DRAGINO NSPH01 NB-IoT Soil pH Sensor Owner's Manual

Contents

DRAGINO NSPH01 NB-IoT Soil pH Sensor

Product Information

- **Product Name:** NB-IoT Soil pH Sensor

- **Model Number:** NSPH01
- **Overview:** The Dragino NSPH01 is a NB-IoT soil pH sensor designed for IoT of Agriculture. It is used to measure soil pH and temperature, and send the data to a platform for analysis of soil acid or alkali levels. The probe is IP68 waterproof, allowing for long-term use when buried in the soil. The sensor supports various uplink methods such as TCP, MQTT, UDP, and CoAP to meet different application requirements. It is powered by an 8500mAh Li-SOCI2 battery, providing long-term use up to 5 years depending on the use environment, update period, and uplink method.

OVERVIEW

The Dragino NSPH01 is a NB-IoT soil pH sensor for IoT of Agriculture. It is designed to measure the soil pH and soil temperature, so to send to the platform to analyze the soil acid or alkali level. The probe is IP68 waterproof. NSPH01 probe is made by Solid AgCl reference electrode and Pure metal pH sensitive electrode. It can detect soil's pH with high accuracy and stable value. The NSPH01 probe can be buried into soil for long time use. NarrowBand-Internet of Things (NB-IoT) is a standards-based low power wide area (LPWA) technology developed to enable a wide range of new IoT devices and services. NB-IoT significantly improves the power consumption of user devices, system capacity and spectrum efficiency, especially in deep coverage. NSPH01 supports different uplink methods include TCP,MQTT,UDP and CoAP for different application requirement. NSPH01 is powered by 8500mAh Li-SOCI2 battery, It is designed for long term use up to 5 years. (Actually Battery life depends on the use environment, update period & uplink method) To use NSPH01, user needs to check if there is NB-IoT coverage in the installation area and with the bands NSPH01 supports. If the local operator supports it, user needs to get a NB-IoT SIM card from local operator and install NSPH01 to get NB-IoT network connection.

Features

- Ultra-low power consumption
- pH and Temperature alarm function
- 8500mAh Battery for long term use
- Order Info: NSPH01 Support pH calibration by end user
- AT Commands to change parameters
- NB-IoT Bands: B1/B3/B8/B5/B20/B28 @H-FDD
- Monitor soil pH with temperature compensation
- Micro SIM card slot
- Uplink on periodically
- Monitor Battery Level
- Monitor soil temperature
- IP66 Waterproof Enclosure
- IP68 rate for the Sensor Probe
- Downlink to change configure

Specifications

- **Common DC Characteristics:**
  - Supply Voltage: 2.1v ~ 3.6v
  - Operating Temperature: -40 ~ 85°C
- **NB-IoT Spec:**
  - B1 @H-FDD: 2100MHz

- B3 @H-FDD: 1800MHz
- B8 @H-FDD: 900MHz
- B5 @H-FDD: 850MHz
- B20 @H-FDD: 800MHz
- B28 @H-FDD: 700MHz

- **Applications:**
  - Smart Agriculture

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Documents / Resources

	DRAGINO NSPH01 NB-IoT Soil pH Sensor [pdf] Owner's Manual NSPH01 NB-IoT Soil pH Sensor, NSPH01, NB-IoT Soil pH Sensor, Soil pH Sensor, pH Sensor, Sensor

References

- Dragino :: Open Source WiFi, Linux Appliance