

Smart Water Application Technology™ (SWAT™) Performance Summary	
Testing Agency: Center for Irrigation Technology www.californiawater.org	
Product: Toro® TMC-212 with Irritrol® Climate Logic™ Kit	
Product Type: Climatologically Based Controller	
Product Description: Toro TMC 212 controller with Irritrol Climate Logic Kit (CL-100 Wireless includes CL-M1 receiver module and CL-W1 wireless weather sensor/transmitter) to convert conventional controller 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 TMC-212 with Climate Logic Kit 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: 12.3% Mean/Average of 6 test zones: 5.8% 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 TMC-212 with Climate Logic Kit					www.toro.com
Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
New or existing TMC-212 controllers.	Compact on-site sensors transmit daily weather information (solar and temperature) to receiver module.	Wireless communication up to 1000 feet line of sight signal range.	Climate Logic Kit includes receiver module, cable adapter, weather sensor with rain/freeze interruption.	Optional remote control.	none
Additional Features					
Zones	Time of Day	Day of Week	Other		If Data Link is Discontinued
2-12 zones w/2 zone module expansion units	Capability to independently restrict the time of day for watering in each of 4 programs.	Capability to independently set an day(s) of the week, 1-31 skip days or even/odd date for each of 4 programs	<input type="checkbox"/> 10-year historical weather database w/SD Card included <input type="checkbox"/> Site specific customization with zip code or latitude/longitude. <input type="checkbox"/> Automatic split-cycle for hot weather adjustments>100% <input type="checkbox"/> Wireless weather sensor interfaces with multiple receivers. <input type="checkbox"/> Adjustable irrigation delay (0-3 days) following a rain event. <input type="checkbox"/> On-site adjustment history		Visual alarm will display on receiver's LCD; 10-year, site specific historical average will be used until on-site weather data transmissions re-establish. Existing rain/cold weather interrupts remain in effect per Receiver Module settings.