

## **HOW YOU MAY SAVE YOURSELF MONEY AND REDUCE WATER FOR IRRIGATION-RAIN SENSOR – PART 3**

How many times have you driven through your community and seen sprinkler systems operating while its raining ? It has probably been numerous times and your irrigation system may have been operating at the same time.

Recently, a Rain/Freeze Sensor, by Orbit, has been introduced to this market which is affordable and available in either hard wired or wireless configuration. We installed two of these in early April and they prevented our systems from starting during a recent rain. (. Model # used is 57069-20 and purchased at Home Depot.) While one time does not prove reliability, it is encouraging they worked as advertised the first time

Everything you need to install comes in box. Included, is a mount for attaching to a gutter or fascia board at your roof line. The next picture shows one mounted to a fascia board.



There is no cup to catch debris and leaves and clog unit as in other rain sensors. The unit operates (off or on) by the amount of moisture absorbed in material inside the unit (weight of water absorbed closes or opens relay). Adjustment is available to preset what level of rainfall you wish the unit to close or open at.

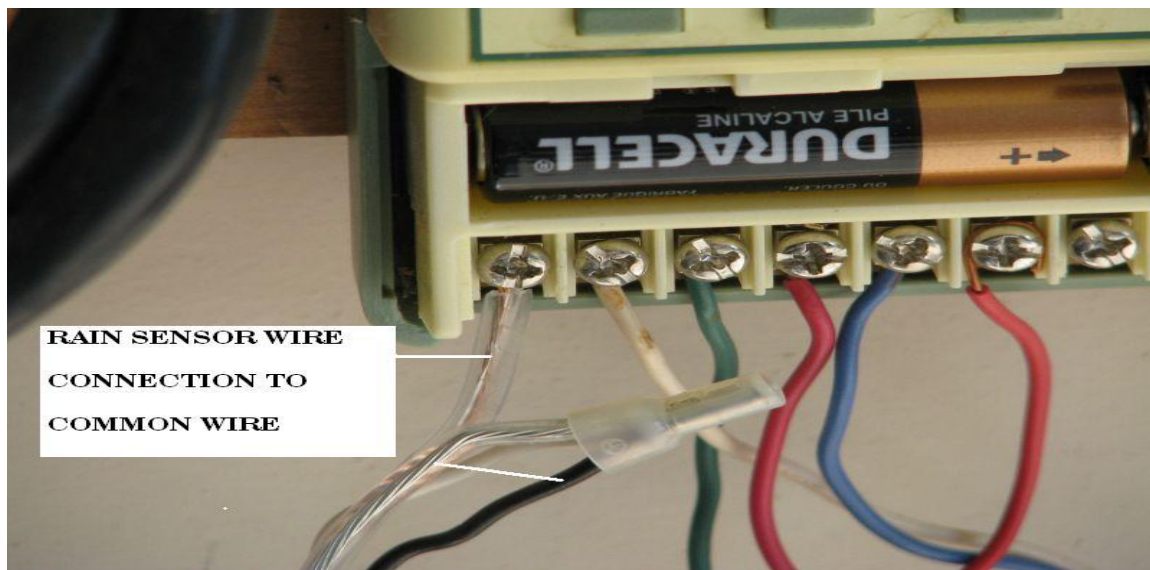
As shown in the above picture, unit needs to be mounted where it will not receive runoff from roof, other structure or tree branches.

The wire from unit is shown bending around bottom of fascia board to brick trim and down wall to entry point as shown in next picture. Note: Please be sure you allow enough wire to form a low point in wire so water will drip away from fascia board. Wire should be attached to wall to keep it from blowing in wind or being ripped off by careless yardmen.

The following pictures show wire attachment to wall, entry through garage wall and sprinkler controller.



Wiring diagram included in box is confusing. The next picture shows how to wire for any unit. All the wiring does is splice into the common (ground) circuit. In other words, disconnect controller common wire, attach to **either wire** from Rain Sensor unit and connect remaining wire from Rain Sensor unit to common on sprinkler controller. Use small screw on wire connectors.



That's all there is to it.

Cost: about \$30.00 including Rain Sensor, plastic wall anchors to keep wire out of the way, masonry bit and plastic wire clips. Another option for about \$50.00 is the wireless model rain sensor which doesn't have the external wiring and is a better option if you do not have a method to penetrate your wall to sprinkler controller.

Potential savings? Hard to calculate so we will make some assumptions and hope they are close.  
Assumptions:

- **Use 2006 actual data with 2,600 installed meters**
- 300,000,000 gallons per year for irrigation = 5,800,000 gallons per week
- Average of 116,200 gallons per meter per year (rounded) for irrigation
- 40 % of irrigation in 10 >30 mg and 60 % of irrigation in 30+ mg cost schedule
- Blended cost for 2009 = \$2.68/mg, 2015 = \$3.08/mg and 2055 = \$9.58/mg

**TABLE 3**

ANNUAL	VOLUME, GAL	2009	2015	2055
PER METER	115,400	\$ 309	\$ 355	\$1,105
10 % SAVED	11,500	\$31	\$36	\$111
20 % SAVED	23,000	\$62	\$71	\$221
ALL METERS				
10 % SAVED	30,000,000	\$80,468	\$92,312	\$287,362
20 % SAVED	60,000,000	\$160,935	\$184,623	\$574,724

Realistically, the rain sensor would probably shut down a system between 10 to 15 % of time in a normal year. In a wet year, (e.g., 2007) shutdown would approach 20 % of time.

A limited review of MUD 8 and MUD 9 meter usage suggests about 2 % of meters are very high usage (> 500,000 gallons per year), 50-60 % use 150,000 to 160,000 gallons per year and 35-40 % use 36,000 gallons +/- for irrigation. This suggest between 50-60 % of MUD 8 & Mud 9 customers are strong candidates for installation of rain sensors.

Using 2006 numbers, this study suggests a savings of between 30,000,000 to 60,000,000 gallons of potable water or when adjusted for our 6 % loss it suggest between 32 to 64 million gallons of ground water saved.

Meters are expected to increase to 4,500 by 2015. This projects rain sensor installations could increase metered water savings to between 52 to 104 million gallons by 2015. Combined with other steps, the required LSGCD 30 % reduction in ground water use by 2015 may be achievable at modest cost and inconvenience.

We strongly encourage you to install a rain sensor to shut down your sprinkler system during and immediately after rains.

Thanks for your interest and consideration.

MUD 8 Directors and Operating Staff.

Data provided in this series of articles is believed to be accurate; however, MUD 8 & MUD 9 assume no responsibility for guaranteeing savings or cost projected herein. It is the responsibility of the customer to implement changes to save water and associated cost.