

# POGO Portable Soil Sensor

## Benefits

- Instantly measure soil moisture, electrical conductivity, and temperature
- No installation necessary, just insert the probe and click "Sample"
- Optimize soil analysis, watering and fertilization
- Enables measurement of native (undisturbed) soil
- Low risk: ten years of field-proven science
- Performs well in high-salinity soil
- Easier monitoring of remote sites

## Features

- Instantaneous sensor response
- Rechargeable battery
- Battery voltage indicator screen
- No calibration for most soils
- Custom calibration available for peat, grain, and organic soil
- Compact & rugged for years of use
- Download data to a PC and view in *Excel* or other programs
- The only portable soil sensor that measures both components of the complex dielectric permittivity

## Description

The POGO Portable Soil Sensor puts the power of the popular *Stevens Hydra Probe II* in the palm of your hand. Featuring *Stevens HydraMon PDA* software, you are free to take soil measurements anywhere at any time, without the time requirements of setting up a permanent soil monitoring system.

With the *Stevens HydraMon* software, taking soil readings is easy. Simply insert the probe into the soil, select the correct soil type from the menu, and click the "Sample" button on your PDA's screen. The software will display soil temperature, conductivity and dielectric permittivity on-screen for immediate viewing. The user also has the option to log all sensor measurements to a file with user-defined physical locations. The PDA can be synchronized and readings

automatically downloaded to a PC as a CSV or text file for further data analysis in *MS Excel*.

Any PDA with Windows CE can be connected to the POGO via a serial adapter cable, allowing the *Hydra Probe II* to communicate directly with the PDA.

The POGO system features a rugged, anodized aluminum housing that contains a rechargeable battery pack that powers the *Hydra Probe II*. The POGO also has an LCD screen that indicates battery voltage as well as an on/off switch. A strap allows the POGO to be carried over the shoulder, allowing the PDA to be easily operated with two hands while conducting soil measurements.

## Applications

- Spot checking of soil
- Golf & sports turf management
- Precision agriculture/fertigation
- Greenhouse applications
- Agriculture research
- Watershed management
- Academic/classroom use
- Laboratory research

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Water Monitoring Systems, Inc.



Since 1911, Stevens Water Monitoring Systems, Inc. has provided complete water monitoring solutions including:

- Water Level Sensors
- Water Quality Sensors
- Soil Moisture Sensors
- Chart Recorders
- Staff Gages
- Weather Sensors
- Telemetry Systems
- Data Collection Platforms

## LOGGED SOIL MEASUREMENT PARAMETERS

1. Date	12. Real Dielectric Permittivity (temperature compensated)
2. Time	13. Imaginary Dielectric Permittivity
3. Soil Type	14. Imaginary Dielectric Permittivity (temperature compensated)
4. Location	15. Diode Temperature
5. Coordinates	16. Voltage 1
6. Soil Temp (C)	17. Voltage 2
7. Soil Temp (F)	18. Voltage 3
8. Soil Moisture	19. Voltage 4
9. Soil Electrical Conductivity	20. Voltage 5
10. Soil Electrical Conductivity (temperature compensated)	
11. Real Dielectric Permittivity	

## HYDRA PROBE II TECHNICAL SPECIFICATIONS

Typical Measurements	Range	Accuracy
Dielectric Permittivity	1 to 80 where 1 = air 80 = distilled water	± 1.5% or 0.2 whichever is typically greater
Soil Moisture for inorganic & mineral soil	From completely dry to fully saturated	> ± 0.03 water fraction by volume max in typical soil
Conductivity	0.01 to 1.5 S/m	± 2.0% or 0.005 S/m whichever is typically greater
Temperature	-10° to +65° C	± 0.1° C

## POGO TECHNICAL SPECIFICATIONS

Battery Type	Rechargeable NiMH battery, 12V / 3500mAh
Housing	Black Anodized Aluminum
Cable	22 gauge, UV Resistant
Operating Temperature	-10° C to +65° C
Water Resistance	<u>PROBE</u> tolerates continuous full immersion in liquid <b>DO NOT SUBMERSE BATTERY ENCLOSURE OR PDA!</b>
Probe	Fully potted 304-grade stainless steel, shock resistant
Length x Width x Height	6.75 in x 4 in x 2.5 in (L x W x D)
Weight	4.1 lbs (1.85 kg) - All equipment: POGO, PDA and cables

## ORDERING INFORMATION

Part #	Description
93633	POGO and HydraMon Software (no PDA included)
93633-001	POGO with PDA and HydraMon Software