



## SMEC 300 Soil Moisture/EC/ Temperature Sensor

### OVERVIEW

The moisture and nutrient status of your soil or container substrate are key pieces of information. They allow you to tailor your irrigation and fertilization program to suit your crop's needs. They also help identify if it is necessary to leach salts from the profile.

The SMEC 300 combines affordability and accuracy into a sensor that is easy to install. Soil moisture is measured by a capacitance type sensor driven by an 80 MHz oscillator. Soil salinity is measured by a pair of carbon ink electrodes which provide a large contact surface with the soil solution. Temperature is measured with a thermistor potted in the sensor molding.

The SMEC 300 is designed to be compatible with the WatchDog® data loggers and weather stations as well as the FieldScout® Soil Sensor Reader. SpecWare™ software enables you to view your data in graphical and tabular form as well as run reports customized to your application.

**Item 6470-6**  
SMEC 300 Sensor with  
6ft. cable

**Item 6470-20**  
SMEC 300 Sensor with  
20ft. cable



### STANDARD INTERFACES

- FieldScout Soil Sensor Reader, Item 6466 (firmware v. 4.4 or greater)
- WatchDog Stations and Loggers as follows:

Station #	Family	Station FW version*	Number of Sensors	Compatible Channels
1225, 1250	Micro Station	N/A	0	Incompatible
1400, 1525, 1650	Micro Station	2.0	2	A, D
1200, 1425, 1450	Micro Station	2.0	1	D
2475	Mini Station	3.5	1	A
2450	Mini Station	3.5	2	A, B
2425	Mini Station	3.5	3	A, B, C
2400	Mini Station	3.5	4	A, B, C, D
2550, 2700	Full Station	6.9	2	A, D
2800	Full Station	3.2	2	A, D
2900ET	Full Station	6.9	1	A

Specware software version 9.04 or greater required to communicate with stations connected to the SMEC 300 sensor.

\*Older WatchDog mini-stations can be upgraded with a new micro-controller chip (3300WD2). Full weather stations can be upgraded with a replacement micro-controller with integrated clock board (item 3300CBWM). Micro stations can be upgraded through SpecWare software. Contact Spectrum Technologies for details.

**Spectrum**  
**Technologies, Inc.**

3600 Thayer Court  
Aurora, Illinois 60504

Toll Free: (800) 248-8873 • Phone: (815) 436-4440

Fax: (815) 436-4460 • E-mail: info@specmeters.com

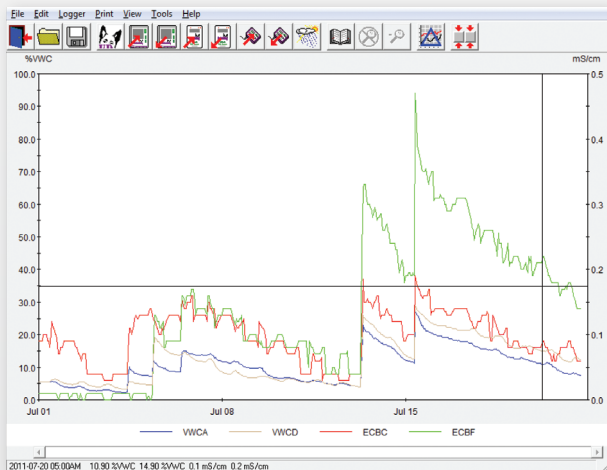
"To Measure Is To Know"

## **CALIBRATION OPTIONS**

The soil sensor readers (Item 6466) have an internal calibration feature. If the sensor will be connected to WatchDog data loggers, it can be calibrated with the Calibration Device (Item 6470CAL). The sensor is calibrated with 1.41 mS/cm standard solution.

## **SPECIFICATIONS**

- Cable length: 6 and 20ft. extendable up to 50ft.
- Sensing Area: 2.25in x 0.75in
- Range: VWC: 0% VWC to saturation  
EC: 0 to 10 mS/cm,  
Temp: 33 - 175°F (0.5 - 80°C)
- Resolution: VWC: 0.1%  
EC: 0.01 mS/cm  
Temp: 0.1°F (0.1°C)
- Accuracy: VWC: 3%  
EC: ± 2%  
Temp: ± 1°F (0.6°C)
- Output: Analog voltage, time division multiplexed
- Power: 3V @ 6 to 10 mA
- Connector: 2.5mm stereo plug



You can collect data and log results when the WaterScout SMEC 300 Sensor is connected to a WatchDog Station.



WatchDog 1000 Series Micro Station shown with one WaterScout SM 100 Sensor and one SMEC 300 sensor.

**Spectrum<sup>®</sup>**  
**Technologies, Inc.**

"To Measure Is To Know"

3600 Thayer Court  
Aurora, Illinois 60504

Toll Free: (800) 248-8873 • Phone: (815) 436-4440

Fax: (815) 436-4460 • E-mail: info@specmeters.com