

LoRaWAN™ wireless moisture sensor

Senstick Soil (SSM20) by Sensedge

Internal sensors

- Soil Moisture Sensor
- Temperature
- Humidity
- Air Pressure



The Senstick Soil LoRaWAN sensor is a fully self-contained IP65 rated and self-powered sensor, utilising the same casing as the original Senstick but adding a probe for measuring soil moisture levels. Water content as a percentage.

Supported channel plans - EU868, AU915, KR923

Key features:

- Indoor and outdoor use
- Soil Moisture, Temperature, relative humidity and air pressure
- Motion detection
- High and Low parameters alarm values
- Sensor manipulation alert
- Battery level feedback
- Reconfiguration Over The Air
- Standardized sensor enclosure - IP65 rated
- Easy to install with included mounting kit
- Up to 15 km of range (LOS)

Supports Over-the-Air-Activation (**OTAA**) or Activation-by-Personalisation (**ABP**). Compatible with all LoRaWAN Network Servers including The Things Network, Orbiwise, Lorient, Wanasy, LoraServer and others.

Equipped with **NFC** for easy configuration by the Android app. Sample rate, data rate, encryption keys, triggers, activation and other advanced features can be simply changed with a single tap of the sensor. Settings may also be updated remotely Over-The-Air from most LoRaWAN Network Servers or through cloud solutions using LNS API's.

Device Specifications

Mechanical specifications	
Weight	100 g / without Batteries
Dimensions	Length - 210 mm x Diameter – 18mm, 1.4m cable to Moisture Probe
Enclosure	IP67
Operating conditions	
Temperature	-40 to 65 °C
Humidity	0 to 100% RH
Device Power Supply	
Battery Type	2x AAA Lithium Batteries
Expected Battery Life	<5 years (Depending on configurations and environment)
Device Logging Function	
Sampling Interval	Configurable via NFC and downlink configuration
Data Upload Interval	Configurable via NFC and downlink configuration

Radio / Wireless

LoRaWAN parameters	
Wireless Technology	LoRaWAN® 1.0.3
Wireless Security	LoRaWAN® End-to-End encryption (AES-CTR), Data Integrity Protection (AES-CMAC)
LoRaWAN Device Type	Class A/C (configurable) End-device
Supported LoRaWAN® features	OTAA, ABP, ADR, Adaptive Channel Setup
Supported LoRaWAN® regions	EU868, AS923, AU915,
Link Budget	137 dB (SF7) to 151 dB (SF12)
RF Transmit Power	14 dB / 20 dB (Region specific)

Configuration and Decoder

NFC Configuration App	https://play.google.com/store/apps/details?id=org.lm.senstick
TTN Payload Decoder	http://sensedge.co/decoder/ttn/SenstickSoil_HW2.2_FW1.8-TTNPayloadDecoder.txt

Accessories

For outdoor use, the weather protector and solar shield offers further resistance to external environments, whilst maintaining the stylish appearance.

