SENSOTERRA

Single Depth Soil Moisture Sensor

GENERAL

Measurement	Soil moisture			
Measurement depths	15 cm / 6"	30 cm / 12"	60 cm / 24"	90 cm / 36"
Dimensions	20x8x8 cm 7.8x3x3"	35x8x8 cm 13.8x3x3"	65x8x8 cm 25.6x3x3"	95x8x8 cm 37.4x3x3"
Weight	0.21 kg 0.46 lbs	0.26 kg 0.57 lbs	0.35 kg 0.77 lbs	0.42 kg 0.93 lbs
Power	Internal Lithium battery included (non-replaceable)			
Operating voltage	3.0 V			
Life expectancy	3-year using default reading rate			
Operating environment	- 20 to + 60°C			
Waterproof enclosure	IP67 suitable for outdoor environments			
Installation requirements	By hand or rubber hammer			
Certification	LoRa Alliance / FCC / CE			
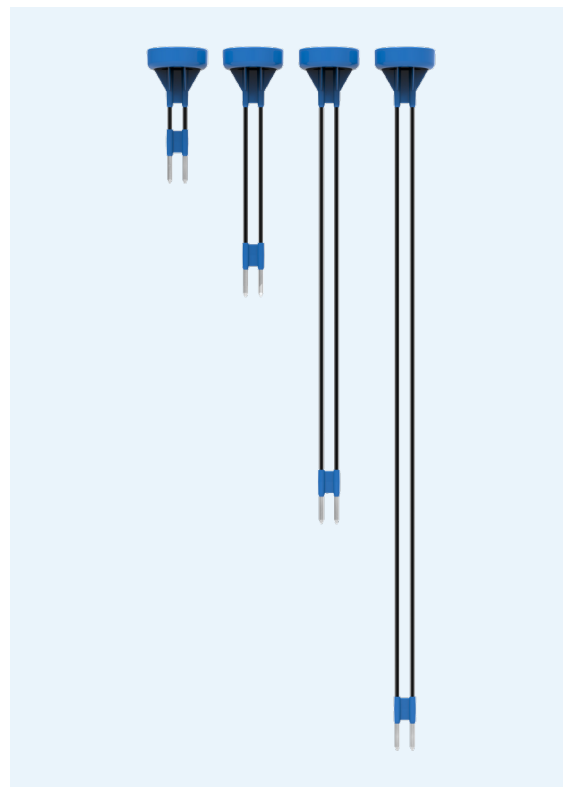
SOIL MOISTURE

Soil moisture measurement protocol	Patented: Impedance (soil resistivity and capacitance)
Soil moisture measurement output	Volumetric Water Content (%) Sensoterra Index (SI)
Soil moisture measurement volume	6.2 cm^3 (2.44 inch^3)
Soil moisture resolution	Reported to the nearest 0.1 %
Default reading rate	One measurement per hour
Memory	Last 6 measurements
Range	From 0% to the maximum water capacity of the soil by total volume - e.g. 53% for clay or 40% for sand.
Accuracy	±1.5 moisture-% at pF>=2, when using a Sensoterra calibration curve that matches the soil type
Soil compatibility	Sensoterra app is calibrated for 12+ common soil types, as well as a generic soil. Custom specified calibration on request

COMMUNICATION

Wireless protocol	LoRaWAN 1.0.2b ADR & OTAA enabled
Frequency	North America: 902-928 MHz Europe: 863-870 MHz Asia Pacific: 915-928 MHz Australia: 915-928 MHz
Transmit power	North America and Australia: up to 20 dBm. Other regions: up to 14 dBm
Transmission rate	24 uploads per day (default)
Data interface	Web browser, iOS or Android
Data storage	Sensoterra database
Export data	Excel download Open RESTful API SenML server push notifications GeoRSS feed
LoRaWAN provisioning	3 years included
Security	LoRa communication encrypted with AES 128 up to the network servers All API and application access encrypted with TLS/SSL Hosting provider is certified for ISO-27001 and SOC 1/2 Type II