Soil Moisture Meter , NDVI, PAR, Leaf Porometer

Portable **soil moisture meter** allows you to obtain readings on the go at the press of a button. Variable rod length options provide soil moisture measurements at your ideal root zone. With new enhancements, the TDR 150 provides significant improvements in performance and measurement accuracy for optimal turf and soil environments. **(U.S.A Made)**

- Increased accuracy of soil moisture (Volumetric Water Content
- Measures EC (Electrical Conductivity)
- Measures Turf Surface Temperature
- Option to add on Bluetooth and GPS
- Data logger records approximately 50,000 measurements
- Industry exclusive backlit display
- Ergonomic handle
- Data collected with USB flash drive
- No PC interface needed
- Powered by AA lithium batteries

TDR 150, Soil Moisture Meter

RAFIQ & SONS, 1st Floor , 358 - F/2 Johar Town ,**Lahore - PAKISTAN**
Tell: 042 35304549, **Cell/Whats App:** 0331 4495218 **E/m:** rafiq _ son @ yahoo .com

NDVI Meter (Portable)

Point-and-shoot" technology to instantly measure red (660 nm) and near infrared (840 nm) spectral bands

- Detects stress earlier than visual monitoring
- **Computes Normalized Difference Vegetative Index (NDVI)**
- Laser guides outline the edges of the measured sample area
- Calculates and displays a running average for multiple readings
- Connects to any GPS receiver that has a serial output option*
- Equipped with internal data logger and RS-232 port
- Records 3,250 measurements (1,350 with added GPS/DGPS option)
- Configure and download meter with FieldScout® software and USB-to-3.5mm-Stereo-Plug Adapter

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Specifications:

Measurement Sample:	Plant leaves, turf grass canopy
Measurement System:	Reflectance of 660 nm and 840 nm light
Measurement Area:	Conical viewing area between 12 and 72 in
Minimum Distance:	12 in (30.5 cm) from lens
Maximum Distance:	Accuracy is unknown beyond 72 in from lens

Distance From Lens:	Sample Area (Diameter):
12 in (30.5 cm)	0.53 in (1.35 cm)
18 in (45.7 cm)	1.21 in (3.07 cm)
48 in (1.22 m)	4.65 in (11.8 cm)

Receptor: (4) photodiodes: (2) for ambient light and (2) for reflected light from the sample (leaf, turf)
Measurement Units: NDVI (Normalized Difference Vegetation Index on a scale of -1 to 1
Measurement Interval: 2 seconds per measurement
Repeatability: ±5% of reading
Data Logger: Requires software and PC interface cable; Capacity: 1,350 measurements with GPS/DGPS; 3,250 measurements without GPS/DGPS; nonvolatile memory
Battery/Life: 2 AAA batteries (included); approx. 3,000 measureme

Diffusion Porometer / Leaf Porometer

Leaf Porometer measures diffusion conductance by comparing the precise rate of humidification within a small cuvette (chamber) to readings obtained with a calibration plate. The plate has 6 diffusion conductance settings whose values have been accurately determined by finite element analysis.

Stomatal aperture is the dominant factor in the diffusion conductance of leaf surfaces, which controls both the water loss from plant leaves and the uptake of CO2 for photosynthesis. Measurements of diffusion conductance are therefore important indicators of plant water status and provide a valuable insight into plant growth and plant adaptation to environmental variables.

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- Direct readout of stomatal conductance or stomatal resistance
- Simple absolute calibration in the field
- Minimises leaf stress during measurement
- Ideal for phenotyping based research

Quoted accuracy figures for other porometers and gas analysis systems are based on time-consuming laboratory set-up and calibrations which bear little comparison to field conditions. In contrast, the AP4 Leaf Porometer features simple direct calibration in the field against a tested physical standard.

The AP4 Leaf Porometer has many other features designed to ensure that accurate, reproducible readings can be taken as easily as possible:

- Sophisticated temperature compensation
- Unstirred leaf chamber minimises unwanted stomatal closure
- Lightweight ergonomic sensor head
- Large clear LCD display (8 lines by 40 characters)
- Full QWERTY keypad for annotating up to 1500 readings
- A rugged and reliable tool for phenotyping projects
- Over 2,000 Delta-T porometers in use worldwide

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PAR METER (Portable)

LightScout Quantum Meters

Measure the light used for plant growth. PAR is a more valuable measurement than foot-candles as it measures only the light used by plants for photosynthesis.

- **Measures photosynthetically active radiation (PAR) from 400 to 700 nm**
- **Range of 0 to 2,000 µmol·m-2·s-1**
- **Available in a variety of configurations for your convenience**

The light that drives photosynthesis in plants is Photosynthetically Active Radiation, or PAR light. This is also referred to as Quantum light, because it is measured in units of moles striking an area over time. Though PAR light ranges from 400 to 700nm, the region brightest to human eyes is the area of least effect on plants. Measuring quantum light can tell you if your plants are getting a sufficient amount of usable light.

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