Wireless CO2/ Temperature/Humidity Sensor

Wireless Sensor Network Based on LoRa Technology

R72615A
Data sheet

Introduction

R72615A has a temperature and humidity sensor that detects and transmits ambient temperature and humidity data. It applies wireless communication method that uses the SX1276 wireless communication module. The R72615A has a CO2 sensor that detects the concentration of CO2 in the air.

Main Characteristic

- Adopt SX1276 wireless communication module
- Temperature and humidity detection
- CO2 concentration detection
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum technology
- Configuration parameters can be configured through third-party software platforms, data can be read and alarms can be set via SMS text and email (optional)
- Applicable to the third-party platforms: Actility/ ThingPark, TTN, MyDevices/Cayenne

  Battery Life:

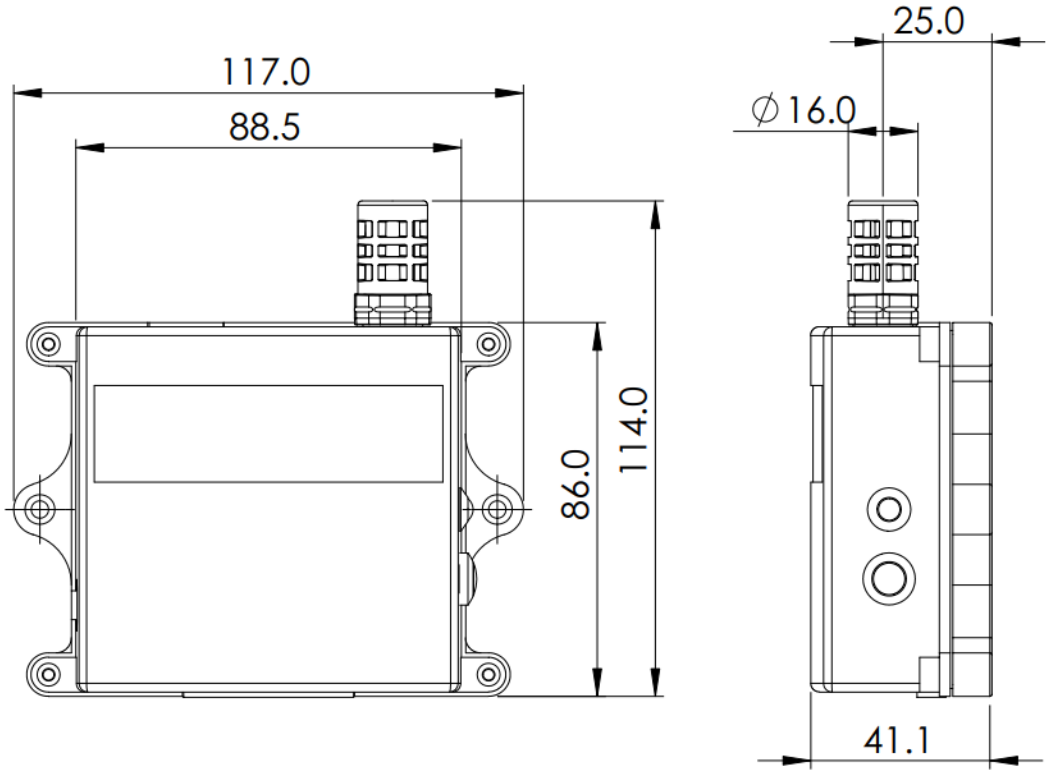
  Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html

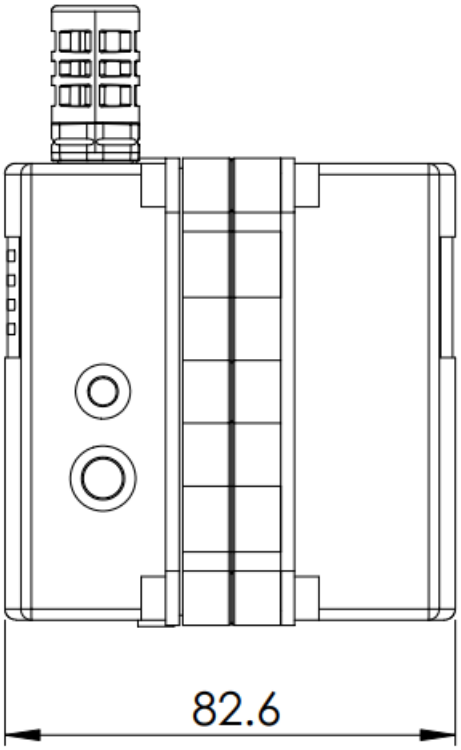
  At this website, users can find battery lifetime for varier models at different configurations.

Application

- Smart home
- CO2 concentration detection
- Temperature and humidity detection
- Other

Dimension





Electric

Power supply	8 sections of ER14505 lithium batteries (7.2V) * 4 sections of 3.6V ER14505 are connected in parallel to form a group, and the other 4 sections are connected in parallel to form another group. Then, the two groups of lithium batteries are connected in series).
Operating Voltage Range	6.8V to 7.3V
Low Battery Voltage Threshold	6.8V
Standby Current	300uA
Operating Current	65mA (When the sensor is operating.)
Module Wakeup Current	6.3mA @ 3.3V
RF Receiving Current	11mA @ 3.3V
RF Emission Current	120mA @ 3 .3 V
Battery Measurement Accuracy	± 0.1V

Temperature and Humidity Sensor

Temperature Measurement Range	-20°C to 55°C
Temperature Measurement Accuracy	±1°C @25°C
Humidity Measurement Range	0%RH to 100%RH
Humidity Measurement Accuracy	±4%RH @25°C

CO2 Sensor

Working Current	<85mA
CO2 Sensor Measurement Range	400ppm to 5000ppm
CO2 Sensor Accuracy	± (100ppm+6% reading)
Warm-up Time	3min
Response Time	T<90s
Output	UART

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915 20dbm AS923 16dbm AU915 20dbm CN470 19.15dbm EU868 16dbm KR920 14dbm IN865 20dbm
Receive Sensitivity	-121dBm(FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps) -136dBm (LoRa，Spreading Factor=12, Bit Rate=293bps)
Antenna Type	Built-in antenna
Communication Distance	10km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Transfer Rate	LoRa: 0.3kbps ~ 50kbps FSK: 1.2kbps ~ 300kbps
Modulation Method	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: The frequency band is optional and needs to be configured before shipment.)

Physical

Dimension	Host body: 117mm x 114mm x 82.6mm
Ambient Temperature Range	-20℃ ~ 55℃
Ambient Humidity Range	<90%RH (No condensation)
Storage Temperature Range	-40℃ ~ 85℃