



OWNERS MANUAL

540.000 FOUR STATION CONTROLLER AND 540.000WS FOUR STATION CONTROLLER WITH RAIN SENSOR CONNECTION

INTRODUCTION

THANK YOU for purchasing a DIG Controller.

Please take the time to read through the enclosed instructions and follow them step by step. If you have any questions, please call our customer service line 1-800-344-6641.

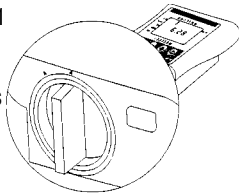
CONTROLLER MAIN FEATURES

- Operates up to 4 valves
- Independent program for each valve
- Operates on two 9-volt alkaline batteries
- Weekly or Cyclical program
- Up to four start times per day per each valve in weekly mode
- Station run time from 1 minute to 12 hours in 1 minute increments
- Watering Schedule 7-day weekly program or cyclical from once a day to once a month
- Simple, four button programming
- Optional manual operation
- Withstands harsh climatic conditions
- Can be mounted on valve or on the wall
- Rain delay up to 30 days
- Available with rain sensor connection (Model 540.000WS)



BATTERY INSTALLATION

Rotate the battery compartment cover handle to the 11 o'clock position to remove the cover (see drawing). Insert two 9-volt alkaline batteries. All controller display elements will briefly appear on the display, followed by the blinking time "12" – the controller is now ready to be programmed.



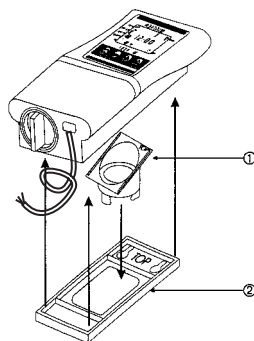
IMPORTANT: To replace the battery compartment cover, insert it with the handle in the "11" o'clock position to avoid possible cover guide pin breakage.

VALVE OR WALL MOUNTING

VALVE MOUNTING

If the mounting plate [2] is attached to the controller, remove it.

1. Insert the mounting coupling [1] into the mounting plate, aligning the words "top", which are stamped on both the coupling, and the plate.
2. Press the mounting plate, with the mounting coupling inserted, against the irrigation controller back.



WALL MOUNTING

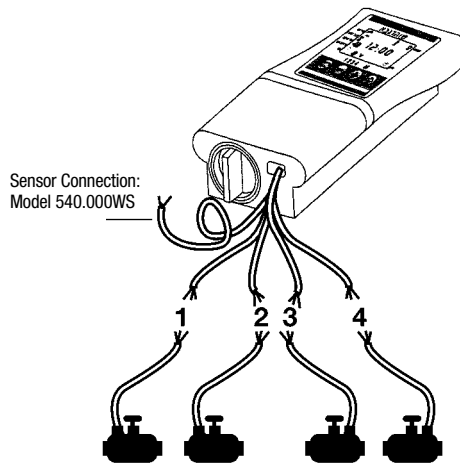
The controller mounting plate [2] can be mounted on a wall using two screws, in which case mounting coupling [1] is not used. The distance between the controller and the solenoid is limited by the length of its connecting cable.

INSTALLATION

MODEL 540.000W controller has four wires with numbers from 1 to 4 representing the valve number.

Model 540.000WS controller has five wires with numbers from 1 to 4 representing the valve number and one wire for sensor connection.

Solenoid and rain sensor wires must be connected to the controller wires by the installer, using a waterproof connector. See the diagram and explanation below.



CONTROLLER INSTALLATION WITH 337.000 SOLENOID

337.000 solenoid converts most two way AC valve solenoids with 3/4"-20 thread, and, with the use of P00-xxx adapters can convert Rainbird solenoid valve series GB, DV, PE and G valves.

1. Shut the main line to the valve.
2. Remove AC solenoid from the valve.
3. Remove all "O" rings from the solenoid housing.

For Weathermatic valves, remove Weathermatic "O" ring (part #14) from solenoid and place around male thread of 337.000 bayonet adapter.

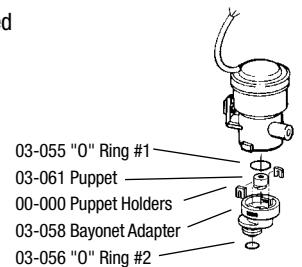
For Rainbird valves, use one of two P00-xxx adapters to convert Rainbird solenoid thread to 3/4"-20.

For Irritrol valves, remove manual bleed handhold.

Make sure manual bleed lever on the valve (if available) is closed and do not move manual bleed lever after installing DIG solenoid assembly, it can damage the bayonet and the valve will stay open.

Remove (if available) manual bleed backup filter and clean (clogged filter will cause the valve to stay open).

4. Place "O" ring #2 on center of threaded bayonet adapter.
5. Thread DIG solenoid adapter into female solenoid port of valve.
6. After installing the solenoid adapter to the valve, remove solenoid from bayonet adapter and make sure "O" ring #1 is properly in place.
7. Use the manual lever on DIG 337.000 solenoid to test the valve by turning to the left to open the valve and to the right to close the valve. If the valve opens and closes correctly, turn lever to automatic and connect the wires from the controller to the wires from the solenoid using a waterproof connector.
8. Connect the controller wires with the designated valve #(1, 2, 3 and 4) to the valve solenoid wires, making sure that each color-coded wire (white, red, and black) from the controller designated valve # will be connected to the same color-coded wires from the solenoid.
9. Program each valve separately.



- 03-055 "O" Ring #1
- 03-061 Puppet
- 00-000 Puppet Holders
- 03-058 Bayonet Adapter
- 03-056 "O" Ring #2

INSTALLATION WITH 337.075-100-150-200 SOLENOID WITH

Your solenoid valve can be installed in line directly to PVC pipe fittings, (inlet female pipe thread, outlet female pipe thread)

NOTE: Wrap all fittings with teflon tape. Do not use thread paste on valve as this will damage the valve and void your warranty.

NOTE: The controller can be mounted in any position.

IMPORTANT: Make sure flow direction arrow is pointed away from water source. Never use the controller unit as a handle for tightening the valve to the pipe.

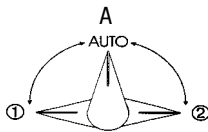
1. Shut the main water supply valve.
2. Before installing the valve [5] in the irrigation system, remove the solenoid [1] from the valve with a 90° counter-clockwise turn. Be careful not to lose the seal (O-Ring #2) [3].
3. Install the valve in the irrigation system, paying attention to the correct water flow direction, as indicated by the arrow [4].
4. After installing the valve [5], assemble the solenoid with a 90° clockwise turn. Be sure to place the seal (O-Ring #1) [3] in its proper location.
5. Use the manual lever on DIG 337.000 solenoid to test the valve by turning to the left to open the valve and to the right to close the valve. If the valve opens and closes correctly, turn lever to automatic and connect the wires from the controller to the wires from the solenoid using a waterproof connector.
6. Connect the wires from the controller to the wires from the solenoid.
7. Connect the controller wires with valve # (1, 2, 3 and 4) to the solenoid wires, making sure that each color-coded wire (white, red, and black) from the controller will be connected to the same color-coded wires from the solenoid.
8. Program each valve separately.

MANUAL-MECHANICAL OPERATION

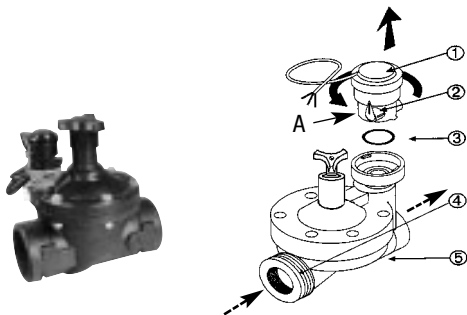
The valve can be opened and closed independent of controller operation. Manual operation is useful when immediate irrigation is required, without the delay of controller programming.

The 3-position valve handle [A] is located on the solenoid manual valve, and functions as follows: Open [1], Automatic Operation [AUTO], Closed [2].

IMPORTANT: For automatic operation, the valve handle must be in the middle [AUTO] position.



PARTS IDENTIFICATION 337.075-200



ASSEMBLY OF MODEL 336.013

Your DIG valve actuator comes factory assembled to fit 3/4" Champion and Orbit manual brass valves. Included in the package, you will find adaptors to fit 1" Champion, Orbit manual brass valves, 3/4" and 1" Rainbird, Rainjet Lawn genie, Irritrol manual plastic valves, and 3/4" and 1" Lawn genie and Orbit plastic valves.

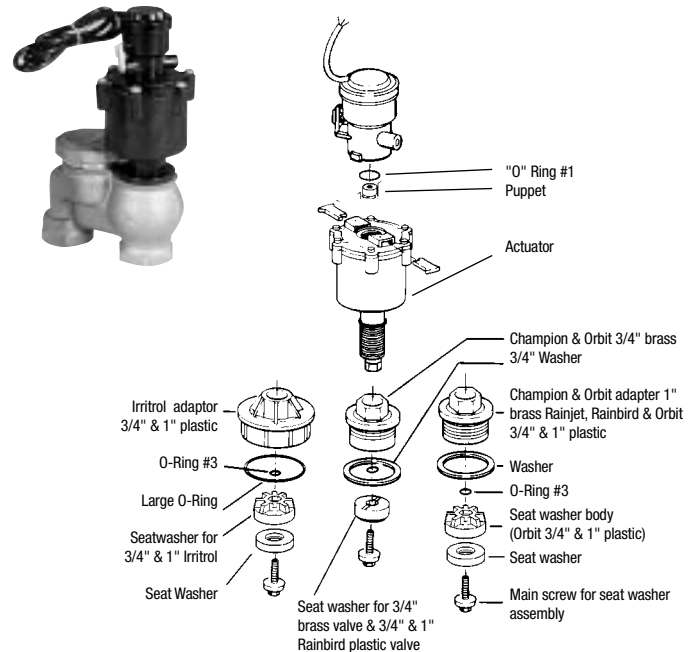
NOTE: Please select proper adaptor.

ASSEMBLE PROPER ADAPTOR (IF REQUIRED)

1. Remove main screw with a pair of pliers by turning counter clockwise.
2. Remove 3/4" seat washer and then 3/4" adaptor, by turning counter clockwise and pulling away.
3. Replace with proper adaptor and seat washer. Make sure O-Ring #3 is in place.
4. Replace main screw. Tighten firmly, but do not over tighten.

NOTE: Take care not to lose O-Ring #3

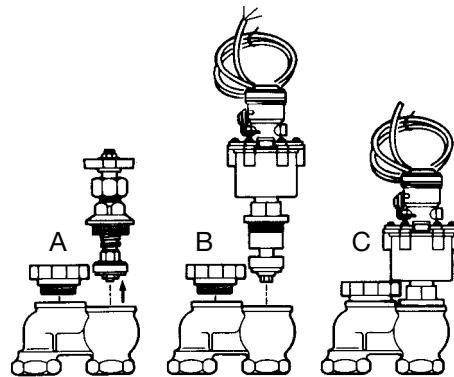
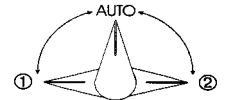
PARTS IDENTIFICATION 336.013



INSTALLATION OF MODEL 336.013

1. Shut off your water supply.
2. Remove the manual stem from your existing valve. If you are converting an antisiphon valve, temporarily remove the antisiphon cap (see A).
3. Replace any existing worn washers with the new ones provided.
4. Install actuator into valve (see B) using a wrench, tighten firmly, but do not over tighten, and mount controller on top.
5. Rotate actuator clockwise until completely closed (see C).
6. Turn on main water supply.
7. Turn manual lever to "on" position left.
8. Now rotate actuator counter clockwise until all sprinklers/sprayers are working evenly.
9. Turn manual lever from "on" to "auto" position (center). Water will stop.
10. Connect the wires from the controller to the wires from the solenoid.
11. Connect the controller wires with valve # (1, 2, 3 and 4) to the solenoid wires, making sure that each color-coded wire (white, red, and black) from the controller will be connected to the same color-coded wires from the solenoid.
12. Program each valve separately.

NOTE: If water continues to flow, turn actuator slowly clockwise 1/4 turn. Repeat steps 7-9 if necessary.



PROGRAMMING THE CONTROLLER

DIG controllers are programmed with the aid of four buttons:



Programming step selector – used to select the desired programming mode (includes clock setting mode)



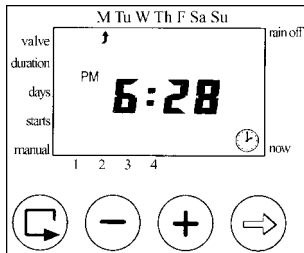
Next step button – used to select the parameter to be changed (hour, minute, etc.). Only a blinking parameter can be changed.

+ Data increment button (Increase) – Raises the value of the selected parameter (when hours selected are from 06:00 to 07:00).

- Data increment button (Decrease) – Lowers the value of the selected parameter (when hours selected are from 06:00 to 05:00)

SETTING CURRENT TIME AND DAY OF THE WEEK

Press **↺** a number of times until **⌚** icon appears. Press **↺** the hour digit will flash. Use the **+** or **-** buttons, to set the current hour (note: use of AM and PM). A further press of **↺** will make the minutes digit blink. Use the **+** or **-** to set the current minute. Press **↺**. A blinking arrow will appear in the upper portion of the display. Use the **+** or **-** to set the current day. Press **↻** to go to the next step.

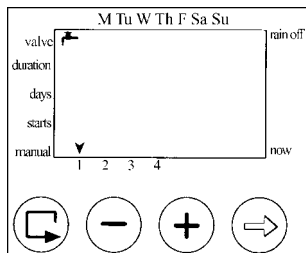


If the last data entered stops flashing, press the **↺** again to resume programming.

VALVE SELECTION

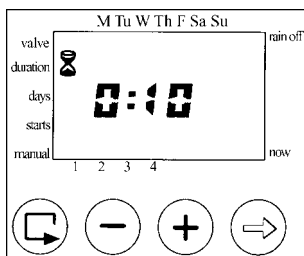
This model operates from 1-4 valves, each independently programmed. Select the desired valve, then continue with the irrigation program as detailed.

Press **↺** until **⬆** appears. Press **↺**. A blinking arrow appears at the bottom of the display. Move the arrow to select the desired valve number by pressing **+** or **-**. Press **↻** to go to the next step.



SETTING WATERING TIME (DURATION)

Determine the length of time that the valve will remain open. Press **↺** until **⌚** icon appears. Press **↺**, the hour/minute digits blink and press **+** or **-** to set the desired watering time. Press **↻** to go to the next step.

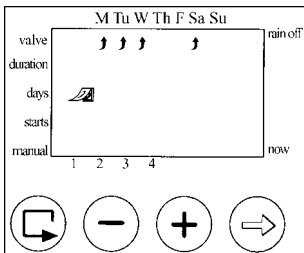


SETTING WATERING DAYS OF THE WEEK

Press **↺** until **☀** icon appears. At this stage you can set one of two options by pressing **↺**:
 a) Watering according to the days of the week,
 b) Cyclical or one time only watering.

Watering according to the days of the week.

To select a watering day, press **+**. The arrow under the selected day will stop blinking. The blinking arrow will move one position to the right, to appear at the next day of the week. Select additional scheduled irrigation days in the same manner. Press **↻** to go to the next step.

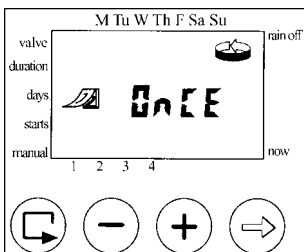


To Cancel a Watering Day

Press **-**. The arrow under the selected day will disappear. The blinking arrow will move one position to the right, to appear at the next day of the week. Cancel additional scheduled irrigation days in the same manner. Press **↻** to go to the next step.

One-Time Irrigation

This option is used to program the controller to operate the irrigation system one time only, for the irrigation period as set in watering time. Press **↺** until **☀** appears. Press **↺** a number of times (for all the days of the week) until **☀** appears, and **☀** blinks on the display.



Cyclical Irrigation

This option is used to program the controller to operate the system in a cyclical manner, once every x days, for the irrigation period. Press **↺** until **☀** appears. Press **↺** a number of times (to advance all the days of the week) until **☀** appears, and **☀** blinks on the display.

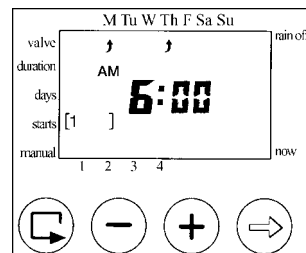
With the display blinking, press **+** or **-**. The number of days between watering appears on the display, between the words “every” and “days”. For example, if “every 2 days” appears, watering will take place once every two days, for the irrigation period as set in duration. Set the number of days by pressing **+** or **-**.

Press **↻** to next step.

SETTING A START TIME

(For watering according to the days of the week.) Setting the controller according to the day of the week allows 4 start times per day.

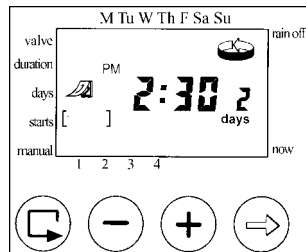
Press **↺** for start time no. 1. The word **OFF** and the first start time will appear (or the last start time entered). Press **↺** the word **OFF** blinks. Use the **+** or **-** to set the desired start time hour (note AM and PM). Press **↺** the minute will blink. Use the **+** or **-** to set the desired start time minute. Press **↻** to set start time no. 2 and repeat the same steps for start times no. 2, 3 and 4. To cancel one of the start times, press **-**. The hour digit blinks. Use the **+** or **-** to set display to **OFF**.



SETTING A START TIME FOR A CYCLICAL OR ☀ WATERING (with option to delay valve start time)

These options are used to pre-set the valve start time and the number of days to delay valve start time, this option will appear on the display to the right of the irrigation start time (above the word “days”). 0 days = program starts today; where 1 = program starts tomorrow, etc. (up to 30 days).

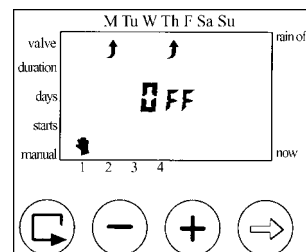
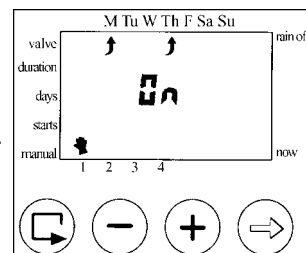
Press **↺** until [1] appears or the last opening time entered appears on the display. Press **↺**. The hours and AM - PM digits blink. Set the desired opening hour by pressing **+** or **-** (Note: AM and PM designations appear to the left of the hour digits.) Press **↺**. The minute digits blink. Set the desired minute by pressing **+** or **-**. Press **↺** until the digit to the right of the opening time blinks (The digit above the word “days”). Valve opening may be delayed by pressing **+** or **-**.



MANUAL OPERATION





This option operates the valve for the defined irrigation period. The valve will automatically close at the end of the irrigation period. Note that the originally programmed irrigation schedule continues to function at the times set.



Press **↺** until **☀** appears. Press **+** to open the valve. The word ON is displayed and a water droplet appears **⬆**. Press **-** to close the valves. **OFF** appears on the display.



"RAIN OFF" (SHUTDOWN)

This option is used to temporarily suspend the controller operation. For example, while it is raining. The irrigation schedule remains in the controller memory, but is not implemented until the suspension is canceled.

Press  until  appears. Press .  appears and replaces the water sprinkler symbol.

Press  to return irrigation system control to the irrigation controller.  disappears and the water sprinkler symbol reappears.

The word "rain" will appear on the display if an attempt is made to operate a previously scheduled valve opening while the irrigation controller is suspended.

Tip: The "Rain Off" mode is the next step past the manual mode.

