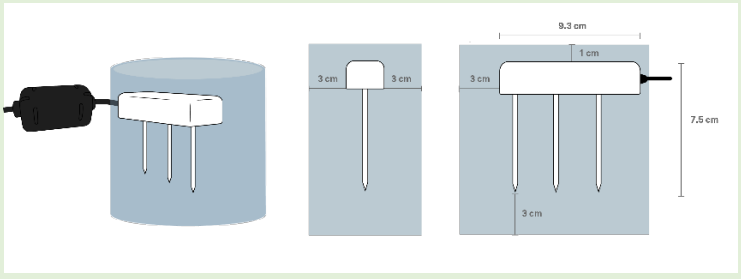
METER ENVIRONMENT

TEROS–11 Advanced Soil Moisture + Temperature



- Increased volume of influence (1010 mL)
- Easy installation (minimizes air gaps for cleaner readings)
- Dependable, long-life sensor
- Reduced sensor-to-sensor variability
- Repeatability can be checked with an accuracy verification standard
- Robust, epoxy body for tough field conditions
- Minimizes salinity and textural effects by using 70 MHz frequency capacitance technology
- Steel needles cut through the soil for better soil-sensor contact
- Easy-to-read voltage output for various data loggers
- Ferrite core eliminates cable noise

THE **TEROS-11** combines METER's trademark 70 MHz circuitry with an extremely ruggedized epoxy fill. Sharpened stainless steel needles can be inserted into any soil type and are resistant to salts. Durable enough to last up to 10 years in the field, so we've bumped up our standard warranty from 1 to 3 years. New calibration procedure that maximizes accuracy and minimizes sensor-to-sensor variability (less than 1.5% VWC).



מטאו-טק שירותים מטאורולוגיים בע"מ

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SPECIFICATIONS

Volumetric water content (VWC)	Range: Mineral soil calibration: 0.00–0.70 m^3/m^3 Soilless media calibration: 0.0–1.0 m^3/m^3 Apparent dielectric permittivity (ε_a): 1 (air) to 80 (water) Resolution: 0.001 m^3/m^3 Accuracy: Generic calibration: ±0.03 m^3/m^3 typical in mineral soils that have solution electrical conductivity <8 dS/m Medium specific calibration: ±0.01–0.02 m^3/m^3 in any porous medium Apparent dielectric permittivity (ε_a): 1–40 (soil range) , ±1 ε_a (unitless) 40–80, 15% of measurement
Dielectric measurement frequency	70 MHz
Temperature	Range: −40 to 60°C Resolution: 0.1°C Accuracy: ±1°C from −40 to 0°C ±0.5 °C from 0 to +60°C
Output	DDI serial or SDI-12 communication protocol
Data logger compatibility	METER ZL6, EM60, and Em50 data loggers or any data acquisition system capable of 4.0- to 15-VDC power and serial or SDI-12 communication (see compatibility chart)
Measurement volume	See comparison article
Dimensions	Length: 9.4 cm (3.70 in) Width: 2.4 cm (0.95 in) Height: 7.5 cm (2.95 in)
Probe length	5.5 cm (2.17 in)
Cable length	5 m (standard) 75 m (maximum custom cable length)
Connector types	3.5-mm stereo plug connector or stripped and tinned wires
Supply voltage (VCC) to GND	Minimum: 4.0VDC Typical: NA Maximum: 15.0VDC
Digital input voltage (logic high)	Minimum: 2.8V Typical: 3.6V Maximum: 3.9V
Digital input voltage (logic low)	Minimum: –0.3V Typical: 0.0V Maximum: 0.8V
Digital output voltage (logic high)	Minimum NA Typical 3.6V Maximum NA
Power line slew rate	Minimum: 1.0 V/ms Typical: NA Maximum: NA
Current drain (during 25-ms measurement)	Minimum: 3.0 mA Typical: 3.6 mA Maximum: 16.0 mA
Current drain (while asleep)	Minimum: NA Typical: 0.03 mA Maximum: NA
Operating temperature range	Minimum –40°C Typical NA Maximum +60°C
Power up time (DDI serial)	Minimum: 80 ms Typical: NA Maximum: 100 ms
Power up time (SDI-12)	Minimum: NA Typical: 245 ms Maximum: NA
Measurement duration	Minimum: 25 ms Typical: NA Maximum: 50 ms