

WATER SWITCH

WATERMARK SOIL MOISTURE SENSOR AND SWITCH

*Automates Your Irrigation Controller
To Water Only When Necessary*

For Residential Use in Turf Grass with any 24 volt AC
irrigation controllers with sensor (rain switch) connections

INSTALLATION & OPERATION MANUAL



SMART Watering Made Easy

Soil

Moisture ...

Accurate

Reliable

Technology

1. Soak the sensor in water for several hours prior to installation. The Watermark sensor should always be installed wet.
2. Locate a representative spot in a turf grass area of the lawn that will determine if irrigation is necessary. This area should be evenly watered by the sprinklers with good sun exposure.
3. Cut out a small section of sod exposing the roots. (Fig 1.)
4. Insert sensor into the root area about 3 to 6 inches deep at a 45 degree angle (Fig 1). If the soil is hard, use a piece of ½" pipe to make an access hole. Pack the soil tightly around the sensor.
Note: Sensor must be firmly contacting the soil within the root area.
5. Dig a narrow trench to route the sensor wires back to the controller location.
6. Splice the sensor wires on to additional wire (minimum AWG 18-2 UF direct burial type) as needed with enclosed waterproof wire connectors to go all the way back to the controller location. Instructions for using enclosed wire connectors:

Turn off power before installing or removing connector. Product to be used in accordance with local & national codes.

- a. Strip #22-18 wires ½", #16-12 wires 3/8".
 - b. Align frayed strands or conductors.
 - c. Do not pre-twist. Place stripped wires together with ends even, but lead stranded wire slightly.
 - d. Twist connector onto wire pushing firmly until hand-tight. DO NOT over torque.
 - e. Swipe excess sealant in and around conductors. DO NOT REUSE.
7. Backfill the trench to bury the wire.
 8. Mount the WaterSwitch module next to or inside the irrigation controller. If mounting inside the controller enclosure, then place Quick Reference Card by controller so anyone servicing the system will know it is moisture controlled.

9. Attach switch wires to the sensor connections on the controller (may be labeled rain sensor). (Fig. 2) Brown & Yellow = closed switch to irrigate, Blue & Yellow = open switch to irrigate. Note: The WaterSwitch, a rain switch and a freeze switch can all be wired in series to the sensor connections (see diagram on back).
10. Attach Black and White power wires to the 24 Volt AC supply connections from the transformer. (Fig. 2) (see diagram on back)
11. Attach sensor wires (Green) to the wires coming from the sensor in the lawn. **Be sure the area where the sensor is located is irrigated by the last valve to operate.** You may have to change the sequence of the valves in order to water this area last. (All valves must have the opportunity to be watered before the area where the sensor is located is watered)
12. Select a moisture setting representative for your lawn (See Quick Reference Card). When selecting a moisture setting, always pick a wetter setting and observe the landscape for at least two irrigation cycles before adjusting up to a drier setting. If dry spots appear in the lawn, adjust the sprinklers to give more uniform coverage. If the entire lawn appears dry, then select a wetter moisture setting.
13. Program your controller with multiple start times to deliver the desired amount of water. The moisture switch will read the sensor hourly and activate to allow watering only when the soil is at, or drier, than the setting. This allows only the necessary irrigation cycles to occur. Shady areas and shrub or tree zones can be adjusted to water less frequently than the lawn by programming their start and run times accordingly. For instance, program the shrub zones to have half as many start times as the turf zones, since they do not need watering as frequently. However, the shrub zone run times can be longer so watering is sufficient for their deeper rooting depth. No run times should be so long that excessive run-off occurs.
14. A software program, called WaterPerfect, is available to download from <http://www.irrometer.com/download.htm>. This program is a Microsoft® Excel® workbook program that creates a recommended irrigation schedule to program into your controller, based on the characteristics of your landscape. This software is available to

download free of charge with your purchase. When downloading, use "conserve" for both the login and password to gain access to the program. You must have Microsoft® Excel® to open the program.

15. Cut out the Quick Reference card and mount near the WaterSwitch.

16. Water saving indicator light shows when watering is not necessary.



Fig 1

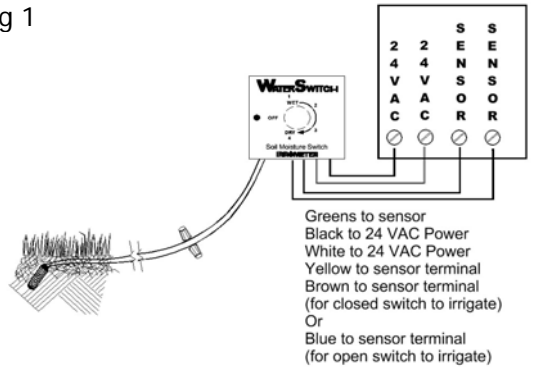
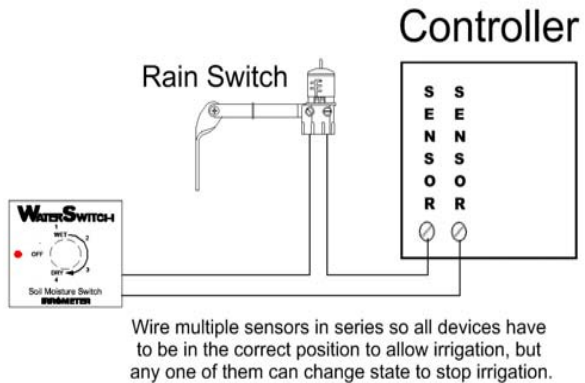


Fig 2



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