Wireless 2-Input 0-10V ADC Sampling and 2-Input 0-20mA Sensor Interface

R718KBC Datasheet

Wireless Network Based on LoRa Technology

Wireless 2-Input 0-10V ADC Sampling and 2-Input 0-20mA Sensor Interface

(powered by 2 x ER14505 3.6V Lithium AA battery)

Introduction

R718KBC can connect with 4 devices, measuring 0 to 10V voltage and 0 to 20 mA current. With 24-bit ADC sampling and less than 1% error, the R718KB series gives users highly accurate measurement results. When connecting with sensors or instrumentation, the R718KB series automatically converts data with attributes set first so that users can read data easily. Precise results and convenient data conversion, the R718KB series makes measurements easier and more accurate than you ever imagined.

Features

- 0–10V and 0–20mA detection with 2 external devices connected respectively
- 24-bit ADC sampling
- <1% error for 0.5–10V detection
- <1% error for 1–20mA detection
- SX1262 wireless communication module
- 2* AA 3.6V ER14505 battery in parallel
- IP67
- Magnetic base
- Compatible with LoRaWANTM 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: Please visit http://www.netvox.com.tw/electric/electric_calc.html for more information of battery lifespan.

Applications

- Sensors
- Measuring instruments
- Instrumentation

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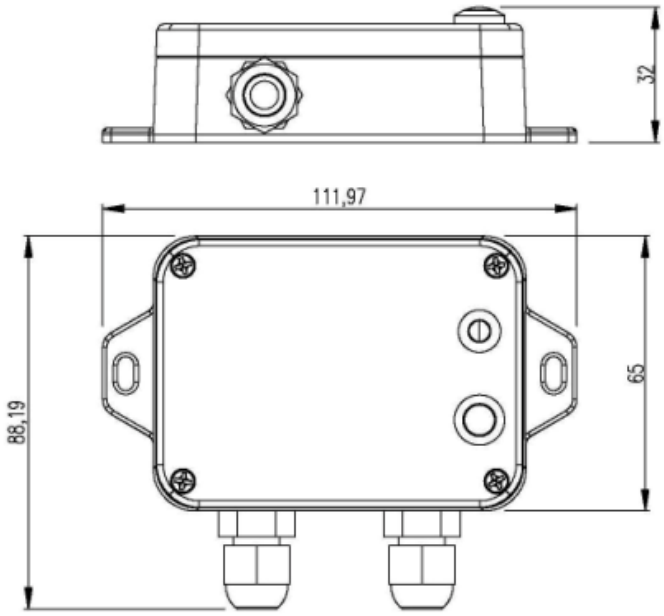
(powered by 2 x ER14505 3.6V Lithium AA battery)

Dimensions

112mm (L) x 65mm (W) x 32mm (H)



Electrical Specifications

Power Supply	2* AA 3.6V ER14505 battery in parallel
Battery Lifespan	5.4 years (when the temperature = 25℃, report once every 30 minutes, TX power = 20dBm, and LoRa spreading factor SF = 10)
Standby Current	20μA
Wake-up Current	6.3mA@3.3V
RF Receiving Current	11mA @3.3V
RF Transmitting Current	120mA @3.3V
Battery Measurement Error	±0.1V
0–10V Measurement Error	0.5–10V: <1%; 0–0.5V: <2%
0–20mA Measurement Error	1–20mA: <1%; 0–1mA: <2%
Resolution	Voltage: 1mV; Current: 1μA

Note: The electrical specifications may vary due to the voltage of the power supply.

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Tx Power	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor = 12, Bit Rate = 293bps) -121dBm (FSK, Frequency deviation = 5kHz, Bit Rate = 1.2kbps)
Antenna Type	Built-in antenna
Communication Range	10km (line of sight) Note: The actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbp–50kbps (LoRa); 1.2kbps–300kbps (FSK)
Modulation	LoRa / FSK Note: One modulation method is required.
Available LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867, CN470-510 Note: optional and need to be configured before shipment

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Physical Properties

Dimensions	112mm (L) x 65mm (W) x 32mm (H)
Length of External Cable	1m
Weight	about 141g
Ambient Temperature	-20℃–55℃
Ambient Humidity	<90%RH (no condensation)
Mounting	Magnet/screws