Intelligent Moisture Sensing Irrigation Controller: Garden Tower Recommended Settings

Make sure this unit is always <u>oriented top-up</u> to prevent water intrusion. Absolutely <u>do not allow to</u> <u>freeze</u>! (The manufacturer will not warranty against neglect.) These are very capable controllers with a commercial grade soil moisture probe and solar panel (optional). They take the guesswork out of watering by automatically compensating for clouds/sun, wind, temperature, and plant water demand. We have fully preprogrammed your controller! <u>Simply hold down the power button to turn it on</u> once fully installed (probe in soil, source hose under pressure) and you're all set.

Below is how we configure the irrigation controller for a midwestern climate (Please read all the details before making any adjustments, and also reference the manufacturer's instructions):



Dry Control: 53% This is the **primary variable to adjust** based on performance of the controller. This is the setpoint which controls what level of soil moisture activates the irrigation system. If the top row of the tower is getting too dry (moisture probe turns white), increase this value (up to 3% at a time) and the controller will come on **more frequently**. Reduce this value to water less frequently.

Adjustment will primarily be based on the average daytime relative humidity of your regional climate. In Phoenix a setting of 58% may work best, while in Seattle 48% could be ideal.



Current Level: N/A NEVER ADJUST THE CURRENT LEVEL! Adjusting this varible will alter the calibration of the controller. We have NEVER had to calibrate these meters and we have used them for 3 years. Calibration will vary by soil composition and is a technical process which should be avoided as it is not required for optimizing performance.



Wet Control: 58% This variable should only be changed if adjusting the dry control does not achieve satisfactory results. <u>Make multiple small adjustments to the dry</u> <u>control for at least a week before changing the wet control</u>. The wet control is the shut-off or deactivation point for the irrigation system.

The moisture probe should be installed below the center point of the tower and it takes time for the water to percolate towards the sensor. Therefore, current level readings will often exceed the wet control level after the irrigation controller completes a watering cycle.

Increase the wet control (up to 3% at a time) if the top of the tower is being watered consistently and adequately but the bottom rows of the tower are too dry. This will result in deeper/heavier watering cycles. Conversely, decrease the wet control value if the bottom levels of the tower are consistently excessively wet.



Clock Setting: This setting has no impact on the function of the irrigation controller when used in the smart, moisture sensing mode. <u>Holding down the Mode button</u> toggles the mode of the controller between a "dumb" timer and the "intelligent" moisture sensing mode.



Start Time: 00:01 In the smart moisture sensing mode, the irrigation controller should be operational all day and all night (detecting soil moisture and watering if required). We have found this makes for the most consistent performance and easiest adjustment for optimization.



End Time: 23:59 This end time provides for 24-hour sensing and operation of the controller. We don't recommend altering this.



Max Watering Cycle: 1 Hour This is a safety setting which sets the maximum length of time that the irrigation controller will remain activated and allowing water to flow.

If the controller waters for 1 hour and does not reach the "wet threshold" value, then it will shutoff entirely and **beep indefinitely until a button is pushed**!

The watering system for the Garden Tower is calibrated to ~0.5 gallons per minute; thus, an hour would amount to 30 gallons of water! A single cycle would never exceed 10 gallons except for initial tower setup if the soil was dry (and not pre-watered during setup as it should be)! This could be set more conservatively at 30 minutes if desired.

Additional Info:

- Locate the (optional) solar panel where it will receive 2 hours or more of <u>direct</u> sunlight per day.
- Holding down the > Menu/Mode button for a few seconds will change the controller's mode to "timer", where it has different settings and no longer uses the intelligent moisture-probe based watering. See the manufacturers instructions for more details
- The battery life on these controllers is outstanding. They can go for weeks without sunshine with the included NiMH rechargeable batteries.
- Again, never allow the controller to freeze
- And make sure the controller is oriented as it is pictured here with the top of the controller facing the sky and the screen vertical (facing you). If it is not, water could eventually damage the electronics protected by the transparent plastic display/controls cover. This controller is not sold as "waterproof" and orientation is important to the longevity of this expensive instrument!