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### Smart Water Application Technology™ (SWAT™) Performance Report

Testing Agency: Center for Irrigation Technology [www.californiawater.org](http://www.californiawater.org)

Product: Alex-Tronix Smart Clock®

Product Type: Climatologically Based Controller

Product Description: The Alex-Tronix Smart Clock® is a battery-operated controller with temperature and rain sensors.

SWAT™ Protocol\*: Turf and Landscape Equipment Climatologically Based Controllers 7<sup>th</sup> Draft Testing Protocol (November 2006)

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](http://www.irrigation.org)

### Alex-Tronix Smart Clock® Controller SWAT™ Performance Summary

Irrigation Adequacy	Irrigation Excess
<b>Minimum of 6 test zones: 100%</b> <b>Maximum of 6 test zones: 100%</b> <b>Mean/Average of 6 test zones: 100%</b> 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.	<b>Minimum of 6 test zones: 0%</b> <b>Maximum of 6 test zones: 1.1%</b> <b>Mean/Average of 6 test zones: 0.2%</b> 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 #80 Fresno State, Fresno County during the test period.

### Product Detail Supplied by Manufacturer

Alex-Tronix Smart Clock® [www.alex-tronix.com](http://www.alex-tronix.com)

Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
Replaces existing controller or is installed on a new system.	Tested with on site temperature sensor with optional rain sensor.	Hard wired	Purchase price includes temperature sensor.	<input type="checkbox"/> Rain Switch Pole mount <input type="checkbox"/> Rain and Temperature Sensors Pole mount <input type="checkbox"/> Latching Solenoid <input type="checkbox"/> Stainless Steel Pedestal mount	None

#### Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
Available with 6 zones	Capable of restricting the time of day for watering.	Capable of restricting watering days by selection or interval.	<input type="checkbox"/> Multiple start times <input type="checkbox"/> Programmable rain delay <input type="checkbox"/> 5-yr Battery life with low battery indication	Smart Clock may be used as a standard irrigation controller including percent adjust and 4 independent programs with multiple start times.