# Wireless PH Sensor

Wireless Sensor Network Based on LoRa Technology

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## Introduction

RA0708 is a device for PH and water temperature detection. It can detect the PH and water temperature of the water environment.

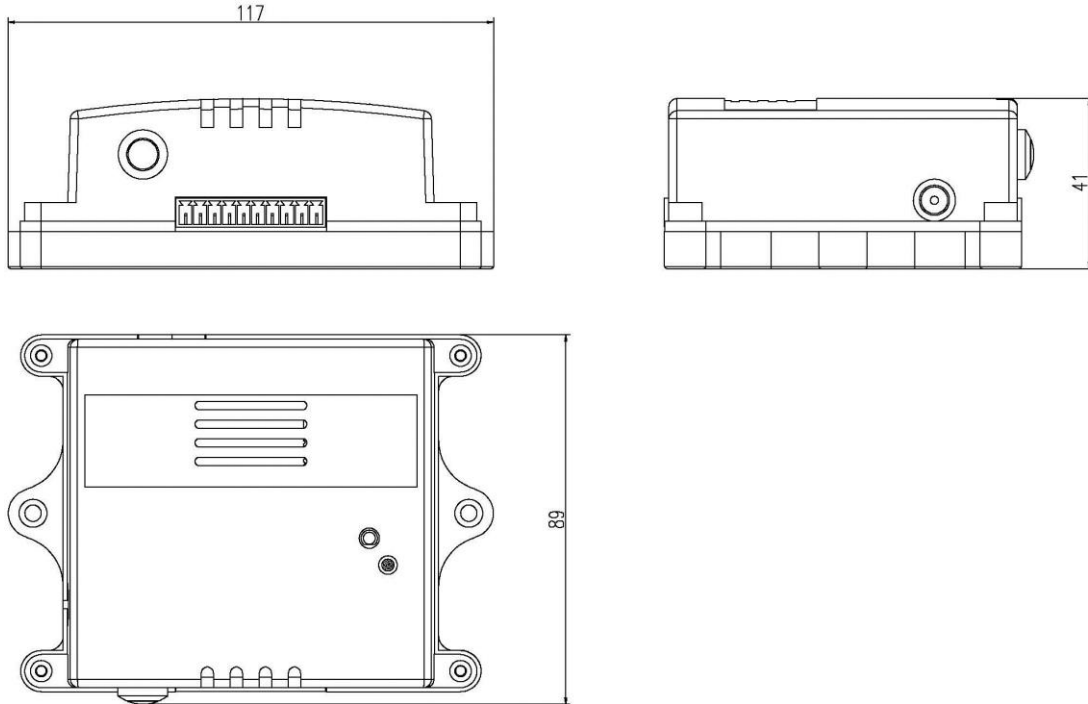It adopts SX1276 wireless communication module.

## Main Characteristic

- Based on LoRa™ wireless protocol
- PH value detection
- Water temperature detection
- Adopt SX1276 wireless communication module
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum technology
- 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/ Cayenn

## Application Field

- PH detection
- Water temperature detection
- Other

# Dimension（The Host Body）



# Electric

| Power Supply | DC12V/1A |
|---|---|
| Operating Current 1 | 40mA (no RF signal transmission) |
| Operating Current 2 | 80mA (with RF signal transmission) |

# PH Sensor Parameter

| Operating Temperature Range | 0 to 65°C |
|---|---|
| Working Voltage | 12VDC-24VDC |
| Water Temperature Accuracy | ±1.5% F.S. |
| PH Value Range | 0-14PH |
| PH Resolution | 0.01 PH |
| PH Value Accuracy | ±0.3 PH |

**Wireless PH Sensor**

| | |
|---|---|
| Usable Pressure Range | <0.2MPa |
| Temperature Compensation | Automatic Temperature Compensation (NTC) |
| Signal Output | RS485 |
| Wetted Part Material | PPR |
| Installation | Immersion mounting, 3/4 NPT thread |
| Cable length | 5m, other lengths can be customized |
| Calibration method | Two-point calibration |
| Power Consumption | 0.2W@12V |
| IP Grade | IP68 |

*The bare 4 pin wiring terminal on PH sensor, please keep it dry.

## Frequency

| | |
|---|---|
| Frequency range | 863MHz-928MHz 470MHz-510MHz |
| TX Power | US915     20dbm；<br>AS923     16dbm；<br>AU915     20dbm；<br>CN470     19.15dbm；<br>EU868     16dbm；<br>KR920     14dbm；<br>IN865      20dbm； |
| Receive Sensitivity | -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)<br>-136dBm (LoRa，Spreading Factor=12，Bit Rate=293bps) |
| Antenna type | Built-in antenna |
| Communication Distance | 10km<br>(visible linear obstacle-free transmission distance, actual transmission distance depending on the environment) |
| Data Transfer Rate | 0.3kbps～50kbps |
| Modulation | 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) |

**Wireless PH Sensor**

## Physical

| | |
|---|---|
| Host Body Dimension | Host body：117mm*89mm*41mm |
| Ambient Temperature Range | -20°C ~ +55°C |
| Ambient Humidity Range | < 90%RH (No condensation) |
| Storage Temperature Range | -40°C ～ +85°C |