Wireless mA Current Meter Interface, 4~20mA R718KA Data Sheet

Wireless Sensor Network Based on LoRa Technology

R718KA

Wireless mA Current Meter Interface, 4~20mA

General Description

This device is used to detect signal 4mA-20mA equipment, which uses SX1276 wireless communication module. R718KA can detect 4mA-20mA signal, and add the detection signal data to the gateway, and the collected data will be displayed in data center.

Principle of Operation

Typical applications for 4 mA to 20 mA products are sensing and instrumentation measurement applications. The signal current of general instrumentation is 4-20mA, which means the minimum current is 4mA and the maximum current is 20mA. There are many kinds of sensors in the industrial field that can be converted into 4~20mA current signals. This device converts the 4mA-20mA signal into an appropriate detection signal through the operational amplifier, and then samples the current value through the module ADC sampling.

Example Applications

• Sensing
• Measuring equipment
• Instrumentation
• Others

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)

Yellow Segment : Magnet
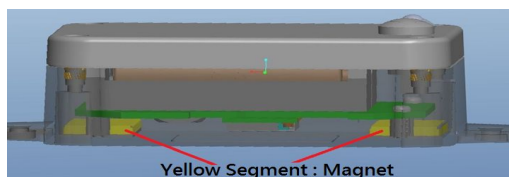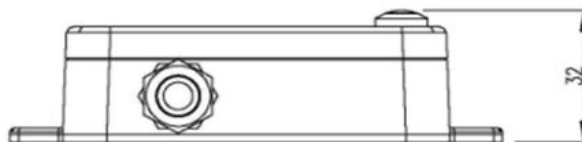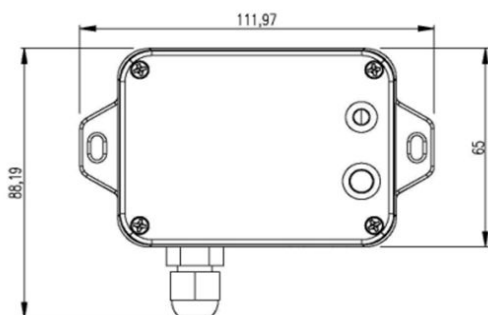
(Uni. mm)

Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V2400mah/section）
Sleeping Mode	21uA
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

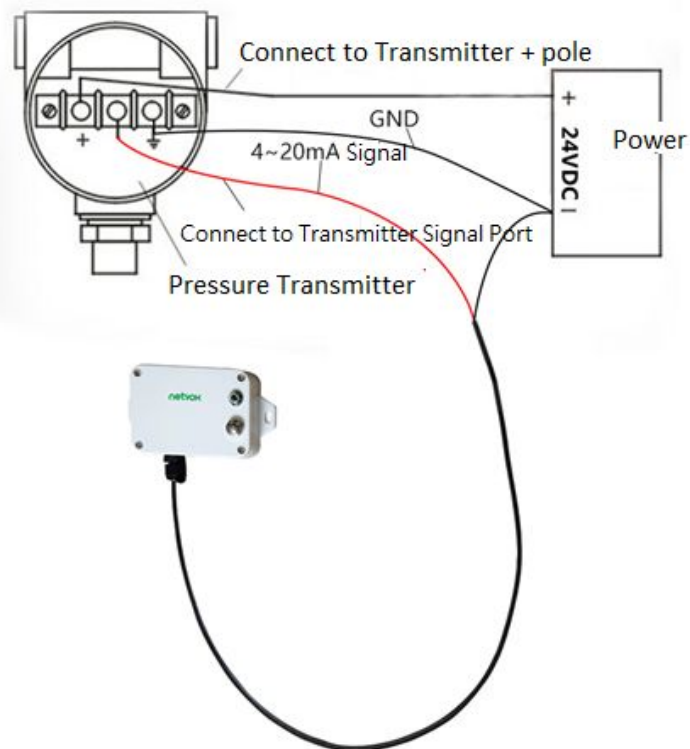| TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa，Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Range	Up to 10 km, the actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbps～50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Configured before shipment)

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Physical

Dimension	Main Part: L: 112mm*W: 65mm*H: 32mm
Weight	141g
Environment Temperature Range	-20℃ ～ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ～ 85℃

2-wire System Example Diagram (for wiring reference)
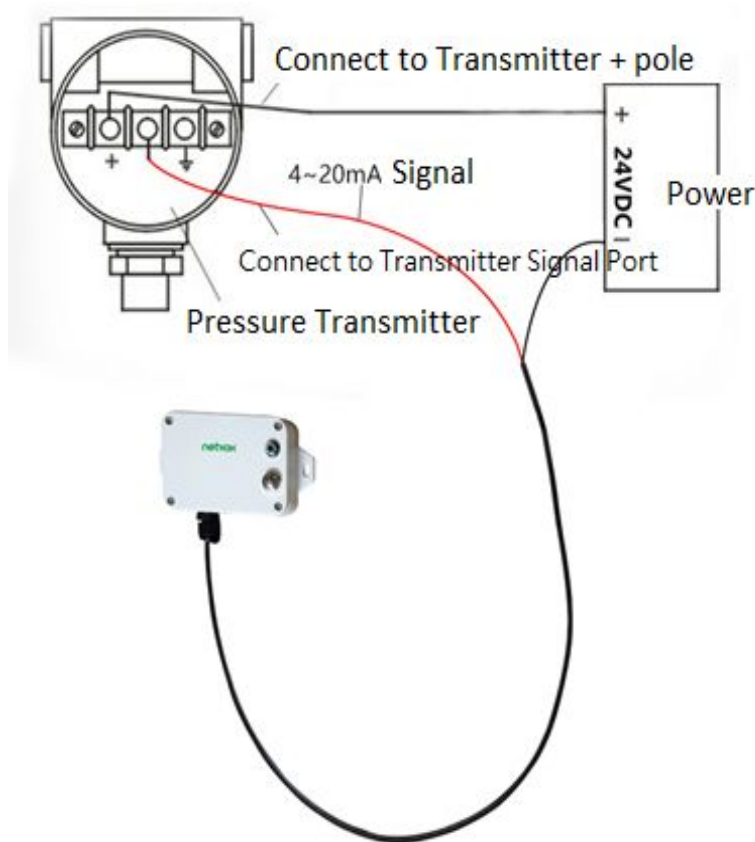
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3-wire System Example Diagram (for wiring reference)

Contact: