

Soil Moisture Sensor SMEC-5TM

Volumetric Water Content Sensor

DATA SHEET

FEATURE SUMMARY

- Capacitance / frequency technology
- 70 MHz frequency
- minimizes salinity and soil effects
- Suitable for all soil and media types
- Fast response
- 0% to 100% VWC
- Made in USA

DESCRIPTION

Soil Moisture Sensor SMEC-5TM is manufactured in the USA by Decagon Devices. It is a basic volumetric water content sensor that will provide a relative value of water in the soil.

SMEC-5TM is buried in the soil at the desired depth, usually within or just below the root depth of the crop. Two sensors may be combined at different depths to provide a “dry” and “saturated” condition for irrigation purposes.

SMEC-5 is suitable for commercial agricultural growers, landscape managers, and serious gardeners.

When combined with **Dyacon Control Modules** and weather instruments, **SMEC-5** provides a robust solution with remote data telemetry to the user's cell phone or to Weather Underground® web interface.

The capacitance/frequency technology of **SMEC-5** provides a faster response to changing soil conditions than gypsum block technology.



KEY FEATURES

Construction: **SMEC-5TM** is fully potted and sealed for direct burial.

A 5 m cable is resistant to soil and sun exposure.

Interchangeability: Sensors may be interchanged and replaced by the user without calibration for most applications.

Data: Analog sensor output is compatible with a wide range of instruments. Water content is proportional to analog output.

Installation: **SMEC-5** is easily installed by the user's digging a hole and sticking the forks into the side of the hole. The sensor should be installed with the prongs horizontal, one above the other (on edge).

MEASUREMENT *

Measurement Time	10 ms
Accuracy	at least 0.03 m ³ /m ³
Resolution	0.001 m ³ /m ³ VWC in mineral soils, 0.25% in growing media
Output	10%-40% of excitation voltage
Range	0% to saturation

* Specifications determined by manufacturer.

ELECTRICAL

Power	2.5 VDC – 3.6 VDC, 10 mA typical
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MECHANICAL

Dimensions	8.9 cm x 1.8 cm x 0.7 cm (3.5" x 0.71" x 0.13")
Cable	5 m Shielded, twisted pair Stripped and tinned leads



Image 1: Approximately full scale.