

# 10HS Soil Moisture Sensor

**The 10HS** measures the dielectric constant of the soil in order to find its volumetric water content (VWC). It obtains volumetric water content by measuring the dielectric constant of the media through the utilisation of capacitance / frequency domain technology.

## Larger Volume of Influence

Looking for a soil moisture sensor with a larger volume of influence? Use the 10HS to accurately measure water content where a large volume of influence is needed, with minimal salinity and textural effects in most soils.

## Engineered for Accuracy

The 10HS determines volumetric water content (VWC) by measuring the dielectric constant of the soil using capacitance / frequency domain technology. Using a 70 MHz frequency minimizes salinity and textural effects, making the 10HS accurate in most soils. Factory calibrations can be used in most typical soils with a saturation extract EC of 10 dS/m.



<b>Accuracy</b>	VWC: Using standard calibration equation: $\pm 0.03 \text{ m}^3/\text{m}^3$ ( $\pm 3\%$ VWC) typical in mineral soils that have solution electrical conductivity $< 10 \text{ dS/m}$ Using soil specific calibration: $\pm 0.02 \text{ m}^3/\text{m}^3$ ( $\pm 2\%$ VWC) in any soil.
<b>Resolution</b>	VWC: $0.0008 \text{ m}^3/\text{m}^3$ (0.08% VWC) in mineral soils from 0 to $0.50 \text{ m}^3/\text{m}^3$ (0-50% VWC)
<b>Range</b>	VWC: Calibration dependant; up to 0 - 57% VWC with polynomial equation
<b>Measurement Time</b>	10 ms (milliseconds)
<b>Output</b>	300 - 1250 mV, independent of excitation voltage
<b>Operating Environment</b>	Survival Temperature: $-40^\circ\text{C}$ to $50^\circ\text{C}$ . Operating Temperature: 0 to $50^\circ\text{C}$
<b>Power requirements</b>	3 VDC @ 12 mA to 15 VDC @ 15 mA
<b>Cable Length</b>	5 m standard; custom cable lengths available
<b>Cable Connector Types</b>	3.5mm "stereo" plug, or stripped and tinned lead wires (3)
<b>Sensor Dimensions</b>	14.5 cm x 3.3 cm x 0.7 cm
<b>Data Logger Compatibility</b>	Decagon: Em50 series loggers, ProCheck. ICT International: SMM Soil Moisture Meter.
<b>Warranty</b>	One year, parts and labour



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Ph: +61 2 6772 6770 sales@ictinternational.com.au