



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

CS650 | Reflectometer with 30-cm Rods

Innovative and more accurate in soils with high bulk EC without site-specific calibration



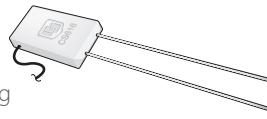
CS655 | Reflectometer with 12-cm Rods

Innovative and more accurate in soils with high bulk EC without site-specific calibration



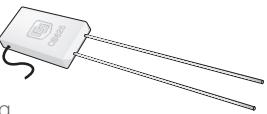
CS616 | Reflectometer with 30-cm Rods

High accuracy and precision; designed for long-term monitoring



CS625 | Reflectometer for CR200(X)-series Loggers

High accuracy and precision; designed for long-term monitoring



HydroSense II | Stand-alone

Soil Water Content System
Fast and portable soil water content measurements



Measurements	Water Content Accuracy	Water Content Precision	Current Drain
soil electrical conductivity (EC), relative dielectric permittivity, volumetric water content, soil temperature	±3% VWC typical in mineral soils, where solution EC ≤3 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
soil electrical conductivity (EC), relative dielectric permittivity, volumetric water content, soil temperature	±3% VWC typical in mineral soils, where solution EC ±10 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
volumetric water content of porous media (such as soil)	±2.5% VWC using standard calibration with bulk EC of ≤0.5 dS m⁻¹, bulk density of ≤1.55 g cm⁻³, and measurement range of 0% to 50% VWC	0.05%	65 mA @ 12 Vdc (when enabled) 45 µA (quiescent typical)
volumetric water content of porous media (such as soil)	±2.5% VWC using standard calibration with bulk EC of ≤0.5 dS m⁻¹, bulk density of ≤1.55 g cm⁻³, and measurement range of 0% to 50% VWC	0.05%	65 mA @ 12 Vdc (when enabled) 45 µA (quiescent typical)
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

