

**THE 503TDR HYDROPROBE™  
DEPTH SOIL MOISTURE PROBE.**

**InstroTek® 503TDR Hydroprobe™, Direct Reading Depth Neutron Moisture Probe:**  
Subsurface soil moisture measurement probe for irrigation scheduling, agronomic research, and environmental monitoring.

This lightweight and portable state-of-the-art instrument offers a superior method of soil moisture monitoring. The 503TDR reads water content directly and records test results automatically requiring minimal operator instructions.

Holes can be drilled with a soil auger to the depth of the root zone and aluminum access tubes are inserted in the holes. Routine testing at 1 ft (300 mm) depth intervals provides soil moisture status and relative changes throughout the root zone. The probe is provided with a standard 8ft (2.5m) cable.

Factory calibration is provided for use in thin-walled aluminum access tubes.



**FEATURES:**

- 1.5" (38 mm) probe shell diameter. Optional 2" (50 mm) upon request.
- Rapid, precise soil moisture measurements.
- Field replaceable alkaline battery pack. No charging needed.
- Equipped with a microprocessor based programmable data logger.
- Memory logging of up to 1365 test results.
- Data transfer to a computer or printer via USB cable.
- Storage and recall selection of 16 linear calibrations allows for multiple tubing types and varying soil conditions.
- Operator selected time of test, logging format and units of measurements:  
Counts per min, pounds per cubic foot (pcf), count ratio, grams per cubic centimeter (gcc), inches per foot, and % moisture.
- Helps conserve water, energy, and agrichemicals.
- Aluminum and stainless steel construction.
- Lightweight, shock and water resistant.
- Built-in reference standard for periodic performance check and calibration update.
- Formatted data storage and transfer capability.

**CPN® 503TDR Hydroprobe™**

**APPLICATIONS**

**Irrigation Scheduling:** (For commercial management and consulting services) Scheduling Program: Moisture readings from the 503TDR can be downloaded to an irrigation scheduling computer program to build a field history file and generate reports of soil moisture status and irrigation forecasts. A program of soil moisture monitoring allows an irrigator to improve crop yields and quality, determine when and how much to irrigate, monitor root development, improve irrigation efficiency and optimize system design. Ideal for the consultants and farm managers. Contact us for information on Irrigation Scheduling and Crop Management Software.

**Environmental and vadose zone monitoring:** The Hydroprobe™ is an effective tool for monitoring moisture and contaminant movement in the vadose zone to protect ground-water quality.

**SPECIFICATIONS**

STANDARDS	Meets and exceeds ASTM D5220 requirements
RANGE	0.0 to 6.0 in/ft (0.0 to 0.50 gcc)
PRECISION AT 1 MIN.	±0.024 in/ft (±0.002 gcc) at 2.88 in /ft. (0.24 gcc)
COUNTING TIME	User selectable from 1 to 256 seconds, in 1 second increments
OPERATING TEMP.	32° to 140°F (0°to 60°C)
POWER	Battery pack of 6 C-size alkaline cells Field replaceable without memory loss
CONSUMPTION	10 mA avg. allows up to 15,000 30-seconds tests
DISPLAY	Large, 8 character liquid crystal display
UNITS	Operator selectable: counts, count ratio, gcc, pcf, ipf, cpc, % moisture
MEMORY STORAGE	24K bytes in user selectable format
SERIAL INTERFACE	USB upload to computer or printer
CALIBRATION	16 operator selectable linear calibrations
NEUTRON SOURCE	Max 50 mCi (1.85 GBq) Americium-241/Be
ENCAPSULATION	Double-sealed capsule
POWER SOURCE	6 'C-cell' Alkaline Battery Pack
SHIPPING WEIGHT	Weight: 15.7 lbs. (7.1 kg) Shipping Weight: 35 lbs. (16 kg)