

ProMeter™

AUTOMATIC WATER CONTROL

INSTALLATION INSTRUCTIONS

INCLUDED:
ProMeter Sensor
ProMeter Controller

PARTS NEEDED:
Waterproof Wire Nuts

TOOLS NEEDED:
Shovel or Sod Spade
Wire Strippers

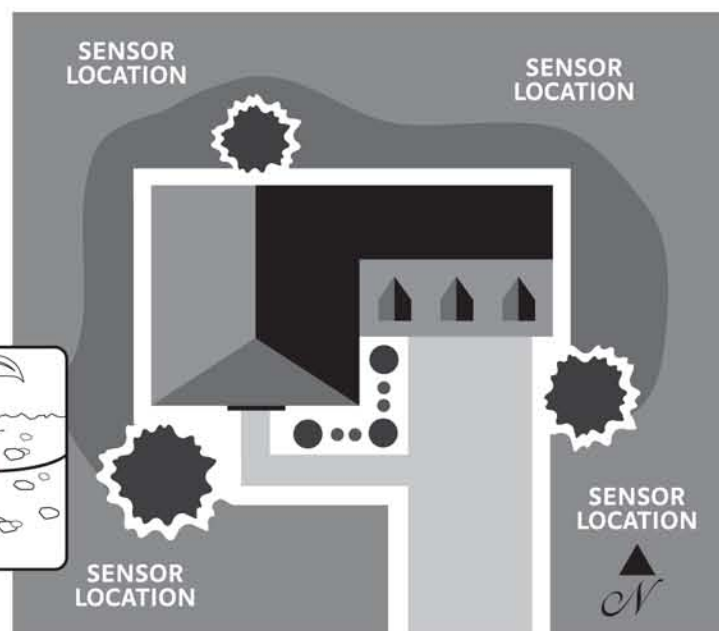
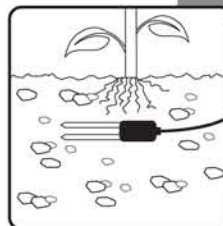
1. Smart Common
2. Common
3. Zone Leads
4. Dryer / Calibrate Button
5. LED Indicators
6. LCD Display
7. Reset / VWC Sample
8. Wetter / Bypass Button
9. Moisture Sensor Wire
10. Moisture Sensor



1 SENSOR PLACEMENT

The probe should be placed in an area that is most representative of the zones to be controlled. Consider sun/shade exposure, soil conditions, plants and slope. Dig a hole large enough to view the root zone of the plant material you are watering (generally turf).

Push the ProMeter sensor with the blades on edge into firm, compact soil at the bottom of the plant's root zone, usually 4–6 inches from the surface. For drip systems be certain to place the probe below a drip emitter. Avoid placing the probe near large trees where powerful roots could damage the sensor.



- Avoid White areas when installing ProMeter, as they indicate heavy shadow and runoff areas.
- Dark gray areas can be used as secondary locations.
- Place ProMeter near center of a zone.
- Place ProMeter in an area that receives average to just below average water.

If the sensor cable is not long enough to reach the desired location, cut and splice using additional ProMeter cable and splice kit. The ProMeter will function properly with sensor cable length up to 300 ft.

Bury the probe wire back to the ProMeter controller deep enough that it is not damaged by aeration or cultivating.

2 INSTALLATION CONFIGURATION

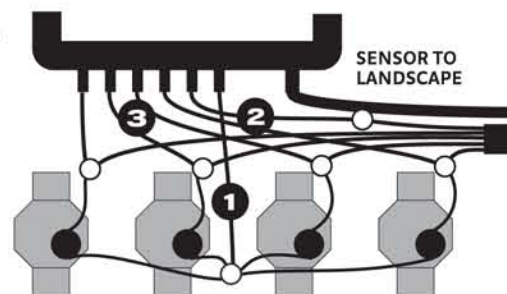
VALVE BOX Recommended



APPLICATION
Localized installation allows ProMeter to monitor and control individual zones or zone clusters in area where valves and moisture sensor are located. Each ProMeter will control up to 4 valves.

DIRECTIONS
Clean and dry a spot on the inside of the valve box. Peel off protective layer on the Velcro and firmly press the ProMeter onto the cleaned area inside the valve box.

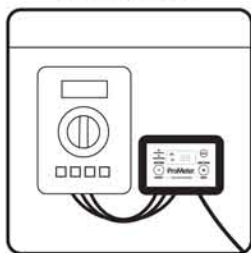
WIRING
1. Take all of the common wires from the valves and connect them to the Smart Common 1 on the ProMeter.
2. Using a wire nut connect the Common 2 from the ProMeter to the Common from the irrigation clock.
3. Using a wire nut connect a Zone Lead 3 from the ProMeter to one of the leads from a valve to be controlled and the corresponding wire from the irrigation clock.



Be sure to use waterproof wire nut assemblies.

OR

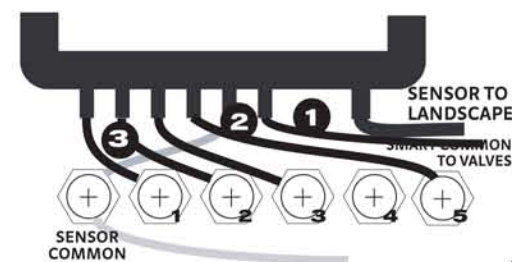
IRRIGATION CLOCK Alternative



APPLICATION
Use ProMeter to control specific zones from the irrigation clock. This allows the user to apply water content readings from the specific zones in the landscape.

DIRECTIONS
Clean and dry a spot on the inside of the valve box. Peel off protective layer on the Velcro and firmly press the ProMeter onto the cleaned area inside the valve box.

WIRING
1. Connect the Smart Common (green) to the common wire going to the valves.
2. Connect Common (white) from the ProMeter to the common port on irrigation clock.
3. Connect the ProMeter's Zone leads (blue) wires to the zone terminals to be controlled by the ProMeter. All wires going to zones remain attached to irrigation clock. **All zones controlled by the ProMeter must be assigned contiguous to the same irrigation program.**



3 SETUP

1. The ProMeter is in Bypass mode until an Irrigation Trigger Point is set or the ProMeter is calibrated.
2. To calibrate, go to the irrigation clock and manually trigger a saturating irrigation cycle of all of the zones that will be controlled by the ProMeter. This watering event is necessary to fully charge the ProMeter and saturate the soil for calibration purposes.
3. Take a 5 gallon bucket of water or a hose and soak the area where the ProMeter™ probe is located. Thoroughly saturate the soil surrounding the probe.
4. After completing step 3, immediately start the ProMeter's automatic calibration program by pressing the "dryer" button for 2 seconds. The display on the ProMeter will show CA, indicating it is calibrating. Once calibration has commenced, pressing any button will cancel the process. It will take approximately 6 hours for the ProMeter to calculate the water holding capacity of any soil and set an appropriate irrigation trigger point.

A. During calibration all irrigation events are blocked as this would alter the soil moisture data being collected by the ProMeter.

B. Calibration should be conducted overnight and scheduled at a time when precipitation is not forecast.

C. Once the calibration sequence is complete, water conservation begins.

MODES

Sleep Mode

In order to preserve energy the ProMeter LCD display sleeps until it is excited by an irrigation event or user input.



WC (Water Content)

By pushing either the Wetter or Dryer button the ProMeter wakes up and displays volumetric water content. A "WC" in the LCD window indicates the current volumetric water content. After 30 seconds of no user input the display will turn off.



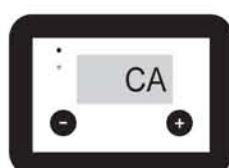
ITP (Irrigation Trigger Point)

While in WC mode switch to ITP by pushing either the Wetter or Dryer button. "ITP" will be displayed in the LCD. To adjust ITP simply push the Wetter or Dryer buttons until the desired ITP is displayed. After 5 seconds of no user input the ProMeter will return to WC mode.



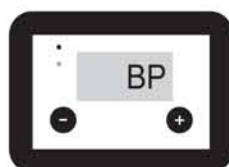
CA (Calibrate Mode)

While in WC mode push the Dryer button for 2 seconds to begin automatic calibration. "CA" will be displayed in the LCD. To adjust the ITP push the Wetter or Dryer buttons until the desired ITP is displayed. After 5 seconds of no user input the ProMeter will return to WC mode.



BP (Bypass Mode)

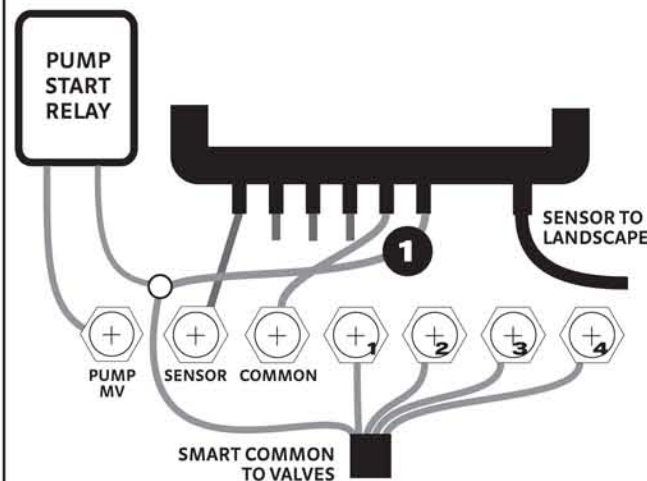
To override the ProMeter and use your irrigation clock to control the sprinklers. While in WC mode hold the Wetter button for 2 seconds. The ProMeter will display BP indicating it is in Bypass Mode.



PUMP START RELAY INSTALLATION

To attach the ProMeter to an irrigation system with a pump start relay, the Smart Common 1 from the ProMeter provides the common for the pump start relay. If installing the ProMeter on an existing system, disconnect the irrigation clock's common wire going from the clock to the pump start relay. Connect the loose end to the ProMeter's Smart Common 1. The common wire going to the valves is also connected to the ProMeter's Smart Common wire 1.

If the ProMeter is to be installed with a clock configuration, proceed with the clock installation as described above.



If the ProMeter is going to be installed with a valve configuration or with multiple ProMeters, all Smart Commons must be wired to the Pump Start Relay.

Tips for Optimum Water Conservation

Integrating a ProMeter™ is a simple and effective way to conserve water while maintaining a beautiful landscape. By measuring moisture where it matters most (in the soil), the ProMeter allows watering events to occur only when needed. Optimum water utilization in any landscape is the result of integrating a ProMeter into a well-designed sprinkling system with sound irrigation clock management. To fine tune your system use the following guidelines.

Integrating a ProMeter with a Standard Irrigation Clock

Set irrigation clock to water daily

The ProMeter™ does not call for irrigation events. It merely prevents them from occurring when adequate moisture is detected in the soil. **MorphH2O** recommends that irrigation clocks be set to provide scheduled daily irrigation. In actuality, the ProMeter may determine that your landscape only needs to be watered once a week, but with watering events scheduled daily the landscape is assured to receive water when the plants need it most.

Setting watering durations

When using one ProMeter Sensor to monitor and control multiple zones it is important that each zone be programmed proportionally.

Example Situation

Lets say you have a ProMeter™ controlling the following 4 zones:

Zone 1 is a turf area on the north side of the house that gets very little sun and is watered by rotors.

Zone 2 is also a turf zone with rotors but it waters the front side of the house which gets more sunshine.

Zone 3 waters the turf in the park strip along the side walk with spray heads.

Zone 4 is a drip line that waters the foundation plants around the front of the house with 1 GLYPH emitters

Sample Application

Place the probe in the zone, that is most representative of the combined zones - Zone 2

In this example.

Zone 1 - 20 minutes (rotors in the shade)

Zone 2 - 30 minutes (rotors in the sun)

Zone 3 - 10 minutes (spray heads)

Zone 4 - 45 minutes (drip emitters)

Remember, each time the ProMeter permits a watering event, each zone will be watered

Summary

In this example the ProMeter™ is only taking readings in Zone 2, the reading in that zone is representative of the other three zones. It acts as a weather station taking into account all of the atmospheric elements (temperature, wind, rainfall etc..) that effect soil moisture content. By measuring moisture in the soil the ProMeter also takes into account plant utilization and programmed watering. If the ProMeter determines that Zone 2 doesn't need water it assumes the other zones linked to the ProMeter are in a similar condition and they will not be watered either.

Fine Tuning Your System

Observe your landscape for a week or two to identify areas of over or under watering and make the adjustment indicated below:

SYMPTOM

Dry or wet spots within zones

POSSIBLE CAUSE

1. Over growth blocking a sprinkler head.
2. Clogged sprinkler head, nozzle or emitter
3. Improper nozzles
4. Poor sprinkler head spacing.

SOLUTION

1. Prune overgrowth or raise sprinkler head
2. Replace or clean sprinkler or emitter.
3. Install appropriate nozzle
4. Reconfigure sprinkling system. Consider new low flow multi-stream rotors.
5. Make certain that all sprinklers in a zone deliver the same amount of water per square ft. (matched precipitation rate). Never combine rotors or impact heads with spray heads. Even when all sprinkler types match you may need to change nozzles to correlate with the sprinkler heads coverage pattern.

Entire zone is too dry or too wet

The duration for the zone's irrigation event is either too long or too short

If a zone is too wet, decrease the station run time for that zone.
If a zone is too dry, increase the station run time for that zone.

Entire yard is too dry or too wet

1. The irrigation trigger point (ITP) is set too high or too low.
2. The moisture sensor is buried too deep or too shallow

1. If the entire yard is too dry, increase the (ITP). If the landscape is too wet, decrease the (ITP). Make small adjustments, one or two volumetric water units at a time.
2. Reposition the moisture sensor. If the landscape is too dry, move the probe closer to the surface. If the landscape is too wet, increase the depth of the probe in the soil.

Warranty and Disclaimer

MorphH2O warrants to the initial purchaser of this product that it will be free of defect in material or workmanship under use for a period of two years from the date it is delivered to the initial purchaser. This limited warranty is not transferable. This limited warranty does not include those parts which fail under standard regular maintenance of an irrigation system including as set forth in the **MorphH2O** product instructions. The remedy under this limited warranty is limited to the repair or replacement, at **MorphH2O** Corporation's option, of the defective parts of the warranted product. Repair or replacement of a part does not extend the warranty beyond the initial warranty period. This is the only warranty applicable to the product. To the fullest extent allowable by law, the duration of any implied warranty applicable to the product is limited to the two year duration of this express warranty.



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