

Sensoterra

Mauritskade 63
1092 AD Amsterdam
The Netherlands
+31 20 2614875



Single depth soil moisture probe

Technical data sheet

Version 1.2

General

Measurement	Soil moisture			
Probe lengths	15 cm	30 cm	60 cm	90 cm
Dimensions	20 x 8 x 8 cm	35 x 8 x 8 cm	65 x 8 x 8 cm	95 x 8 x 8 cm
Weight	0.21 kg	0.26 kg	0.35 kg	0.42 kg
Power	Non-replaceable internal Lithium battery included			
Operating voltage	3.0 V			
Life expectancy	3-year solution			
Operating environment	- 20 to + 80 degrees Celsius			
Waterproof enclosure	Suitable for outdoor environments			
Warranty	1 year			
Installation requirements	By hand or rubber hammer			
Certification	LoRa Alliance FCC CE			

Soil moisture

Measurement protocol	Soil resistivity and capacitance
Measurement output	Volumetric Water Content (%)
Measurement volume	6.2 cm ³
Default reading rate	One reading per hour
Memory	Last 6 measurements
Resolution	Reported to the nearest 0.1 %
Range	0 to the maximum water capacity of the soil by total volume - 53% for clay, 40% for sand and 83% for peat
Accuracy	±20% relative accuracy at pF>=2
Operating environment	Up to EC of 0.5 mS/cm
Soil compatibility	Factory calibrated for 3 common soil types, as well as a generic soil. Custom specified calibration on request

Communication

Wireless protocol	LoRaWAN 1.0.2
Frequency	North America: 902-928 MHz Europe: 863-870 MHz Australia: 915-928 MHz
Transmit power	North America and Australia: up to 20 dBm Other regions: up to 14 dBm
Default transmission rate	Between 4 - 24 uploads per day
Data interface	Web browser, iOS or Android
Data storage	Sensoterra database
Export data	<ul style="list-style-type: none"> - Excel download - Open RESTful API - SenML server push notifications - GeoRSS feed
LoRaWAN connectivity	3 years included
Security	<ul style="list-style-type: none"> - LoRa communication encrypted with AES 128 up to the network servers - All API and application access encrypted with TLS/SSL - Hosting access secured by industry best practices like TFA, etc