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CONNECTED LUMINAIRES PLATFORM

Wireless Wind speed sensor/Wind direction sensor/ Temperature/Humidity Sensor

Wireless Sensor Network Based on LoRa Technology

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Introduction

RA0730Y is equipped with wind speed sensor, wind direction sensor, and temperature and humidity sensor. It can detect and send the data of the wind speed, wind direction, temperature and humidity of the environment. It adopts a wireless communication method and conforms to the LoRa protocol standard. It can detect the four elements of the air.

Operating Principle

The wind speed sensor and wind direction sensor of RA0730Y communicate with the LoRa module through RS485, and the temperature and humidity sensor communicates with the LoRa module through I2C.

Main Feature

- Temperature and humidity detection
- Wind speed detection
- Wind direction detection
- Compatible with LoRaWAN^{TM} Class A
- Frequency hopping spread spectrum
- Configuring parameters and reading data via the third-party software platforms, and set alarms via SMS text and email (optional)
- Applicable to the third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne

Application

- Smart home
- Temperature and humidity detection

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Hotline: (+84) 9 3333 1727

www.viotgroup.com   sales@viotgroup.com

33 Hoàng Diệu, Phường 10, Quận phú Nhận, Tp. HCM
33 Hoang Dieu, Ward 10, Phu Nhuan District, HCM City

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Electric

Power Supply	DC adapter power supply (12V/1A）
Operating Current	TBD

Temperature and Humidity Sensor Specification

Operating Voltage	+3.3VDC
Temperature Measurement Range	-20°C ~ 55°C
Temperature Measurement Accuracy	±1.5°C @25°C
Humidity Measurement Range	0%RH~100%RH
Humidity Measurement Accuracy	±12%RH @25°C

Wind Speed Sensor

Operating Voltage	+12VDC
Use Place	Outdoor
Model	JXBS-3001-FS (485 wind speed sensor)
Output Signal	RS485
Measurement	0-30m/s
Waterproof Type	Waterproof

Wind Direction Sensor

Operating Voltage	+12VDC
Use Place	Outdoor
Model	JXBS-3001-FX (485 wind direction sensor)
Output Signal	RS485
Response Time	Less than 2 seconds
Waterproof Type	Waterproof
Warranty Period	Host Body: 2 years, Gas Probe 1 year

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	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	10km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Transfer Rate	0.3kbps～50kbps
Modulation Method	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment.)

Physical

Ambient Temperature Range	-20℃ ～ 55℃
Ambient Humidity Range	<90%RH (No condensation)
Storage Temperature Range	-40℃ ～ 85℃