

## Smarter Lawn Watering – Automatically

Two devices that can smarten-up irrigation systems and cut water waste.

Americans depend on innovation and technology to rid our lives of drudgery and many of the mundane tasks we dislike and give us more time for the things we enjoy. Watering our lawns isn't really tiresome but technology has brought opportunities for us to significantly improve the performance and efficiency of our residential lawn irrigation system. Do you know that over half the water used in America is for irrigation and that most lawns are over watered? Are you interested in virtually eliminating unnecessary lawn watering while improving the health and appearance of your lawn? How about the possibility of cutting your water bill and conserving resources as well? In this article I will present two proven devices that will bring a new level of intelligence to the typical residential automatic lawn sprinkling system.



Automatic Irrigation Controller

Ideally, a lawn irrigation system is best managed on an “as needed” basis for optimum water use and lawn health. This requires the owner to observe soil moisture and plant conditions frequently to determine when irrigation is actually needed. Unfortunately, few home owners are aware of or willing to water on an “as needed” basis and they leave the job entirely to their automatic irrigation controller time clock. (The days and times are programmed into the controller based upon the owner’s best guess as to when the lawn will need water which is nearly impossible to predict considering the variability of our weather.) The problem is the controller knows nothing about daily and seasonal weather changes or, ultimately, the actual moisture condition of your lawn. The controller can start an irrigation cycle when it’s raining or when there is already plenty of soil moisture from a previous rain or irrigation. Enter another level of automation to replace human intervention.

University research has proven the water saving capabilities of both a rain sensor irrigation shut-off switch and of soil moisture based irrigation control. Each of these devices addresses the inherent problem of the typical lawn irrigation controller or time clock not recognizing the current rainfall status or the actual site conditions.

**Device No. 1.** A rain sensor is an irrigation shut-off switch that prevents an automatic sprinkler system from operating during and after a rainfall. The device overrides a scheduled irrigation after a specific amount of rainfall has occurred. When the collected rainwater has evaporated from the device, scheduled irrigations resume. Rain sensors are simple, economical and useful tools for preventing unnecessary irrigation. Research has shown a rain sensor can cut water use by 31% compared to systems without a rain sensor. They have been required by Florida law since 1991 on any new automatic irrigation system. Rain sensors are available in several designs and are usually connected into the automatic irrigation system's wiring. They are available where irrigation supplies are sold for about \$30 or can be installed by an irrigation contractor.



Rain Sensor Irrigation Shut-off Switch

**Device No. 2.** A soil moisture sensor is a water conservation accessory for conventional automatic irrigation controller time clocks that senses actual soil moisture levels and prevents irrigation from occurring when the moisture level is adequate for plant needs. The device connects to a typical residential system and consists of a sensor that is buried in the root zone of the irrigated area plus a control unit that is placed near the irrigation controller. If soil moisture is at or above a preset level, the soil moisture sensor will prevent the irrigation system from operating, eliminating an unnecessary irrigation cycle. If the prevailing soil moisture is below the preset level, irrigation will occur as normal. Since soil moisture conditions are continuously monitored, day to day as well as seasonal changes are automatically compensated for.

Independent university research studies have demonstrated an average water savings of 59% compared to a well managed time based controller, with no decline in turf grass quality. Adjustment time is necessary to fine tune the settings for optimum performance in each installation due to variables in soils, drainage patterns, sun exposure, etc. The technology has been available for over a decade but has recently become reliable enough and affordable for residential use. Soil moisture sensor equipment is available from several manufacturers



Soil Moisture Sensor

with varying levels of sophistication ranging in cost from about \$100 to over \$300. They are relatively new, but a few local irrigation supply stores can supply them or they may be ordered individually.

Either device may be installed by an experienced do-it-yourselfer or may be done by an irrigation contractor. No permit is required in Manatee County. Additionally, customers of Manatee County Utilities may be eligible for a 100% rebate up to \$125 of their documented cost for installing a rain sensor and a 100% rebate up to \$250 of their documented cost for installing a soil moisture sensor. Other rebate categories for making water saving improvements in your landscape are available. For more information about the Water Conservation Incentive Rebate Program, call Manatee County Utilities at (941) 792-8811 ext. 5327.

The products, brand names and photographs shown are for examples and illustrations only. Many other products are available and no endorsement or preference is intended or implied by those shown.

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