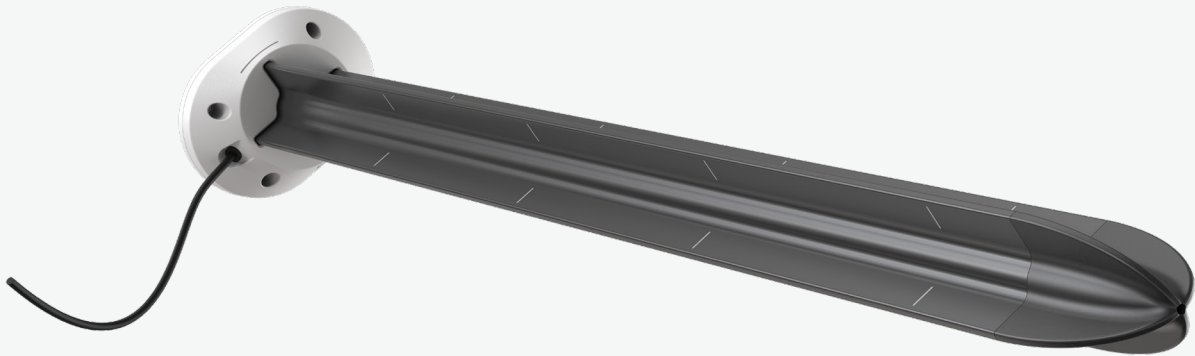




**METER**  
ENVIRONMENT



# TEROS 54

Soil Moisture Profile Probe

## SIMPLICITY WITHOUT SACRIFICE

You need accurate soil moisture measurements from easily installed sensors without extensive excavation. Most profile probes require you to choose between ease of installation and removal, sensor accuracy, measurement volume, and durability. At METER, we weren't willing to create a soil moisture profile probe unless it could meet all of these requirements. That's why we made the TEROS 54.

## THERE'S THE HARD WAY, AND THEN THERE'S THE RIGHT WAY

We designed the TEROS 54 profile probe to make every step of your measurement process easier—without sacrificing accuracy or durability. Soil water content and temperature sensors are positioned at 15, 30, 45, and 60 cm depths, providing root zone measurements without requiring soil pits or cumbersome sensor retrieval at lower depths. You get the convenience of profile measurements combined with the research-grade accuracy you've come to expect from METER.

## FEATURES

- Multi-depth soil moisture profile probe measures water content and temperature
- Installs via a small borehole without the need of a pilot tube
- Hammers directly into the soil for direct soil contact
- All sensors can be removed at once with dedicated removal tool
- Easy plug-and-play operation
- See all your data remotely in real-time
- Ideal for annual crops and soil that requires sensors to be installed and removed seasonally
- Get more measurements per logger port
- Larger measurement volume
- Reduced labor during installation and removal
- Accurate research-grade soil moisture measurements
- Sensors provide profile measurements throughout and around most root zones
- Robust design means durability during installation and through operation in harsh conditions

## SPECS

<b>Range</b>	Mineral Soil Calibration: 0.00–0.70 m <sup>3</sup> /m <sup>3</sup>  <b>NOTE: The VWC range is dependent on the media the sensor is calibrated to. A custom calibration will accommodate the necessary ranges for most substrates.</b>  Apparent Dielectric Permittivity ( $\epsilon_a$ ): 1–50 (soil range) 1 (air) to 80 (water)
<b>Resolution</b>	0.001 m <sup>3</sup> /m <sup>3</sup>
<b>Accuracy</b>	Generic Calibration: $\pm 0.05$ m <sup>3</sup> /m <sup>3</sup> typical in mineral soils that have solution EC < 8 dS/m  Medium Specific Calibration: $\pm 0.02$ – $0.03$ m <sup>3</sup> /m <sup>3</sup> in any porous medium  Apparent Dielectric Permittivity ( $\epsilon_a$ ): 1–40 (soil range), $\pm 1$ ( $\epsilon_a$ ) (unitless) 40–80, 15% of measurement
<b>Dielectric Measurement Frequency</b>	70 MHz
<b>Temperature</b>	Range: –20 to +60 °C Resolution: 0.03 °C Accuracy: $\pm 0.35$ °C from –20°C to 0 °C $\pm 0.25$ °C from 0°C to 60 °C
<b>Output</b>	DDI Serial and SDI-12 communications protocol 3-wire cable version 4-wire cable version RS-485 Modbus RTU and tensioLINK serial communications protocol 4-wire version
<b>Data Logger Compatibility</b>	METER ZL6 and EM60 data loggers or any data acquisition system capable of 4.0- to 24.0-VDC power and serial interface with SDI-12; and/or RS-485 interface, Modbus RTU, or tensioLINK communication.
<b>Dimensions</b>	Diameter: (Shaft) 6.0 cm (2.36 in) Length: 75.0 cm (29.53 in) Width: (Head) 11.0 cm (4.33 in)
<b>Operating Temperature</b>	Minimum: –20 °C Maximum: +60 °C
<b>Cable Length</b>	Standard: 5.0 m (stereo plug and stripped and tinned wires) 75.0 m (maximum custom cable length) 1.5 m (M12 connector)  <b>NOTE: Contact Customer Support if a nonstandard cable length is needed.</b>
<b>Cable Diameter</b>	Stereo Plug: 4.2 $\pm$ 0.2 mm (0.16 $\pm$ 0.01 in) with minimum jacket of 0.8mm (0.031 in) M12 Plug: 5.5 $\pm$ 0.2 mm (0.22 $\pm$ 0.01 in) with minimum jacket of 1.0 mm (0.039 in)
<b>Connector Size</b>	3.50 mm (diameter) 14.4 mm (diameter M12)
<b>Connector Types</b>	Stereo plug connector or stripped and tinned wires 4-pin M12 connector or stripped and tinned wires
<b>Conductor Gauge</b>	Stereo Plug: 22-AWG / 24-AWG ground wire M12 Plug: 22-AWG