
Wireless 2-Input 0-10V ADC Sampling Interface

Wireless 2-Input 0-10V ADC Sampling Interface R718IB2 Data Sheet

Wireless Sensor Network Based on LoRa Technology



R718IB2

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General Description

The device is designed for a variety of resistive bridge-sensing applications like pressure, temperature, and level-sensing applications. It can also support other applications, weight scale and force-sensing applications that use strain gauge load cells, and other general resistive bridge signal-conditioning applications.

Principle of Operation

This device can be connected to an ADC sampling interface device. Bare line black is the ground line; red one is the ADC sampling interface line, and the ADC sampling voltage range is 0-10V, which uses the SX1276 wireless communication module.

Example Applications

- Battery Health
- Voltage Measurement
- Transducer Measurement
- Machinery
- Electrical Motors
- Weight Scale and Force-sensing
- Pressure, Temperature, Level-sensing Applications
- And many more...

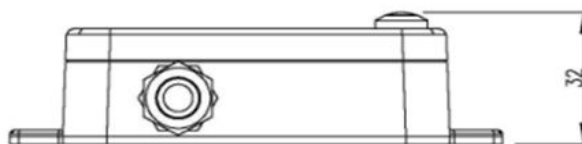
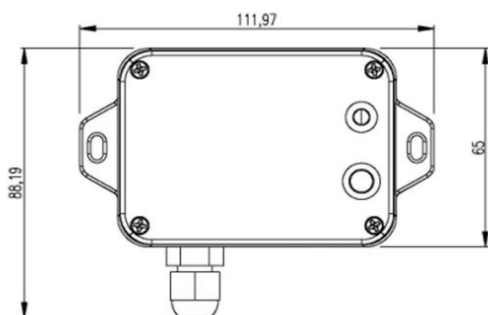
Features of NETVOX Sensors

- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Improved power management for longer battery life
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Battery Life*2:
 - Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html
 - At this website, users can find battery life time for varier models at different configurations.
- Over-the-air updates (future)
- 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
- R718X series carry magnets which can be attached to ferromagnetic materials and objects

*1. Actual range may vary depending on environment.

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

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Technical Specifications (Main Part)


(Uni. mm)

Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V2400mah/section)
Sleeping Mode	27uA
Wake up Mode	6.3mA@3.3V
Receiving Current (max)	11mA @3.3V
Transmitting Current (max)	120mA/3.3V
Battery Voltage Measurement Accuracy	±0.1V
Low Voltage Threshold	3.2V

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

Frequency

TX Power	19dBm±1dBm
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	Up to 10 km, the actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbps~50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Configured before shipment)

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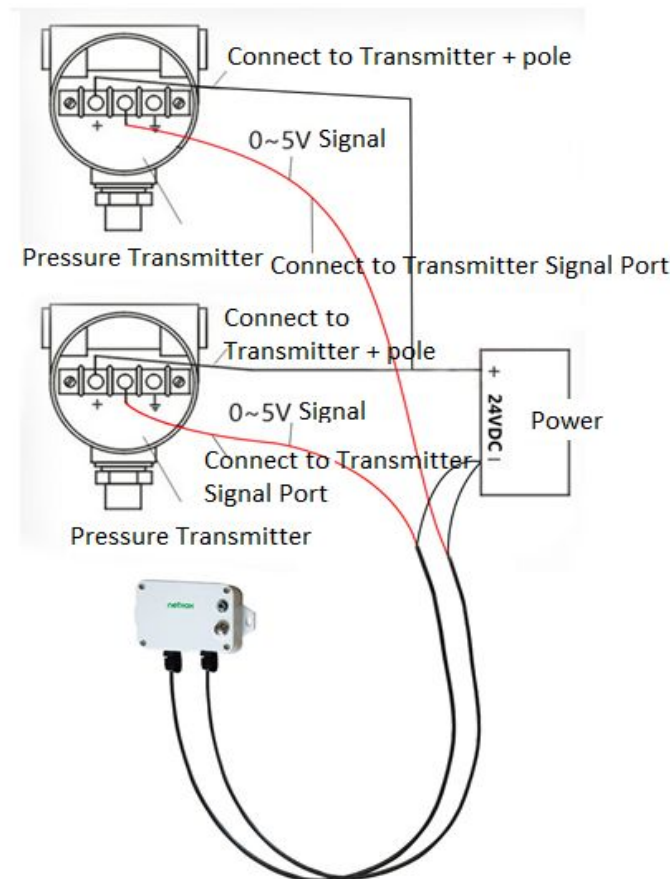
ADC Sampling Characteristic

ADC Sampling Voltage Range	0-10V
Digit	12 digits
ADC Conversion Rate	1.14 Msps
External Cable Length	1m

Physical

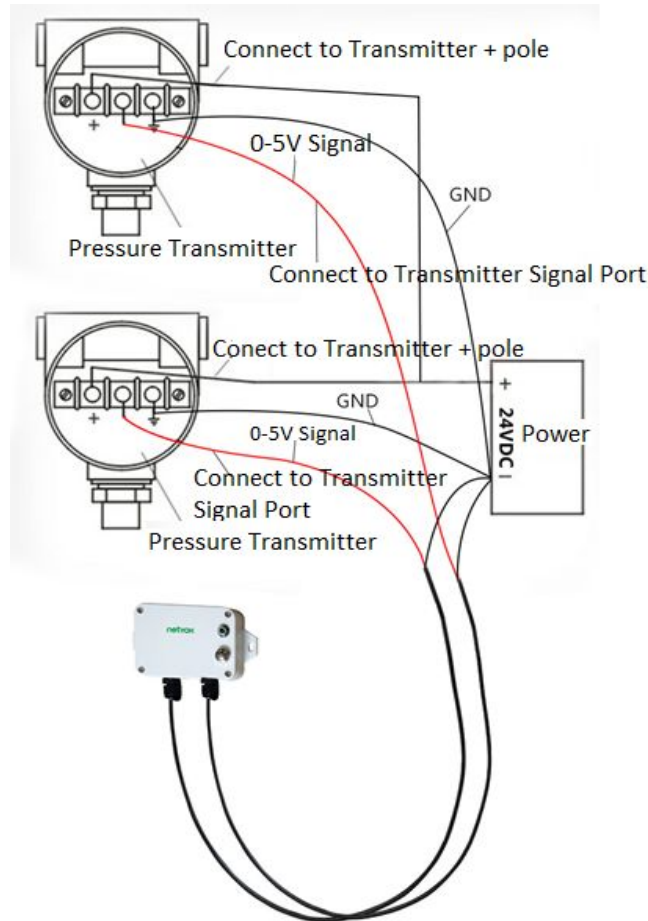
Dimension	Main Part: L: 112mm*W: 65mm*H: 32mm
Weight	150g
Environment Temperature Range	-20°C ~ 55°C
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40°C ~ 85°C

2-wire System Example Diagram (for wiring reference)



Wireless 2-Input 0-10V ADC Sampling Interface

3-wire System Example Diagram (for wiring reference)



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