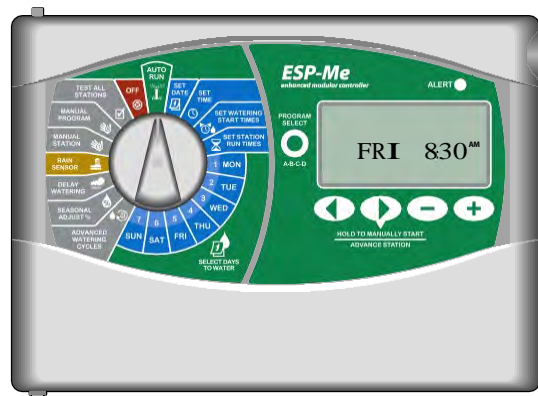


Rain+Birdt

ESP-Me enhanced modular controller **User Manual**



Symbols

- d CAUTION:** Symbol is intended to alert the user to important instructions or conditions that could seriously affect irrigation effectivity or controller operation.
- g DIAL:** Symbol indicates that the user is required to turn the dial on the controller to the appropriate position in order to follow subsequent instructions as described in that section.
- b NOTE:** Symbol is intended to alert the user to important operating functionality, installation or maintenance instructions.
- e REPEAT:** Symbol indicates that a repetition of previous steps or may be required in order to continue or complete the controller programming process.
- @ SPECIAL FEATURE AVAILABLE:** Symbol indicates that a Special Feature is available for the dial position. For more details see Special Features section of the Advanced User Manual.
- C WARNING:** Symbol alerts the user to the presence of electricity or electromagnetic energy which may constitute a risk of electric shock, radiation exposure or other hazard.

Safety Information

- C WARNING:** Date and time are retained by a lithium battery which is to be disposed of in accordance with local regulations.
- C WARNING:** Use only Rain Bird approved accessory devices. Unapproved devices may damage controller and void warranty. For a list of compatible devices go to:
www.rainbird.com/controllersupport

- C WARNING:** You must use special precautions when valve wires (also known as station or solenoid wires) are located adjacent to or share a conduit with other wires, such as wires used for landscape lighting, other “low voltage” systems or other “high voltage” power. Be sure to separate and insulate all conductors carefully taking care not to damage wire insulation during installation. An electrical “short” (contact) between the valve wires and another source of power can damage the controller and create a fire hazard.

- b NOTE:** This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

Disposal of Electronic Waste



In compliance with European Directive 2002/96/CE and Euronorm EN50419:2005, this device must not be thrown away with household garbage. This device must be the object of an appropriate, selective removal procedure in order to recuperate it.

Questions?

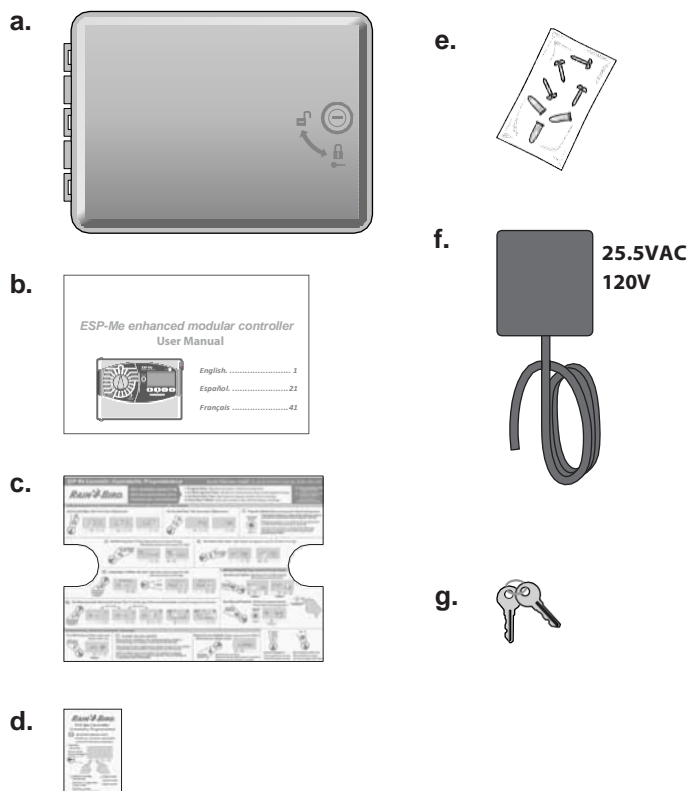
In the USA or Canada call Rain Bird Technical Support at 1-800-724-6247
or visit our web site at www.rainbird.com/controllersupport

| | |
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Check Box Contents

- a. ESP-Me Controller (outdoor model shown)
- b. User Manual
- c. Quick Reference Guide/Programming Chart
(inside controller door)
- d. Special Features Card(s) depending on model
- e. Mounting Hardware (Wire nuts for outdoor unit only)
- f. Grounded 120V Power Supply (indoor model only)
- g. Door Keys (outdoor model only)



Introduction

Welcome to Rain Bird

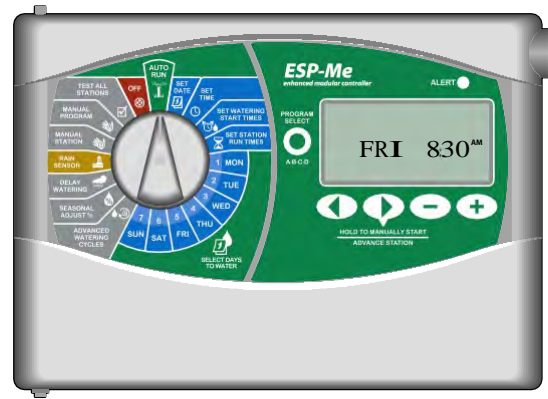
Thank you for choosing the ESP-Me Modular Controller from Rain Bird.

For more than 70 years, the world's top irrigation contractors have chosen Rain Bird for the highest quality products and services available worldwide.

The ESP-Me Controller

Controller Features

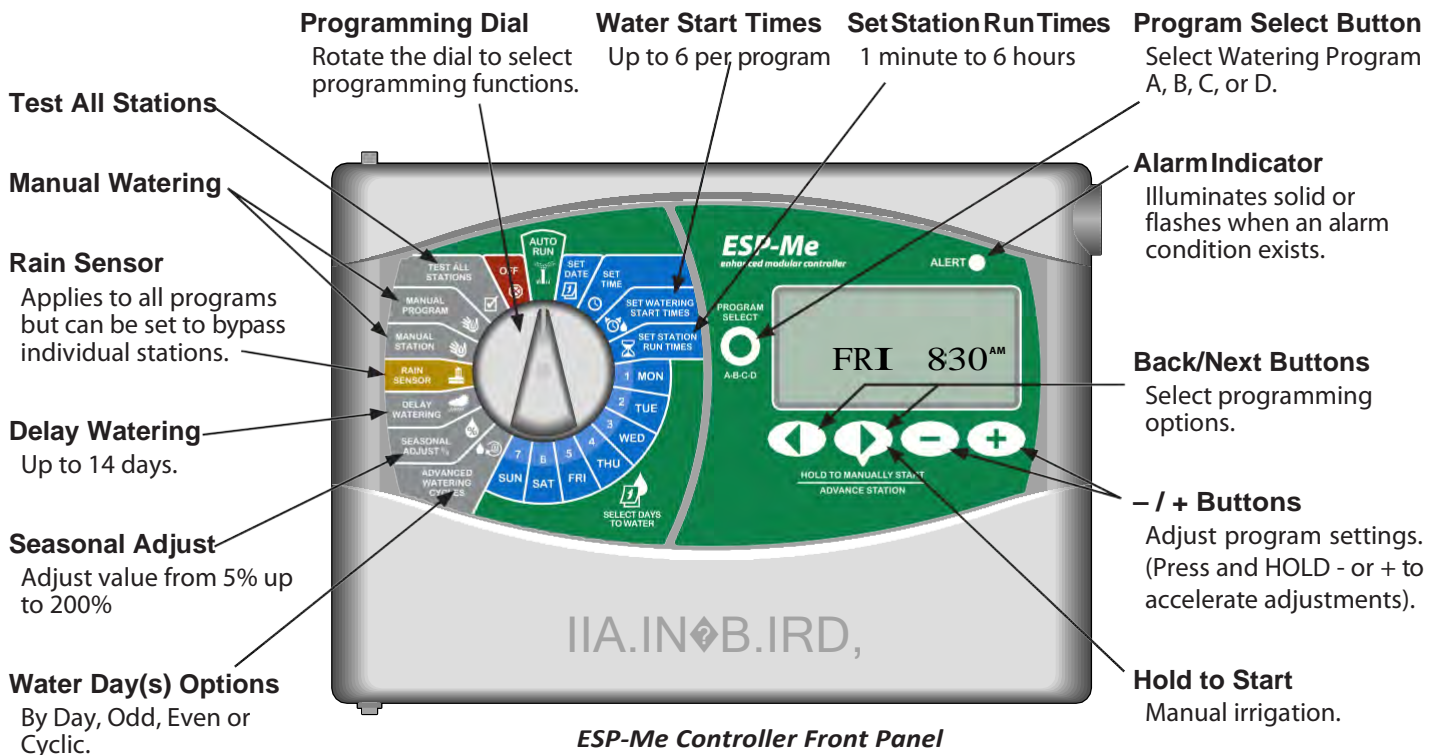
- Expandable up to 22 stations with 3 or 6 station modules
- Supports a master valve or pump start relay and a rain sensor
- 4 available programs (A,B,C,D)
- NOTE:** Only one program can run at a time.
- 6 start times for each program
- Automatic alarm alerts
- 1 Touch Watering - in the Auto-Run dial position, press and hold the right arrow key



- Seasonal Adjust can be applied to a specific program or to ALL programs (Range is from 200% down to 5%)
- Delay Watering (Rain Delay) can prevent irrigation for up to 14 days
- Manual Water Station or Program allows immediate watering of an individual station or an entire program
- Test All Stations
- Total Run Time Calculator by program
- Sensor Bypass by Station

Controls and Indicators

Key operational features of the ESP-Me Controller:

















ESP-Me Controller Front Panel

Display Legend

This manual uses USA domestic icons for illustration purposes. The following table lists the differences between the domestic and international display screen symbols. Choose your voltage below to determine the LCD symbols for your controller.

Domestic vs. International Display Symbols

| 120V & 240V | 230V | English |
|--|---|----------------------|
| OFF |  | Off |
|  NEXT |  | Next Watering Day |
| MO | 1 | Monday |
| TU | 2 | Tuesday |
| WE | 3 | Wednesday |
| TH | 4 | Thursday |
| FR | 5 | Friday |
| SA | 6 | Saturday |
| SU | 7 | Sunday |
| DAY | DD | Day |
| MONTH | MM | Month |
| YEAR | YY | Year |
| HOUR | HH | Hour |
| MINUTE | MM | Minute |
|  ^{1.35} .. ODD |  ^{1.35.29} 1, 3, 5 | Odd Days |
|  ^{2.46} .. EVEN |  ^{2.46.30} 2, 4, 6 | Even Days |
| STATION |  | Station |
| START TIME |  | Start Time |
| RUN TIME |  | Run Time |
| REMAINING RUN TIME |  | Remaining Run Time |
| SEASONAL ADJUST % |  | Seasonal Adjust |
| DELAY |  | Rain Delay |
| MANUAL |  | Manual Watering |
| TEST |  | Test All Stations |
| DELAY |  DELAY | Delay Between Valves |

Advanced Options

For Basic Setup, see the Quick Reference Guide located inside the controller door.

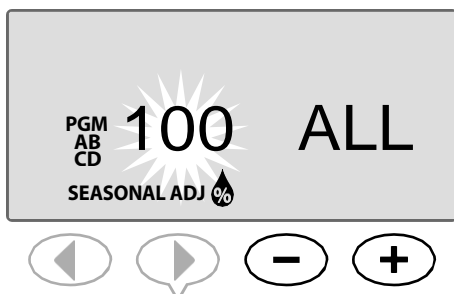


Seasonal Adjust

Increase or decrease watering duration based on seasonal weather conditions.

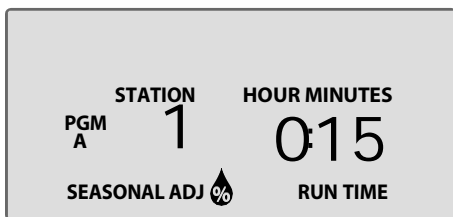


1. Turn the dial to **Seasonal Adjust %**.
2. Press **—** or **+** to increase or decrease the Seasonal Adjust percentage setting. (5 - 200%)



3. If adjustment will not be applied to all programs, press the **Program Select** button to select the desired program.

b NOTE: Displayed run times are inclusive of any seasonal adjustment made. Example: Station 1 has a run time set for 10 minutes. The program Seasonal Adjusted value is now set to 150%. The new actual run time is 10 minutes x 150 % = 15 minutes.



b NOTE: Running a Manual Station or Program will use the Seasonal Adjusted value.

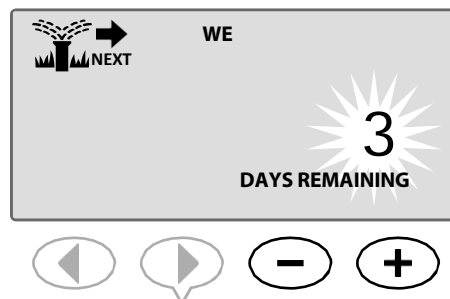


Delay Watering

Delay watering if irrigation is not needed.



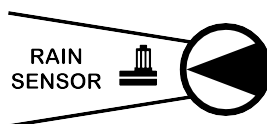
1. Turn the dial to **Delay Watering**.
2. Press **—** or **+** to set the **DAYS REMAINING**. The next watering days remaining will update on the display to indicate when watering will resume.



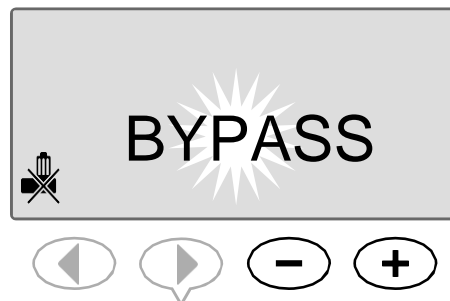
Rain Sensor

Set the controller to obey or ignore a rain sensor. @ SPECIAL FEATURE AVAILABLE

The Rain Sensor setting applies to all programs and is not program specific. However, you can set any station to Bypass (Ignore) the sensor. For more details see the Special Features card or the Advanced User Manual.



1. Turn the dial to **Rain Sensor**.
2. Press **—** or **+** to select **ACTIVE** or **BYPASS**.



Installation

Installation Checklist

When installing the ESP-Me controller for the first time, it is recommended that you complete the following steps in order.

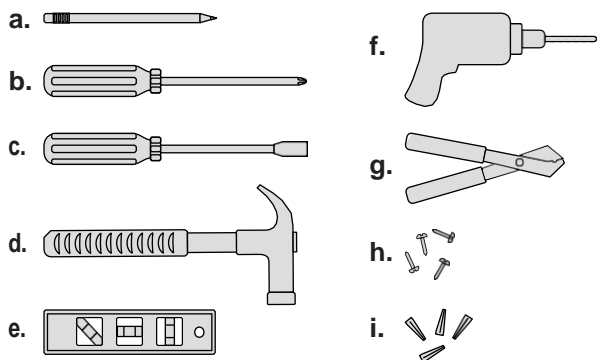
A check-off box is provided for each step:

- ☐ Check box contents (see page III)
- ☐ Gather installation tools (see below)
- ☐ Select a location
- ☐ Mount the controller
- ☐ Connect controller power
- ☐ Install station modules (optional)
- ☐ Connect field wires
- ☐ Complete the installation
- ☐ If a Rain Sensor is installed, turn the dial to Rain Sensor and set status to "Active" using the + key

Gather Installation Tools

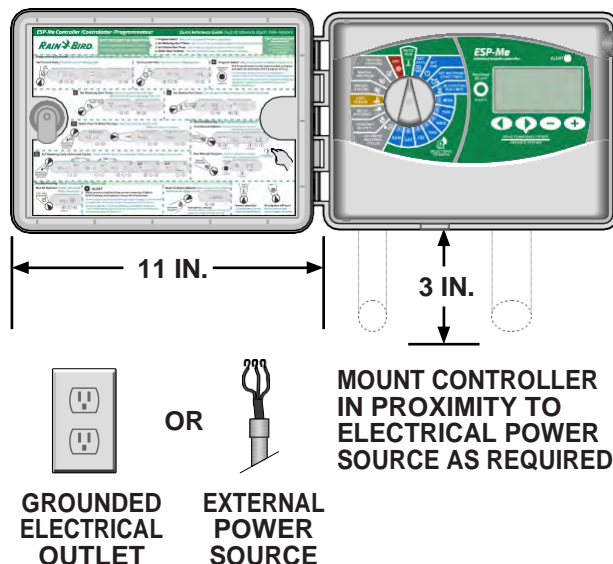
Before beginning installation, gather the following tools and materials:

- a. Marking pencil
- b. Phillips screwdriver (#1, #2, #3 tip)
- c. Flathead screwdriver
- d. Hammer
- e. Level
- f. Drill and drill bit (for #8 screws)
- g. Wire Stripper
- h. Mounting Screws (included)
- i. Wall Anchors (if needed)



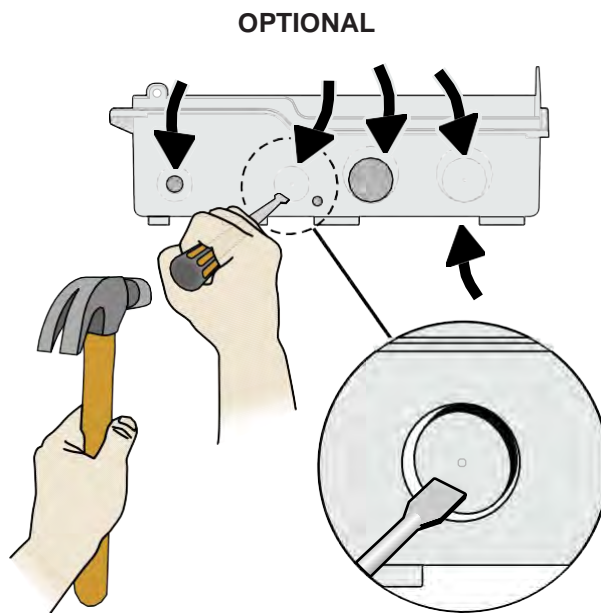
Mount Controller

Choose Location

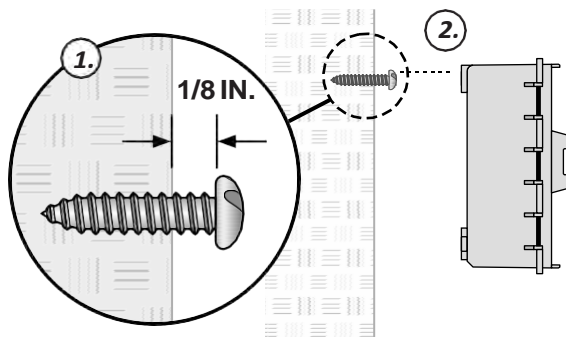


b NOTE: The operating temperature range is 14°F to +149°F (-10°C to +65°C).

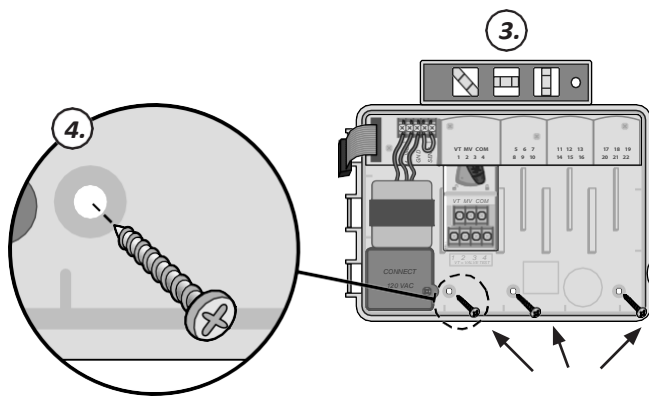
Remove Knock-outs



Mount Controller



b NOTE: Use wall anchors (not included) if needed.



Connect Power

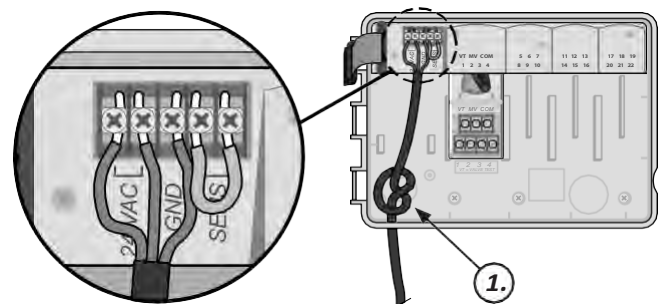
- C WARNING:** DO NOT plug in the transformer or connect external power until you have completed and checked all wiring connections.
- C WARNING:** All electrical connections and wiring runs must comply with local building codes. Some building codes require that only a licensed or certified electrician can make the power connections. Please check with your local building code for guidance. Only professional personnel shall install the controller.

| Electrical Specifications (230V only) | |
|---------------------------------------|--------------------------|
| Input | 230VAC, 0.2AMP, 50/60Hz |
| Output | 25.5VAC, 1.0AMP, 50/60Hz |

Indoor Model

1. Route the transformer power cord through the conduit opening at the bottom left of the unit. Knot the cable/cord inside the controller cabinet to prevent it from being pulled out.

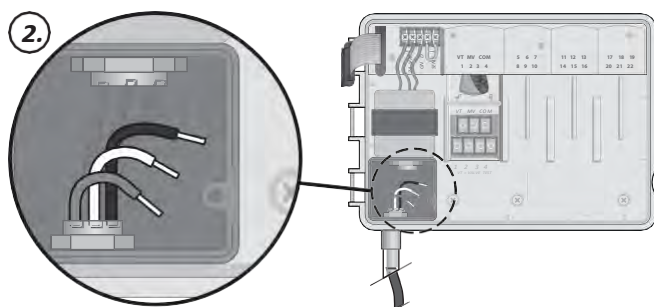
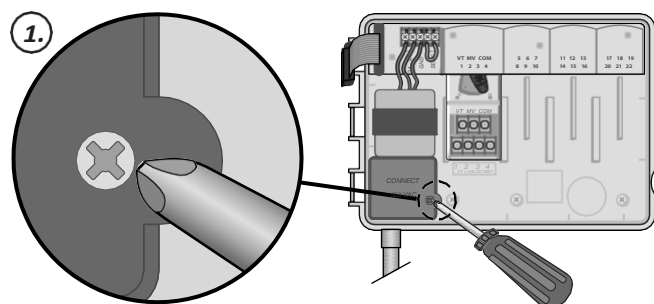
d CAUTION: Do not route the power cord through the field wire opening at the bottom right of the unit.



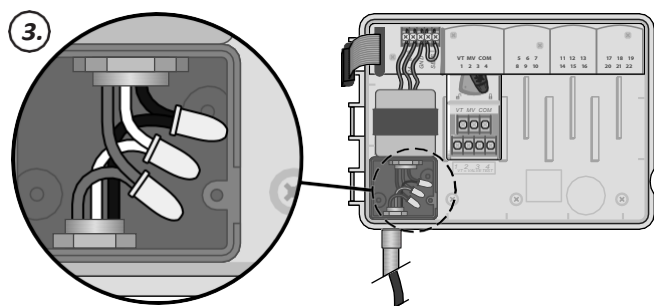
Outdoor Model

WARNING: Electric shock can cause severe injury or death. Make sure power supply is turned OFF before connecting power wires.

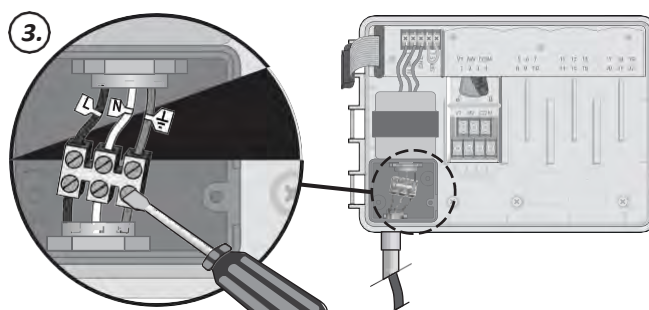
| Power Wiring Connections | |
|---|--|
| 120VAC (USA) | 230VAC (International) |
| Black supply wire (hot) to the black transformer wire | Black supply wire (hot) to the black transformer wire |
| White supply wire (neutral) to the white transformer wire | Blue supply wire (neutral) to the blue transformer wire |
| Green supply wire (ground) to the green transformer wire | Green-with-yellow-stripe supply wire (ground) to the green-with-yellow-stripe transformer wire () |



For 120V:



For 230V only:



NOTE: Use either the provided wire nuts or the installed connector for this step.

WARNING: Ground wire must be connected to provide electrical surge protection. Permanently mounted conduit shall be used for connecting main voltage to the controller.

Station Expansion Modules

Additional Station Modules can increase the number of available stations up to 22.

Module Options

Base Module
(included)



Expansion Modules
(sold separately)



3-STATION
(ESPSM3)

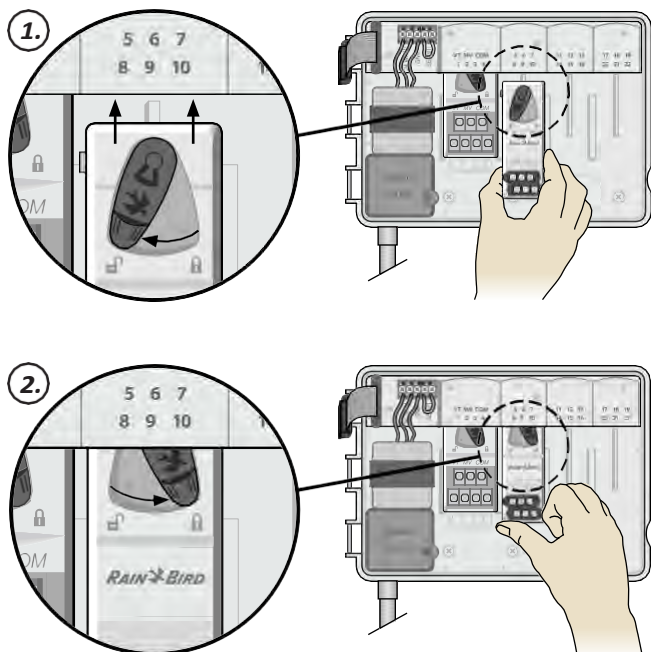


6-STATION
(ESPSM6)

NOTE: 6-Station module is compatible only with the ESP-Me. They are not backwards compatible with the previous vintage controller.

NOTE: For ideal station sequencing, it is recommended that a 6-Station module always be installed in Bay 2. For more details see Station Numbering section.

Install Modules

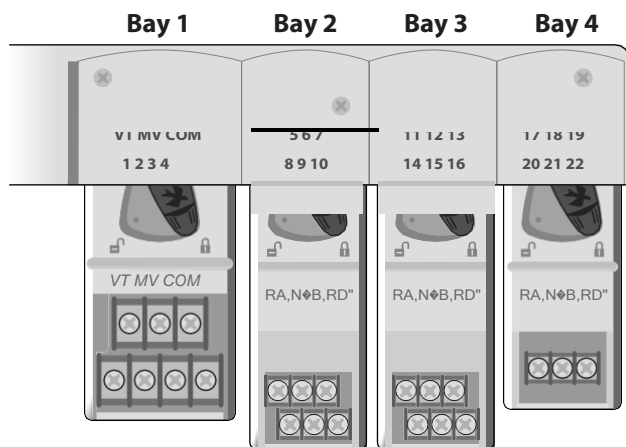


Station Numbering

Fixed Station Numbering Description

The controller is configured with Fixed Station Numbering. Each bay is set up to accept a 6 station module and reserve the station number for future use if a 6 station module is NOT installed in Bays 2, 3 or 4.

Station numbers are pre-assigned as follows:



Example Of Optimum Installation Of 19 Stations

Module Configuration

Why Proper Configuration Is So Important

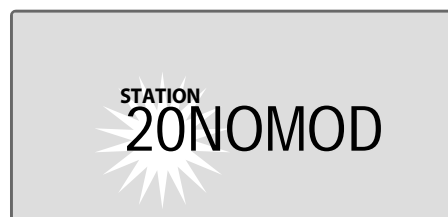
Example of installation with station numbering gaps:

- ┌ A total of 19 stations are installed.
- ┌ The Base Module is installed in Bay 1 and uses Stations 1 through 4.
- ┌ A 6-Station Expansion Module is installed in Bays 2 and 3.
- ┌ A 3-Station module is installed in Bay 4 and uses stations numbered 17 through 19.

Because a 3-Station module is installed in Bay 4, only the first three station numbers assigned to that bay will be used and the unused numbers will be "reserved" for future use.

During programming, the controller will skip any unused station numbers, creating a gap in station numbering.

In our example a 3-Station module was installed in Bay 4, so stations 20-22 will be unavailable for programming. During programming the missing stations will show on the display as 20NOMOD, 21NOMOD, etc.



The screen displays "20NOMOD" with the "20" flashing to indicate that Station 20 (and also 21-22) are unused and unavailable for programming.

- b NOTE:** Station numbering gaps will not prevent the controller from operating properly. It only affects station numbering. During programming when connected to AC power, the controller will skip any unused stations where a module is not installed.

Wiring Connections

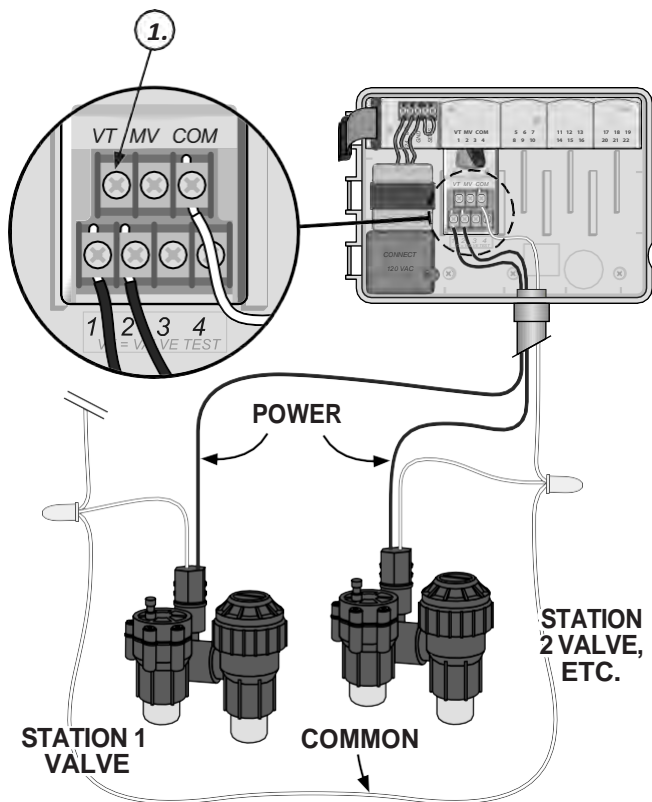
Connect the valve wires for each station and for a (optional) Master Valve, Pump Start Relay or Rain Sensor.

Connect Valves

CAUTION: Do not route the valve wires through the same opening as the power wiring.

1. To perform a Valve Test- connect the common wire to the "COM" terminal and the power wire to the "VT" terminal. This will immediately turn the valve "ON".

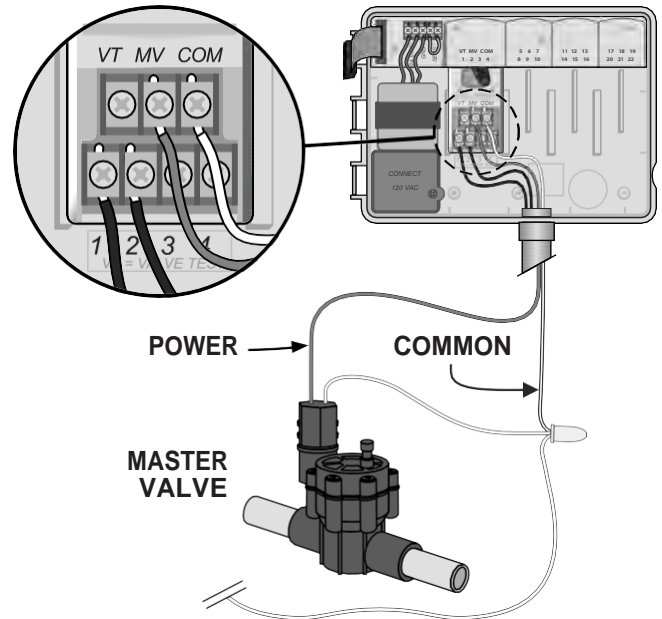
WARNING: The "VT" terminal is always powered "ON".



Connect Master Valve

Connect an optional Master Valve to the ESP-Me controller.

CAUTION: Do not route the master valve wires through the same opening as the power wiring.



Connect Pump Start Relay

Connect an optional Pump Start Relay to the ESP-Me controller.

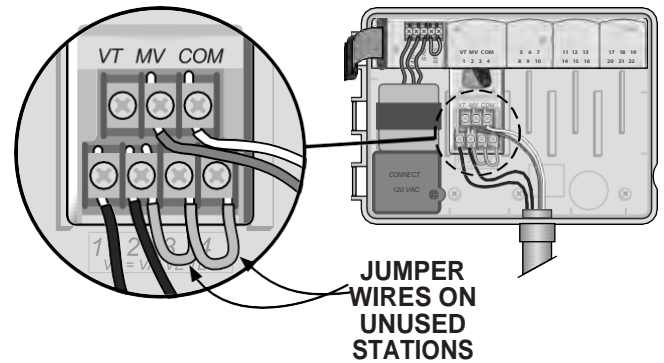
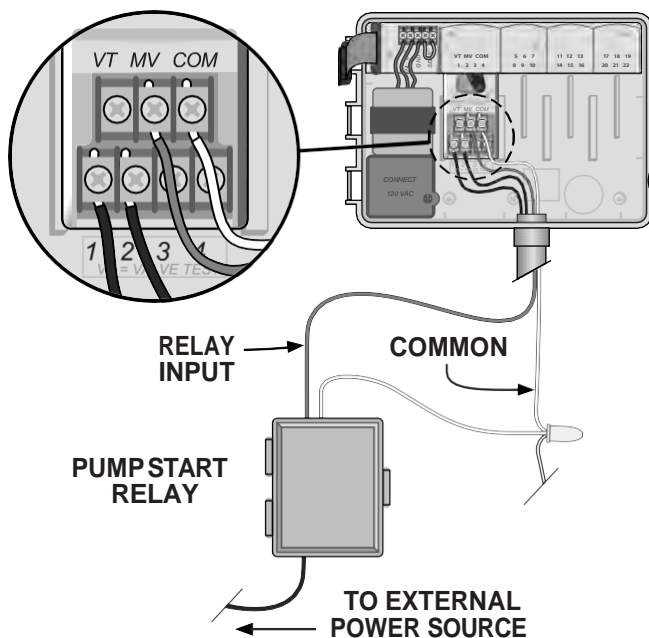
- b NOTE:** The ESP-Me controller DOES NOT provide main power for a pump.
- d CAUTION:** Do not route the pump start relay wires through the same opening as the power wiring.
- b NOTE:** The controller can support a maximum Coil Inrush current of 11VA and a maximum Coil Hold current of 5VA.

The following Rain Bird Pump Start Relays are available in the USA only:

- ▮ RBSR24WG1 - Universal Pump Start Relay
- ▮ RBPL24WG1 - Pump Start Relay with Pressure Switch

For the most up to date compatibility list of pump start relays, visit our website at: www.rainbird.com/controllersupport

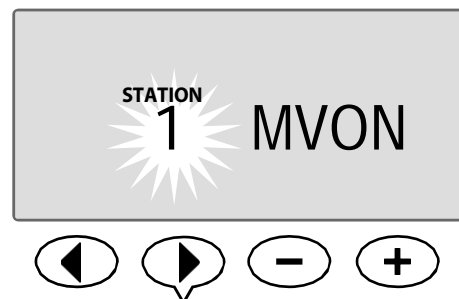
- b NOTE:** This controller is not compatible with the Hunter® PSR22 and PSR52.



- b NOTE:** Default run times for program A is 10 minutes for stations 1-4.
- d CAUTION:** To avoid Dead Heading your pump do one of the following for all unused stations (module installed but not connected to a station wire):
 - ▮ Connect jumper wire across unused stations.
 - ▮ Set Station Run Time(s) to 0.
 - ▮ Set the station to Bypass the MV.

To Bypass the Master Valve for any Station:

1. Turn the dial to **Set Station Run Times**.
2. Press and **HOLD** both ◀ and ▶ at the same time.
3. Press ◀ or ▶ to select the desired Station; then press - or + to set **MV ON** or **MV OFF**.

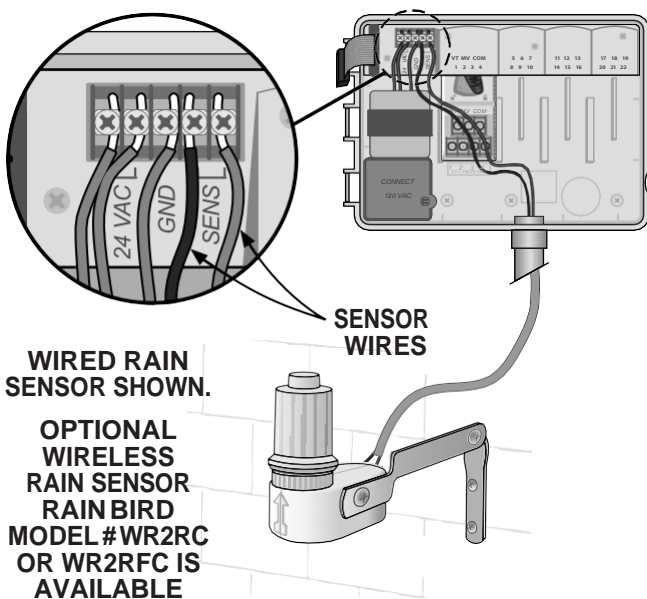
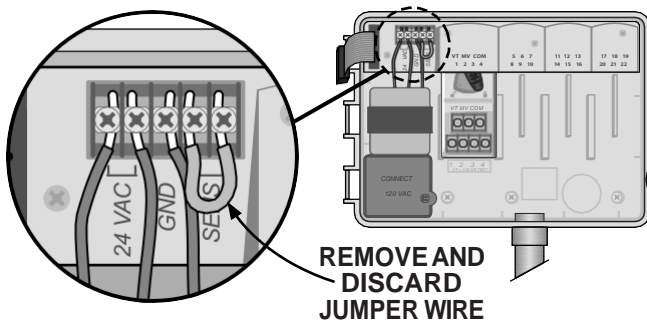


Connect Optional Rain Sensor (Wired or Wireless)

Connect an optional rain sensor to the ESP-Me controller.

b NOTE: The ESP-Me Controller is not compatible with a Normally Open rain sensor. It is designed for use with a Normally Closed rain sensor.

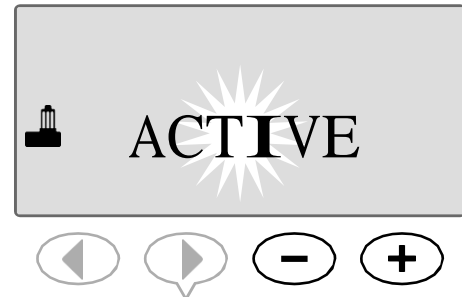
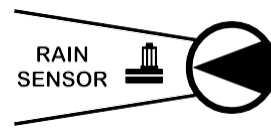
On the terminal strip, remove the yellow jumper wire from the SENS terminals and discard.



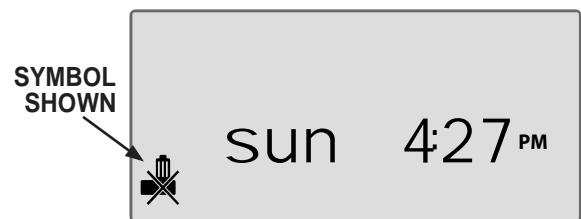
Set Rain Sensor to Active (after installing a rain sensor and removing jumper wire on backplane)

Set the controller to obey a rain sensor.

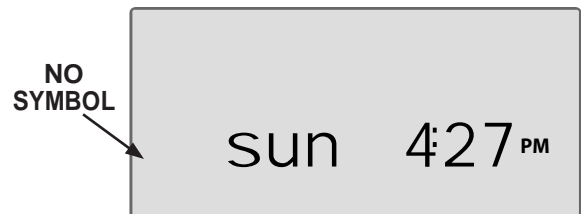
1. Turn the dial to **Rain Sensor**.
2. Press **—** or **+** to select **ACTIVE**.



The rain sensor symbol will show on the display in **AUTO RUN** or **OFF** when Rain Sensor is set to **BYPASS**.



When Rain Sensor is set to **ACTIVE**, no symbol is shown.



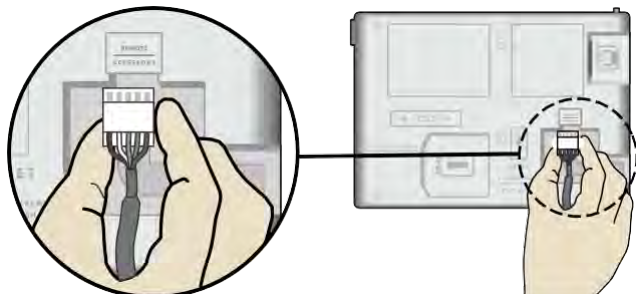
b NOTE: For more details see Rain Sensor in the Advanced Options section of the Advanced User Manual.

b NOTE: The Alert light no longer illuminates when irrigation is delayed due to rainfall.

Installing Optional Features

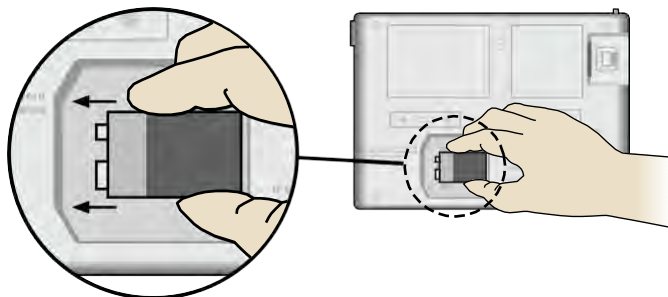
Connect Optional Accessory

- b NOTE:** Use only Rain Bird approved devices with 5 pin accessory port. Unapproved devices may damage controller and void warranty.



Remote Programming

Program the front panel remotely on battery power.



- b HOMEOWNER NOTE:** The following do not require a 9V battery to maintain:



- l Date and Time are maintained up to 10 years by an internal Lithium battery.
- l Programs and Settings are permanently stored in controllers non-volatile memory.

Troubleshooting

Battery Life

If the display repeatedly shows "-----" when using a 9V battery for remote programming, replace the battery.

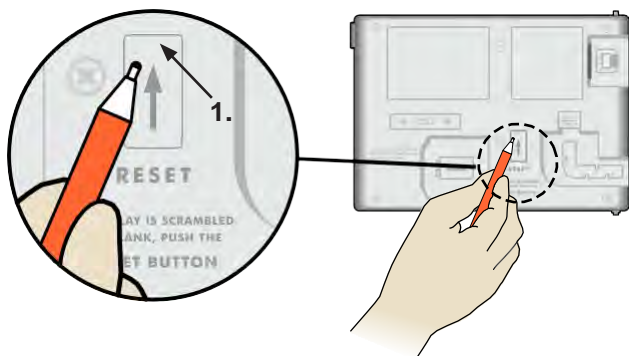
Reset Button

Press RESET if the controller is not working properly.

The Reset button resets the controller. Active irrigation is canceled, but all previously programmed watering schedules remain stored in memory. Irrigation will resume at the next scheduled Start Time.

1. Insert a small tool into the access hole and press until the controller is reset.

b NOTE: We suggest using a non-metallic object such as a pencil or pen to press the Reset button.



Error Detection

The ESP-Me controller has built-in error detection that can automatically generate an alert caused by an essential programming error or if an electrical short condition is detected.

The Alert LED light on the ESP-Me controller front panel will light up to indicate an alarm condition:

ALERT

Programming Errors (blinking LED)

| Error | Alert LED | Error Message On Display |
|--------------------------|-----------|--------------------------|
| No Start Times are set | BLINK | NO START TIMES |
| No Run Times are set | BLINK | NO RUN TIMES |
| No Watering Days are set | BLINK | NO WATER DAYS |

The ESP-Me controller will reset or clear when the error is corrected.

b NOTE: The dial must be in the AUTO RUN position for an Alert message to appear on the display.

Electrical Errors (non-blinking LED)

| Error | Alert LED | Error Message On Display |
|--------------------|-----------|--|
| Master Valve short | SOLID | MASTER VALVE/PUMP WIRE SHORTED OR HIGH CURRENT |
| Station short | SOLID | STATION "X" WIRE SHORTED |

When an electrical error is detected, irrigation for the affected station is cancelled and watering advances to the next operable station in the program.

The controller will attempt to water the affected station again at the next scheduled watering. Completion of a successful watering will clear the error condition associated with that station.



Clearing Electrical Error Alerts

Turn the dial to the AUTO RUN position to view the error message on the display. To clear the Alert, press the right arrow key

Frequently Asked Questions

| Problem | Possible Cause | Possible Solution |
|--|--|---|
| Display shows a program is active, but system isn't watering. | Water source not supplying water. | Verify there is no disruption to the main water line and that all other water supply lines are open and functioning properly. |
| | Wiring is loose or not properly connected. | Check that field wiring and master valve or pump start relay wiring is securely connected at the controller and in the field. |
| | Field wires are corroded or damaged. | Check field wiring for damage and replace if necessary. Check wiring connections and replace with watertight splice connectors if needed. |
| | Loss of AC power. | When there is a power loss and a 9 volt battery is installed, the system does not irrigate but programs show as remaining active. |
| NO AC message on display. | No Power detected. | Check circuit breaker and that unit is plugged into socket or properly connected to power source. |
| | Controller may be plugged into a GFI outlet or an outlet that is wired to a GFI outlet. | Check power to the outlet or reset the circuit breaker. |
| Programmed schedules do not start. | Connected rain sensor may be activated. | Set Rain Sensor to BYPASS to ignore the rain sensor. If watering resumes, the sensor is operating properly and no further correction is needed. |
| | Connected rain sensor may not be operating properly. | Let the rain sensor dry out, or disconnect it from the controller terminal strip and replace it with a jumper wire connecting the two SENS terminals, or set to Bypass. |
| | If no rain sensor is connected, the jumper wire connecting the two SENS terminals on the terminal strip may be missing or damaged. | Move dial position to Sensor Bypass and set to Bypass. |
| It just rained and the alarm light is not illuminated, why? | This is normal operation. The ESP-Me does not consider the interruption of irrigation due to rainfall an alarm condition. | This is normal operation. |

Electrical Issues (solid LED illuminated)


| Problem | Possible Cause | Possible Solution |
|--|--|---|
| Display is blank, frozen or will not accept programming. | Power not reaching the controller. | Verify the main AC power supply is securely plugged in or connected and working properly. |
| | Controller needs to be reset. | Press the Reset Button. For details see "Reset Button" section. |
| | An electrical surge may have interfered with the controller's electronics. | Unplug the controller for 2 minutes, then plug it back in. If there is no permanent damage, the controller should accept programming and resume normal operation. |
| Automatic error detection indicates a problem by Alert LED and an error message on display. | Short circuit or overload condition in valve, master valve or pump start relay wiring. | Identify and repair the fault in the wiring. Refer to compatible pump start relays. For details see "Connect Pump Start Relay" section. |
| LED is flashing or solidly illuminated but I see no message on the LCD. | Dial not in AUTO RUN position. | Turn dial to AUTO RUN position. |

for more details visit www.rainbird.com/controllersupport

Declaration of Conformity

Rain Bird Corporation hereby declares that the ESP-Me irrigation controller families conform to the European Directives 2004/108/EC for "Electromagnetic Compatibility" and 2006/95/EC for "Low Voltage"

Place San Diego

Signature 

Full Name Ryan L. Walker

Position Director

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FCC Part 15

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by Rain Bird Corporation could void the user's authority to operate the equipment. This product was FCC certified under test conditions that included the use of shielded I/O cables and connectors between system components. To be in compliance with FCC regulations, the user must use shielded cables and connectors and install them properly.

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