

# AM400 SOIL MOISTURE DATA LOGGER WITH GRAPHIC DISPLAY



The AM400 is an inexpensive yet powerful irrigation scheduling tool that can improve the grower's bottom line. By helping the grower make better irrigation scheduling decisions, the AM400 can increase crop yield and quality while reducing water, pumping, and fertilizer costs. The unit also offers a range of environmental benefits including reduced groundwater contamination and run-off.

Operating on two AA batteries, the AM400 automatically records readings every eight hours from six Watermark™ soil moisture sensors located up to 1000 feet away. At the push of a button, the grower can view soil moisture graphs generated from the recorded data on the AM400's built-in graphic display. The displayed graphs make it possible to quickly determine soil moisture levels and trends at selected locations and soil depths.

When more detailed analysis of soil moisture data is required, ten months of soil moisture and temperature readings can be downloaded to a notebook computer or PDA. Downloaded data can be imported into a PC spreadsheet program or graphed directly using the optional AM400 Chart graphing software.

## AM400 FEATURES

- Runs on two AA alkaline batteries for a complete growing season.
- Logs data from six Watermark™ soil moisture sensors every eight hours.
- Displays graphs for each sensor showing five weeks of soil moisture readings.
- Easy to use with only one button.
- Soil moisture sensors can be located up to 1000 feet away.
- Soil moisture readings are automatically temperature corrected.
- Over ten months of data is maintained in non-volatile memory.
- Stored data can be downloaded to a notebook PC or a PDA.
- Optional software is available to graph downloaded data on a PC.



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## AM400 GRAPHIC DISPLAY

### MOISTURE SENSOR IDENTIFIER

This number identifies the sensor from which the displayed data was obtained. It can range from 1 to 6. The sensor is selected using the single external push-button. Each time the button is pressed, the display advances to the next sensor.

### CURRENT SOIL TEMPERATURE

This is the current soil temperature reading in degrees C obtained from the temperature correction thermistor assigned to this moisture sensor.

### CURRENT SOIL MOISTURE

The current soil moisture is displayed here. Soil moisture is expressed in terms of soil tension which is the negative pressure in centibars required to extract moisture from the soil. As moisture increases, the number decreases. A reading of zero centibars indicates saturation.

### HORIZONTAL SCALE

Each mark on the horizontal axis represents one week. The most current data is shown at the right.

### BATTERY VOLTAGE GAUGE

This indicator shows the current battery voltage. It functions like a fuel gauge to show the user how much battery life remains.

### VERTICAL SCALE INDICATOR

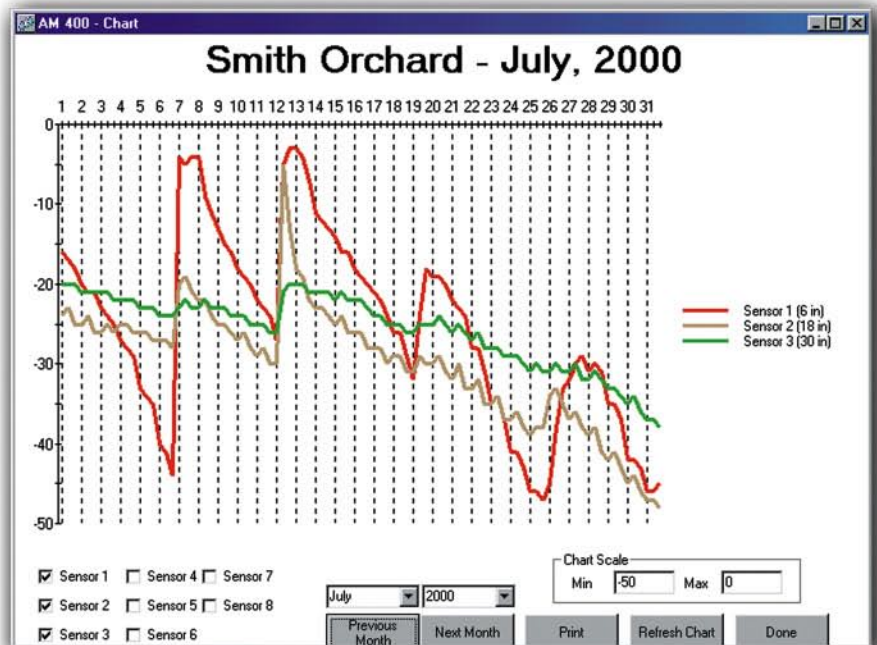
This field shows the lowest moisture level (highest centibar reading) that can be represented on the graph. Auto-scaling is employed on the vertical axis. The scale can be 25 to 0 centibars, 50 to 0 centibars, 100 to 0 centibars or 200 to 0 centibars depending on the lowest moisture level recorded over the last five weeks.

### SOIL MOISTURE GRAPH

The soil moisture graph shows soil moisture measurements taken three times per day for the last five weeks (35 days). Each column represents one measurement (data point) in centibars. As the moisture level increases, the column height increases. The most recent measurement appears at the right. The oldest appears at the left. Each mark across the top of the graph represents one week.

## AM400 PC GRAPHING SOFTWARE

AM400 Chart is an optional PC software package that graphs data files downloaded from the AM400. The user selects the sensor data to be graphed. Data from each selected sensor is displayed in a different color. Data is graphed by month. The vertical axis of the graph shows soil tension in centibars and the horizontal axis shows day-of-month. Graphs can be viewed on the computer screen or printed out on a color printer.



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