Residential Independent Program Irrigation Controllers

OWNERS MANUAL

INSTALLATION INSTRUCTIONS

8004 FOUR STATION AC and 8006 SIX STATION AC

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 4 (8004) or 6 (8006) valves and master valve (or booster pump)
- Simultaneously operates up to two valves
- Independent program for each valve
- Operates 24 VAC valves
- 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
- Identifies short circuits, disconnects shorted valve, and gives visible alarm
- Operates off 120 VAC transformer
- Program backup with 9V battery
- Can be programmed under backup battery power, without AC power connection.

SPECIFICATIONS

OPERATING SPECIFICATIONS

- Station run time 1 minute to 12 hours in 1 minute increments
- Watering schedule: weekly or cyclical 1 to 30 days
- Start time: 4 start times per day per valve for a maximum of 24 start times a day
- Programs: Independent program for each valve

ELECTRICAL SPECIFICATIONS

- Transformer input: 120 VAC, 60 Hz
- Station output: 24 VAC, 0.27 amps per station
- Maximum output: 24 VAC, 0.83 amps
- Battery backup: 9 volt alkaline battery (not included)

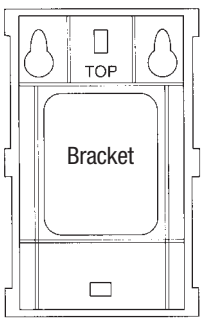
DIMENSIONS

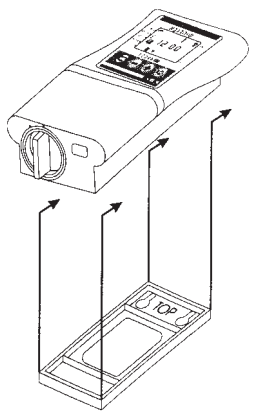
- Height: 6" (15 cm)
- Width: 4" (10 cm)
- Depth: 2" (5 cm)

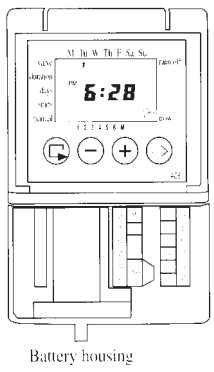
MOUNTING CONTROLLER TO WALL

- Select an indoor location near a 120 VAC outlet. The location should be protected from moisture and sunlight
- Remove the mounting bracket from the back of the controller
- Place the mounting bracket slightly below eye level. Secure the bracket with #5 or 6 x 1" screws (Note: If installing on drywall, install screw anchors)
- Align controller housing with mounting bracket. Slide the controller down into position on the bracket.

DO NOT PLUG TRANSFORMER INTO POWER SOURCE UNTIL THE CONTROLLER IS MOUNTED AND ALL VALVES HAVE BEEN CONNECTED.

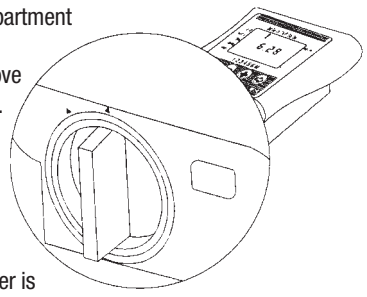






BACK-UP BATTERY INSTALLATION

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

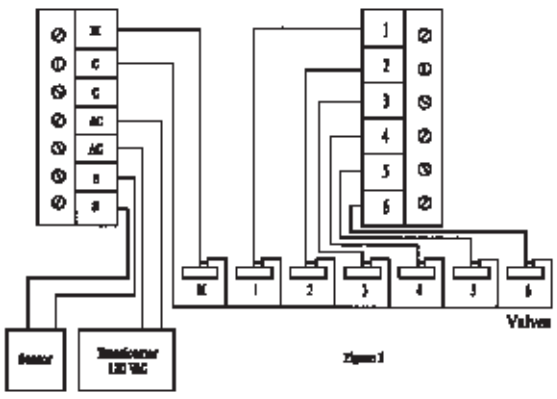


IMPORTANT: To replace the battery compartment cover, insert it with the handle in the "11" o'clock position to avoid possible cover guide pin breakage.

The battery is intended for irrigation program backup only. During electrical outages the program will not be erased, however, valves will not operate.

CONNECTING VALVES AND TRANSFORMER

1. Install control wire between valve location and controller
2. At the valve, connect a common wire to either solenoid wire of all valves. Connect a separate wire to remaining wire of each valve. Waterproof all wire splice connections.
3. Remove cover from controller to access the terminal strip area.
4. Connect valves common wire to "C" (common) and individual valve wire to appropriate valve # on the controller terminal (see Figure 1).
5. Insert transformer wire through the hole in the bottom of the controller and connect the wire to the two screws marked "AC". (Polarity does not matter.)



Do not plug transformer into power source until the controller is mounted.

Model 5004 – 4 valves

Model 5006 – 6 valves

CONNECTING A MASTER VALVE OR PUMP START RELAY

The controller must be mounted 10 to 15 feet away from pump start relay and the pump when controller used to operate a pump, a pump start relay must be used.

Connect either wire from pump srart relay to controller terminal "M", connect other wire to the "C" (common) terminal.

Do not connect controller directly to pump start, it can damage the controller.

Connecting the controller to a pump is to be performed by a qualified electrician only.

CONNECTING A RAIN SENSOR

An interrupt type rain sensor can be connected to the controller. The sensor connects directly to the controller sensor terminal.

Connect either wire from sensor to the two sensor terminals on the controller (see figure 1).

PROGRAMMING THE CONTROLLER

DIG controllers are programmed with the aid of four buttons:

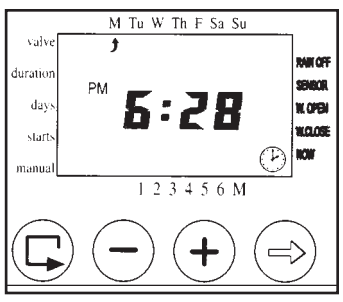
Programming step selecctor – used to select the desired programming mode (included clock setting mode)

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 (e.g., when hours selected from 06:00 to 07:00).

– Data increment button (Decrease) – Lowers the value of the selected parameter (e.g., when hours selected, from 06:00 to 05:00).

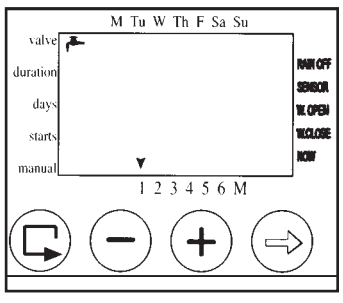
PROGRAMMING CURRENT TIME AND DATE



Press a number of times until icon appears. Press . The hour digit will flash. Use the or buttons, to set the current time (note: use of AM and PM). A further press of will make the minutes digit flash. Use the or to set the current time. Press . A flashing arrow will appear in the upper portion of the display. Use the or to set the current day. Press to move to the next step.

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

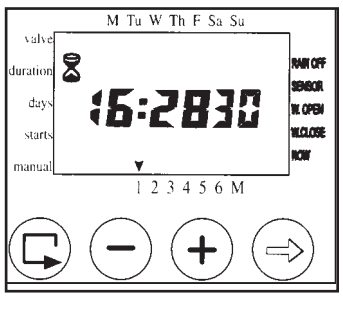
VALVE SELECTION



Press until icon appears. Press . A flashing arrow appears. Use the or to position the arrow opposite the valve number that you wish to program.

Press to move to the next step.

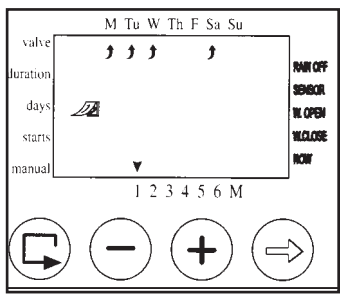
PROGRAMMING WATERING TIME



Press until icon appears. Use and or to set the desired Watering Time.

Press to move to the next step.

PROGRAMMING WATERING DAYS



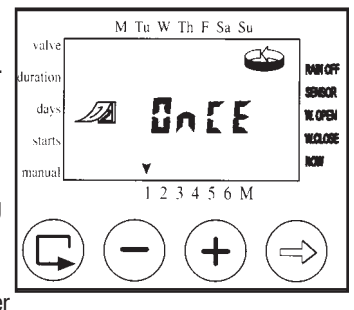
Press until icon appears. At this stage you can program two options:
a) Watering according to the days of the week,
b) cyclical watering.

1. Watering according to the days of the week.

Press , a flashing arrow appears opposite the days of the week. Using the or buttons, for the desired day. A non-flashing arrow shows the Watering Day selected. In this way move along the days of the week and set any days of the week required.

To cancel a Watering Day

Press when the arrow is flashing beside that day.



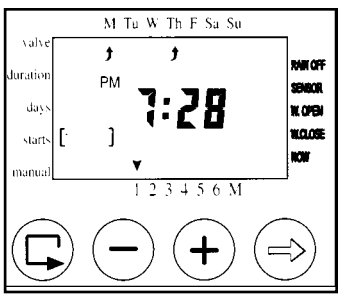
2. Cyclical or watering

For operating the watering system cyclically or press the a number of times (pass over every day of the week) until the word appears. for single watering if required.

Cyclical watering – press and the word will flash. Use or to set the desired watering cycle.

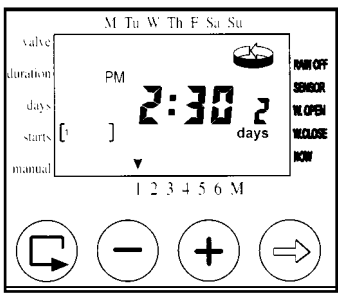
Press to move to the next step.

PROGRAMMING A WEEKLY START TIME



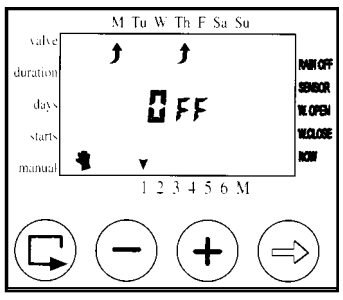
(For watering according to the days of the week.) Programming the controller by day of the week allows 4 start times per day. Press ⊡ for start no. 1. The word OFF will appear (or the last start time entered). Press ⊡ the word OFF flashes. Use the ⊕ or ⊖ to set the desired start time (note AM and PM). Press ⊡ to program start no. 2 and repeat the same steps for starts nos. 3 and 4. To cancel one of the start times, press ⊡. The hour digit flashes. Use the ⊕ or ⊖ to display OFF.

PROGRAMMING A CYCLICAL OR OnCE START TIME

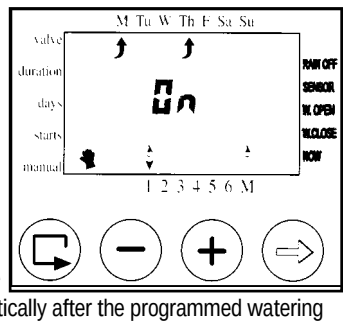


Programming a start time with these programs will make the use of an additional function defined as "number of days". You will be able to set the first start time today (day 0), tomorrow (day 1) or any number of days required (up to 30 days). Press ⊡. Use ⊕ or ⊖ to set the desired start time, and day. (Only one start time in this mode).

MANUAL OPERATION

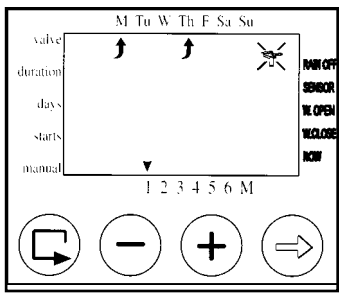


Press the ⊡. The icon appears. Use ⊕ and ⊖ to open or close the valves.



- In this position, it is not possible to change the valve number. (In order to change the valve, you must return to the "valve" position.)
- If the controller is not connected to the main power supply, the word "AC OFF" will appear and the valve may not be opened.
- In manual operation, the valve will close automatically after the programmed watering time.

"RAIN OFF" (SHUTDOWN)

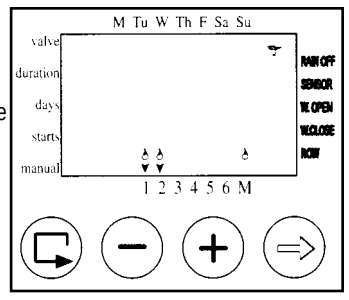


Press ⊡. The sprinkler icon appears. Press ⊕ and icon will appear. The controller is shut down. Press ⊖ to return to the original programming. (The icon will disappear.)

"RAIN OFF"

The shutdown mode causes all of the valves controlled by the computer to close. The programming, however, is preserved.

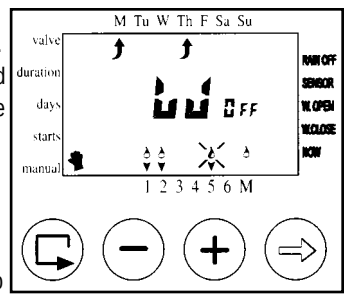
VALVE IN OPERATION



A icon will appear over the valve in operation. If the flashes, the valve has not opened, the possibilities are:

- The valve is in standby mode (WAIT). icon will flash once every two seconds (30 times every minute).
- Valve is in "short mode". The icon will flash once every 1/2 second (120 times every minute).

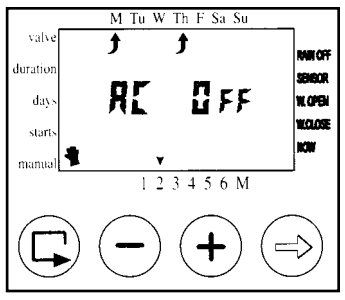
VALVE IS IN STANDBY MODE (WAIT)



Standby mode – (WAIT) i.e. the valves are programmed to open, and two valves are already open.

To check that the valve is in (WAIT) mode, select the flashing valve and return to the manual position. If the appears, then the valve is in (WAIT) mode.

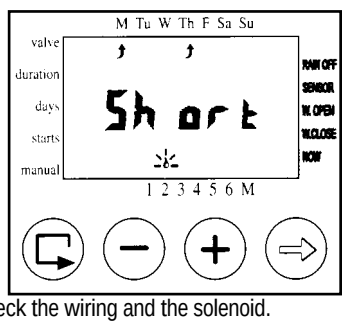
NO POWER



"AC Off" appears on the display during controller irrigation program execution, or during "manual" irrigation system operation via the irrigation controller, when no power is delivered.

In this situation, the controller can be programmed, but cannot operate the valve.

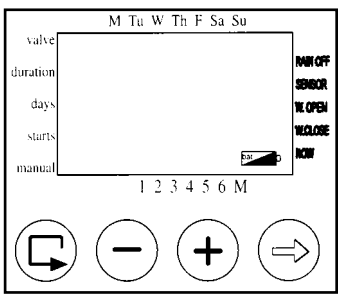
VALVE IN Short MODE



(A short-circuit in the solenoid or wiring.)

To check if the valve is short-circuited, select the flashing valve and move to the manual position. If Short appears, then the valve is short-circuited. Check the wiring and the solenoid.

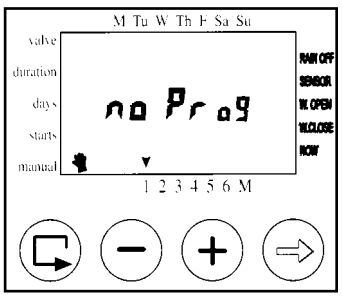
WEAK BACKUP BATTERY



When the backup battery is weak, a flashing icon will appear on the display.

The battery should be replaced. The programming will not be deleted if the fresh battery is inserted within 30 seconds of removing the weak battery.

NO PROGRAM



During "manual" irrigation system operation via the irrigation controller, "no prog" appears on the display, meaning that no irrigation period has been set for the current valve. In this case, the irrigation controller "does not know" when to close the valve.

In this situation valve opening is disabled.

MAINTENANCE AND TROUBLESHOOTING

a. Check the wiring on the controller's terminal strip and on the valves, at the beginning of a new season.
b. Clean the system head filter once every few months. A blocked filter is asking for trouble!
c. The battery should be removed if the irrigation controller will not be in use for a prolonged period.

PROBLEM

Valve does not open

CAUSE: One of the following not entered: Watering time, watering days, start time

SOLUTION: Check and program as required

CAUSE: Selector on "RAIN OFF" position

SOLUTION: Cancal RAIN OFF

CAUSE: No main electric power

SOLUTION: Check transformer and socket

CAUSE: Valve or connection faulty

SOLUTION: Check the valve or replace it

PROBLEM

Valve does not close

CAUSE: Dirt or stones in the valve.

SOLUTION: Clean the valve

CAUSE: Valve was opened manually

SOLUTION: Move to automatic position

CAUSE: Valve fault (torn diaphragm)

SOLUTION: Replace valve or part

PROBLEM

Display "disappears"

CAUSE: Backup batteries are dead and no power from the transformer

SOLUTION: Check the batteries and the transformer.

DIG CORPORATION 3 YEAR WARRANTY

DIG CORPORATION warrants these products to be free from defects in material and workmanship for a period of three years from date of purchase. This warranty does not cover damage resulting from accident, misuse, neglect, modification, improper installation or subjection to line pressure in excess of 150 lbs. per square inch. This warranty shall extend only to the original purchaser of the product for use by the purchaser. This warranty shall not cover batteries or any malfunction of the product due to battery failure. The obligation of DIG CORPORATION under this warranty is limited to repairing or replacing at its factory this product which shall be returned to the factory within one year after the original purchase and which on examination is found to contain defects in material and workmanship.

DIG CORPORATION SHALL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND; THE SOLE OBLIGATION OF DIG BEING LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Unattended use for prolonged periods without inspection to verify proper operation is beyond the intended use of this product, and any damage resulting from such use shall not be the responsibility of DIG CORPORATION. There are no warranties which extend beyond the description on the face hereof. In the case of purchase of the product for use other than, for irrigation purposes, DIG CORPORATION hereby disclaims any implied warranties including any warranties of merchantability and fitness for a particular purpose. In the case of the purchase of the product for personal, family or household purposes, DIG CORPORATION disclaims any such warranties to the extent permitted by law. To the extent that any such disclaimer or implied warranties shall be ineffectual, then any implied warranties shall be limited in duration to a period of one year from the date of the original purchase for use by the purchaser. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

In order to obtain performance under this warranty, the unit must be returned to the factory, along with proof of purchase indicating original date of purchase, shipping prepaid, addressed as follows:

DIG CORPORATION, 130 Bosstick Blvd., San Marcos, CA 92069. Repaired or replaced units will be shipped prepaid to the name and address supplied with the unit returned under warranty. Allow four weeks for repairs and shipping time. Repair of damaged units not otherwise within warranty may be refused or done at a reasonable cost or charge at the option of DIG CORPORATION.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

TO ORDER PARTS:

1-800-322-9146 FAX: 760-727-0282

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Printed in Israel