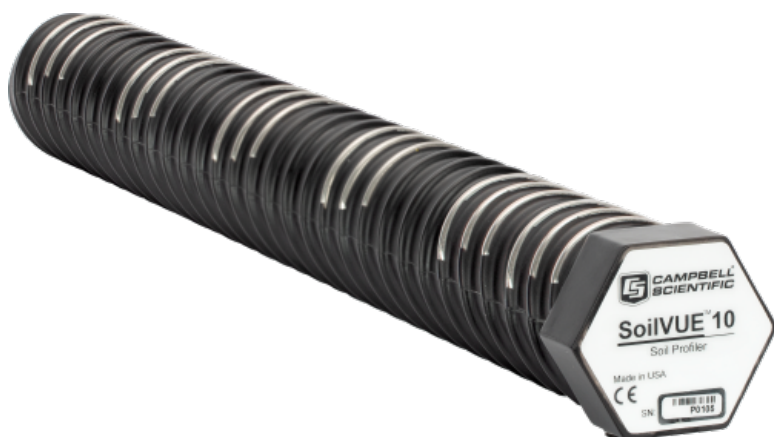

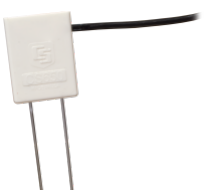






Soil Moisture, Temperature, and EC Sensors

Also known as soil volumetric water content sensors





Soil moisture sensors (sometimes referred to as volumetric water content sensors) measure the water content of soil. These sensors can be used to estimate the amount of stored water in a profile or how much irrigation is required to reach a desired amount of water in the soil. These sensors can be used for quick measurements or installed for long-term measurements.

	Measurements Made	Water Content Accuracy	Required Equipment	Soil Suitability
SoilVUE10 TDR Soil Moisture Profile Sensor  Featured	Volumetric water content (VWC), permittivity, electrical conductivity (EC), and temperature	<p>Volumetric Water Content: $\pm 1.5\%$ typical with most soils</p> <p>Soils with high organic matter ($> 12\%$ soil organic carbon) or high clay content ($> 45\%$ clay) may need a soil-specific calibration due to the dispersive nature of these materials.</p>	—	—
CS655 Soil Water Content Reflectometer 12 cm  Featured	Soil electrical conductivity (EC), relative dielectric permittivity, volumetric water content (VWC), soil temperature	<p>➤ Volumetric Water Content: $\pm 1\%$ (with soil-specific calibration) where solution $EC < 3 \text{ dS/m}$</p> <p>➤ Volumetric Water Content: $\pm 3\%$ (typical with factory VWC model) where solution $EC < 10 \text{ dS/m}$</p>	Measurement system	Short rods are easy to install in hard soil. Suitable for soils with higher electrical conductivity.

		Measurements Made	Water Content Accuracy	Required Equipment	Soil Suitability
CS650 Soil Water Content Reflectometer 30 cm Featured		Soil electrical conductivity (EC), relative dielectric permittivity, volumetric water content (VWC), soil temperature	> Volumetric Water Content: $\pm 1\%$ (with soil-specific calibration) > Volumetric Water Content: $\pm 3\%$ (typical with factory VWC model) where solution $EC < 3 \text{ dS/m}$	Measurement system	Long rods with large sensing volume ($> 6 \text{ L}$) are suitable for soils with low to moderate electrical conductivity.
CS616 30 cm Water Content Reflectometer Featured		Volumetric water content (VWC) of porous media (such as soil)	$\pm 2.5\%$ VWC (using standard calibration with bulk EC of $\leq 0.5 \text{ dS m}^{-1}$, bulk density of $\leq 1.55 \text{ g cm}^{-3}$, and measurement range of 0% to 50% VWC)	Measurement system	Long rods and lower frequency are well-suited for soft soil with low electrical conductivity ($< 2 \text{ dS/m}$).
DOT600 Roadbed Water-Content Meter Featured		—	—	—	—
TDR200 Time-Domain Reflectometer Featured		Volumetric water content (VWC) of porous media (such as soil), soil electrical conductivity (EC), rock mass deformation	—	Measurement system	—



	<i>Measurements Made</i>	<i>Water Content Accuracy</i>	<i>Required Equipment</i>	<i>Soil Suitability</i>
HydroSense II HydroSense II Handheld Soil Moisture Sensor 	Volumetric water content (VWC) of porous media (such as soil)	<ul style="list-style-type: none"> ▶ Probe Options: 3% typical (Accuracy assumes solution EC of < 4 dS/m when using the CS658 20-cm probe.) ▶ Probe Options: 3% typical (Accuracy assumes solution EC of < 6.5 dS/m when using the CS659 12-cm probe.) 	HS2 is a complete system.	Short rods are easy to install in hard soil. Suitable for soils with higher electrical conductivity.
HS2P HydroSense II Handheld Soil Moisture Sensor with Insertion Pole 	Volumetric water content (VWC) of porous media (such as soil)	<ul style="list-style-type: none"> ▶ Probe Options: 3% typical (Accuracy assumes solution EC of < 6.5 dS/m when using the CS659P 12-cm probe.) ▶ Probe Options: 3% typical (Accuracy assumes solution EC of < 4 dS/m when using the CS658P 20-cm probe.) 	HS2P is a complete system.	Short rods are easy to install in hard soil. Suitable for soils with higher electrical conductivity.

For comprehensive details, visit: www.campbellsci.eu/soil-moisture-sensors 