



**METER**

## TEROS-10 SOIL MOISTURE SENSOR

TEROS-10 is built to last longer in the field under harsh conditions. No more worrying about surprise data gaps due to failed sensors. It's one of our toughest soil moisture sensors, and its body withstands difficult environments and water intrusion for up to 10 years. Ideal for large sensing networks, it is sensitive to small VWC changes across the entire range of soil and substrate water content, and can be installed in anything from dry desert soils to very wet peat.



TEROS-10 is compatible with the TEROS Borehole Installation Tool. Because of its mechanical advantage, the tool delivers consistent, flawless installation into any soil type (even hard clay) while minimizing site disturbance. Sensors are installed straight in and perpendicular with uniform pressure then gently released to prevent air gaps and preferential flow. This means TEROS-10 is able to deliver more accuracy with less uncertainty than similar sensors on the market.

With improved high-quality, sharpened, and securely fastened stainless steel needles, TEROS-10 glides into any soil. Then, simply plug it into any METER data logger, and start collecting data. It's that easy. No wiring. No programming. And, the analog signal from TEROS-10 sensor ensures that it can easily be integrated into a wide variety of non-METER systems.

Easy and reliable data collection is part of TEROS-10 experience. Combine TEROS-10 with the new ZL6, where all data is connected and delivered through the cloud. Collect data in near real time, from the comfort of your office. So all you have to do is sit back and let the data flow.

### Features

- Low-cost, ruggedized soil moisture sensor
- Ideal for large sensor networks
- Sharpened stainless steel needles are securely fastened and reduce breakage
- Compatible with TEROS Borehole Installation Tool ensuring fast, error-free installation with little site disturbance
- Measure VWC in a harsh environment
- Robust epoxy body means it lasts for 10+ years in the field
- 430 mL volume of influence
- Plug and play with METER data loggers
- Check installation or troubleshoot with the ZSC Bluetooth sensor interface.
- Ferrite core eliminates cable noise
- Easy integration with third-party systems



# TEROS-10 SOIL MOISTURE SENSOR

## METER

### Specifications

#### MEASUREMENT SPECIFICATIONS

<b>Volumetric water content (VWC)</b>	<b>RANGE</b> <b>Mineral soil calibration:</b> 0.00-0.64 m <sup>3</sup> /m <sup>3</sup> <b>Soilless media calibration:</b> 0.0-0.7 m <sup>3</sup> /m <sup>3</sup> <b>Apparent dielectric permittivity (<math>\epsilon_a</math>):</b> 1 (air) to 80 (water) <b>RESOLUTION</b> 0.001 m <sup>3</sup> /m <sup>3</sup> <b>ACCURACY</b> <b>Generic calibration:</b> $\pm 0.03$ m <sup>3</sup> /m <sup>3</sup> ( $\pm 3.00\%$ VWC) typical in mineral soils that have solution EC <8 dS/m <b>Medium specific calibration:</b> $\pm 0.01$ -0.02 m <sup>3</sup> /m <sup>3</sup> ( $\pm 1$ -2% VWC) in any porous medium <b>Apparent dielectric permittivity (<math>\epsilon_a</math>):</b> 1-40 (soil range), $\pm 1 \epsilon_a$ (unitless) 40-80, 15% of measurement
<b>Dielectric measurement frequency</b>	70 MHz

#### COMMUNICATION SPECIFICATIONS

<b>Output</b>	1,000 to 2,500 mV
<b>Temperature</b>	<b>Operating range:</b> -40 to 60°C
<b>Data logger compatibility</b>	METER data loggers (ZL6, EM50/60 series) or any data acquisition systems capable of switched 3-15 VDC excitation and single-ended voltage measurement at greater than or equal to 12-bit resolution.

#### PHYSICAL SPECIFICATIONS

<b>Dimensions</b>	<b>Length:</b> 5.1 cm <b>Width:</b> 2.4 cm <b>Height:</b> 7.5 cm
<b>Needle/Probe length</b>	5.4 cm
<b>Cable length</b>	5 m (standard) 40 m (maximum custom cable length)
<b>Connector types</b>	3.5-mm stereo plug connector or stripped and tinned wires

#### ELECTRICAL AND TIMING CHARACTERISTICS

<b>Supply voltage (VIN to GND)</b>	<b>Minimum:</b> 3.0 VDC <b>Typical:</b> NA <b>Maximum:</b> 15.0 VDC
<b>Operating temperature range</b>	<b>Minimum:</b> -40°C <b>Typical:</b> NA <b>Maximum:</b> 60°C
<b>Measurement duration</b>	<b>Minimum:</b> 25 ms <b>Typical:</b> 50 ms <b>Maximum:</b> 10 ms
<b>COMPLIANCE</b>	Manufactured under ISO 9001:2015 EM ISO/IEC 17050:2010 (CE Mark) 2014/30/EU and 2011/65/EU EN61326-1:2013 and EN55022/CISPR 22