

NB-IoT Soil Moisture Sensor



Smart Agriculture, Smart Building, Smart City

SKU: WSNB-SMT

NB-IoT SOIL SENSOR WSNB-SMT



WSNB-SMT-H1.JPG



WSNB-SMT is NB-IoT Soil Moisture Sensor, can be used to measure the Soil Moisture, Fertilizer and Soil Erosion, too. It is powered by 02 x AA-type batteries and can last up to 10 years. The Moisture sensor utilize the Frequency Domain measuring technique to deliver high accuracy and stable measurement of Soil moisture. The Moisture value is not affected by fertilizer content and temperature like other simple Capacitance Moisture Sensor on the market. The device support global bands NB-IoT. Typical applications are Smart farm, Smart Agriculture, Automatic Irrigation System, Soil Quality Measurement, Soil Erosion Monitoring...

Applications

Flood Monitoring, Infrastructure Monitoring, Smart Irrigation

Notes For Applications

- FDR sensors need to have good contact with the medium they measure with no air gaps;
- Water content in soil must be higher than 20% for proper measurement;
- Prevent direct sunlight on sensor housing for temperature not increase more than 50°C.



Global Bands NB-IoT

Easy connect to any NB-IoT Network over the World



10-Year battery

Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allow the sensor can last up to 10 years with 02 x type AA batteries



Pre-calibrated

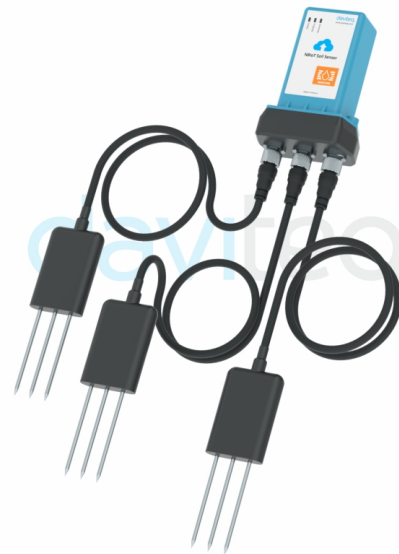
Sensors are pre-calibrated at factory to deliver high accuracy and quick installation



High Accuracy

Utilize advanced technology, Frequency Domain Reflectometry to deliver high accuracy and stable measurement of Soil Moisture, not affected by Fertilizer contents and Temperature like the simple Capacitance Moisture Sensor on the market

NB-IoT SOIL SENSOR FOR MULTI-LAYER MEASUREMENT



WSNB-SMT-H2.JPG

DAVITEQ TECHNOLOGIES INC

Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.iot.daviteq.com

Created date: Feb-28-2024


Updated date: Aug-28-2024


1/5


Specification

Moisture & EC Sensors	Advanced technology - Frequency Domain Reflectometry with response time < 1s, Pre-calibrated at factory
Moisture range/ accuracy/ resolution	0~100%, acc ±3.0% , res 0.01%
Temperature range/ accuracy/ resolution	-30~70°C, acc ±0.3°C, res 0.1°C
EC range/ accuracy/ resolution	0~20mS/cm, acc ±2.0% span, res 0.1 mS/cm
N-P-K range/ accuracy/ resolution	0~1999mg/kg, acc ±2% span, res 1.0mg/kg
Measurement Volume	Dia. 70mm x Height 70mm
Wetted materials	316L SS & thermoplastic
Sensor Dimensions	71x45x16mm with probes 70mm and signal cable 2m, IP68 rating
COMMUNICATION	
Connectivity	LTE Cat NB1 for B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66
Antenna	Internal Antenna 2.0 dbi
Battery	02 x AA size 1.5VDC, battery not included
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Working temperature	-40~60°C (with AA L91 Energizer®)
Dimensions/Netweight	H106xW73xD42, 190g (Wireless part only)
Housing	Aluminum + Polycarbonate plastic, IP67.

DAVITEQ TECHNOLOGIES INC

 Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

 +84.28.6268.2523 / 6268.2524

 info@daviteq.com

www.iot.daviteq.com

Created date: Feb-28-2024

Updated date: Aug-28-2024

2/5

SOIL SENSOR INSTALLATION



INSTALLATION FOR MULTI-LAYER MEASUREMENT



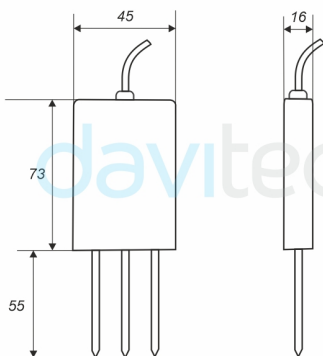
CONNECT to GLOBIOTS Platform



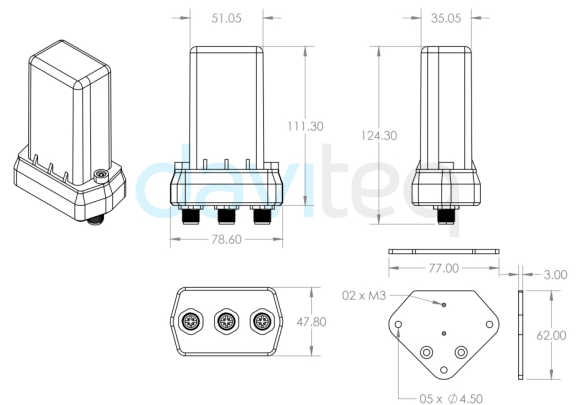
CONNECT to GLOBIOTS or any IoT Platform



DIMENSION DRAWINGS OF SENSOR
(Unit: mm)



DIMENSION DRAWING OF DEVICE
(Unit: mm)



DAVITEQ TECHNOLOGIES INC

📍 Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

☎ +84.28.6268.2523 / 6268.2524

✉ info@daviteq.com

www.iot.daviteq.com

Created date: Feb-28-2024

Updated date: Aug-28-2024

RECOMMENDED BATTERIES

E91 AA Alkaline battery



L91 AA Lithium battery



-18 .. + 60 oC working temperature

10-year shelf life

3000 mAH Capacity

Price: 1X

-40 .. + 60 oC working temperature

20-year shelf life

3500 mAH Capacity

Price: 3.5X

WSNB-SMT-H9.JPG

DAVITEQ TECHNOLOGIES INC

Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.iot.daviteq.com


Created date: Feb-28-2024


Updated date: Aug-28-2024


Ordering Information

ITEM CODES	DESCRIPTIONS
WSNB-SMT-01	NB-IoT SINGLE SOIL MOISTURE AND TEMPERATURE SENSOR, PRE-CALIBARTED, AA 1.5VDC BATTERY, IP67/IP68, SENSOR CABLE 2M
WSNB-SMT-01-3	NB-IoT THREE SOIL MOISTURE AND TEMPERATURE SENSORS, PRE-CALIBARTED, AA 1.5VDC BATTERY, IP67/IP68, SENSOR CABLE 2M
WSNB-SMT-07	NB-IoT SINGLE SOIL MOISTURE AND TEMPERATURE SENSOR, EC, SALINITY, AND NPK, PRE-CALIBARTED, AA 1.5VDC BATTERY, IP67/IP68, SENSOR CABLE 2M

DAVITEQ TECHNOLOGIES INC

 Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

 +84.28.6268.2523 / 6268.2524

 info@daviteq.com

www.iot.daviteq.com

Created date: Feb-28-2024

Updated date: Aug-28-2024

5/5