

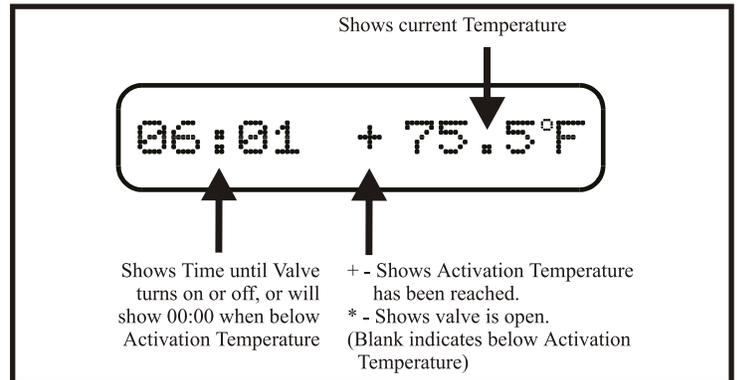
DG2100S Operating Instructions

STARTUP

The **DG2100S** controller will start automatically when plugged in. The factory settings are:

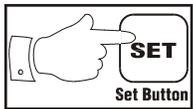
- **First Stage:** When temperature is above **78°F**, water is **on 1 minute, off 10 minutes**.
- **Second Stage:** When temperature is above **88°F**, water is **on 2 minutes, off 10 minutes**.

Even if the controller is left unplugged for long periods of time, all settings will be retained. Once in operation, the controller will **Smart-Scan**, or display its settings every few minutes. It also will show whether the **room temperature is higher than the set temperature** with a (+) plus symbol in the middle of the display. **Valve running or open** is shown with a (*) symbol.



CHANGING SETTINGS

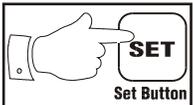
If the factory settings of the **DG2100S** are not to your liking, all of the settings are easy to change. There are two buttons on the face of the controller, marked **▲** and **SET**. The **▲** button is used to alter the settings currently in the controller. The **SET** button is used to enter the menu screens and move to each of the different settings.



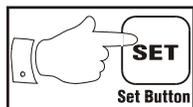
1. To begin, press the **SET** button once. This will cause the screen to display the message, **“Temp Scale=°C °F”**, with the cursor blinking on the arrow. If the valve was open, it will automatically close, until you are done adjusting the controller’s settings.



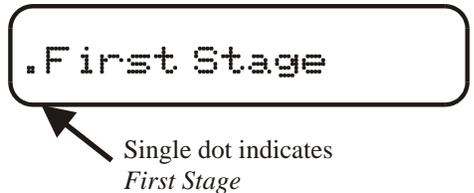
2. This first menu screen sets whether the controller measures temperature in degrees **Fahrenheit** or degrees **Celsius**. The **DG2100S** controller comes set to **Fahrenheit**. If you wish to switch to **Celsius**, press the **▲** button. The arrow will flip toward **“°C”**. When the arrow is pointing to the desired temperature scale, press the **SET** button again.



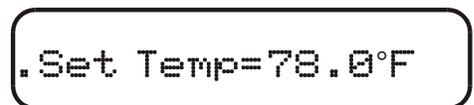
(Please note: If you change the temperature scale, the controller will reset the activation temperatures to zero. Please be sure to set them in steps 4 and 7.)

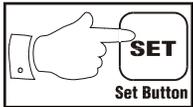


3. The controller will display, **“.First Stage”**. The single dot before the **F** indicates that you are about to set **First Stage** settings, that is, the lower of the two activation temperatures and its watering times. Press **SET** to advance to the next screen.



4. **“.Set Temp=78.0°F”** will be on the controller display or whatever other temperature is currently set. The cursor will be flashing on the **tens digit** of the temperature. Press the **▲** button to increase the **tens digit** of the temperature to whatever new number you require. Any value within



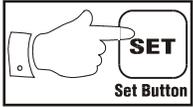


zero to nine will be accepted. Press the **SET** button to advance the cursor to the **ones digit** of the temperature.

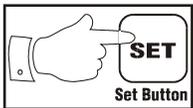
Holding the button down will not advance the setting; you must press once for each increment.



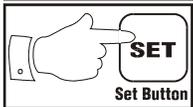
5. The cursor is now at the **ones digit** of the first set temperature. Again, press the **▲** button to change the ones digit to any number, zero to nine. When the correct **ones digit** is in place, press the **SET** button to advance the cursor to the **tenths place** of the temperature.



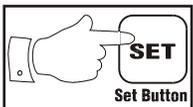
(If you accidentally enter the wrong number at any point, it is OK to press the SET button through all of the remaining menus and start again to correct the error.)



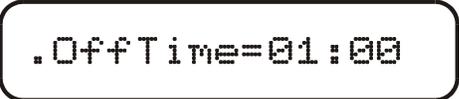
6. The cursor is now at the **tenths place** of the temperature. Again, press the **▲** button to adjust the **tenths digit** to whatever number is desired. When the correct number is in place, press the **SET** button to advance to the next screen.



7. The controller will display, **“.On Time=01:00”**. (Or whatever the **On Time** is currently set to.) This indicates that when the temperature is above the first temperature, and below the second temperature, the **valve will open for one minute** and zero seconds. This time can be changed to anything from zero minutes and one second, **(00:01)**, to ninety-nine minutes and fifty-nine seconds, **(99:59)**. Each digit is adjusted with the **▲** button. When the digit is correct, advance to the next with the **SET** button.



8. Once the **On Time** is set, the controller will display, **“.Off Time=09:00”**. This indicates that when the temperature is above the first set temperature, & below the second set temperature, the controller will keep the **valve closed for 9 minutes** between **On Times**. This value, like the **On Times**, can be set to anything between **00:01** and **99:59** and is set the same way.



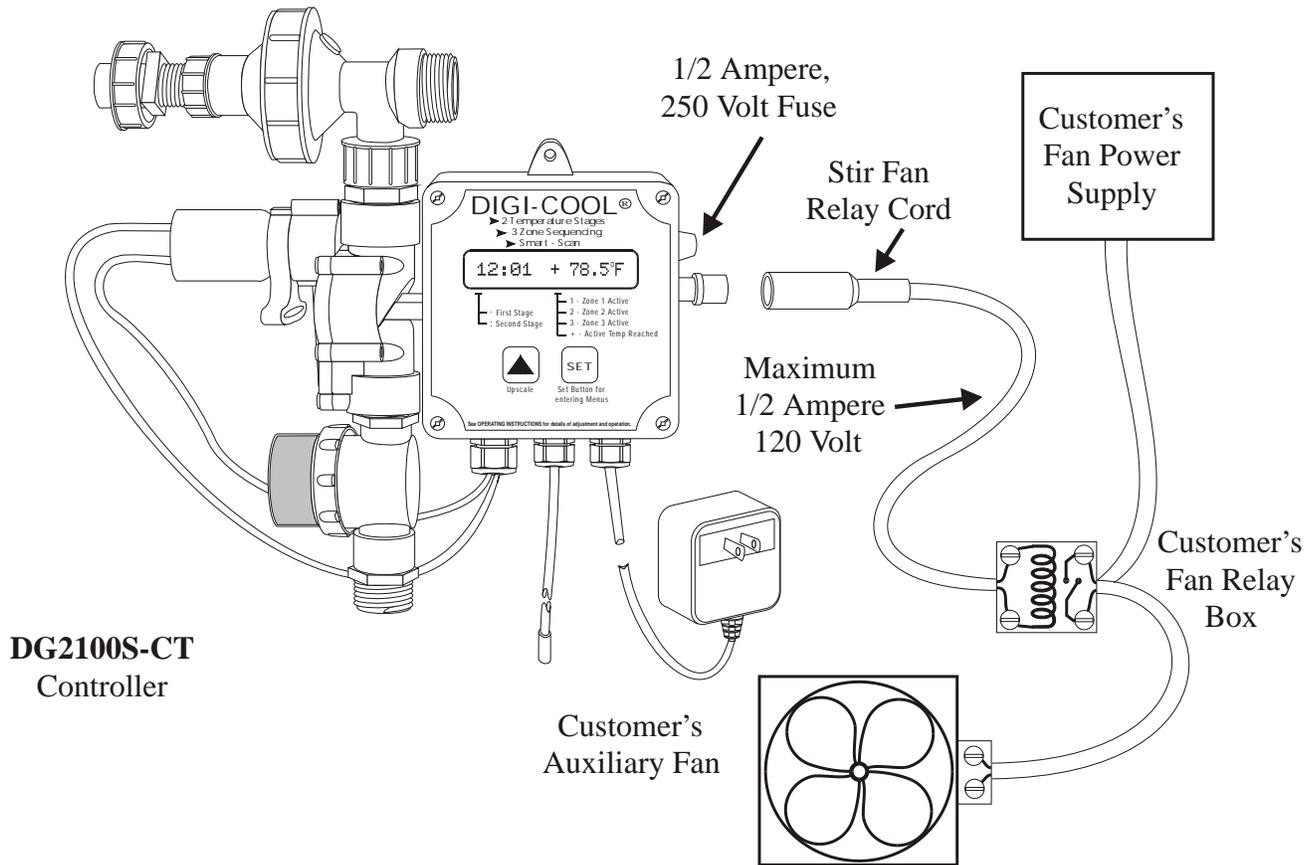
9. After the **First Stage Off Time** is entered, the controller will display, **“:Second Stage”**. The two dots in front of the “S” are to remind you that you are now entering **Second Stage** settings. Whenever the temperature is higher than the **Second Stage temperature**, the controller will ignore the **First Stage times**, and run the valve with the **Second Stage times**. Entering the **Second Stage Temperature, On Time** and **Off Time** is identical to the **First Stage** settings in steps 3 - 8.



Double dot indicates *Second Stage*

(Remember: the **Second Stage Temperature** must be higher than the **First Stage temperature**. The controller will not allow you to leave that screen until you have entered a temperature higher than or equal to the first.) After entering the last digit of the **Second Stage Off Time**, the controller will pause momentarily to store your settings in permanent memory, and will then resume operation with the new settings.

Digi-Cool DG2100S-CT with Auxiliary Fan Control



INSTALLATION

Your **DG2100S-CT** Controller should be installed in accordance with local ordinances governing the usage of electrical appliances. It is safer and less costly to have all wiring done by a licensed electrician. The **DG2100S-CT** is designed to work with an existing Stir Fan system. The controller provides a 120 volt, 1/2 ampere output intended to power a switching relay.

Please **DO NOT ATTEMPT TO DIRECTLY POWER A FAN** with the **DG2100S-CT** controller.

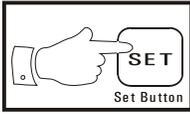
OPERATION

Your Digi-Cool **DG2100S-CT** is factory set to activate the stir fan whenever the air temperature is at or above 68 degrees Fahrenheit. The fan will automatically shutdown when the water nozzles are activated, to prevent cold, wet drafts.

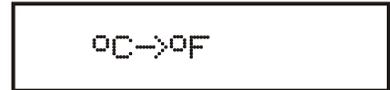
CHANGING SETTINGS

Attached you will find “**DG2100S** Operating Instructions”. The only difference between a **DG2100S-CT** (this controller) and a **DG2100S** is the Stir Fan control.

If the factory settings of the **DG2100S-CT** are not to your liking, all of the settings are easy to change. There are two buttons on the face of the controller, marked  and . The  button is used to alter the setting currently displayed on the controller. The  button is used to enter the menu screens and move to each of the different settings.



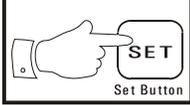
1. To begin, press the **SET** button. If the valve or fan was activated, it will shut off until you are done programming the controller. The screen will display the message, “°C °F”, with the cursor blinking on the arrow.



If at any time you want to get out of the menus without changing the controller’s settings, you can unplug the controller and plug it back in. The controller will restart normally. If at any time you make an error while programming the controller, you can go back and reprogram it later. You cannot “break” the controller by entering the wrong settings. You can change the settings as often as you like.



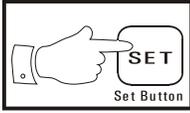
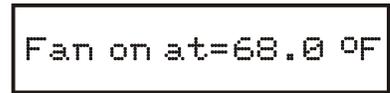
2. The first menu screen sets whether the controller measures temperature in degrees Fahrenheit or degrees Celsius. The **DG2100S-CT** comes set to Fahrenheit. If you wish to change the settings, press the **▲** button until the blinking arrow points toward the scale you desire. When the setting is correct, press the **SET** button again.



(Note: If you change the temperature scale, the controller will reset the activation temperatures to zero. In order to avoid the wrong temperatures being set, please be sure to set them in steps 2A below, and steps 4 and 7 of “**DG2100S Operating Instructions.**”)

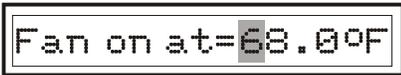
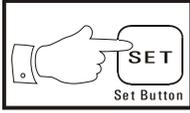


2A. The second menu screen will display “Fan on at = 68.0°F”, or whatever other Fan temperature is currently set. This setting indicates at what temperature the controller will activate the Stir Fan.

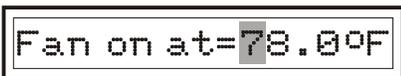


The cursor will be flashing over the tens digit of the temperature. Press the **▲** button to change the digit to whatever number you desire. Press the **SET** button to advance to the ones digit of the temperature. Again, press the **▲** button if you wish to adjust the ones digit of this temperature. When the desired number is under the flashing cursor, press the **SET** button to advance the cursor to the tenths place of the temperature. Once again, press the **▲** button to adjust the tenths digit to whatever number is desired. When the correct number is in place, press the **SET** button to advance to the next screen.

⋮



EXAMPLE: To change Stir Fan temperature from **68.0°F to 72.0°F**, do the following: With the cursor blinking on the tens digit, in this case the 6 of the 68.0, press the **▲** button to increase the 6 to 7.



Press the **SET** button to move on to the ones digit. (8 in this case.)



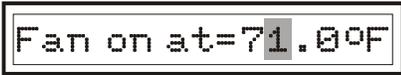
To change the 8 to a 2, press the **▲** button. The first time will increase the 8 to 9.



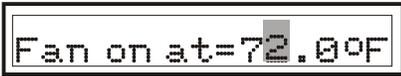
Press the **▲** button again. The 9 will roll around to 0.



Press the **▲** button again. The 0 will increase to 1.



Press the **▲** button again. The 1 will increase to 2.

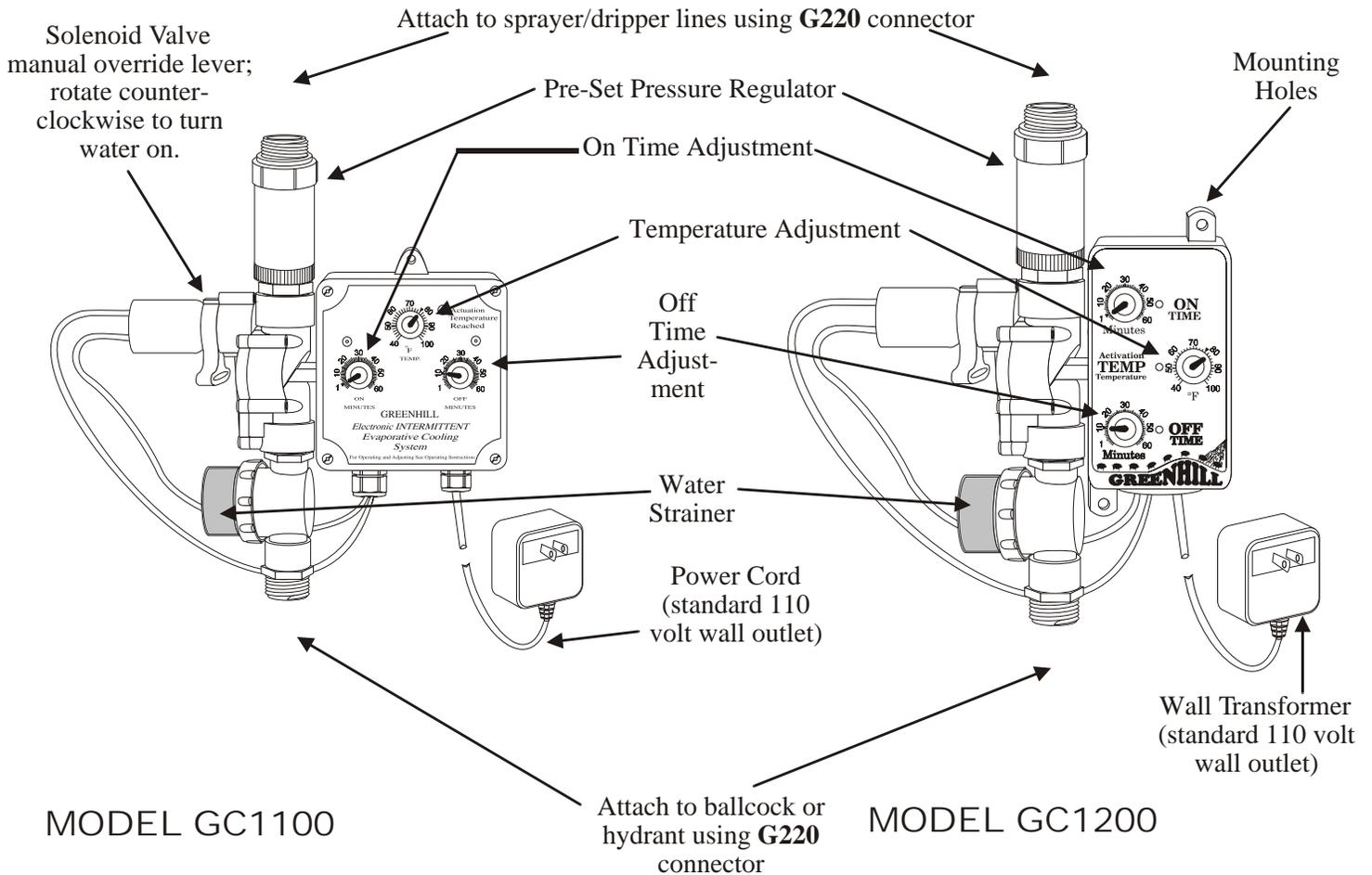


Press the **SET** button to move on to the tenths place. (0 in this case.)



Because the 0 is already correct, simply press the **SET** button again. Having completed the Fan temperature, the controller will move to the next menu screen.

Continue with Step 3 on attached “**DG2100S Operating Instructions**”



Model GC1100 And GC1200 Operating Instructions

Controller Adjustment

The Greenhill Intermittent Controller has three user adjustments: On Time, Off Time and Temperature. The best starting points are marked, and are On for 1 minute, Off for 9 minutes, and 78°F Activation Temperature.

Timing Adjustment

The On Time is adjustable from 0 to 60 minutes. Observe the green blinking On light; turning the knob clockwise will increase the On Time and slow the green light's blinking speed. Turning the knob counter-clockwise will decrease the On Time, and thus increase the light's blinking speed. Off Time adjustment works the same as On Time, but has a red blinking light.

Temperature Adjustment

The Activation Temperature is adjustable from 40° to 100° F. The Temperature adjustment also has a red light that indicates when room temperature exceeds Activation Temperature.

This means that at temperatures above the Activation Temperature, the Controller will be running, and if the green On light is blinking, water will pass to the nozzles. If the temperature is below the set point, the controller will wait until the temperature rises before activating the water.

GREENHILL CONTROLLER TROUBLE-SHOOTING and FIELD REPAIR

Water Valve will not shut off

!!! UNPLUG CONTROLLER !!!
Check Manual Override Lever. It should be in the OFF (down) position. If not, place it in the OFF position (down, "5 O'Clock")

Water Valve will not shut off

Disconnect Outlet Port. Cycle Valve using the Manual Override Lever. (Up/Down, Up/Down)

Water Valve will not shut off

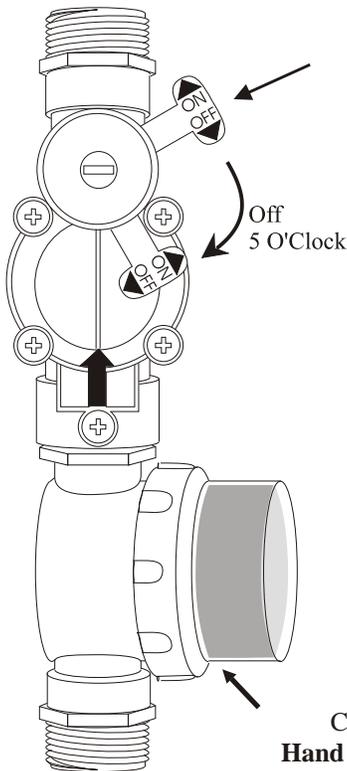
Connect Valve to a hot water source and cycle Override Lever as above.

Water Valve will not shut off

Use Caution!! Clean valve using a vinegar solution. Pour solution inside valve and allow it to stand for a few minutes. Flush with cold water. Repeat from above.

Water Valve will not shut off

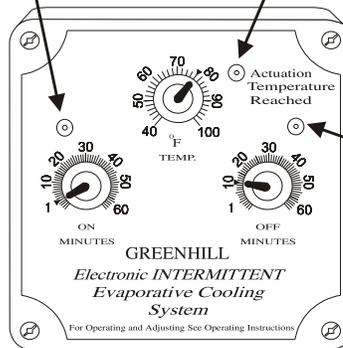
Return Unit for Repair.



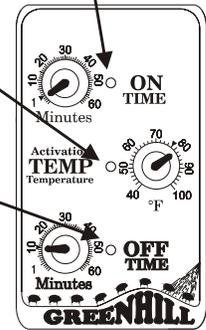
Green "On" light

Red "Activation Temp." light

Green "On" light



Model GC1100 controller



Model GC1200 controller

Water Valve Shuts Off

!!! PLUG CONTROLLER IN !!!

GC1100 or GC1200

Turn all three knobs counter-clockwise. Red "Activation Temp" light should be on; either the green "On" or the red "Off" light should be on. Every 30 seconds or so, the "On" and "Off" lights should alternate.

When green "On" light and red "Activation Temp" lights are on, water should flow. (An audible click should be heard when it switches on.)

When red "Off" and red "Activation Temp" lights are on, or if the red "Activation Temp" light is off, water should shut off.

If your controller does not function as outlined above, return unit for repair. If controller now functions normally, remember to restore appropriate settings before using unit.

DG2100

Check settings and change if necessary. (Refer to **DG2100** Operating Instructions.) When running normally, there will be a count-down on the left of the display, and a temperature reading on the right. (Note: Every few minutes, the controller will "Smart-Scan" through its settings, rather than displaying the temperature. This should only take 32 seconds.)

When the temperature is above either of the temperature stage settings, a "+" or a "*" will appear in the middle of the display.

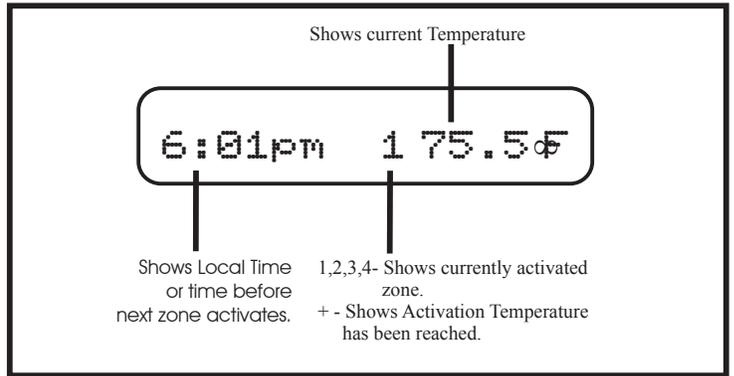
When a "*" appears in the display, the water should switch on. (An audible click should be heard when it switches on.) At any other time, the water should be off.

DG2100ST Operating Instructions

STARTUP

The DG2100ST controller will start automatically when plugged in. The factory settings are:

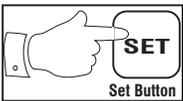
- ☛ **First Stage:** When temperature is above 78°F, water is **on 1 minute, off 10 minutes.**
- ☛ **Second Stage:** When temperature is above 88°F, water is **on 2 minutes, off 10 minutes.**
- ☛ **Temp Scale:** Temperature is set to **Fahrenheit** and can be changed to **Celsius.**
- ☛ **Clock:** **12 hour am / pm** clock.
- ☛ **Enable Time:** **8:00 am**; when zones can become active.
- ☛ **Disable Time:** **5:00 pm**; zones can no longer be active.
- ☛ **Zones:** Preset is **1 zone.**
- ☛ **Time:** **12:00pm**; make sure to set this to your local time as soon as possible.



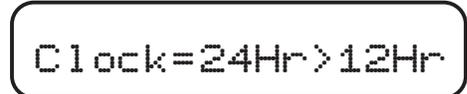
Even if the controller is left unplugged for long periods of time, all settings will be retained. Once in operation, the controller will **Smart-Scan**, or display its settings every few minutes. It will also show whether the **room temperature is higher than the set temperature** with a (+) plus symbol in the middle of the display. The current active zone is also displayed in this spot. As there are 4 possible zones, the numbers range from 1-4 where a number 1 means that zone one is currently the active zone.

CHANGING SETTINGS

If the factory settings of the DG2100ST are not to your liking, all of the settings are easy to change. There are two buttons on the face of the controller, marked and . The button is used to alter the settings currently in the controller. The button is used to enter the menu screens and move each of the different settings.



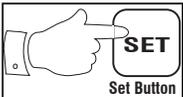
1. To begin, press the button once. This will cause the screen to display the message, **Clock=24Hr>12Hr**, with the cursor blinking on the arrow. If a zone is active it will automatically close, until you are done adjusting the controller's settings.



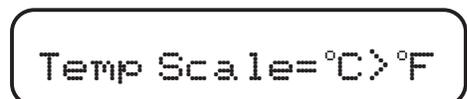
Holding the button down will not advance the setting; you must press once for each increment.

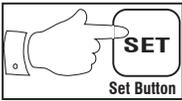


2. The first menu screen sets whether the controller cycles daily on a 24 hour clock, or in both the am and pm on a 12 hour clock. The DG2100ST preset is a 24 hour clock. If you wish to switch to 12 hour clock, press the button. The arrow will flip toward **12Hr**. Another push of the button will flip the arrow back to **24Hr**. When the arrow is pointing to the desired temperature scale, press the .



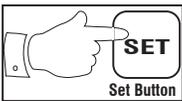
3. The message **Temp scale= °C>°F** appears, with the cursor blinking on the arrow.





4. This menu screen sets whether the controller measures temperature in degrees **Fahrenheit** or degrees **Celsius**. The **DG2100S** controller comes set to **Fahrenheit**. If you wish to switch to **Celsius**, press the button. The arrow will flip toward **°C**. Pressing the button again will cause the arrow to switch back to **°F**. When the arrow is pointing to the desired temperature scale, press the button again.

(Please note: If you change the temperature scale, the controller will reset the activation temperatures to zero. Please be sure to set them in steps 8 and 11.)

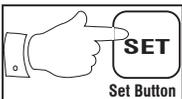
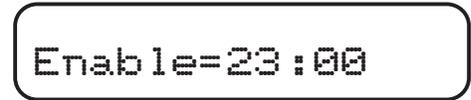


5. The controller will display the message **Enable=08:00am**. The cursor will be flashing on the **tens digit** of the time. Press the button to increase the **tens digit** of the time. Press the button to change the ones digit of the time and continue through the time settings until your desired time to begin allowing active levels is reached.

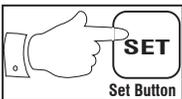


Using a 12 hour clock.

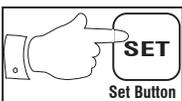
Using a 24 hour clock.



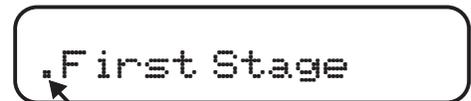
6. If the controller is set to use a 24 hour clock, settings from **STEP 5** use military time. For example, **11:00 pm** should be entered as **23:00**. If a 12 hour clock is being used, the time can be entered in either **am or pm**. Press the button to enter disable time settings.



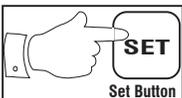
7. Next enter the appropriate time for the controller to stop allowing active zones at the **Disable=05:00pm** prompt. This is done by using the button to set each digit of the time. When the time is set at the desired levels, press the button to move on to setting stage settings.



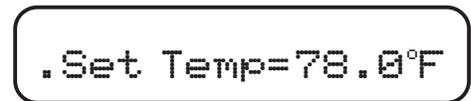
8. The controller will display, **.First Stage**. The single dot before the **F** indicates that you are about to set **First Stage** settings, that is, the lower of the two activation temperatures, and its watering times. Press to advance to the next screen.



Single dot indicates First Stage.



9. **.Set Temp=78 °F** will be on the controller display or whatever the temperature is currently set at. The cursor will be flashing on the **tens digit** of the temperature. Press the button to increase the **tens digit** of the temperature to whatever new number you require. Any value within zero to nine will be accepted. Press the button to advance the cursor to the **ones digit** of the temperature.

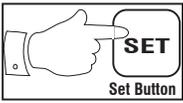


Temperature is to be set.



10. The cursor is now at the **ones digit** of the first set temperature. Again, press the button to change the **ones digit** to any number, zero to nine. When the correct **ones digit** is in place, press the button to advance the cursor to the **tenths place** of the temperature.

(If you accidentally enter the wrong number at any point, it is OK to press the button through all of the remaining menus and start again to correct the error.)



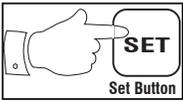
11. The cursor is now at the **tenths place** of the temperature. Again, press the button to adjust the **tenths digit** to whatever number is desired. When the correct number is in place, press the (SET) button to advance to the next screen.



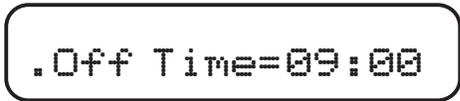
12. The controller will display, **.On Time=01:00** .



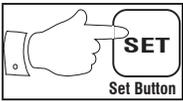
(Or whatever the **On Time** is currently set to.) This indicates that when the temperature is above the first temperature, and below the second temperature, the **valve will open for one minute and zero seconds**. This time can be changed to anything from zero minutes and one second, (**00:01**), to ninety-nine minutes and fifty-nine seconds, (**99:59**). Each digit is adjusted with the (▲) button. When the digit is correct, advance to the next digit with the (SET) button.



13. Once the **On Time** is set, the controller will display, **.Off Time=09:00** .



This indicates that when the temperature is above the first set temperature, and below the second set temperature, the controller will keep the **valve closed for 9 minutes** between **On Times**. This **Off Time**, like the **On Times**, can be set to anything between **00:01** and **99:59** and is set the same way. Press the (SET) button to advance to setting stage two settings.

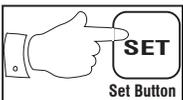


14. After the **First Stage Off Time** is entered, the controller will display, **:Second Stage** .

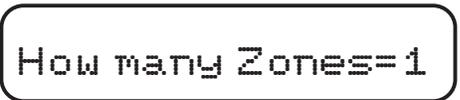


The two dots in front of the **S** are to remind you that you are now entering **Second Stage temperature**, the controller will ignore the **First Stage times**, and run the valve with the **Second Stage times**. Entering the **Second Stage Temperature, On Time**, and **Off Time** is identical to the **First Stage** settings in steps 3-8. (Remember: the **Second Stage temperature** must be higher than the **First Stage temperature**. The controller will not allow you to leave that screen until you have entered a temperature higher than or equal to the first.) Press the (SET) button to advance to the next menu for setting zone information.

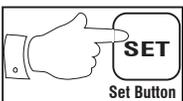
Double dot indicates
Second Stage



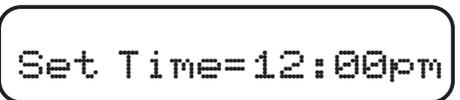
15. The controller will display **iHow many Zones=1** . The preset is 1 zone. Press the (▲) button to increase the number of zones.



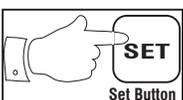
If you are using **less than 4** zones the sequencer will output starting at the total number of zones and ending at zone 1. For example, if 3 zones are set output will be ordered zone 3, zone 2, zone 1. Press the (SET) button to set the current local time.



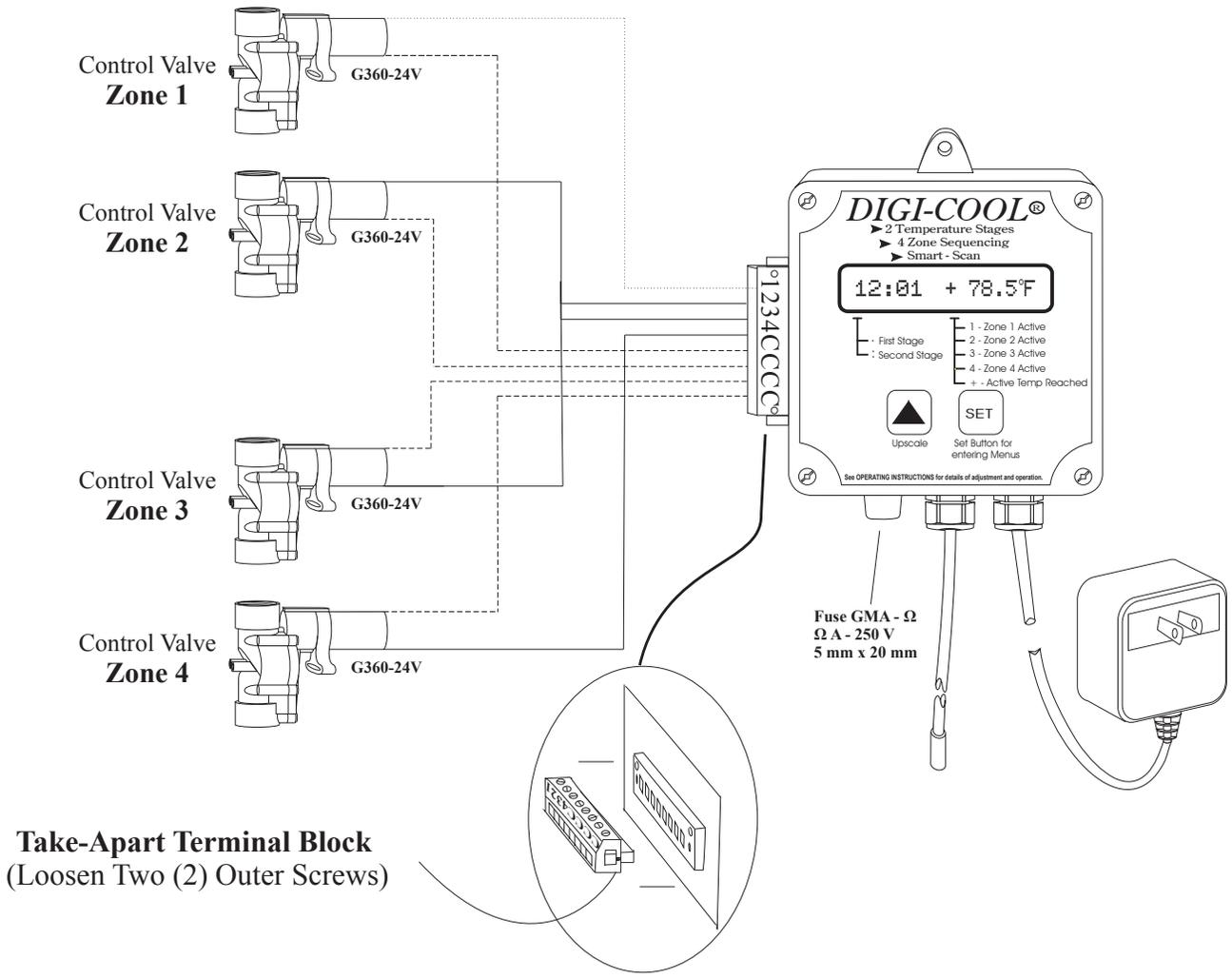
16. The **iSet Time=12:00pm** message is displayed if a 12 hour clock is being used or **iSet Time=12:00** if a 24 hour clock is being used, with the cursor blinking on the **tens digit** of the hours. Use the (▲) button to set the time as in steps 5 and 6. Press the (SET) button to complete the settings process.



After entering the last digit of the **Local Time Setting**, the controller will pause momentarily to store your settings in permanent memory, and will then resume operation with new settings.



DG2100ST OPERATIONAL DIAGRAM



Terminal Block Wiring

- 1) To wire the DG2100ST controller connect a wire from control valve zone one (1) to terminal one (1) located on the terminal block of the DG2100ST. Connect the second (2) wire of control valve zone one (1) to a common terminal on the DG2100ST's terminal block. Common terminals are labeled 'C' on the terminal block.
- 2) Repeat step 1 for control valve zones two (2) thru four (4), if necessary. If there are less zones than terminal block locations, leave the excess terminal block locations void.