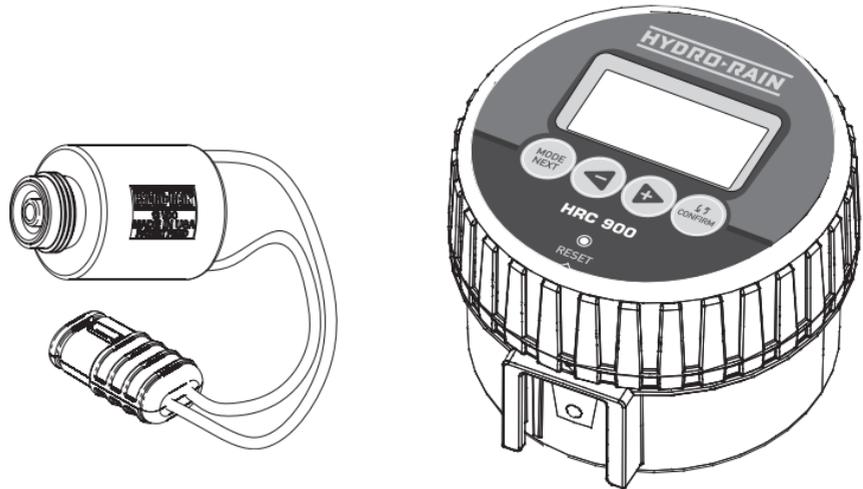




HRC-900-04-01

Battery Powered Controller

INSTRUCTION MANUAL

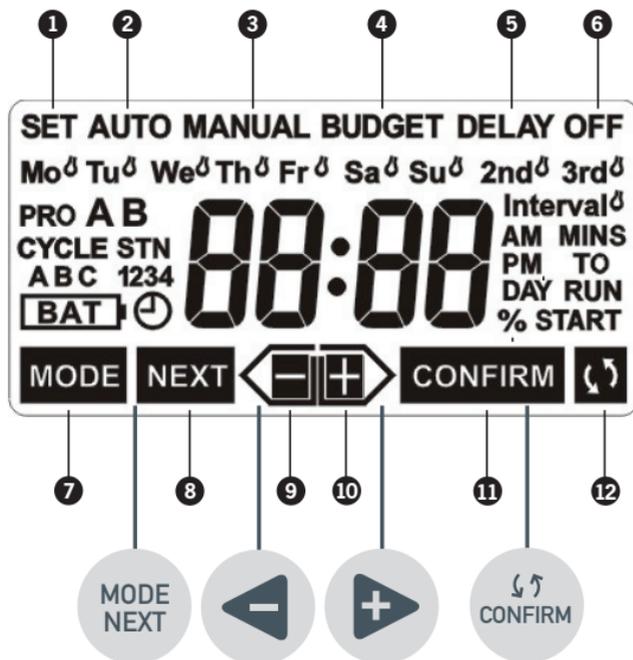


Model HRC-900-04-01

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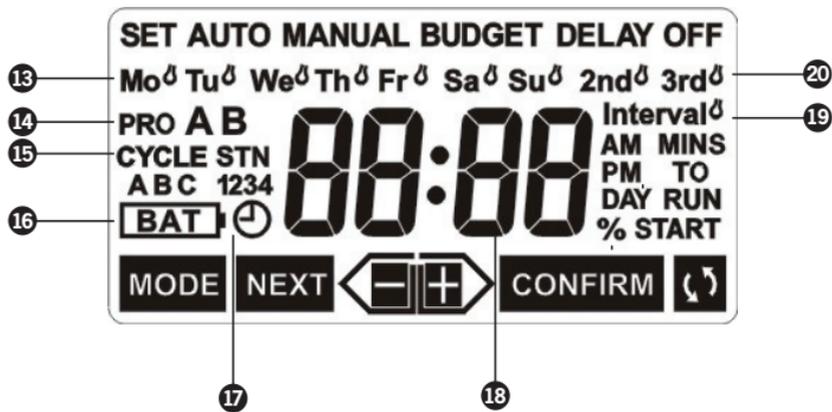
Section 1: LCD DISPLAY ICONS



- 1 Set Mode – set day/time and programs
- 2 Auto Mode – set programs will run automatically
- 3 Manual Mode – provides a variety of quick watering options
- 4 Water Budgeting – seasonal adjustments (20% to 200%)
- 5 Delay Mode – interrupt watering from 1 to 7 days
- 6 Off Mode – set programs will not run
- 7 Mode – advances to the next Mode
- 8 Next – advances to the next option
- 9 Left/Minus – advances to the left or decreases settings
- 10 Right/Plus – advances to the right or increases settings
- 11 Confirm – accepts a program setting
- 12 Toggle – toggles watering on or off for days to water

Section 1: LCD DISPLAY ICONS

- 13** Shows watering days or current day of the week
- 14** Shows the active program(s)
- 15** Shows the current cycle (A, B, or C)
- 16** Indicates low batteries
- 17** Indicates the time is being set
- 18** Shows time and durations
- 19** Interval – water every 1 to 32 days
- 20** 2nd or 3rd – water every other day or every third day

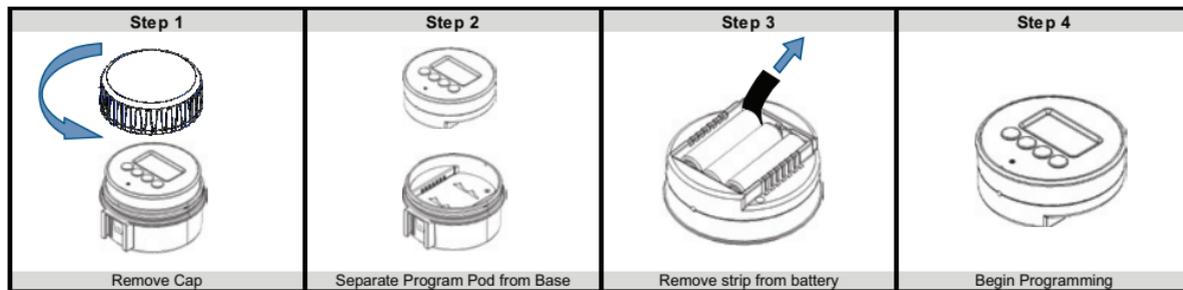


Section 2: GETTING STARTED

You can program this sprinkler controller in just a few basic steps. Before you begin programming, it is important to:

- Activate batteries.
- Reset the controller.
- Set day and time.

Activate Batteries



Note: The batteries should last a full watering season. Replace batteries as needed. During battery changes, programming will be preserved for 25 seconds.

Section 3: PROGRAMMING YOUR CONTROLLER

Reset the Controller

Press  (Caution! This will remove all programming, including day and time.)

Set Day and Time

1. SET and time are flashing, then press  to accept.
2. Using  or  select the current day of the week, then press .
3. Set the current time using  or  then press .



Note: At this point a watering plan is needed. if you need help developing a watering plan please see page 10.

Set Program A

1. Press  until SET and PRO A are flashing, then press  to accept.
2. Using  or  select the watering day option that best fits your needs, then press , a water drop  will highlight your selection. If you choose INTERVAL use  or  to select interval (1 to 32), then press .



Section 3: PROGRAMMING YOUR CONTROLLER

3. Using  or  set the run time (1 to 240) for each station then press 

4. Using  or  set the start time then press 

Note: Each program can have up to 3 start times (A-B-C).

5. Press  until AUTO is flashing then press 

Set Program B

1. Press  until SET and PRO B are flashing, then press  to accept.

2. Follow steps 2–5 from Set Program A.

Automatic Watering

Press  until AUTO is flashing, then press 

Note: If no buttons are pushed for 1 minute the controller will default to AUTO mode.

Bonus Feature: Pressing  in AUTO mode will toggle set programs on or off.



Section 3: PROGRAMMING YOUR CONTROLLER

Manual Watering

1. Press  until SET and MANUAL are both flashing, then press .
2. Using  or  select the desired option. Press .
3. For single station watering use  or  to set the watering duration (1-240 minutes), then press .

Note: To terminate manual watering, press  or  simultaneously



Watering Budgeting

1. Press  until SET and BUDGET are both flashing, then press .
2. Using  or  increase or decrease the budget adjustment (20% - 200%), then press .

Note: For a 10 minute duration, 50% will reduce it to 5 minutes and 200% will increase it to 20 minutes.



Section 3: PROGRAMMING YOUR CONTROLLER

Rain Delay

1. Press  until DELAY is flashing, then press .
2. Using  or  set the number of days to delay watering (1-7), then press .

Note: To terminate the DELAY mode press  and  simultaneously.

Off Mode:

Press  until OFF is flashing, then press .

Using the Optional Rain/Freeze Sensor (HRC-900-RS-MD)

An optional Hydro-Rain® brand rain-freeze sensor (HRC-900-RS-MD) can be purchased separately to prevent programmed watering for a period of time after rain falls or when temperatures fall below 37°F (3°C). The sensor jack plugs directly into the back of the controller in the port labeled RAIN FREEZE SENSOR. For installation and operating instructions, please refer to the instruction manual that accompanies the rain-freeze sensor.

Section 3: PROGRAMMING YOUR CONTROLLER

Using the Optional Solar Panel (HRC-900-SP-MD)

An optional Hydro-Rain® brand solar panel (HRC-900-SP-MD) can be purchased separately to supply power to the controller. The solar panel jack plugs directly into the back of the controller in the port labeled SOLAR. For installation and operating instructions, please refer to the instruction manual that accompanies the solar panel.

Determine a Watering Plan

1. For each station, write down the watering location, type of sprinkler head and types of plants to be watered.
2. Determine the best watering duration and frequency for each station.
3. Determine, based on step 2, the ideal watering option for each station.
4. Use this plan to program the controller.

A Few Things You Should Know...

- Whenever you press the  button, the current programmed watering schedule will be stopped and any station that is currently watering will be turned off immediately.
- In most cases, while programming the controller, it will return to AUTO mode if no buttons are pressed for 1 minute.
- There is a 20-second delay between the time the controller turns one station off and the next station on.
- Scheduled watering will only take place when the controller is set to the AUTO mode. If the controller is set to OFF, no watering will take place.
- If one watering cycle is scheduled to start while the previous cycle is still running, it will be “stacked.” This means that it will begin upon the completion of the current watering cycle.

Section 4: INSTALLING THE CONTROLLER

Install the controller after you have programmed it. This controller will operate only with the Hydro-Rain® DC latching solenoid that is included in the HRC-900 package. Replace the original solenoid on the valve to be connected to the controller with the included Hydro-Rain® DC Solenoid (HRC-900-SD-MD) as follows: If more than one valve will be used with this controller you will need to purchase additional Hydro-Rain DC latching solenoid modules. (# HRC-900-SD-MD).

1. Make sure the main controller unit is fully inserted into the docking bay.
2. Twist on the protective controller cover tight enough to ensure a waterproof, dirt-proof seal, but do not over-tighten.
3. Remove the existing solenoids from the valves to be connected to the controller by twisting counterclockwise.
4. Replace the solenoids you have just removed with the HRC-900-SD-MD solenoid(s) that is included with the controller. Twist them clockwise onto the valves. NOTE: If the new solenoids aren't compatible with the threads of the valve, use the thread converter that came with the controller to install them.
5. Insert the solenoid jacks into the corresponding numbered valve ports on the back of the docking bay. Align the notches on the plugs with the notches in the valve ports.
6. Using the clip provided mount the controller on a valve solenoid for optimal accessibility and visibility.

HRC 900 Solenoid (HRC-900-SD-MD) Start-up Instructions

1. Plug solenoid jacks into base of controller.
2. Toggle  to OFF and press .
3. Allow controller to be OFF for 60 seconds.
4. Set DAY, TIME, and A/B PROGRAM.

Section 5: GLOSSARY OF TERMS

Term	Definition
Controller (Timer)	A device that is responsible for turning an automatic watering system on and off.
Cycle Start Time	The time the program begins watering the first station.
Multiple Start times	A feature that allows a program to be operated multiple times on the same day.
Program (A or B)	One or more watering stations that share a common programmed watering schedule.
Rain Delay	A feature that prevents the sprinkler controller from running it's scheduled watering program for a specific duration.
Solenoid	The electrical part on a sprinkler (irrigation) valve that opens and closes the valve.

Section 5: GLOSSARY OF TERMS

Term	Definition
Stacking	When a start time is set before the previous program has completed, that start time will be “stacked” or delayed, and will start upon completion of the previous program.
Station (Watering Station)	An area where the watering (irrigation) is all controlled by a single control valve.
Valve (Watering or Irrigation Valve)	Used in conjunction with sprinkler controllers – a convenient way to deliver water to lawns, plants and gardens.
Watering Program	See “Program (A or B).”
Zones	See “Station (Watering Station).”

Section 6: TROUBLESHOOTING

Possible Causes of Problems

One or more stations do not turn on.

1. Programming is incorrect.
2. Controller is in OFF or DELAY mode.
3. Jack is not plugged in correctly.
4. Debris is in solenoid.
5. Batteries need replacing.
6. Valve control stem is keeping valve off.
7. The solenoid wire is broken.
8. The solenoid is faulty.

Stations turn on when they are not supposed to.

1. Water pressure is too high.
2. More than one start time is programmed.

One station is stuck on and will not shut off.

1. Valve is faulty.
2. Particles of dirt or debris are stuck in valve or solenoid.

3. Valve diaphragm is faulty.
4. Jack was unplugged while valve was watering.

All stations do not turn on.

1. Controller is in OFF or DELAY mode.
2. Lack of power due to depleted batteries or faulty solar panel (optional).
3. Programming is incorrect.

Controller will not power up.

1. Batteries are installed incorrectly.
2. Lack of power due to depleted batteries or faulty solar panel (optional).

Stations continue to turn on and off when they are not programmed to.

1. More than one start time is programmed with overlapping schedules.
2. Excessive pressure.

Section 6: TROUBLESHOOTING

HRC 900 Solenoid Start-up Instructions:

1. Plug solenoid jacks into base of controller.
2. Toggle  to OFF and press .
3. Allow controller to be OFF for 60 seconds.
4. Set DAY, TIME, and A/B PROGRAM.

Help: Before returning this sprinkler controller to the distributor, contact Hydro-Rain® Technical Service at: 1-888-HYDRORAIN

Listings: Appropriate international models are CE® approved.

Notice: The information in this manual is primarily intended for the user who will establish a watering schedule and enter that schedule into the sprinkler controller. This product is intended to be used as an automatic sprinkler controller to be used near the valves, typically underground in a valve box, as described in this manual.

Warranty and Statement: Hydro-Rain® warrants to its customers that its products will be free from defects in materials and workmanship for a period of three years from the date of purchase. We will replace, free of charge, the defective part or parts found to be defective under normal use and service for a period of up to three years after purchase (proof of purchase required). We reserve the right to inspect the defective part prior to replacement. Hydro-Rain® will not be responsible for consequential or incidental cost or damage caused by the product failure. Hydro-Rain® liability under this warranty is limited solely to the replacement or repair of defective parts.

To exercise your warranty, return the unit to your dealer with a copy of the sales receipt.

Questions please call: 1-888-493-7672, www.hydrorain.com

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