



Soil Volumetric Water Content

Time-domain methods for unattended or portable measurements

Rugged, Reliable, and Ready for any Application



Soil water content indicates how much water is present in the soil. It 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.

Soil volumetric water content sensors provide a tool to measure the water content using hand-held sensors, or installing the water content sensors into the soil for long-term measurements.

MAJOR SPECIFICATIONS

		Measurements	Water Content Accuracy	Water Content Precision	Current Drain
CS616 Reflectometer with 30-cm Rods High accuracy and precision; designed for long-term monitoring		volumetric water content 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	0.05%	65 mA @ 12 Vdc (when enabled) 45 μA (quiescent typical)
CS625 Reflectometer for CR200(X)-series Loggers High accuracy and precision; designed for long-term monitoring		volumetric water content 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	0.05%	65 mA @ 12 Vdc (when enabled) 45 μA (quiescent typical)
CS650 Reflectometer with 30-cm Rods Innovative and more accurate in soils with high bulk EC without site-specific calibration		soil electrical conductivity (EC), relative dielectric permittivity, volumetric water content, soil temperature	$\pm 3\%$ VWC typical in mineral soils, where solution EC $\leq 3 \text{ dS/m}$	< 0.05%	Active (3 ms): 45 mA typical @ 12 Vdc (80 mA @ 6 Vdc, 35 mA @ 18 Vdc) Quiescent: 135 μA typical @ 12 Vdc
CS655 Reflectometer with 12-cm Rods Innovative and more accurate in soils with high bulk EC without site-specific calibration		soil electrical conductivity (EC), relative dielectric permittivity, volumetric water content, soil temperature	$\pm 3\%$ VWC typical in mineral soils, where solution EC $\pm 10 \text{ dS/m}$	< 0.05%	Active (3 ms): 45 mA typical @ 12 Vdc (80 mA @ 6 Vdc, 35 mA @ 18 Vdc) Quiescent: 135 μA typical @ 12 Vdc
HydroSense II Stand-alone Soil Water Content System Fast and portable soil water content measurements		volumetric water content of porous media (such as soil)	3% typical (accuracy assumes solution EC of < 4 dS/m when using the CS658 20-cm probe, and solution EC of < 6.5 dS/m when using the CS659 12-cm probe)	< 0.05%	Sleep: 20 μA Backlight Off: 2 mA Backlight at 100%: 30 mA GPS Active: 35 mA Bluetooth Active: 30 mA
HS2P HydroSense II with Insertion Rod Stand-alone Soil Water Content System Fast and portable soil water content measurements		volumetric water content of porous media (such as soil)	3% typical (accuracy assumes solution EC of < 4 dS/m when using the CS658P 20-cm probe, and solution EC of < 6.5 dS/m when using the CS659P 12-cm probe)	< 0.05%	Sleep: 20 μA Backlight Off: 2 mA Backlight at 100%: 30 mA GPS Active: 35 mA Bluetooth Active: 30 mA



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