



Soil Moisture

S91111

- **Delivers research-grade accuracy**
 - **70 MHz frequency**
 - **Easy to install**

This sensor accurately measures water content in any soil or soil-less media with minimal salinity and textural effects.

It delivers research-grade accuracy at a price that makes large sensor networks economically practical. You can adequately characterize your site with sensors at multiple depths and locations, even if you're on a tight budget.

This sensor determines volumetric water content (VWC) by measuring the dielectric constant of the media using capacitance/frequency domain technology. The sensor uses a 70 MHz frequency, which minimizes salinity and textural effects, making it accurate in almost any soil or soil-less media. Factory calibrations are included for mineral soils, potting soils, rockwool, and perlite. The analog signal means no-hassle integration with systems run by other data loggers.





Technical Specifications

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Accuracy

Mineral Soil: $\pm 3\%$ VWC, most mineral soils, up to 8 dS/m
 $\pm 1-2\%$ VWC with soil specific calibration
Rockwool: $\pm 3\%$ VWC, 0.5 to 8 dS/m
Potting Soil: $\pm 3\%$ VWC, 3 to 14 dS/m

Resolution

0.1% VWC (mineral soil)
0.25% VWC (rockwool)

Range

0-100% VWC

Dimensions

8.9 x 1.8 x 0.7 cm

Cable Length

5 m, custom cable lengths available upon request

Measurement Time

10 ms

Power

2.5 - 3.6 V DC @ 10 mA. Output proportional to input voltage. 2.5 V and 3 V excitations supported with calibration equations

Output

Voltage, correlated linearly (soil) or polynomially (growing media) with VWC

Temperature

-40°C to +50°C

Connector Types

3.5 mm "stereo" plug or stripped and tinned lead wires (3)