

# Sigfox Soil Moisture Sensor WSSFC-CAPSM

SKU: WSSFC-CAPSM

Doc No: WSSFC-CAPSM-DS-EN-10

## Introduction

WSSFC-CAPSM is a Sigfox sensor with built-in cost effective capacitive soil sensor to detect the soil moisture. It can be used for moisture monitoring in Green house, net house, plastic house, horticulture, agriculture... With Ultra-low power design and smart firmware allow the complete Wireless and Sensor package run on 1 x AA battery 3.6V up to 10 years. It can support all regions of Sigfox network in over the World, RC1, RC2, RC3, RC4, RC5, RC6, RC7.

- Good stability measurement;
- Sigfox Ready;
- 10-year battery;
- Plug & Play.

## Typical Applications

- Soil Moisture monitoring for green house, net house...
- Soil Moisture monitoring for open field, garden...
- Soil Moisture monitoring for horticulture...

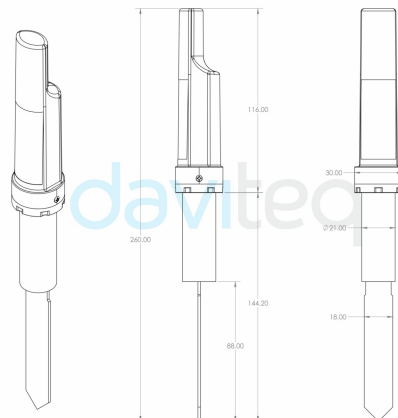
SIGFOX SOIL MOISTURE SENSOR  
WSSFC-CAPSM



WSSFC-CAPSM-H1.PNG



DIMENSION DRAWINGS OF WIRELESS SENSOR  
(Unit: mm)



WSSFC-CAPSM-H2.PNG



## Specification

SENSOR SPECIFICATION	
Sensor connection	Integrated or 1m cable via PG9 cable gland
Moisture Measuring range	0..100% moisture
Moisture Accuracy	+/- 5% of moisture
Moisture Repeatability	< 1%
Moisture Resolution	0.1%
Ambient Temperature Measurement	-40 .. + 60 oC
Temperature accuracy	+/- 0.5 oC
Temperature resolution	0.1 oC
Working temperature	-40 .. + 60 oC
Working humidity	0 .. 100% RH
SIGFOX SPECIFICATION	
Sigfox zones	select RC2-RC3-RC4-RC5 or RC1-RC6-RC7
Functions	Sending data in interval or when alarms occur
Antenna	Internal Antenna 2 dbi
Configuration	via offline USB cable (PC software is supplied at free)
Battery	01 x AA Type 3.6VDC, working time up to 10 years (depends on configuration)

RF Module complies to	CE, FCC, ARIB
Working temperature	-40oC..+60oC (with LiSOCI2 AA battery)
Dimensions	H250xD30
Net-weight	< 150 grams
Housing	Polycarbonate, IP67
Mounting	Direct seating on soil surface

## Payload Data

The following is the format of payload data will be sent to Sigfox server. Length is 10 bytes.

Sensor type (1 byte)	Status (1 byte)	1 st - Parameter (4 bytes)	2nd - Parameter (4 bytes)
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### Meaning of Data in the Payload

Data	Size (byte)	Bit	Format	Meaning
Sensor type	1	all	Uint8	Sensor type = 0x... means Simple Soil Moisture Sensor Sensor type = 0xFF means no sensor
Status: battery level	1	Bit 7 and 6	Uint8	Battery capacity in 04 levels <ul style="list-style-type: none"> <li>11: battery level 4 (99%)</li> <li>10: battery level 3 (60%)</li> <li>01: battery level 2 (30%)</li> <li>00: battery level 1 (10%)</li> </ul>
Status: error		Bit 5 and 4		Node status <ul style="list-style-type: none"> <li>01: error</li> <li>00: no error</li> </ul>
Status: alarm 1		Bit 3 and 2		Alarm status of 1st - Parameter (Y1 value)11 : Hi alarm <ul style="list-style-type: none"> <li>01 : Lo alarm</li> <li>00 : No alarm</li> </ul>
Status: alarm 2		Bit 1 and 0		Alarm status of 2nd - Parameter (Y2 value)11 : Hi alarm <ul style="list-style-type: none"> <li>01 : Lo alarm</li> <li>00 : No alarm</li> </ul>
1st - Parameter	4	all	Float	Y1 value: Soil moisture in %RH
2nd - parameter	4	all	Float	Y2 value: Ambient temperature in oC

## Ordering Code

Item code	Descriptions
WSSFC-CAPSM-9-01	SIGFOX CAPACITIVE SOIL MOISTURE AND TEMPERATURE SENSOR, PLASTIC LINING SENSOR, INTEGRATED SENSOR, INTERNAL ANTENNA, TYPE AA BATTERY 3.6VDC, IP68, RC2-RC3-RC4-RC5 ZONES
WSSFC-CAPSM-9-02	SIGFOX CAPACITIVE SOIL MOISTURE AND TEMPERATURE SENSOR, PLASTIC LINING SENSOR, 1M CABLE, INTERNAL ANTENNA, TYPE AA BATTERY 3.6VDC, IP68, RC2-RC3-RC4-RC5 ZONES

WSSFC-CAPSM-8-01	SIGFOX CAPACITIVE SOIL MOISTURE AND TEMPERATURE SENSOR, PLASTIC LINING SENSOR, INTEGRATED SENSOR, INTERNAL ANTENNA, TYPE AA BATTERY 3.6VDC, IP68, RC1-RC6-RC7 ZONES
WSSFC-CAPSM-8-02	SIGFOX CAPACITIVE SOIL MOISTURE AND TEMPERATURE SENSOR, PLASTIC LINING SENSOR, 1M CABLE, INTERNAL ANTENNA, TYPE AA BATTERY 3.6VDC, IP68, RC1-RC6-RC7 ZONES

 [Link for full datasheet:](#)

 [Link for manual:](#)



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