HydraGO
SERIES

HydraGO and HydraGO FLEX

Wireless Portable Soil Sensors

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MEASUREMENTS TO MIND

Wireless Portable Soil Sensors

Rugged, accurate, and easy-to-use portable soil data collection using the renowned HydraProbe Soil Sensor.

MOISTURE

SALINITY (BULK EC)

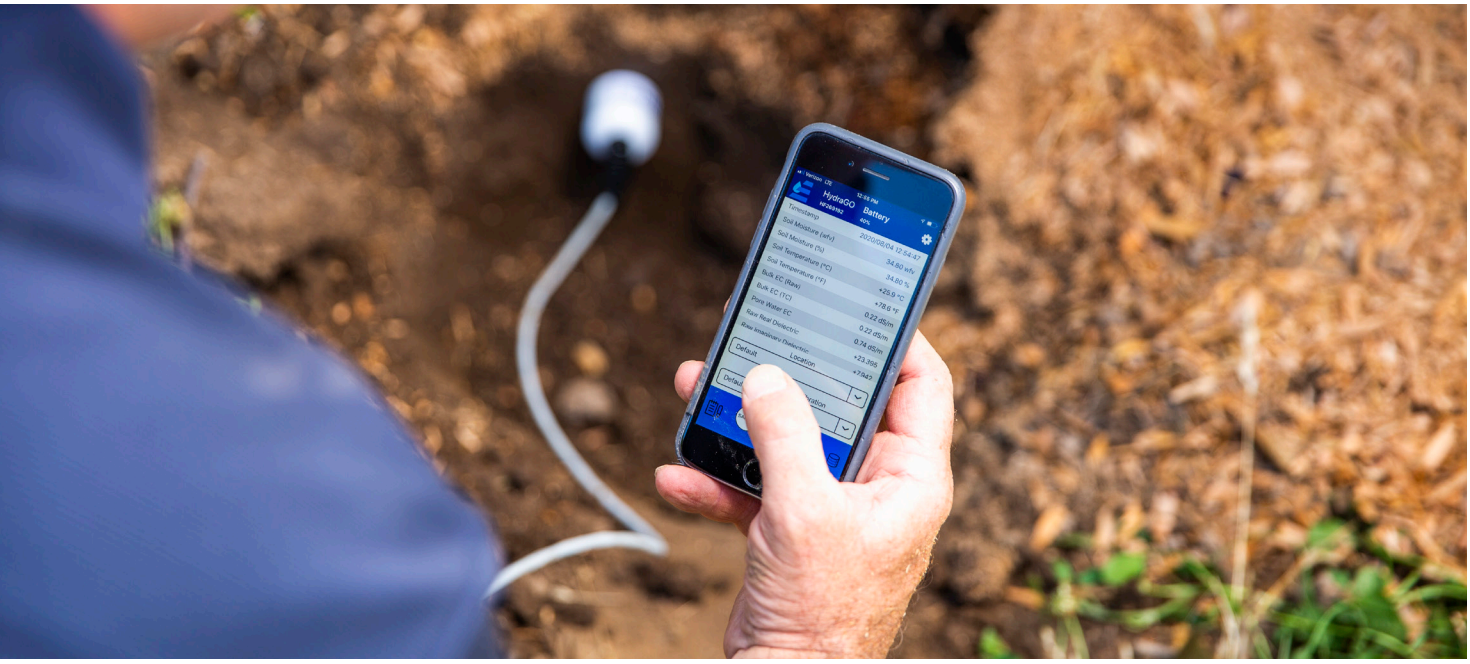
GPS

Soil Moisture, Salinity, Temperature and GPS

Applications: agriculture, scientific research, watershed management, greenhouses, ground-truthing, soil quality assessments, soil surveys, geotechnical and more.

HydraGO and HydraGO FLEX represent the most advanced portable soil sensor system. Simply insert the probe into the soil, and tap on the “Sample” button in the HydraGO app. The HydraGO and HydraGO FLEX communicate wirelessly with your smartphone or tablet using Bluetooth.

The HydraGO App works with both HydraGO and HydraGO FLEX and is available for both Android and iOS. The customizable display can show the measurement parameters including; soil moisture content, temperature, conductivity, pore water EC, GPS, and dielectric permittivities on-screen for immediate viewing. The GPS location, date and time of each measurement is recorded along with the soil measurement data. All data can be saved and emailed as a .CSV file for analysis in Excel. Field notes and customizable locations can also be added and exported to the data set.



The HydraGO and HydraGO FLEX system features a rugged, Delran housing that contains a rechargeable battery. The internal battery will last for long field sessions with repeated and frequent data samplings.

The HydraGO has a probe on the end of a shaft for easy surface measurements. It includes 4 segments so that the size can be adjusted from 25 to 84 cm (10 to 33 inches).

The HydraGO FLEX has a detachable cabled probe that can be buried and left in the field. The cabled probe allows the user to collect data down a narrow-augured bore hole. The HydraGO FLEX comes with a fanny pack and brush for easy on-the-go measurements.

Both HydraGO and HydraGO FLEX utilize the HydraProbe Soil Sensor technology for the soil measurements. The HydraProbe is an impedance-based sensor that fully characterizes the radio frequency energy distribution of a standing wave in the soil measuring both the real and “imaginary” dielectric permittivities. This provides excellent accuracy and precision of the soil measurements across a wide range of soil types.

TECHNICAL SPECIFICATIONS

THE HYDRAPROBE FLEX SOIL SENSOR

Soil probe	Stevens HydraProbe (ratiometric dielectric coaxial impedance)
Parameters measured	Soil moisture, temperature, bulk electrical conductivity, Porewater EC, dielectric permittivities
Pore Water EC Method	Hilhorst Equation
Moisture	Range: From completely dry to fully saturated (from 0% to 100% of saturation) Accuracy: ± 0.01 WFV for most soils, ± ≤0.03 max for fine textured soils*
Bulk electrical conductivity	Range: 0 to 1 S/m (or 0 to 10 dS/m) ± 2.0% or 0.02 S/m whichever is typically greater*
Real dielectric permittivity (isolated)	Range: 1 to 80 where 1 = air, 80 = distilled water Accuracy: < ± 0.5% or ± 0.2 dielectric units
Operating temperature	14°F to 149°F (-10°C to +65°C), Accuracy: ± 0.3° C
Soil tine assembly	Hardened Marine grade stainless steel
Tine dimensions	6 cm long. Measurement volume is 50 to 75 cubic cm.
Calibration	Seyfried Equation default for most soils with peat/organic and custom calibration options

** Accuracy may vary with some soil textures.*

HYDRAGO MODELS	HYDRAGO	HYDRAGO FLEX
Configuration	Sensor on a Shaft	Sensor on a detachable Cable
GPS	Internal GPS, +/- 2 meters	Internal GPS, +/- 2 meters
Wireless protocol	Bluetooth	Bluetooth
App (Android or iOS)	HydraGO	HydraGO
Battery Type	Rechargeable Lithium Ion battery, 3.7 V / 10500 mAh	Rechargeable Lithium Ion battery, 3.7 V / 10500 mAh
Housing	Delrin	Delrin
Weight	3.28lbs (1.49kg) with 4 segments	1.88lbs (0.85 kg)
Dimensions	Body: 9.75” L x 3.5” W x 2.5” D (24.8cm L x 8.9cm W x 6.4cm D) Segment: 5.5” long (14cm)	Body: 4.5” L x 2.75” W x 2.25” D (11.4cm L x7.0 cm W x 5.7 cm D)
Part Numbers	93633-700: Complete unit with 4 segments and 1 knob. 93633-175: Knob 93633-176: Segment	93633-500: Complete unit with one HydraProbe Flex Sensor. 93633-501: Standalone HydraProbe Flex Sensor.

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