Preliminary

AquaMon Wireless Soil Monitoring Network

- **Minimize water use, maintain crop yields**
- **Eliminates the separate data logger to keep system costs low; node and base station for less than $600.**
- **System support through local dealers**

DESCRIPTION

Growers today face difficult challenges. Rising populations drive increased demand while the available water supplies dwindle. AquaMon applies the latest communications technology to assist growers in meeting these challenges.

Monitoring soil conditions is essential to achieve high crop yield with less water. Maintaining optimal levels of moisture in the soil permits crops to flourish. Doing so with less water requires data on soil conditions. Much as electronic fuel injection permits automobile engines to increase power while reducing fuel consumption and emissions; real-time soil monitoring can conserve water and protect yields.

AquaMon moves the data on soil conditions from the field sensors to the network base station through a robust wireless network. Each wireless sensor node connects up to 6 sensors (moisture, temperature, humidity, etc.) and provides a communications range of up to 15 miles. To move the data around hilly terrain or in from distant fields, range can be enhanced with repeater nodes.

When the data reaches the base station, it can be viewed locally or uploaded to the Internet. Locally, the data can be viewed on any Windows PC with the AquaMon Remote Sensor Viewing Platform (RSVP) software. RSVP permits growers to view live or archived data from any node in the sensor network.

The Internet allows sensor data to be viewed from any location. The grower can analyze the data and make his own decisions, or consult with an expert at a university in another state. Both the grower and the expert view the same data. The Internet link can be made through the grower's PC or through the mobile network by connecting the base station Cermetek Internet enabled GSM/GPRS modem

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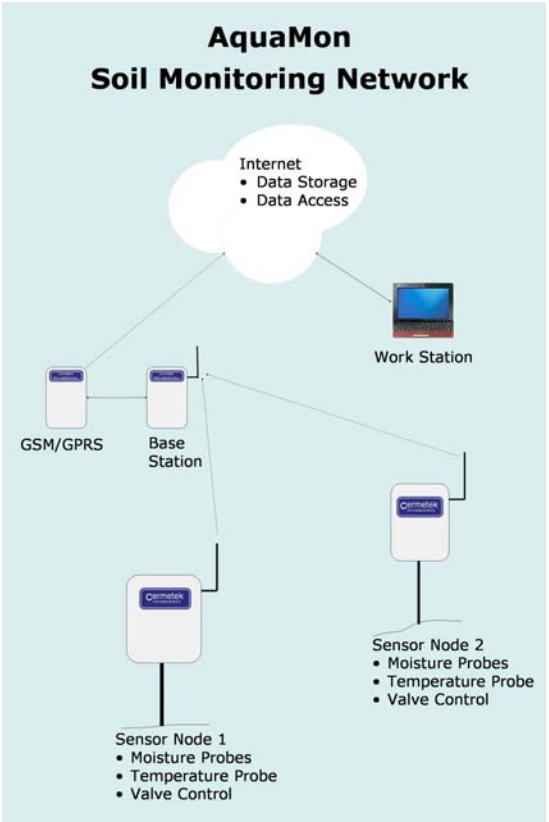


AQUAMON FUNCTIONAL DIAGRAM

FEATURES

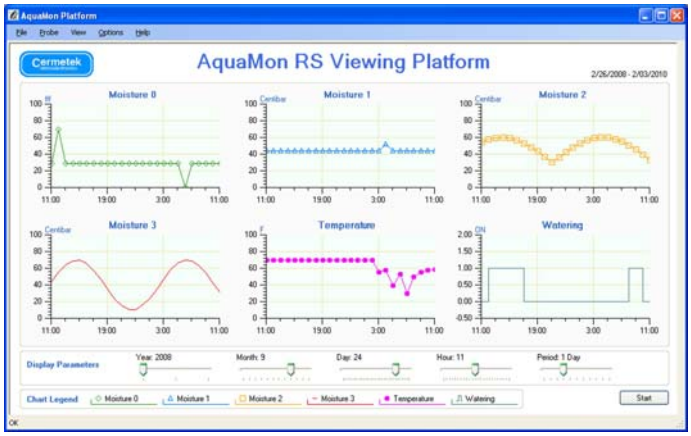
- 900 MHz ISM Band Radio network
- Modes transmit at up to 500 mW supporting a range to 15 miles line-of-sight
- Each Node supports up to 6 sensors
- Repeater Nodes extend range of sensor network
- Base Station collects data from sensor nodes and moves it to the local host or to the Internet
- Sensor Nodes powered by rechargeable batteries
- RSVP software simplifies data analysis

Preliminary

AquaMon Remote Sensor Viewing Platform (RSVP)

RSVP Benefits

- **Minimize water use; maintain crop yields**
- **Simple presentation of data permits quick irrigation decisions to be made**
- **RSVP provided free with purchase of AquaMon wireless soil monitoring network.**



RSVP Sample Display

RSVP Features

- **Runs with Windows XP, Windows VISTA, or Windows 7.**
- **Simultaneously displays all sensor values from the selected node.**
- **Display can be easily modified, including scale, chart titles, and units using a simple graphical interface.**
- **RSVP views live or archived sensor data**

DESCRIPTION

The AquaMon Wireless Soil Monitoring Network allows growers to actively monitor soil conditions for optimal use of water. But raw voltage readings supplied by the electronic sensors do not give the grower the information he needs to make irrigation decisions. The AquaMon Remote Sensor Viewing Platform (RSVP) presents the sensor data in meaningful units in an easily understood graphical format. Line graphs of all of the sensor values permits rapid analysis of field conditions.

The AquaMon RSVP software can be installed on any system running Windows7, Windows, Vista or Windows XP. When the system is connected to the AquaMon Base Station, the RSVP software takes the incoming sensor readings and converts them to useful graphs as shown in the example on this page. Growers and their agents can then use the provided data to determine when irrigation is needed.

RSVP simultaneously provides the values for all sensors connected to a given node. This provides the grower with a complete view of current soil conditions. RSVP software can be used to display archived data as well as current sensor readings. Growers can use this feature to compare current conditions with historical data.

The RSVP display can be easily modified using the graphic controls on the screen. The viewer can change the type of sensor, the time period shown, or the range of values. Readings for each sensor can be controlled separately. The flexibility provided by RSVP allows it to be used with any crop or any set of sensors.

Data from the AquaMon sensor network can be stored on the Internet as well as viewed locally. AquaMon RSVP code provides the same look as when the data is viewed on the AquaMon web site with your browser. This allows the grower to consult with an expert at the local university or distant country. The grower can look at the data using RSVP while the expert views the same on the AquaMon web site. Both viewers see exactly the same information presented in the same format.

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