

Smart Water Application Technology™ (SWAT™) Performance Report

Testing Agency: Center for Irrigation Technology	www.californiawater.org
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Product: Alex-Tronix Universal Smart Module® (USM®)
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Product Type: Climatologically Based Controller
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Product Description: the Alex-Tronix Universal Smart Module attaches to any new or existing AC controller to make it SMART. (Tested with a Rain Bird SST controller and Hunter Mini-Click rain switch.)
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<p>SWAT Protocol*: Turf and Landscape Equipment Climatologically Based Controllers 8th Draft Testing Protocol (Sept. 2008)</p> <p>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.</p>

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

Alex-Tronix Universal Smart Module® SWAT™ Performance Summary

Irrigation Adequacy	Irrigation Excess
<p>Minimum of 6 test zones: 99.1% Maximum of 6 test zones: 100% Mean/Average of 6 test zones: 99.9%</p> <p>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.</p>	<p>Minimum of 6 test zones: 0% Maximum of 6 test zones: 5.6% Mean/Average of 6 test zones: 2.2%</p> <p>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.</p>

Product Detail Supplied by Manufacturer

Alex-Tronix Universal Smart Module® (USM®)	www.alex-tronix.com
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Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
An add-on module that works with a new or existing AC controller	Tested with on site temperature sensor with optional rain sensor.	Hard wired	Purchase price includes temperature sensor.	<input type="checkbox"/> Rain Switch <input type="checkbox"/> Temperature Sensor	None

Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
Will control up to 8 stations.	Controlled by host controller	Controlled by host controller	<input type="checkbox"/> The module learns the peak demand schedule and makes adjustments based on day of year. <input type="checkbox"/> 5-yr Battery life with low battery indication <input type="checkbox"/> With temperature sensor, can suspend irrigation at owner designated temperature threshold.	The USM allows controller to operate at summer schedule until the link is re-established.