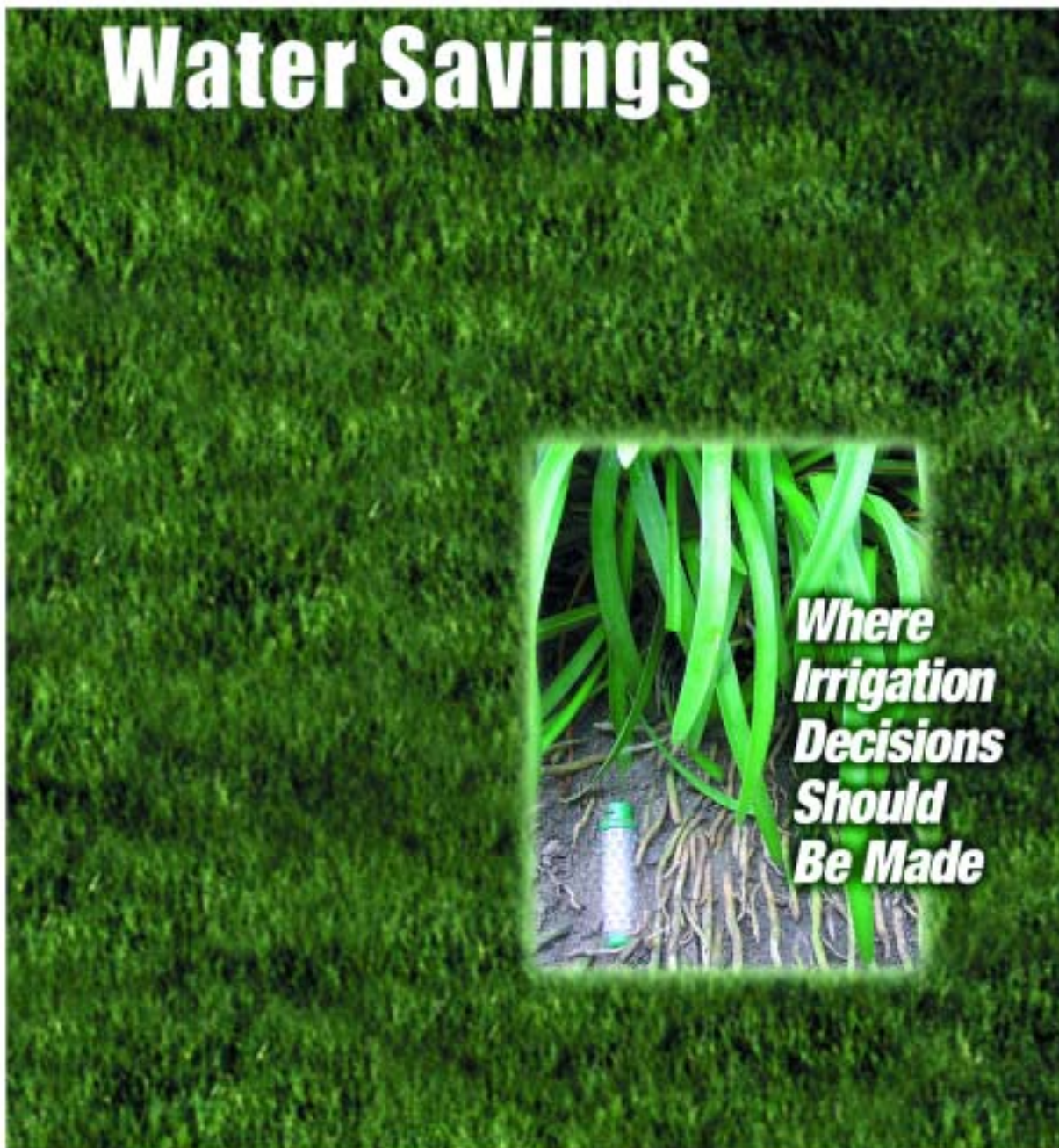


LANDSCAPE

Water Savings



*Where
Irrigation
Decisions
Should
Be Made*

*Soil moisture measurement and control products
for efficient irrigation water management*

IRR◊METER Co.

Optimizing Irrigation Worldwide, Since 1951



What are Smart Irrigation Controllers?

“Professionals call yard ‘sprinkler systems’ ‘irrigation systems.’ Traditional irrigation system controllers are really just timers. They turn the water on and off when they are told, regardless of weather conditions.

Smart irrigation controllers, on the other hand, monitor and use information about environmental conditions for a specific location and landscape — information such as **soil moisture**, rain, wind, the plant’s evaporation and transpiration rates, and, in some cases, plant type and more — to decide for themselves when to water, and when not to, providing *exactly* the right amount of water to maintain lush, healthy growing conditions.

Because Smart irrigation controllers are more efficient than traditional, timer-based controllers, they also reduce overall water usage, typically by 30% or more, saving you money and making a large, positive impact on your community’s conservation efforts and water supply.”

Quoted from the



**Water Conservation –
Financial Incentives may be available
from your Local Water Authority.**

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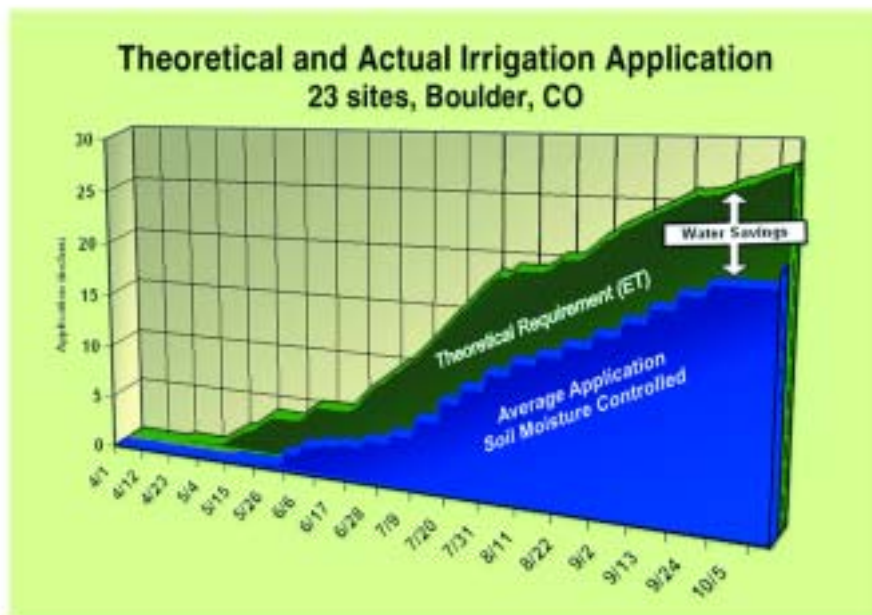
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The Watermark Sensor

Back in 1979, the Watermark sensor was introduced. Since then it has grown in popularity and gained acceptance worldwide for reliability and accuracy in measuring soil moisture. This sensor is the heart of all our landscape products. Watermark sensors last for years and are easily installed in the soil within the root area of the plants being irrigated. They are left in place and wired to control or reading devices so the moisture status can be determined whenever needed. The control products work in conjunction with conventional timer based controllers to make them SMART by eliminating watering when there is sufficient moisture in the soil. The monitoring products periodically record the moisture status, for analysis by the water manager when irrigation scheduling decisions are to be made.

For over two decades, this sensor has been utilized in numerous research studies worldwide. Specifically applicable to landscape irrigation usage, the following graph, from a report published in the American Water Resources Journal by William DeOreo, et. al., illustrates that management by soil moisture control can deliver proper irrigation while using less water than the theoretical requirement (ET_o).



WaterSwitch

Designed for use on residential systems, the WaterSwitch is the simplest and most economical of the Watermark control products.

A single sensor is located in a turf grass area of the landscape, or wherever the demand for water is the greatest. The WaterSwitch connects to the controller's sensor (rain switch) terminals and signals the controller to water only when the soil moisture is at or drier than the setting. It is for use with 24 volt AC irrigation controllers that have a sensor circuit and it is recommended the controller be capable of multiple start time programming to ensure efficient watering. The WaterSwitch is powered by the transformer of the irrigation controller and periodically reads the sensor.



Watermark Electronic Module (WEM)



The most versatile of the Watermark control products, the WEM reads two sensors spaced at varying depths in the plant root zone. This, and its wide range of moisture levels, makes it capable of being used with any plant material. Also, it can be wired to control an individual 24 volt AC irrigation valve, or the valve common to control multiple valves. This module is most commonly used in commercial landscapes and where deeply rooted or sensitive plant material needs to be controlled separately from the turf grass.

The WEM is powered by the 24 volt AC irrigation controller's valve outputs. It reads the attached sensors at every start time of the controller and either allows or eliminates the watering for that cycle.

Watermark Electronic Module – Battery Version



This control device is designed for use with battery powered controllers with sensor circuits. Like the WEM, it uses two sensors and has a wide range of moisture settings. It is powered by its own 9 volt battery, independent from the controller, and periodically reads the attached sensors.

Multiple Hydrozone System (MHS)

With large commercial landscapes, the variety of watering demands is often too diverse to be adequately judged by a single sensor location. For such applications, this control product provides the flexibility to independently control any number of valves watering plants with similar water demands (Hydrozones) separately. Up to eight independent moisture zones can be created per 24 volt AC controller, to control any number of station valves.

This product utilizes a modular design, so it can be custom configured to the individual needs of each landscape.

Our Landscape Design Guide demonstrates how all the Watermark soil moisture control products can be specified when designing systems. Suggested details drawings are available to the professional designer in Auto CAD format for ease of use.





Watermark Monitor

AUTOMATE YOUR SOIL MOISTURE READINGS.

Having soil moisture data readily available in an easy to interpret graphical format makes for better irrigation scheduling decisions. When irrigation is not directly sensor controlled, this data is interpreted and utilized in the scheduling process.

Up to eight sensors are directly wired to the battery-powered Monitor, a data-logger, which reads them according to user's selected time interval. Current readings are displayed for on-the-spot analysis, while the collected readings are downloaded for display as a graph on a computer screen. Several options are available for downloading data, even remotely, using radio, internet or cellular telemetry.



The efficiency of irrigation scheduling can easily be analyzed when soil moisture readings are displayed graphically. How dry the soil was when irrigation began, how wet it became, how rapidly it wetted, how long it stayed wet and to what depth the water penetrated, are all displayed. In effect, this creates a "report card" on your Irrigation applications.

This equipment is typically utilized on systems managed by central control systems, where management for many controllers is done from a central location.



Wireless Monitor

Similar in function to the Watermark Monitor, this data-logger utilizes wireless technology to transmit the sensor readings from the field locations. This eliminates the installation of long runs of wire in the field, thus saving considerable time and labor.

Up to 64 sensors can be read, at distances to 1500 feet, by the Wireless Monitor. The most current readings are displayed in the field and collected data can be downloaded either directly or remotely, using telemetry. This product is entirely battery-powered and FCC certified as license free for the user.

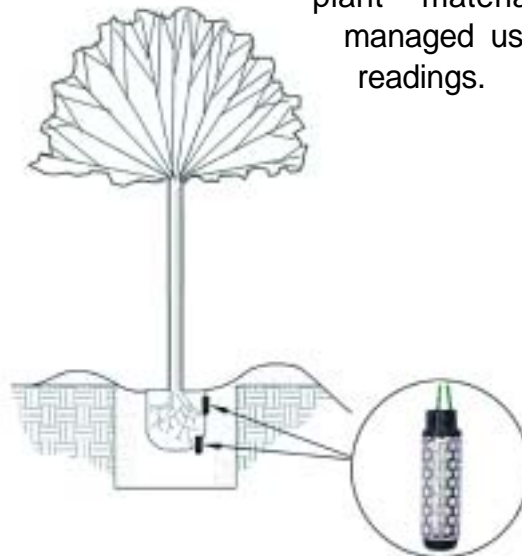


Handheld Meter



Sometimes manual sensor readings are utilized to manage hand watering applications. The Handheld Meter is portable and reads individual Watermark sensors. The irrigation manager carries this around so sensors can be read on the spot wherever they have been installed.

Manual watering applications, such as for specimen trees and other sensitive plant material, are effectively managed using hand-held meter readings.



Who We Are . . .

Since 1951, The Irrrometer Company, Inc. of Riverside, California has manufactured soil moisture measurement and control products for optimizing irrigation. From our historical base of providing tools to the Agricultural market for increasing yield and quality while saving water and pumping expense, we have progressed to offering similar solutions for urban irrigation systems with our switching Irrrometers as early as 1965. With over 40 years of experience in SMART WATERING, Irrrometer has technology that can assist your efforts to curtail the excessive use of urban irrigation water.



*From the makers of the
world's finest tensiometer.*

Available from your local irrigation supply store.

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