

Smart Water Application Technology™ (SWAT™) Performance Report
Testing Agency: Center for Irrigation Technology www.californiawater.org
Product: Toro Rain Master Eagle Plus EGP24i/Irritrol RS 1000
Product Type: Climatologically Based Controller
Product Description: The Toro Rain Master Eagle Plus series controllers with Irritrol RS100 wireless rain sensor may use any one of four different ET sources: historical ET data, manually entered actual data, local weather station, CIMIS network (CA residents) or downloaded ET via internet (requires optional hardware).

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

Rain Master Eagle Plus EGP24i/Irritrol RS 1000 SWAT™ Performance Summary

Irrigation Adequacy	Irrigation Excess
Minimum of 6 test zones: 89.5% Maximum of 6 test zones: 100% Mean/Average of 6 test zones: 95.4% 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: 3.3% Mean/Average of 6 test zones: 1.1% 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
Rain Master Eagle Plus EGP24i/Irritrol RS 1000 www.rainmaster.com

Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
Replaces an existing controller or installed on a new system.	SWAT tested with wireless Internet link to CIMIS weather station #80.	2-way wireless communication	Purchase price based on number zones and options	<input type="checkbox"/> Rain Sensor <input type="checkbox"/> Optional iCentral communication card via Internet	Monthly/annual subscription fees thereafter. Multi-year service plans available.

Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
8, 16, 24, 32, 40 or 48 stations in conventional wire configuration or up to 200 stations as a two-wire system.	Capable of independently restricting the time of day for watering for each of 8-16 programs	Capable of restricting watering days by selection or interval	<input type="checkbox"/> Smart Alert™ email & text messaging <input type="checkbox"/> Flow measurement & monitoring <input type="checkbox"/> Cycle and soak <input type="checkbox"/> Sensor ports <input type="checkbox"/> Programmable rain delay <input type="checkbox"/> Diagnostic and fault detection <input type="checkbox"/> Non-volatile memory <input type="checkbox"/> Review feature displays total runtime	Defaults to historical ET database if communication with real time ET data is lost. Monthly ET values may also be entered manually.