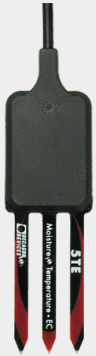


5TE Sensor



The 5TE is designed to measure the water content, electrical conductivity, and temperature of soil and growing media.

The 5TE sensor measures soil moisture, soil temperature, and bulk electrical conductivity (EC), three fundamental measurements needed for a variety of plant studies. Three measurements are taken in one sensor allowing more data logger ports to be used for additional environmental measurements. Volumetric water content is obtained by measuring the dielectric constant of the media through the utilization of capacitance/frequency domain technology while EC is obtained using two stainless steel screws. The 5TE sensor incorporates the same high frequency oscillation as the EC-5, which allows the sensor to accurately measure soil moisture in any soil or soilless media with minimal salinity and textural effects. Applications include plant sprouting and growth studies, plant mortality prevention, and greenhouse monitoring.

In 2006, Decagon incorporated research from its EC-5 volumetric water content sensor into the ECH₂O-TE, a sensor which measured volumetric water content, temperature, and electrical conductivity. The new 5TE uses the same design theory as the ECH₂O-TE, but the location of the EC measurement is in the stainless steel screws instead of gold traces. Thus use of stainless steel screws has made the 5TE a more robust sensor.

5TE Soil Moisture Sensor Applications:

- Fertigation scheduling
- Fundamental research on soil decomposition dynamics
- Plant disease prevention

Specifications	
Range: 1-50 Dielectric Permittivity	Power: 3-16 VDC
Output: Digital 12-bit	Accuracy: ±1 Dielectric
Measurement Time: 10 ms	Cable Length: 5 m
Temperature: -40°C to +50°C	Dimensions: 14.5 cm x 3.3 cm x 0.7 cm
Connector Types: 3.5 mm "stereo" plug or stripped and tinned lead wires (3)	Resolution: 0.1% VWC (mineral soil) 0.25% VWC (rockwool)
	Datalogger Compatibility (not exclusive): <i>Decagon:</i> Em50, EM50R, ProCheck <i>Campbell Scientific:</i> CR10X, 21X, 23X, CR1000, CR3000, etc.

