Wireless Liquid Level Sensor

Wireless Sensor Network Based on LoRa Technology

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Product Introduction

The RA0711 is a wireless communication device that detects the liquid depth.

The RA0711 can detect the depth of the liquid in the container.

The body and the sensor are connected by the RS485 interface, and the detected data is transmitted to other devices via a wireless network. It adopts a wireless communication method that complies with the LoRa^{TM} protocol.

*Different types of liquid have different requirements for sensors, so the sensor needs to be selected according to the type of liquid.
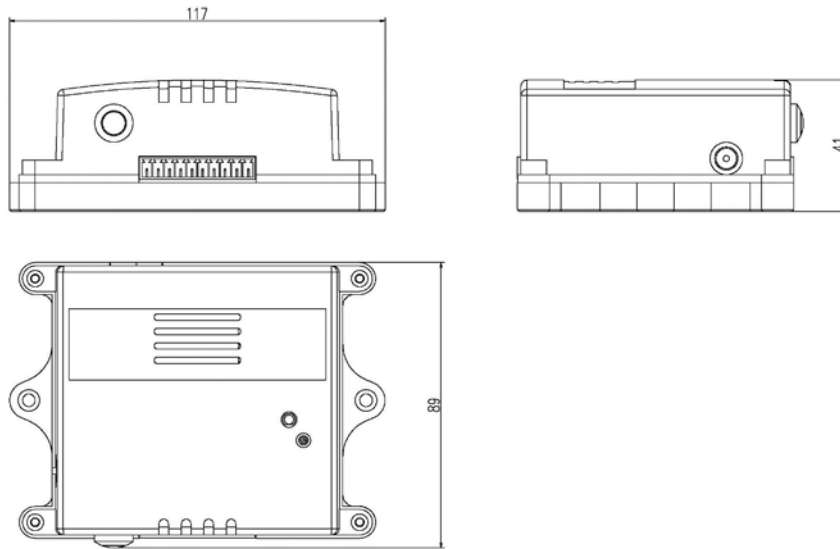
Main Characteristic

- Compatible with LoRaWAN^{TM} Class A
- Detect the depth of the liquid, such as the water tank, pool and river.
- Adopt SX1276 wireless communication module.
- Frequency hopping spread spectrum technology.
- Applicable to the third-party platforms: Actility/ ThingPark/ TTN/ MyDevices/ Cayenn
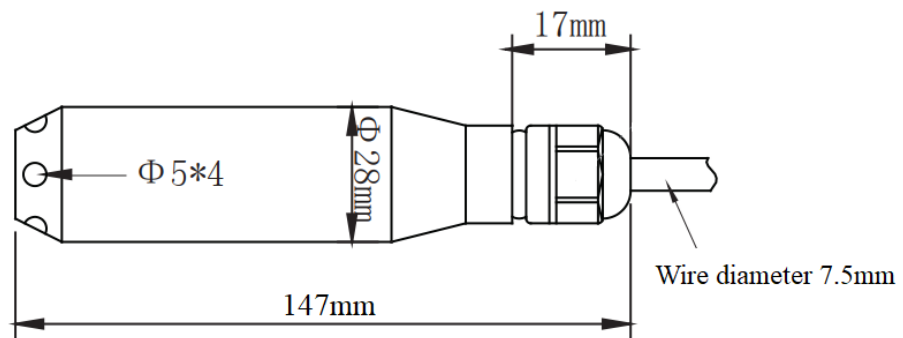
Application Field

- Detection of the liquid depth
- Other

Dimension

The Host Body

Liquid Level Sensor

Electric

Power Supply	DC12V/1A
Operating Current 1	80mA (no radio frequency signal transmission)
Operating Current 2	120mA (a radio frequency signal emission)

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Liquid Level Sensor Parameter

Measuring Range	10m
Measuring Line Length	12m
Accuracy Level	0.25%FS (typical value)
Communication Method	RS485
Liquid Level Sensor Service Life	5-8 years

*Others line length/range can be customized.   Ex. line length: 20m, range: 18m

*The highest range is 50m. (The line length is recommended being at least 60m or more.

 The user can choose the length according to the actual demand.)

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	0.3kbps ~ 50kbps (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation	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

Host Body Dimension	Host body：117mm*89mm*41mm，
Weight	1.12kg
Ambient Temperature Range	-20°C ~ 55°C
Ambient Humidity Range	< 90%RH (No condensation)
Storage Temperature Range	-40°C ~ 85°C