IRRIGATION ASSOCIATION

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Smart Water Application Technology (SWAT) Performance Report

Testing Agency: Center for Irrigation Technology **www.californiawater.org**

Product: ETwater Smart Controller

Product Type: Climatologically Based Controller

Product Description: ETwater Smart Controller climatological adjustment uses local real-time ET/rainfall data and web-based scheduling engine to provide custom schedules.

SWAT Protocol*: Turf and Landscape Equipment Climatologically Based Controllers 5th Draft Testing Protocol (May 4, 2004)

The concept of climatologically controlling irrigation systems has an extensive history of scientific study and documentation. The objective of this protocol is to evaluate how well current commercial technology has integrated the scientific data into a practical system that meets the agronomic needs of turf and landscape plants. The evaluation is accomplished by creating a virtual landscape subjected to a representative climate to evaluate the ability of individual controllers to adequately and efficiently irrigate that landscape. After initial programming and calibration the controller is expected to perform without further intervention during the test period. Performance results indicate to what degree the controller maintained root zone moistures within an acceptable range. If moisture levels are maintained without deficit, it can be assumed the crop growth and quality will be adequate. If moisture levels are maintained without excess it can be assumed that scheduling is efficient.

***All SWAT Protocol may be viewed at www.irrigation.org**

ETwater Smart Controller SWAT Performance Summary

Irrigation Adequacy	Irrigation Excess
Minimum of 6 test zones: 100% **Maximum of 6 test zones: 100%** **Mean/Average of 6 test zones: 100%** **Irrigation Adequacy** represents how well irrigation met the needs of the plant material. This reflects the percentage of required water for turf or plant material supplied by rainfall and controller-scheduled irrigations. Research suggests that if this value is between 80% and 100%, the acceptable quality of vegetation will be maintained.	**Minimum of 6 test zones: 0%** **Maximum of 6 test zones: 6.3%** **Mean/Average of 6 test zones: 1.5%** **Irrigation Excess** represents how much irrigation water was applied beyond the needs of the plant material. This reflects the percentage of water applied in excess of 100% of required water according to data from CIMIS station #84 Browns Valley, Yuba County during the test period.

Product Detail Supplied by Manufacturer

ETwater™ Smart Controller **www.etwater.com**

Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
Replaces existing controller or is installed on a new system.	Local weather station through ETwater server	**Model 100:** Residential: Internet via landline phone (additional charge for wireless cell phone option) **Model 200:** Commercial: Internet via landline or wireless cell phone	Purchase price is based on number of zones initially activated. Additional zones may be activated at a later time at additional cost.	Residential: One-time optional hardware purchase allows phone connection through household electrical wiring rather than direct-wired phone.	The first year of Internet-based scheduling is free. Three-year subscription or discounted lifetime service purchase options are available thereafter.

Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
Model 100: Residential: 3 – 12 zones **Model 200:** Commercial: 12 – 48 zones Both models are activated via the Internet.	Capable of restricting the time of day for watering.	Capable of restricting watering days by selection or interval	❑ Sets initial watering schedule based on user's landscape profile ❑ Remote monitoring and management via 2-way Internet interface ❑ Unlimited number of programs ❑ Unlimited cycle and soak start times ❑ Water budget only when connected to Internet-based scheduling ❑ Maximum water time unlimited ❑ Rain sensor capable	If the ETwater Smart Controller Internet-based scheduling is discontinued it may be used as a standard irrigation controller with cycle and soak capability.