5TE SOIL MOISTURE SENSOR

ACCURACY	*Apparent Dielectric Permittivity (ε_a):* ± 1 ε_a (unitless) from 1 - 40 (soil range), ± 15% from 40 - 80 *Soil Volumetric Water Content (VWC):* • Using Topp equation: ± 0.03 m^3/m^3 (± 3% VWC) typical in mineral soils that have solution electrical conductivity < 10 dS/m • Using medium specific calibration, ± 0.01 - 0.02 m^3/m^3 (± 1 - 2% VWC) in any porous medium *Electrical Conductivity (EC):* ± 10% from 0 to 7 dS/m, user calibration required above 7 dS/m *Temperature:* ± 1°C
RESOLUTION	ε_a: 0.1 ε_a (unitless) from 1 - 20, < 0.75 ε_a (unitless) from 20 - 80 *VWC:* 0.0008 m^3/m^3 (0.08% VWC) from 0 to 50% VWC *EC:* 0.01 dS/m from 0 to 7 dS/m, 0.05 dS/m from 7 to 23.1 dS/m *Temperature:* 0.1 °C
RANGE	ε_a: 1 (air) to 80 (water) *EC:* 0 - 23 dS/m (bulk) *Temperature:* -40 - 50°C
MEASUREMENT SPEED	150 ms (milliseconds)
SENSOR TYPE	*VWC:* Frequency domain *EC:* Two probe design *Temperature:* Thermistor
OUTPUT	RS232 (TTL), or SDI-12
OPERATING ENVIRONMENT	-40°C to 50°C
POWER	3.6 - 15 VDC, 0.3 mA quiescent, 10 mA during 150 ms measurement
CABLE LENGTH	5 m standard, custom cable lengths available upon request
CABLE CONNECTOR TYPES	3.5 mm "stereo" plug, or stripped and tinned lead wires (3)
SENSOR DIMENSIONS	10 cm x 3.2 cm x 0.7 cm
DATA LOGGER COMPATIBILITY (NOT EXCLUSIVE)	*Decagon:* Em50 series, ProCheck *Campbell Scientific:* Any logger with serial I/O (CR10X, CR850, CR1000, CR3000, etc.) *Other:* Any data acquisition system capable of 3.6-15V excitation and serial or SDI-12 communication
WARRANTY	One year, parts and labor

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