

## NSS850 LORAWAN SOIL MOISTURE & EC SENSOR

### ADVANCED 3-IN-1 SOIL SENSOR WITH LONG-RANGE LORAWAN CONNECTIVITY

The NviroSense NSS850 is a LoRaWAN Soil Moisture & EC Sensor for IoT of Agriculture. It is designed to measure the soil moisture of saline-alkali soil and loamy soil. The soil sensor uses the FDR method to calculate the soil moisture with compensation from soil temperature and conductivity. It has also been calibrated in the factory for Mineral soil type. It detects Soil Moisture, Soil Temperature, and Soil Conductivity, and uploads the value via wireless to the LoRaWAN IoT Server.

The LoRa wireless technology used in NSS850 allows the device to send data and reach extremely long ranges at low data rates. It provides ultra-long-range spread spectrum communication and high interference immunity while minimizing current consumption. NSS850 is powered by a 4000mAh or 8500mAh Li-SOCI2 battery. It is designed for long-term use of up to 10 years. Each NSS850 is pre-loaded with a set of unique keys for LoRaWAN registrations. Register these keys to the local LoRaWAN server, and it will auto-connect after powering on.

- LoRaWAN 1.0.3 Class A
- Ultra-low power consumption
- Monitor Soil Moisture
- Monitor Soil Temperature
- Monitor Soil Conductivity
- AT Commands to change parameters
- Uplink on periodically
- Downlink to change configure
- IP66 Waterproof Enclosure
- 4000mAh or 8500mAh Battery for long-term use



### KEY SPECIFICATIONS

Category	Feature	Specification
<b>Soil Moisture</b>	Range	0-100.00%
	Unit	V/V %
	Resolution	0.01%
	Accuracy	±3% (0-53%)   ±5% (>53%)
	Measure Method	FDR, with temperature & EC, compensate
<b>Soil Conductivity</b>	Range	0-20000uS/cm (25°C)(0-20.0EC)
	Unit	uS/cm
	Resolution	1 uS/cm
	Accuracy	2%FS
	Measure Method	Conductivity, with temperature compensate
<b>Soil Temperature</b>	Range	-40.00°C~85.00°C
	Unit	°C
	Resolution	0.01°C

<b>Soil Temperature</b>	Accuracy	-10°C~50°C: <0.3°C All other: <0.6°C
	Measure Method	RTD

## FEATURES AT A GLANCE



### YOUR WIRELESS NETWORK

Develop a fully owned private LoRa network to capture, route and process IoT data for your application at multiple facilities.



### RUGGED DURABILITY WITH A BROAD SENSOR ARRAY

Robust enclosures provide a resilient platform for recording and delivering data from within a range of harsh environments.



### COMPREHENSIVE SECURITY AND RELIABILITY

Robust multi-layer security at each interface to safeguard your network at every level.



### BROAD CERTIFICATION AND APPROVALS

CFR 21 (part 11), PPECB, FCC, IC, CE, ASNZS, NCC, and Bluetooth SIG listing.



### THE PLATFORM FOR BUILDING ACTIONABLE IoT INTELLIGENCE

Route sensor data to the cloud with NviroSense's simplified wireless connectivity deployment.



### PERSONAL SUPPORT FOR YOUR IMPLEMENTATION

Support works with NviroSense engineering to help configure and deploy your application.

## APPLICATION AREAS



PHARMACEUTICAL WAREHOUSING



COLD CHAIN MANAGEMENT & FOOD SAFETY



IN-FIELD AGRICULTURAL MONITORING



INDUSTRIAL & MINING APPLICATIONS

## NVIROSENSE SUPPORT



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