

Profile Probe Soil Moisture Meter

AP-827: Profile Probe Soil Moisture Meter with Datalogger

(Measure soil moisture at any depth from the surface down to 1 meter depth)



The Soil Moisture Probe is classified as a "Capacitance" sensor. The Moisture Probe transmits a very low powered "Radio Frequency" through the soil to measure moisture. There are two copper bands on the end of the sensor. These two bands are radio antennas. One antenna transmits a low powered "RF" signal that is received by the other antenna. The proprietary microprocessor can determine the moisture content by the change in frequency of the signal it receives. The more moisture in the soil, the more the frequency of the signal is changed. The Moisture Sensor has a repeatable accuracy of $\pm 2\%$. The Moisture Meter has a resolution of 1%. A soil moisture reading can be taken in a second, Dry is 0% and water is 100%, There are black rings on the handle for easy viewing through the PolyPro Access tubes. Sensor depth below, Rings are measured from the sensor 6"(15cm), 9"(22.5), 12"(30cm), 18"(45cm), 24"(60cm), 30"(75cm)

Kit includes:-

- 1 meter long Soil Moisture Probe
- Digital logger (Hand Held)
- 10- (1 meter) Precision Access Tubes
- 10- Rain caps for tubes
- 1 meter long soil drill Auger with T- Handle
- Padded carrying case
- Software for graphing and analysis
- 2 Flash memory card (for data storage)
- Card Reader
- Instructions Manual



A fast and easy way to take soil moisture measurements in percent soil moisture, using only one moisture sensor for multiple moisture readings over the entire root zone, in any size area. Here is how you do it:

Insert a number of PolyPro Access Tubes (Tubes are made with a special extruded polycarbonate. Its walls are specially calibrated and designed for the function of measuring soil's moisture) in the soil where you want to measure soil moisture. The tubes are left in the ground. Lower the Moisture Probe down the tube. It reads soil moisture through the tube via low frequency radio waves.

The Moisture Probe will provide an accurate moisture profile, shown digitally in percent soil moisture, (100% is saturated and 0% is dry) over the entire root zone.

Soil moisture levels can be seen on our hand held digital meter or use our data logging system to automatically save and download data to your PC. It is quick, (it takes a soil moisture reading in 2 seconds) it saves water, time, money, fertilizer and much labor. The Moisture Meter and Moisture Probe are powered by one standard 9volt battery (Replaceable). The Moisture Meter has a battery saving auto-shutoff feature.



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How to Install:-

Make Hole: Drill a hole to the depth you want to measure moisture with Aqua da Vinci's Easy Auger. Save soil in a small bucket to mix with water to form a well blended mud. Pour the mud back into the hole until it is full.

Insert Access Tube: Insert PolyPro Access Tube in hole, Move up and down to remove all air, Mud should come up to above surface level, Mud should look like this, not too thin and not too thick Just like wet cement.

Check Installation: Insert Probe in Access Tube and slowly lower it to the bottom.

Features: -

- Continuous soil moisture readings from the surface to any depth in percent.
- Portable - one soil moisture sensor - many locations.
- All electronics in water proof, high impact epoxy.
- Fast moisture readings within 1 second.
- Digital - soil moisture readings are in percent, on a large Liquid Crystal Display (LCD).
- Easy to read soil moisture level - 0% is dry and 100% is wet.
- Self powered data reader - one standard 9 volt battery - also powers the AP Moisture Probe for months.
- The Moisture Meter has an auto-shutoff feature to save the battery.
- The sensor & Access tube is pre-calibrated at the factory.

Technical Specification

Soil Moisture Probe	
Soil Moisture Range	0 to 100%
Probe Depth measurements	6"(15cm), 9"(22.5), 12"(30cm), 18"(45cm), 24"(60cm), 30"(75cm)
Accuracy	±2%
Resolution	1%
Probe Length	1 meter
Input Power	5.5 to 17 volts DC
Input Current	18 milliamps
Analog Output	0 - 2500 mV
Dimensions	2.5 cm (1 inch) diameter , 18 cm (7.3 inches) long
Cord Length	2 meters (6 ft. 6 in.) of 4 conductor, shielded, PVC insulated wire.
Connector	Switchcraft - watertight
Digital Datalogger	
Digital Display	LCD (20 character 4 lines)
Input Power	9 volts DC
Battery	9 volts DC Battery (Replaceable)
Input Current	15 micro amps - idle 7 milliamps DC - operating
Data Storage	Over 100000 data set
Data downloading	By Data Card Reader
PolyPro (RF) Access Tubes	
Tubes are specially calibrated and designed for the function of measuring soil's moisture	
Dimensions	Approximately 1 Meter long by 2.5 cm (1 in)
Material	Specially formulated, clear polycarbonate
Cap	Rain and sprinkler protection with specific design for humidity control
Tube Ends	Bottom sealed, Top has a Cap to keep rain or irrigation water out