

Smart Water Application Technology™ (SWAT™) Performance Summary
Testing Agency: Center for Irrigation Technology www.californiawater.org
Product: Toro® EC•XTRA™ w/ XTRA SMART™ Wireless Weather Sensor and XTRA SMART™ Pod
Product Type: Climatologically Based Controller
Product Description: Toro EC•XTRA™ Timer with a XTRA SMART Wireless Weather Sensor and XTRA Smart Pod plugged into timer to convert conventional timer to smart controller.

SWAT Protocol*: Turf and Landscape Equipment Climatologically Based Controllers 8th Draft Testing Protocol (Sept. 2008)
 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 protocols may be viewed at www.irrigation.org
Toro EC•XTRA™ w/Wireless Weather Sensor and Smart Pod 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: 13% Mean/Average of 6 test zones: 5.3% 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
Toro® EC•XTRA™ w/Wireless Weather Sensor and Smart Pod www.toro.com

Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
For new or existing indoor EC•XTRA Timers.	Compact on-site weather sensor transmits daily temperature and solar exposure information.	Wireless communication up to 500 feet line of sight.	Includes timer, weather sensors, smart pod & scheduling advisor software.	Expansion modules to increase stations	none

Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
8 zones expandable to 10 stations with 2-zone module; Indoor.	Capable of restricting the time of day for watering in each of 3 programs	Capability to independently set any days(s) of week, 1-7 skip days or even/odd date in each program.	<input type="checkbox"/> Scheduling Advisor software enables programming with PC <input type="checkbox"/> 10-year historical weather database via Scheduling Advisor <input type="checkbox"/> Site-specific customization with zip code. <input type="checkbox"/> Automatic shut-off stops watering when it rains or freezes <input type="checkbox"/> Non volatile memory <input type="checkbox"/> Wireless weather sensor can interface with multiple SMART Pods.	Green LED on Smart Pod flashes to indicate problem; 10-year site specific historical average used until weather data transmission re-establishes. Existing rain/cold interrupts remain in effect per most recent transmitted information