Wireless Temperature and Humidity Sensor

Wireless Temperature and Humidity Sensor
R718AB Data Sheet

Wireless Sensor Network Based on LoRa Technology

R718AB

Copyright©Netvox Technology Co., Ltd.

   This document contains proprietary technical information which is the property of NETVOX Technology.

It shall be maintained in strict confidence and shall not be disclosed to other parties, in whole or in part,

without written permission of NETVOX Technology.

   The specifications are subject to change without prior notice.

Wireless Temperature and Humidity Sensor

General Description

The R718AB is a wireless communication device that detects ambient air temperature and humidity.
R718AB can detect the temperature and humidity of the air and transmit the detected data to data center through the wireless network. It uses the SX1276 wireless communication module.

Principle of Operation

R718AB carries a built-in SHT-30 temperature and humidity sensor.
SHT-30 can detect environment temperature and humidity and module (R100H/R100L) communicate through I2C.

Features of NETVOX Sensors

• Apply SX1276 wireless communication module

• 2 section of ER14505 battery in parallel (AA SIZE 3.6V / section)

• Temperature and humidity detection

• The base is attached with a magnet that can be attached to a ferromagnetic material object

• Protection class 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[*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)

*1. Actual range may vary depending on environment

Wireless Temperature and Humidity Sensor

Technical Specifications
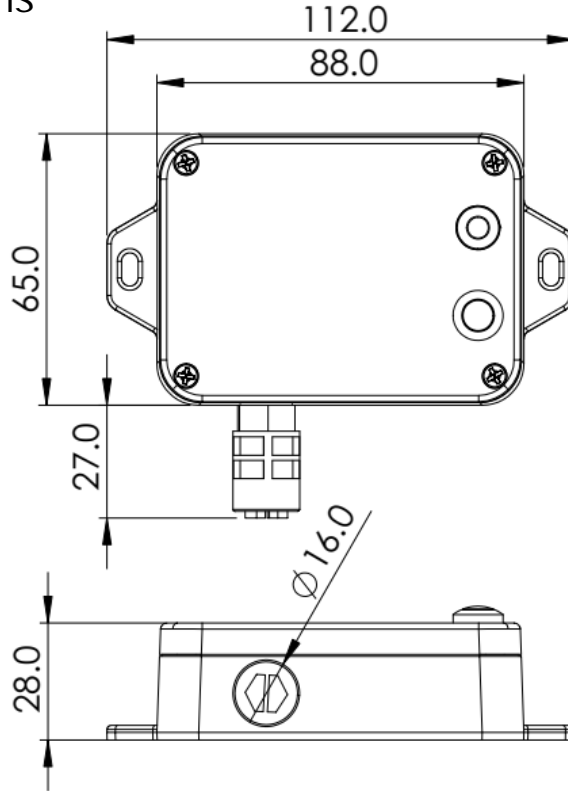
(Unit.mm)

Electric

R718AB

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V 2400mah/section）
Operating Voltage	DC 3.1V～3.65V
Battery Life	5 years (Conditions: ambient temperature 25 °C, 15 min report once, txpower = 20dBm, LoRa spreading factor SF = 10)
Standby Current	24uA
Wakeup Current	6.99mA (Typical value) Wakeup current range 0.8mA-20 mA * When not transmitting /receiving LoRa data)
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

* The specific electrical characteristics will vary depending on the power supply voltage

Wireless Temperature and Humidity Sensor

Temperature And Humidity Sensor

Power Supply	+3.3VDC
Temperature Measurement Range	-20℃～55℃
Temperature Accuracy	±1°C@25°C
Humidity Measurement Range	0%RH-100%RH
Humidity Accuracy	±4%RH @25°C

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	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, U915-928, KR920-923, AS923, CN470-510 Configured before shipment

Physical

Dimension	Main Body: L: 112mm*W: 65mm*H: 28mm Sensor cover size: D: Ø16mm*L: 27mm,
Weight	141g
Environment Temperature Range	-20℃ ～ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ～ 85℃