

5TM SOIL MOISTURE SENSOR



ACCURACY	<i>Apparent Dielectric Permittivity (ϵ_a):</i> $\pm 1 \epsilon_a$ from 1 - 40 (soil range); $\pm 15\%$ from 40 - 80 <i>Soil Volumetric Water Content (VWC):</i> <ul style="list-style-type: none">• Using Topp 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 medium specific calibration, $\pm 0.02 \text{ m}^3/\text{m}^3$ ($\pm 2\%$ VWC) in any porous medium <i>Temperature:</i> $\pm 1^\circ\text{C}$
RESOLUTION	ϵ_a : $0.1 \epsilon_a$ from 1-20, $< 0.75 \epsilon_a$ from 20-80 VWC: $0.0008 \text{ m}^3/\text{m}^3$ (0.08% VWC) from 0 to 50% VWC <i>Temperature:</i> 0.1°C
RANGE	ϵ_a : 1 (air) to 80 (water) <i>Temperature:</i> $-40 - 50^\circ\text{C}$
DIMENSIONS	10 cm x 3.2 cm x 0.7cm
CABLE LENGTH	5 m standard, custom cable lengths available upon request
MEASUREMENT TIME	150 ms (milliseconds)
POWER	3.6 - 15 VDC, 0.3 mA quiescent, 10 mA during 150 ms measurement
OUTPUT	RS232 or SDI-12
CONNECTOR TYPES	3.5mm "stereo" plug, or stripped and tinned lead wires (3)
DATA LOGGER COMPATIBILITY (NOT EXCLUSIVE)	<i>Decagon:</i> Em50 series loggers, ProCheck <i>Campbell Scientific:</i> Any logger with serial I/O (CR10X, CR850, CR1000, CR3000, etc.) <i>Other:</i> Any data acquisition system capable of 3.6-15V excitation and serial or SDI-12 communication
WARRANTY	One year, parts and labor