



Microcom Design, Inc.

# Soil Moisture & Temperature Probe Model HydroProbe

P/N: SM-101



The HydroProbe provides in-situ measurement of 4 different parameters simultaneously. The HydroProbe instantly calculates soil moisture, conductivity, salinity and temperature. The HydroProbe sensing technology has been deployed for over 10 years by the USDA and is used by NASA for ground-truthing satellite based soil imaging. The compact rugged design with potted internal components makes the HydroProbe easy to deploy, ideal for remote and harsh environments. The durable construction enables the units to be deployed in the field for many years, maintenance-free.

The defined sensing area allows accurate measurements in regions where there are strong soil moisture gradients, such as near the soil surface. Response time to changing soil conditions is immediate, and calibrations as simple as selecting a soil type (sand, silt or clay). The HydroProbe uses an electromagnetic signal propagated from the center tine of the probe to measure multiple parameters. The voltages recorded depend on the type of electrical properties of the soil. Internal software converts the raw voltage to standard units of measure for each parameter.

## Specifications

<u>Measurement</u>	<u>Range</u>	<u>Accuracy</u>
<b>Dielectric Constant:</b>	1-65 where Air=1; Distilled Water=78	±1.5%, or ±0.2 whichever is typically greater
<b>Soil Moisture:</b>	Completely dry to total saturation	±0.03 water fraction by volume in typical soil
<b>Conductivity:</b>	0-20 dS/m	±2% or ±0.002 dS/m which ever is typically greater
<b>Temperature:</b>	-10° to +65°C	±0.6°C

### Environmental

- Operating Temperature:** 0 to +65°C
- Temperature Range:** -10°C to +65°C
- Water Resistance:** Tolerates full emersion

### Physical

- Size:** 12.4 cm x 4.2 cm dia.
- Sensing Volume:** 5.7 cm x 3.0 cm dia.
- Weight:** 200g

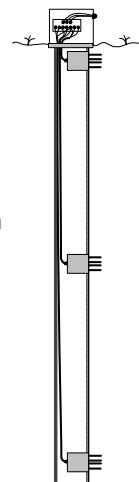
### Electrical

- Interface:** SDI-12 (ver. 1.2)
- Cable:** 3-wire (pwr., gnd., signal) 60m std. length

## Ordering Information

Specify distance from Probe J-box to DCP

HydroProbe Profile Configuration



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