# Sigfox Soil Moisture Sensor WSSFC-CAPSM

**SKU: WSSFC-CAPSM**

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

## Introduction

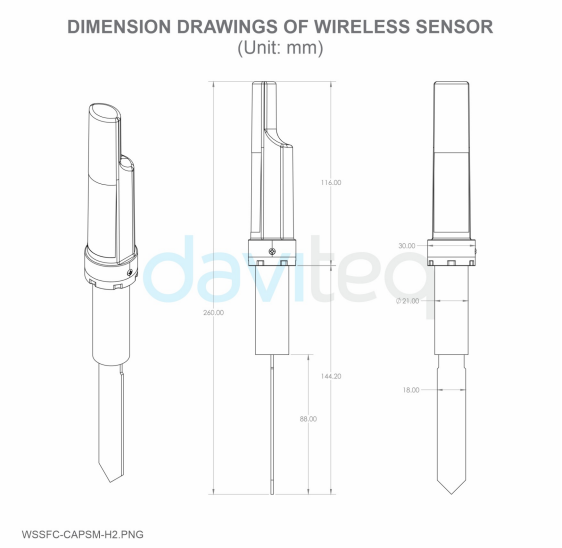
WSSFC-CAPSM is a Sigfox sensor with built-in cost effective capacitive soil sensor to detect the soil moisture. It can be used for moisture monitoring in Green house, net house, plastic house, horticulture, agriculture... With Ultra-low power design and smart firmware allow the complete Wireless and 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...






## 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 LiSOCl2 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) |

### 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<br>Sensor type = 0xFF means no sensor |
| Status: battery level | 1 | Bit 7 and 6 | Uint8 | Battery capacity in 04 levels<br>• 11: battery level 4 (99%)<br>• 10: battery level 3 (60%)<br>• 01: battery level 2 (30%)<br>• 00: battery level 1 (10%) |
| Status: error | | Bit 5 and 4 | | Node status<br>• 01: error<br>• 00: no error |
| Status: alarm 1 | | Bit 3 and 2 | | Alarm status of 1st - Parameter (Y1 value)11 : Hi alarm<br>• 01 : Lo alarm<br>• 00 : No alarm |
| Status: alarm 2 | | Bit 1 and 0 | | Alarm status of 2nd - Parameter (Y2 value)11 : Hi alarm<br>• 01 : Lo alarm<br>• 00 : No alarm |
| 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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