

Smart Water Application Technology™ (SWAT™) Performance Report

Testing Agency: Center for Irrigation Technology	www.californiawater.org
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Product: Toro Intelli-Sense

Product Type: Climatologically Based Controller
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Product Description: Toro Intelli-Sense climatological adjustment uses WeatherTRAK ET Everywhere™ ET/rainfall data and WeatherTRAK Scheduling Engine™ to provide custom schedules. (See details on back page.)

SWAT™ Protocol*: Turf and Landscape Equipment Climatologically Based Controllers 6th Draft Testing Protocol (December 1, 2004)
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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

Toro Intelli-Sense 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: 0% Mean/Average of 6 test zones: 0% 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 #75 Irvine, Orange County during the test period.

Product Detail Supplied by Manufacturer

Toro Intelli-Sense	www.toro.com
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Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
May replace existing controller or be installed on a new system.	Contact or end user calls to activate WeatherTRAK ET Everywhere™ 800-362-8774	Wireless network	Purchase price is based on number of zones. Wireless receiver is integral.	Optional wired or wireless rain sensor and wireless rain/freeze sensor.	Annual subscription signal fee. Multi-year package prices available.

Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
TIS-612: 6, 9 & 12 stations; Indoor and Outdoor Mount Options TIS-24: 24 stations	Capable of restricting the time of day for watering.	Capable of restricting watering days by selection or interval	<input type="checkbox"/> Includes copy button to simplify programming <input type="checkbox"/> Remote Internet-based irrigation management via two-way wireless <input type="checkbox"/> Standard program mode for plant establishment <input type="checkbox"/> Alert functionality <input type="checkbox"/> Unlimited cycle and soak, and number of programs	If the ET Everywhere™ scheduling is discontinued it may be used as a standard irrigation controller with water budget and cycle and soak capability.



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WeatherTRAK ET Everywhere™

- o Delivers daily ET updates via a wireless network for self-adjusting irrigation scheduling based on changing weather.
- o Collects data from more than 14,000 weather stations across the US including the NOAA network, state and local networks and private weather stations.
- o Applies scientific modeling techniques to validate local weather to 1 square kilometer.

WeatherTRAK Scheduling Engine™

- o Calculates irrigation schedules based on zone-specific, Irrigation Association recommended parameters including plant, soil, slope, and sprinkler type.
- o Supports user-defined water windows, water days and manual watering.
- o Built in and customizable plant settings.
- o Automated cycle and soak times according to soil and slope settings.