

SIGFOX SOIL MOISTURE SENSOR



SKU: WSSFC-SMT

SIGFOX SENSOR - SOIL MOISTURE & NPK WSSFC-SMT



WSSFC-SMT-H1.PNG

WSSFC-SMT is the modular design Sigfox wireless sensor, based on 10-year experience in design and manufacturing Industrial sensor of Daviteq Company, can be used to measure the Soil Moisture, Fertilizer (NPK) and Soil Erosion, too. With Ultra-low power design and smart firmware allow the complete Wireless and Sensor package run on a battery AA type up to 10 years. The Moisture sensor utilise 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 sensor will transmit data in kilo-meters distance to Sigfox basestation. The typical applications are Smart farm, Smart Agriculture, Automatic Irrigation System, Soil Quality Measurement, Soil Erosion Monitoring...WSSFC-SMT can support all regions of Sigfox network in over the World, RC1, RC2, RC3, RC4, RC5, RC6, RC7.

- ✓ **SIGFOX READY**
Device are best operating performance on the SIGFOX network
- ✓ **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 AA batteries
- ✓ **PRE-CALIBRATED**
Sensors are pre-calibrated at factory for quick installation
- ✓ **HIGH ACCURACY & STABLE**
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 marker
- ✓ **IP68**
Ingress Protection IP68 allow sensor can be buried in the soil in long time

SOIL MOISTURE SENSOR INSTALLATION



WSSFC-SMT-H2.PNG

Soil Moisture Sensor

DAVITEQ TECHNOLOGIES INC

No.11 Street 2G, Nam Hung Vuong Res., An Lac Ward, Binh Tan Dist., Ho Chi Minh City, Vietnam

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.daviteq.com

JAN-2021 | Doc No: WSSFC-SMT-DS-EN-10

1/4

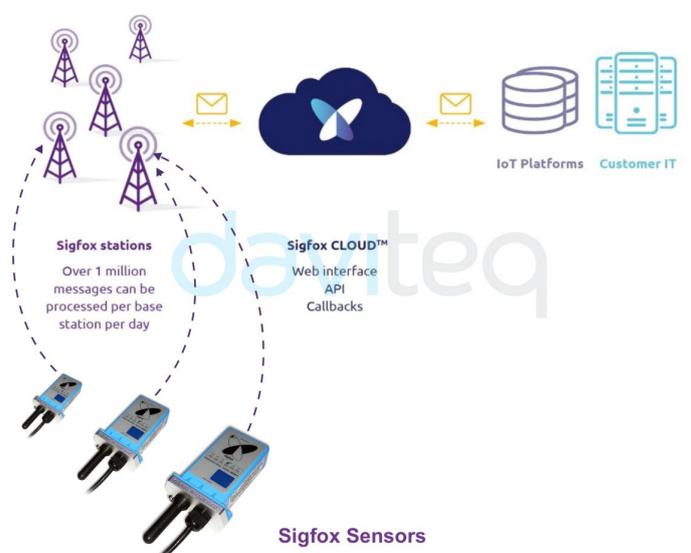
SPECIFICATION

SENSORS SPECIFICATION :	
Moisture, EC & NPK Sensors	Advanced technology - Frequency Domain Reflectometry, Pre-calibrated at factory
Moisture range / accuracy / resolution	0 .. 100 %, acc +/- 3.0% , res 0.01%
Temperature range / accuracy / resolution	-30 .. + 70 oC, acc +/- 0.3 oC, res 0.1 oC
EC range / accuracy / resolution	0 .. 20 mS/cm, acc +/- 2.0% span, res 0.1 mS/cm
NPK Measuring range	0 .. 1999mg/kg
NPK Measurement accuracy & Resolution	Acc ± 2 %FS, res 1 mg/Kg(mg/L)
Response Time	< 1s
Measurement Volume	Dia. 70mm x Height 70mm
Wetted materials	316L SS & thermoplastic
Sensor Dimensions	71x45x16mm with probes 70mm and signal cable 2m
Optional Soil Erosion Sensor	Clinometer type, $\pm 90^\circ$ of XYZ, 0.03o resolution, 1Hz max sampling rate
Soil Erosion Probe	Dia. 10mm x Length 300mm with signal cable 2m, SS304 material
SIGFOX SPECIFICATION:	
Sigfox zones	select RC2-RC3-RC4-RC5 or RC1-RC6-RC7
Antenna	Fixed external Antenna 2.67 dBi
Battery	02 x AA Type 1.5 VDC, working time up to 10 years (depends on configuration), extendable by external battery box or power supply
RF Module complies to	CE, FCC, ARIB
Working temperature	-40oC..+60oC (with AA L91 Energizer)
Dimensions	H106xW73xD42 (Wireless part only)
Netweight	190 grams (Wireless part only)
Housing	Aluminum + Polycarbonate plastic, IP67.

SOIL MOISTURE & SOIL EROSION SENSOR
INSTALLATION

WSSFC-SMT-H3.PNG

SYSTEM ARCHITECTURE



WSSFC-SMT-H4.PNG

DAVITEQ TECHNOLOGIES INC

No.11 Street 2G, Nam Hung Vuong Res., An Lac Ward, Binh Tan Dist., Ho Chi Minh City, Vietnam

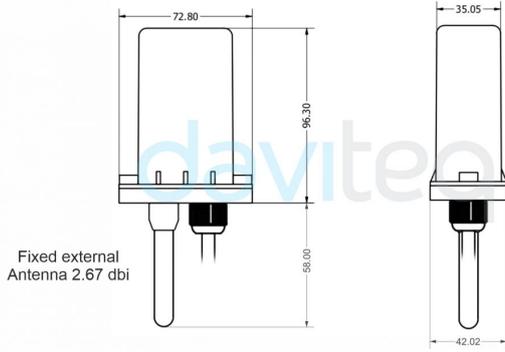
+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.daviteq.com

JAN-2021 | Doc No: WSSFC-SMT-DS-EN-10

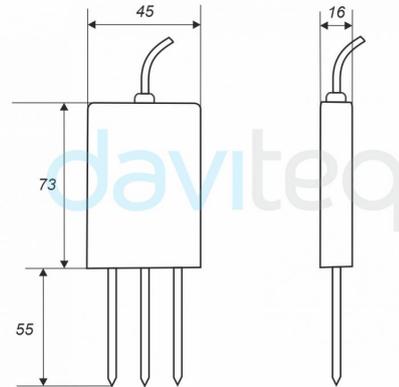
DIMENSION DRAWING OF WIRELESS TRANSMITTER



WSSFC-SMT-H5.PNG

UNIT: mm

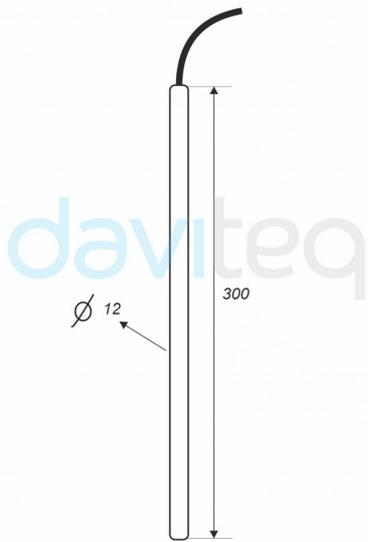
DIMENSION DRAWING OF SOIL MOISTURE SENSOR



WSSFC-SMT-H6.PNG

UNIT: mm

DIMENSION DRAWING OF INCLINOMETER SENSOR



WSSFC-SMT-H7.PNG

UNIT: mm

RECOMMENDED BATTERIES FOR SIGFOX SENSOR

E91 AA Alkaline battery



- 18 .. + 60 oC working temperature
- 10-year shelf life
- 3000 mAh Capacity
- Price: 1X

L91 AA Lithium battery



- 40 .. + 60 oC working temperature
- 20-year shelf life
- 3500 mAh Capacity
- Price: 3.5X

WSSFC-SMT-H8.PNG

ORDERING INFORMATION

ITEM CODE	DESCRIPTIONS
WSSFC-SMT-9-01	Sigfox Soil moisture and temperature sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC2-RC3-RC4-RC5 zones
WSSFC-SMT-9-02	Sigfox Soil moisture and EC sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC2-RC3-RC4-RC5 zones
WSSFC-SMT-9-03	Sigfox Soil Nutrient NPK sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC2-RC3-RC4-RC5 zones
WSSFC-SMT-9-AG	Sigfox Soil moisture and erosion sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC2-RC3-RC4-RC5 zones
WSSFC-SMT-8-01	Sigfox Soil moisture and temperature sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC1-RC6-RC7 zones
WSSFC-SMT-8-02	Sigfox Soil moisture and EC sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC1-RC6-RC7 zones
WSSFC-SMT-8-03	Sigfox Soil Nutrient NPK sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC1-RC6-RC7 zones
WSSFC-SMT-8-AG	Sigfox Soil moisture and erosion sensor, pre-calibrated, Type AA battery 1.5VDC, IP67/IP68, sensor cable 2m, M12-M for sensor connection, M12-F for external power supply, RC1-RC6-RC7 zones

DAVITEQ TECHNOLOGIES INC

No.11 Street 2G, Nam Hung Vuong Res., An Lac Ward, Binh Tan Dist., Ho Chi Minh City, Vietnam

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.daviteq.com

JAN-2021 | Doc No: WSSFC-SMT-DS-EN-10