenna Type | Build-in antenna |
| Communication Range | 10 km<br>(The actual transmission distance depends on the Environment.) |
| Data Transfer Rate | 0.3kbps ~ 50kbps (LoRa)<br>1.2kbps ~ 300kbps (FSK) |
| 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<br>(Note: Configured before shipment) |
| Communication Range | Up to10 km, the actual transmission distance depends on the environment |

## Physical

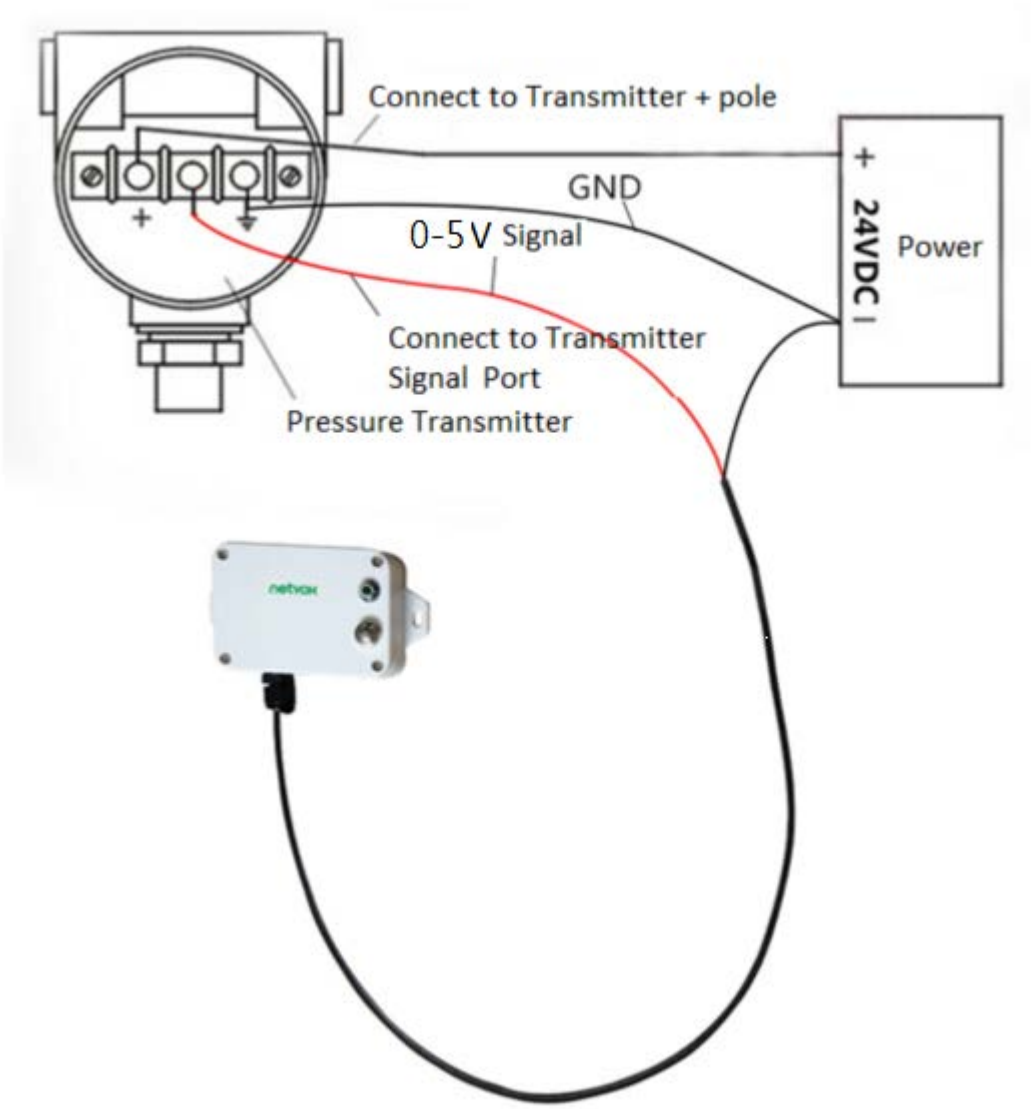
| | |
|---|---|
| Dimension | L:112mm*W:65mm*H:32mm |
| Main Body Weight | About 150g |
| Environment Temperature Range | -20℃ ~ 55℃ |
| Environment Humidity Range | <90% RH (No condensation) |
| Storage Temperature | -40℃ ~ 85℃ |

## Example of Diagram




2-wire

A. 3-wire




3-wire