



Irrigreen® Digital Sprinkler Installation Manual



**Irrigreen® Sprinkler System
Full Installation Video**



**Irrigreen® Sprinkler Zone
Map Design Video**



Irrigreen-Supplied Products



Irrigreen Wi-Fi/Cloud Controller

Standard: 16 Digital Sprinkler Zones, 12 Valve Zones

Pro: 32 Digital Sprinkler Zones, 24 Valve Zones



Irrigreen Digital Sprinkler
(1 per zone; 5-35 ft. variable throw)



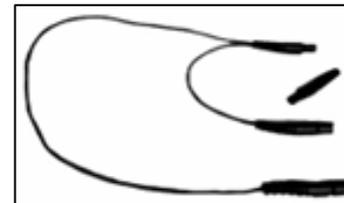
Controller Cable
(50 ft. with end plug)



Sprinkler Cable
(50 ft.)



24 VAC Transformer
with 10 ft. wire
(40 VA indoor)



Cable Tee
(with end plug)



Flex-Pipe (15 in.)
Connects sprinklers to mainline



Cable Lock
Secures water-proof
cable connectors



1" Ultrasonic Flow Sensor
(Optional)

Other Needed Items

(Not Supplied by Irrigreen)

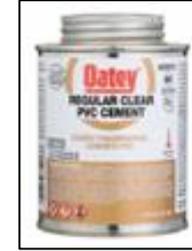


1" Mainline Tubing
(PVC or Poly)



6" Valve Boxes (Recommended)

- One for Each Digital Sprinkler Zone to House Excess Cable Length & Help Protect Cable Connections.
- As Needed for Optional Flow Sensor & Any Traditional Valve Zones.



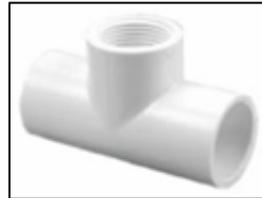
PVC Glue and Primer



Pipe Cutter



1" Elbow Connectors
(PVC or Poly)



1" Tees (PVC or Poly) With 1" Female Pipe Thread
(For Connecting Flex-Pipe to Mainline)



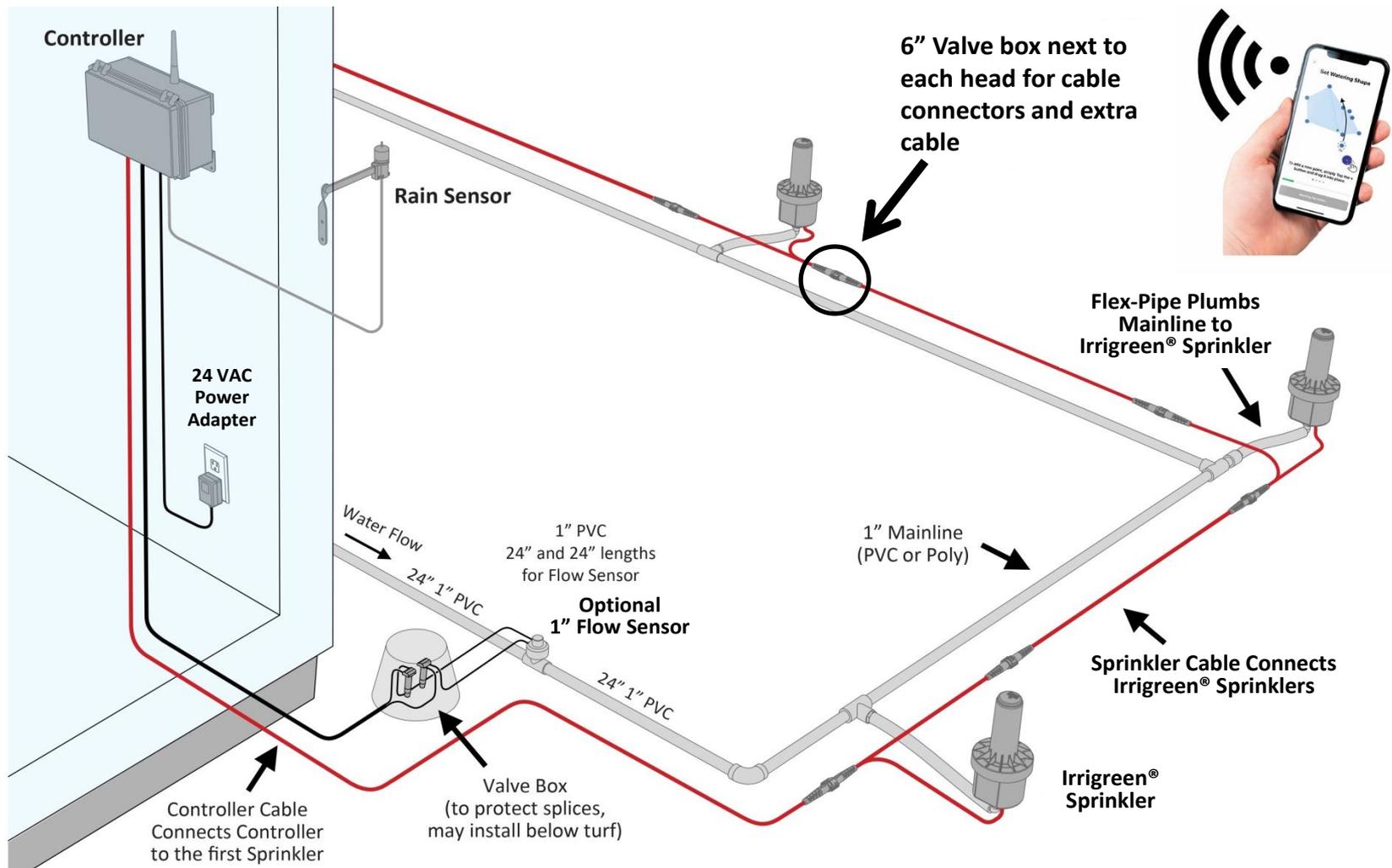
Pressure Gauge



Teflon Tape

Plus any other connectors and/or end caps needed for your landscape.

Irrigreen Installation Overview Schematic



Irrigreen System Requirements

Good Flow, Constant Pressure, Clean Water

Good Flow

- 8 gallon per minute minimum flow (lower flow = shorter throw).
- It is important to check outside water flow. Some homes have ½ - 3/4” pipe inside the home, which restricts flow to the outside irrigation system, lessening sprinkler watering distance.

Constant Pressure

- 40-80 PSI (any constant pressure between 40 and 80 PSI).
- Well-water systems require a constant pressure pump or a cycle stop valve (with a small tank) to regulate the pressure.
- If the water supply is over 80 psi, install a pressure regulating valve [PRV] and set it between 40-80 psi. Irrigreen recommends the Honeywell D0F6.

Clean Water

- A filter is required for any water source with particulates (e.g., sand, grit, mud, lake water, etc.).
 - A 100 Mesh (150-micron) filter should be used (similar to drip irrigation).

Pressure Measurement

Verify PSI Before Placing Heads (40-80 PSI)



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Measuring your water pressure and flow is a requirement before installing any irrigation system. It determine the maximum throw of sprinklers, which determines sprinkler placement.

Maximum Throw

40 PSI	25'
50 PSI	27.5'
60 PSI	30'
70 PSI	32.5'
80 PSI	35'

Minimum Throw

40 PSI	5'
50 PSI	5'
60 PSI	5'
70 PSI	5'
80 PSI	5'



Connect a pressure gauge to the water spigot to check pressure.

Total Area

At 60 PSI, one Irrigreen sprinkler head will evenly water any shape that fits within a 60-foot diameter circle.

Flow Measurement

Bucket Test (8+ gallons/minute required)



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Make sure you can fill a 5-gallon bucket in less than 45 seconds
(8 gallons per minute).



Irrigreen Sprinkler Head Placement

One Head per Zone.

Place Head to Reach Farthest Corner (25-30 ft.).

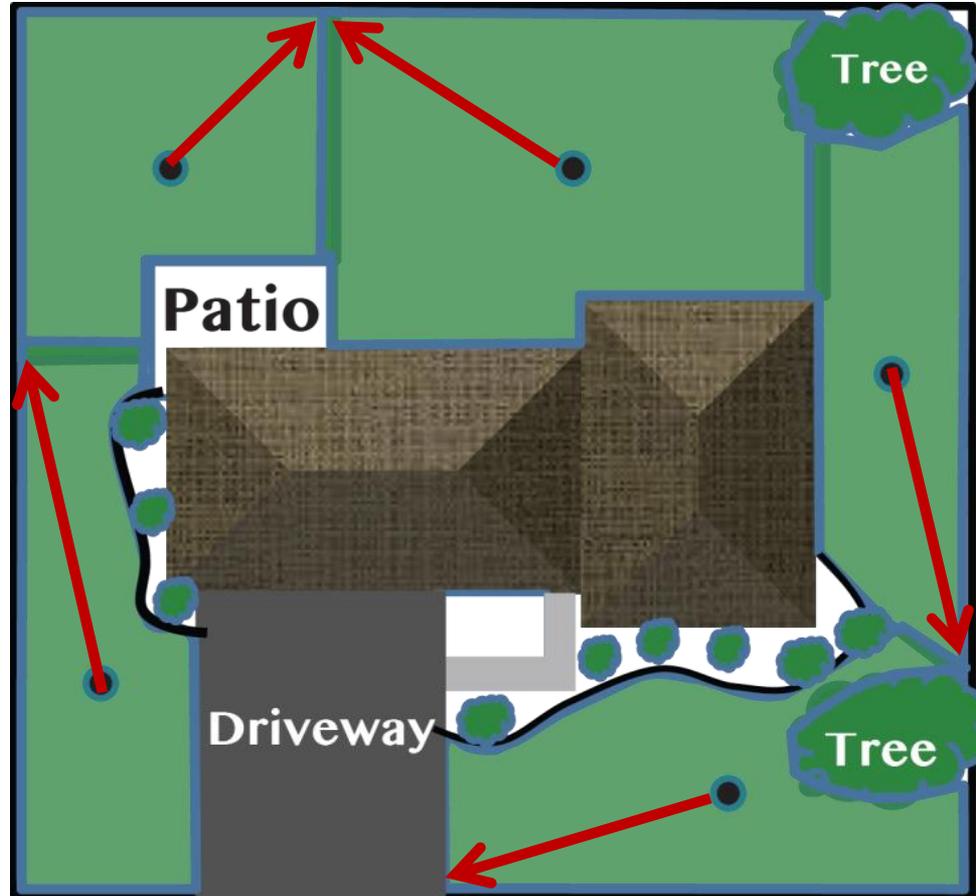


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Exact placement is not critical as you can program the head to the shape of the zone.

Don't overlap sprays or zones.

Set stream distance to land ~6" short of the zone edges.



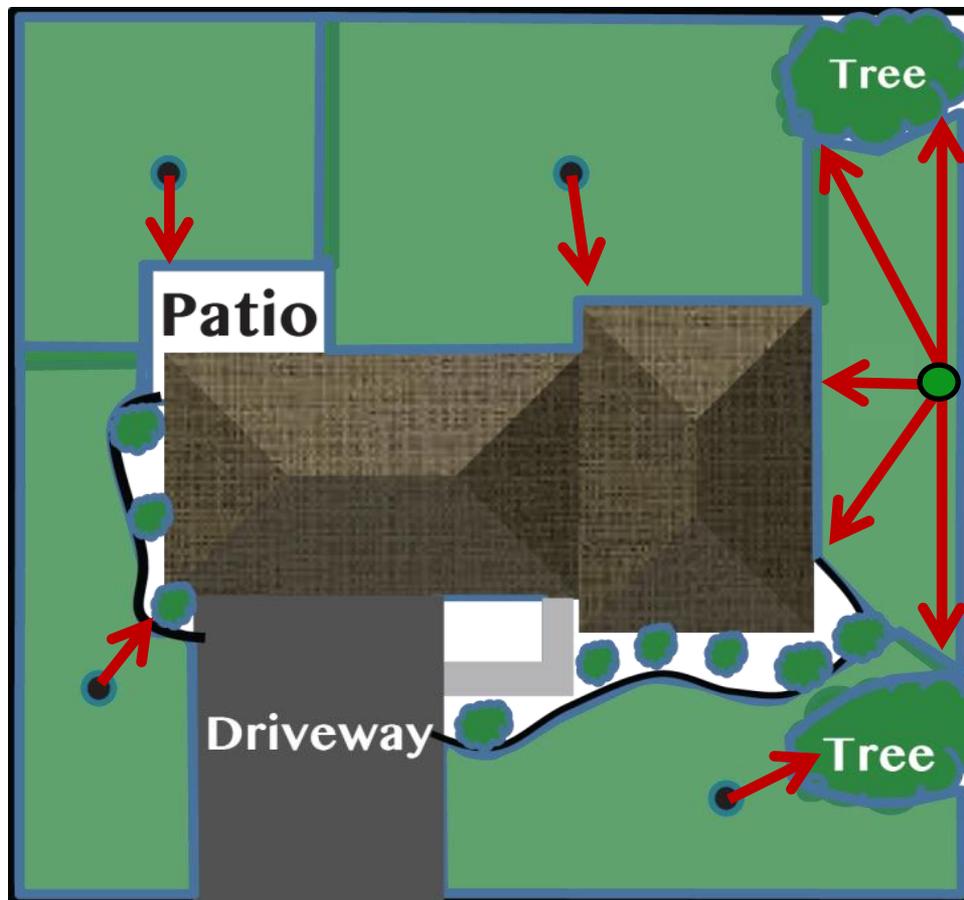
Installation Hint:
Walk in from the corner with and place a flag at 25-30' for head placement.

Irrigreen Sprinkler Head Placement

For Narrow Zones, Place Head 5 Feet or More From Nearest Edge.

NOTE: The first zone map point must be **at least 10 feet** from sprinkler head so the head has enough flow/pressure to fully “pop up.”

After head is fully up, you can set points as short as 5 feet.



For narrow zones less than 10 feet wide, place head along edge and program in a ~180-degree pattern.

Controller Box May Be Installed Outside

Make Sure Box Location Has Strong Wi-Fi Signal (4 Bars)

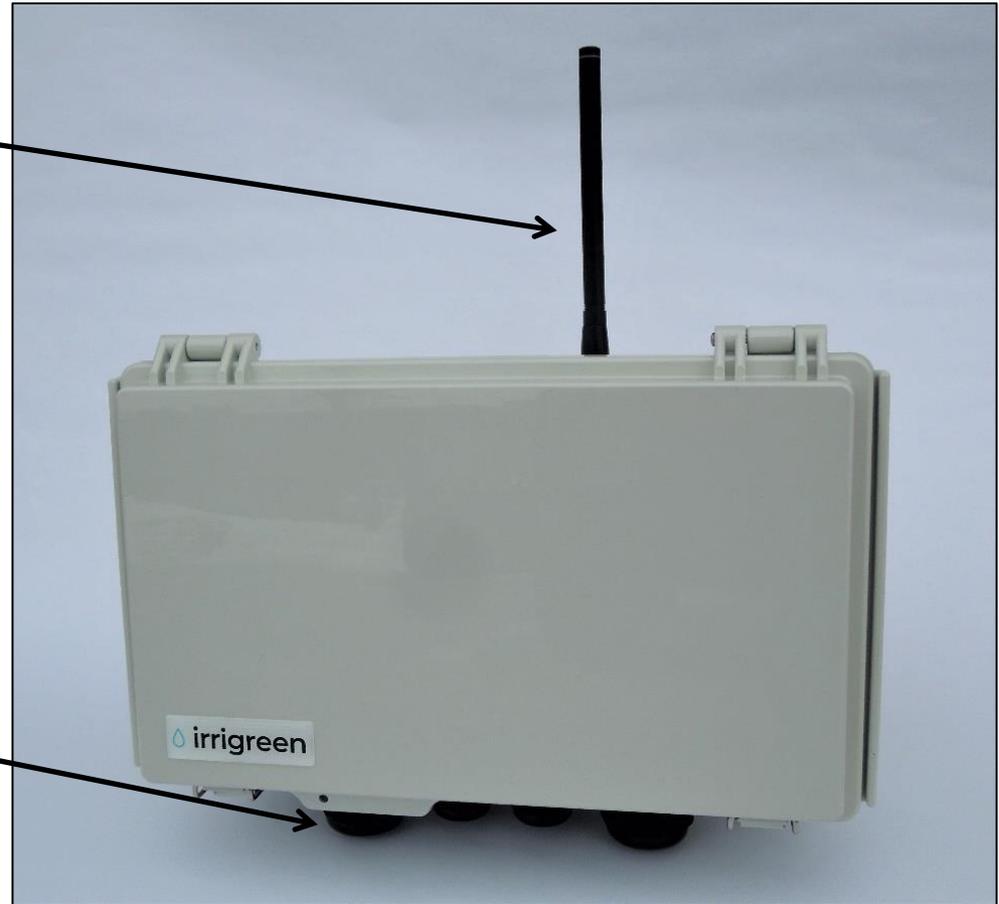


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Install the Wi-Fi antenna before rolling system over to home Wi-Fi network.

NOTE: Transformer must be protected with outlet box if installed outdoors.

Tighten glands around cables for additional protection.

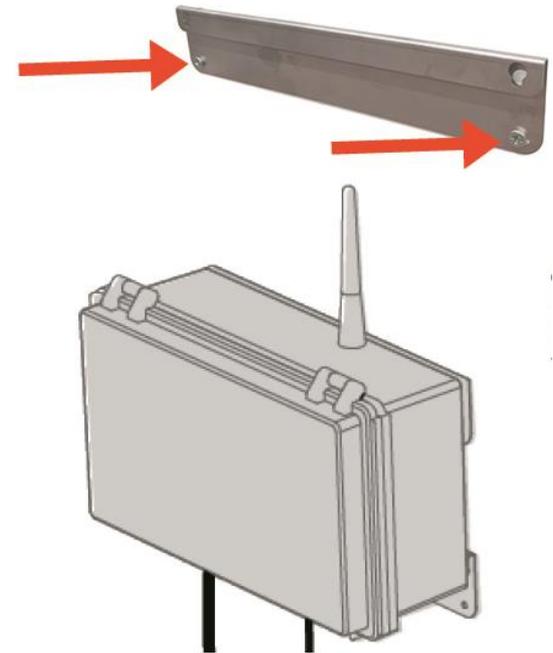


Controller Box Mounting



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1. Remove top bracket from controller and place it level on the wall.
2. Screw in the top bracket.
3. Put the controller on the top bracket and slide it down into place.
4. Put screws in the two holes on the bottom bracket to hold the controller box in place.



Controller slides onto mounting bracket and bottom screws hold it in place.

Controller Power

(24 VAC/40 VA)

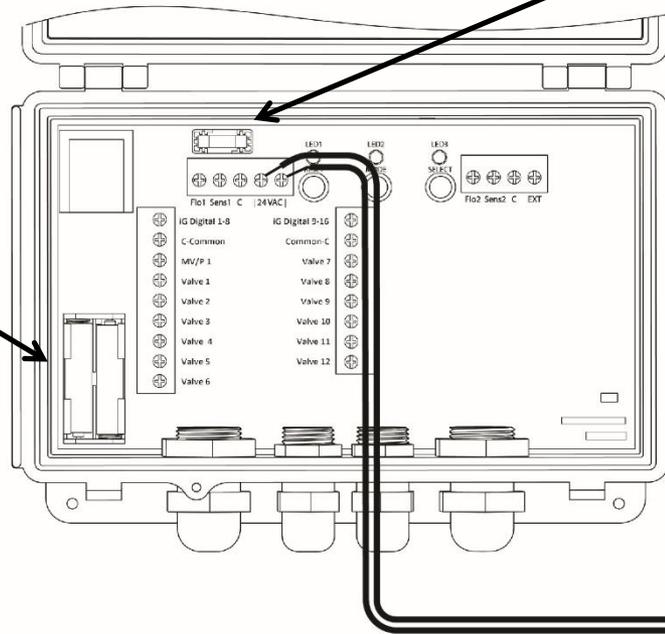


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2 AAA Batteries

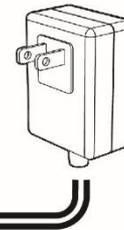
Replace clock backup annually or if app shows “battery voltage” below 2.1 volts (system setup page).

Low battery voltage may cause schedule run issues.



Controller Fuse
Miniature Fuse
Slow Blow 2A 250V
(may use 3A 250V)

Transformer
24 VAC, 40 VA



Find and Tap Into Water Line



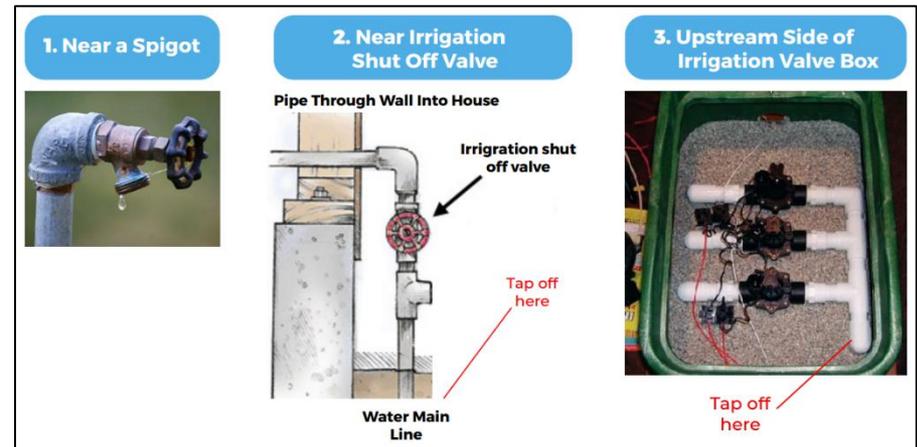
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The water line (mainline) will be used to connect the Irrigreen system to the water source.

Tapping Into the Existing Mainline:

1. Shut off water and find the mainline.
2. Cut the mainline underground.
3. Glue in a tee connector to provide water to the Irrigreen system.

Where Is the Mainline?



Make sure to check backflow and anti-siphon valve regulations in the area.

Contact your local water utility or a plumbing professional if unable to locate the mainline or if unsure of how to plumb the connection.

Trenching



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Trench 10-12” deep to each sprinkler head location



Dig hole(s) 15” deep for Irrigreen sprinkler head(s)



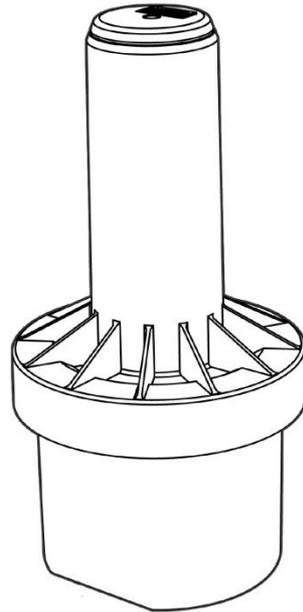
NOTE: Do not bury the trench or sprinklers until system has been wired and all connections have been tested/verified.

Flex-Pipe Plumbing Connection

Use of Flex-Pipe Required for Warranty*



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Hand tighten Irrigreen sprinkler head onto the Flex-Pipe elbow fitting until it bottoms out against the O-ring inside the head.

Bottom of sprinkler should be flush with the elbow

Take care not to cross-thread the head and flex – pipe, it will cause leaking and possible sprinkler damage.

DO NOT use Teflon tape on the Flex-Pipe elbow fitting.*



Teflon tape use recommended on the 1" connection to mainline to prevent leaks. Screw the 1" Flex-Pipe fitting into the mainline tee fitting until the nut is flush with the tee.

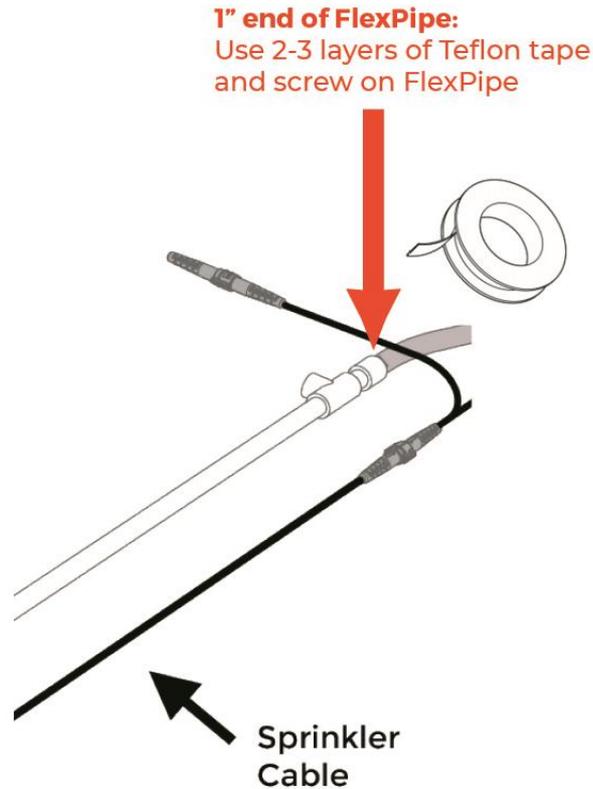


*Use of Teflon tape inside Irrigreen sprinkler heads or not mounting Irrigreen sprinkler heads on Flex-Pipe voids the sprinkler warranty.

Sprinkler, Flex-Pipe, and Tee Fitting Can Be Preassembled Prior to Attaching to Mainline



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Helpful Hint:

When flushing the lines prior to head installation, disconnect the sprinkler head and point Flex-Pipe out of hole to keep the hole from filling with water.

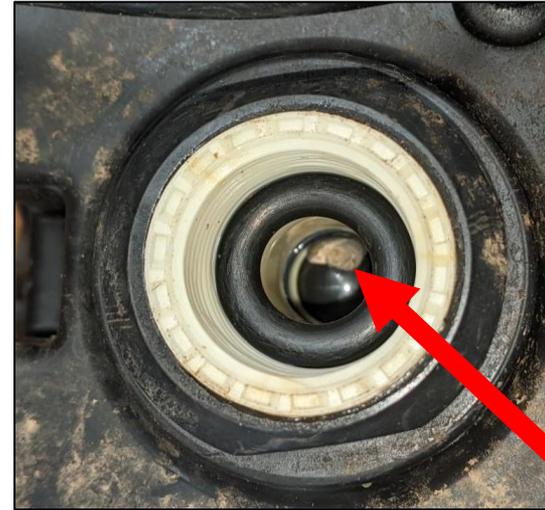
Flush All Lines. Twice.

Before and After Installing Sprinkler Heads.*



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- Before installing any sprinkler heads, flush all irrigation lines to remove all dirt, sand, debris, etc.
- After all heads are installed, run the last Digital Sprinkler(s) on the end of each pipe run for several minutes to remove all air from the system.
- Also run all valve zones to remove all air from the system.
- Trapped/dead air anywhere in the system acts as an “air piston,” causing sprinkler calibration errors.
- If a sprinkler is not calibrating, clean the filter as shown on following page.



Rocks & sand caught inside the head, from incomplete flushing

***Damage caused by debris, sand, rocks, and other matter within the irrigation line is not covered under warranty.**

Irrigreen System Wiring

Controller Connects to Mobile App Via Wi-Fi



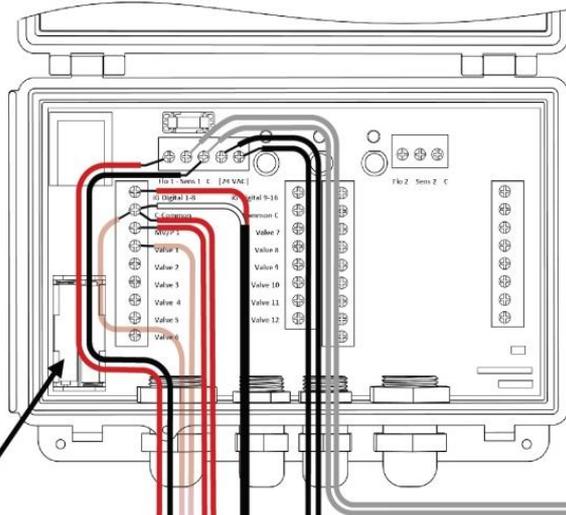
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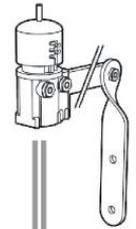
Mobile App Setup and Schedule (Android; iOS)



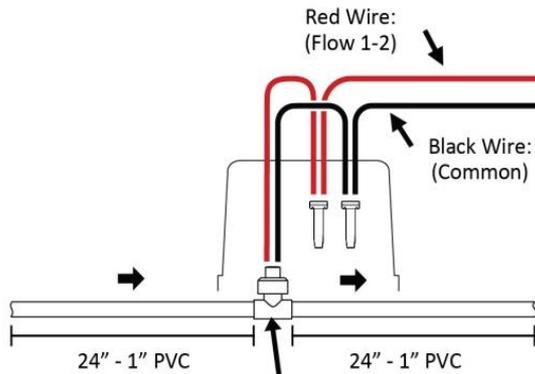
2 AAA Batteries (Clock Backup)



Sensor Wiring (Optional)



Transformer 24 VAC/40 VA



Red Wire: (Flow 1-2)

Black Wire: (Common)

Optional 1" Flow Sensor

Drip/Standard Valve
One wire (Common)
Other wire (Valve 1-4)

Master Valve/
Pump
One wire (Common)
Other wire (MV/P)

50FT Plug-n-Play Server Cable
Red Wire (iG Digital 1-8)
White wire (Common)

Can repeat up to 8X total per connection

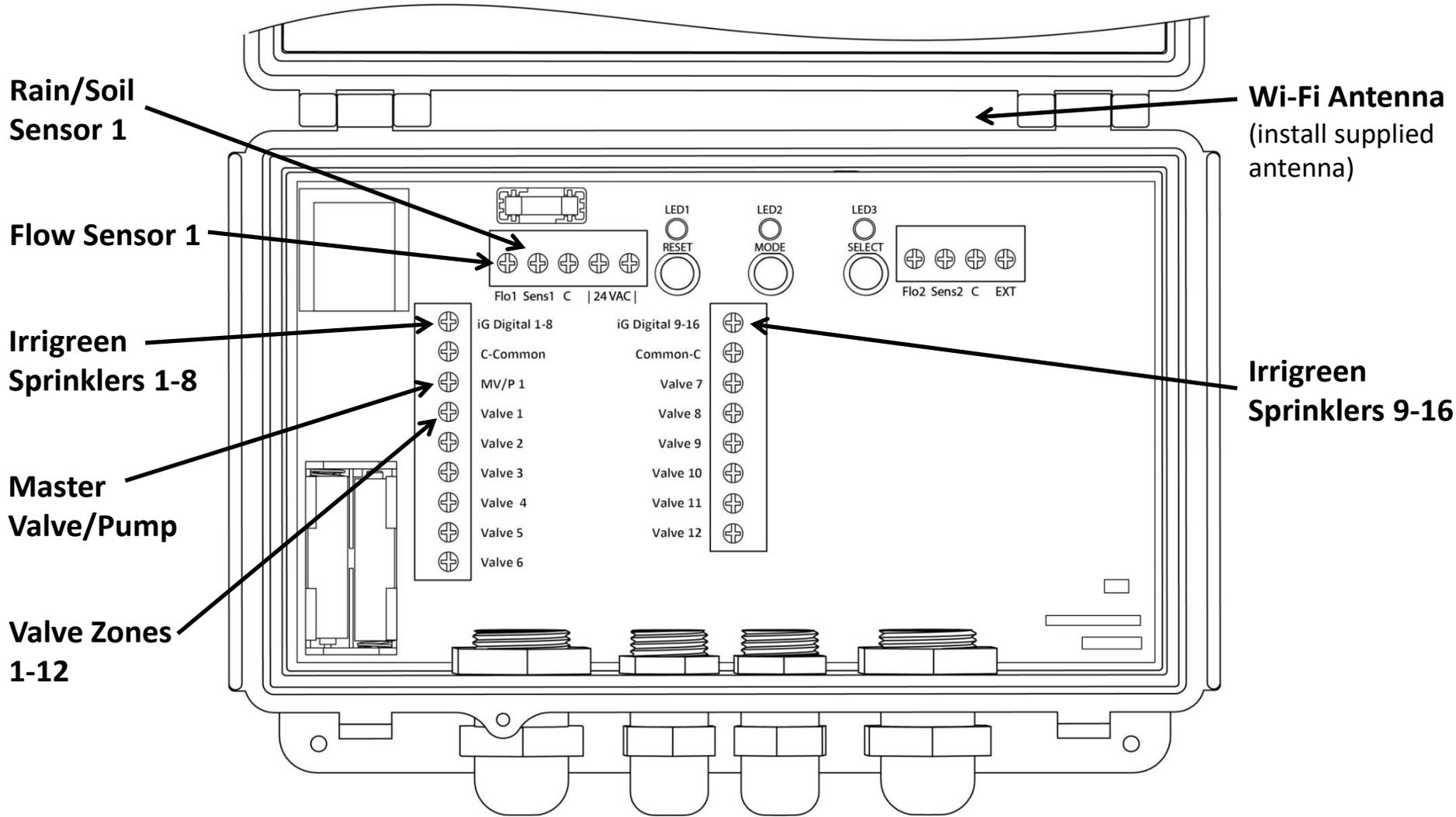
50FT Plug-n-Play Sprinkler Cable

Cable Lock Top & Bottom

Plug-n-Play Sprinkler Pigtail

Plug-n-Play Female End Plug

Irrigreen Controller Terminals

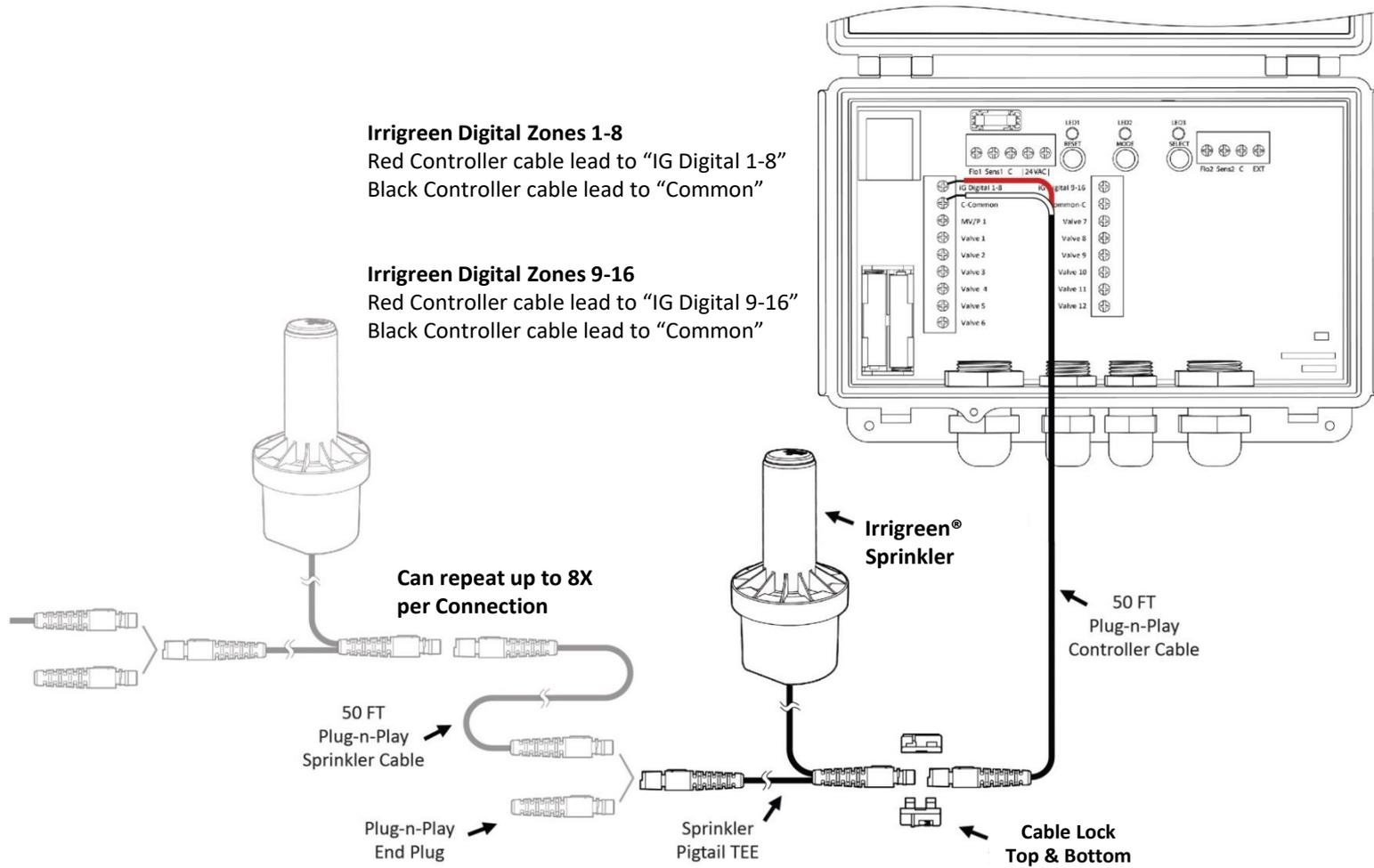


Connect Irrigreen Digital Sprinklers With Cables

Daisy-Chain up to 8 Sprinklers per Terminal (#1-8 and #9-16)



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Remove Plug from 50FT Controller Cable (or Sprinkler Pigtail TEE) and use to seal the ending connection on the last sprinkler in line.

Numbered Sprinklers Will Run in That Order Wiring Sequence Does not Matter

Irrigreen Digital Sprinklers #1-8 will run on the first controller cable:

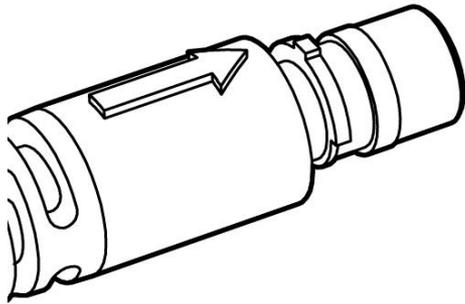
- Locate sprinklers #1-8 in the order you want them to run
- How or where they are plugged in does not matter

Irrigreen Digital Sprinklers #9-16 will run on a second controller cable:

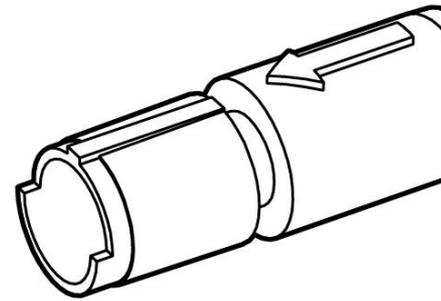
- Locate sprinklers #9-16 in the order you want them to run (they will run after #1-8).
- NOTE: You can wire an additional controller cable to the controller cable terminals in order to run in two directions (instead of using a cable tee)
- NOTE: Call Irrigreen if you want to move a numbered sprinkler to a different controller cable

Irrigreen Connector Direction

Male plug points toward the controller, Female plug points away
Similar to Electrical Extension Cords*



Smaller “male” connectors always point back to the controller.



Larger “female” connectors always point away from the controller.

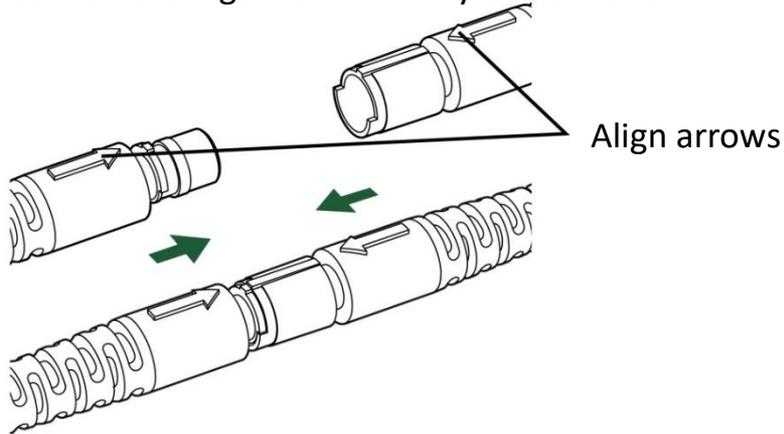
*Male extension cord plugs always point back to the outlet, while female plugs point away.

Install Cable Locks on All Cable Connections

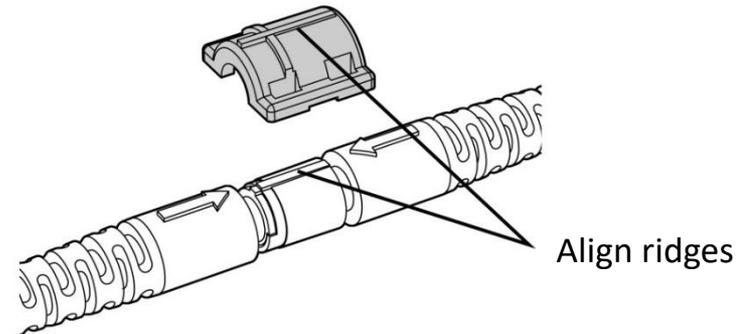


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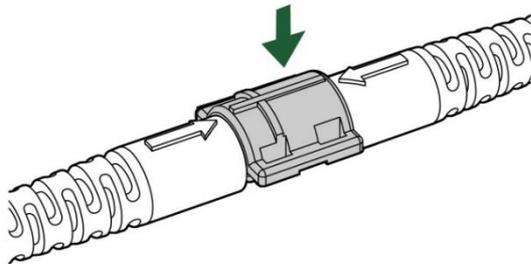
1. Align arrows located on the connectors and push connectors together until they bottom out.



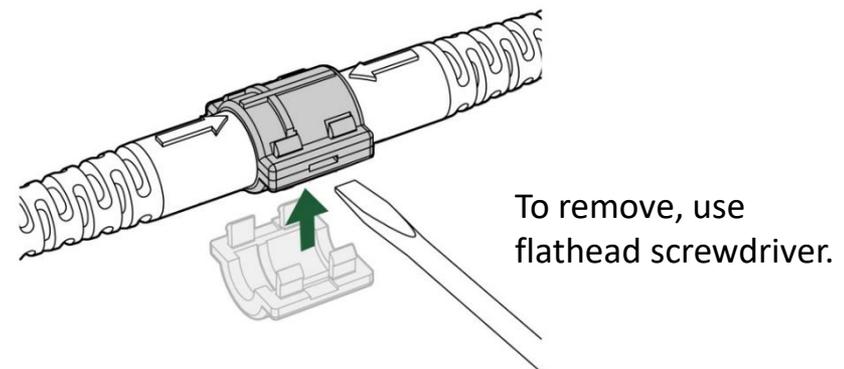
2. Place cable lock top over connectors and align ridge with corresponding ridge on connector.



3. Snap cable lock top down into place.



4. Align and snap cable lock bottom into place.



Protect Cable Connections

All Cable Connections Should Be Housed in a Protective Valve Box Installed Below the Turf Next to Each Irrigreen Digital Sprinkler Head.



Install Box
Below Turf

Irrigreen App Setup



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1. Download Irrigreen App.

The screenshot shows the app download process. On the left, it says "Search and Download App:" with a magnifying glass and download icon, followed by "OR" and "Scan QR Code:". In the center, there are two columns: the first for iOS with the "Download on the App Store" logo and a QR code labeled "iOS"; the second for Android with the "GET IT ON Google Play" logo and a QR code labeled "Android". On the right, there are two text boxes: the top one says "*For best results, log on to the site WiFi." and the bottom one says "*Be sure to allow 'Location Access' for the app."

2. Connect to Irrigreen Controller.

1 Add Controller

2 Scan barcode on the side of your controller. (If prompted, enter password).



NOTE: If you have a VPN, turn off when trying to connect the controller to your wi-fi. Turn VPN back on when controller is connected to home Wi-Fi.

3. Follow in-app instructions to connect controller to home Wi-Fi.

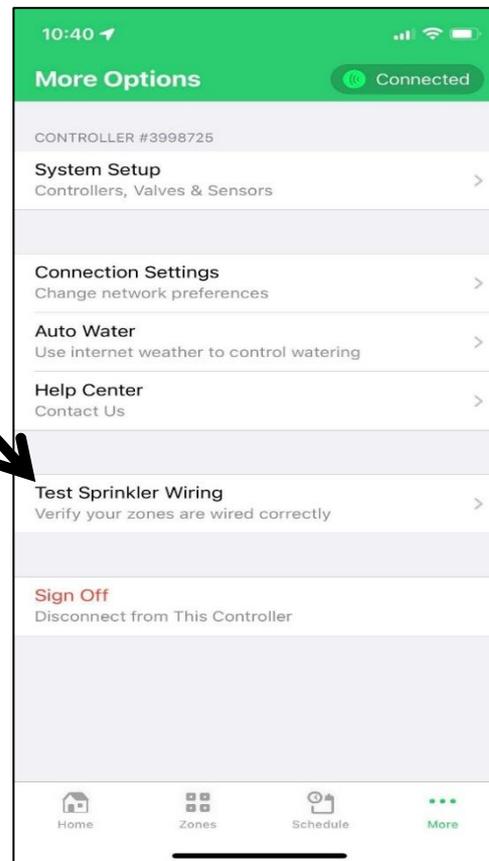
Test Sprinkler Connections Before Burying Heads or Cables

In “More Options” Screen
Click “Test Sprinkler Wiring” or
“Test and Detect Sprinklers.”

System will run an electrical
check on all sprinklers.

Check wiring (unplug and plug)
for sprinklers that do not have
green check marks or were not
detected.

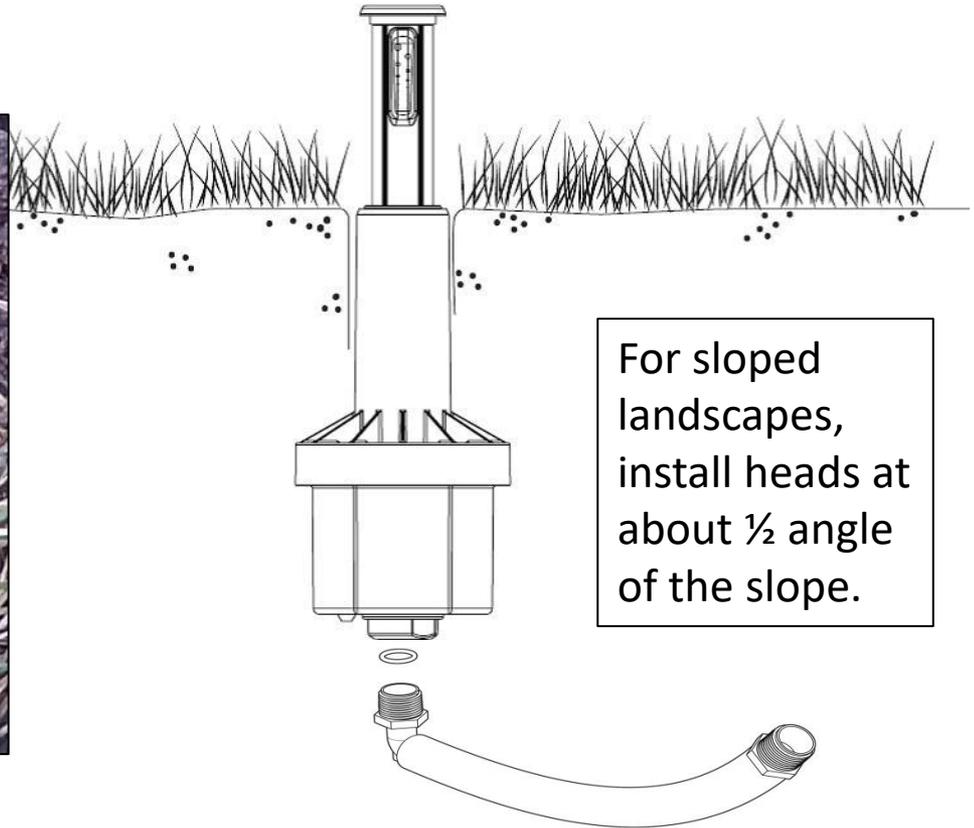
Don't bury heads until getting
green check marks for all heads



Irrigreen Sprinkler Head Depth

Dig 15" Hole

Position sprinkler head so that the top of the Irrigreen sprinkler cap is about ½ inch above grade.



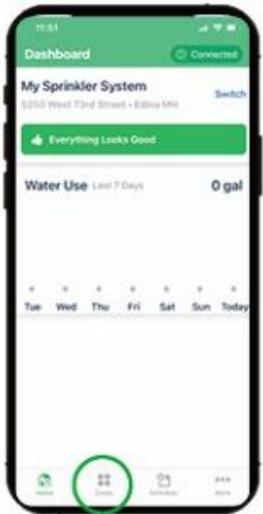
For sloped landscapes, install heads at about ½ angle of the slope.

Irrigreen Sprinkler Calibration



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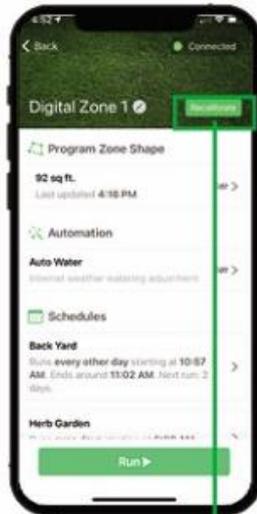
1. Open the app on your device.
2. Go to the “Zones” screen.
3. Select the zone for the Irrigreen sprinkler you would like to calibrate.
4. Press “Calibrate/Recalibrate.”
5. The sprinkler will automatically run a 2-3–minute calibration sequence.



Open “Zones” Tab



Select Digital Zone



Press Calibrate/Recalibrate

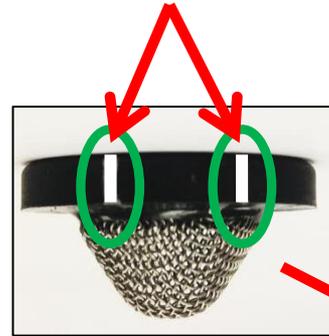
To Activate Manual Calibration:

1. Open the “More” tab.
2. Go to “System Setup.”
3. Toggle on “Manual Calibration.”
4. See above steps 1-4 and follow prompts.



NOTE: All air and debris must be flushed out of pipes and sprinklers for accurate calibration (including Valve Zones). If calibration fails, check/clean filter inside sprinkler and recalibrate.

If Calibration Fails or Streams Are Too Short/Not Evenly Spaced, Remove Green Cap and Clean Filter



- Lift and grasp riser.
- Remove green cap by hand.
- Clean/replace filter (NOTE: filter markings should line up with nozzle opening).
- Hand tighten green cap back onto riser.
- Tighten torque screw on cap after reassembly, if needed.



Setting Irrigreen Zone Watering Shape



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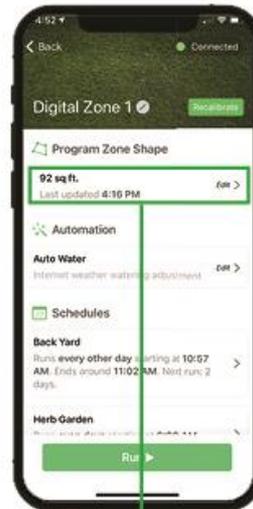
After calibrating, the digital zone watering shape can be programmed to match the exact shape of the landscape.



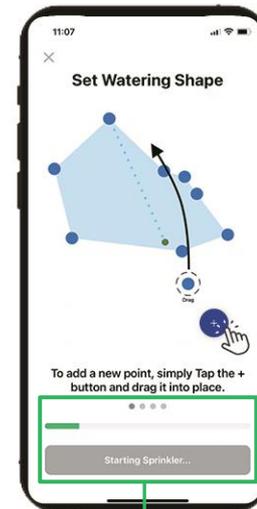
Open "Zones" Tab



Select Digital Zone



Press "Edit" Shape



Sprinkler Will Pop up



"Continue" to Mapping Page

Follow the on-screen instructions to set watering shape.

Tips:

- The first mapping point should be 5-10 feet away from the sprinkler so that the head pops up fully.
- Set sprinklers to spray about 6 inches short of landscape edge—Water will soak out to the edge.

Irrigreen System Schedule Setup



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Follow on-screen instructions to set up Schedule(s).

How Much Water?

- Digital Zones: ~1"/week (~0.25"/watering event)
- Valve Zones: ~10 min./watering event

NOTE:

Irrigreen recommends watering at least 0.25" per watering event to ensure even coverage.

Check/Adjust Schedules

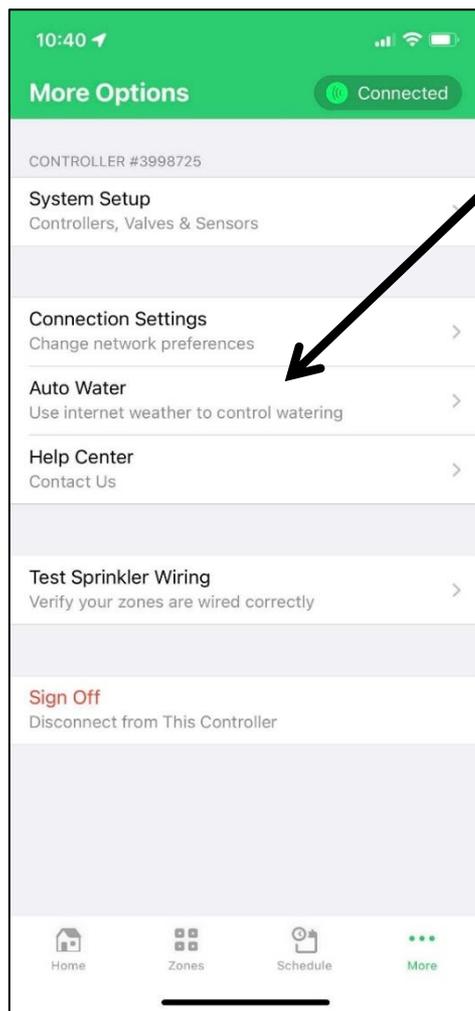
- 1 Press** **Schedule**
- 2 Select the Schedule you want to Edit.**
- 3 Setup details for your Schedules:** Start Time, Days, Water Amount (inches for digital zones, minutes for valves)

To Enable Auto-Water:

- Select "More" tab in app and turn on "Auto-Water."
- Auto-Water uses local weather data to adjust the amount of water needed per week.

Auto-Water Setup

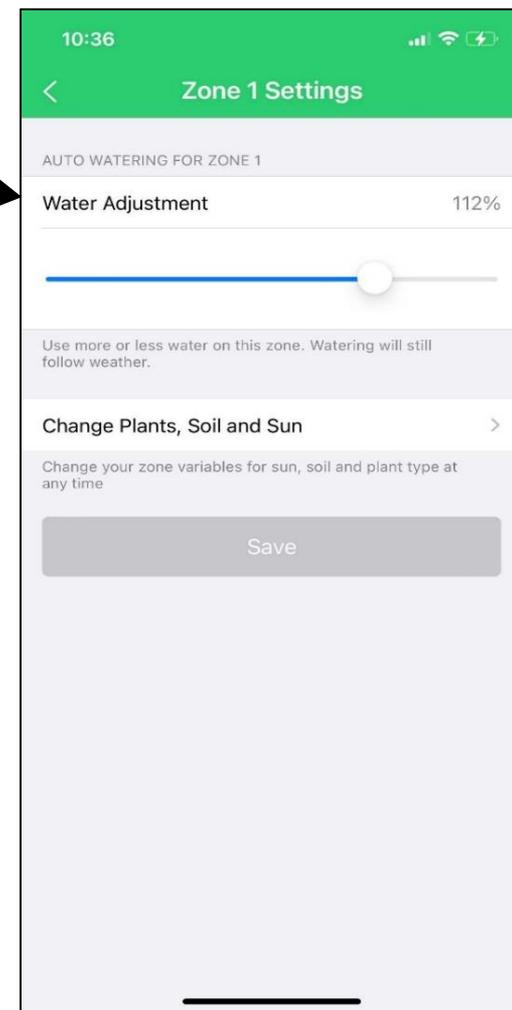
Set System and Zone Percentages



1. Create Watering Schedule
2. Enable Auto-Water (“More” page)
3. Set System Percentage
4. You can also set percentages per zone, on each Zone Page

NOTE: The System and Zone percentages work together: e.g. 80% System and an 80% Zone setting will result in 64% water applied.

NOTE:
There must be a watering schedule enabled for Auto-Water to work
Auto Water adjusts water applied to match the last seven days evapotranspiration (ET) data for your location. It will skip days if needed.



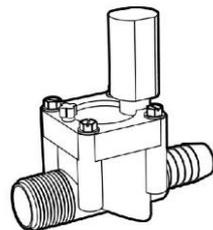
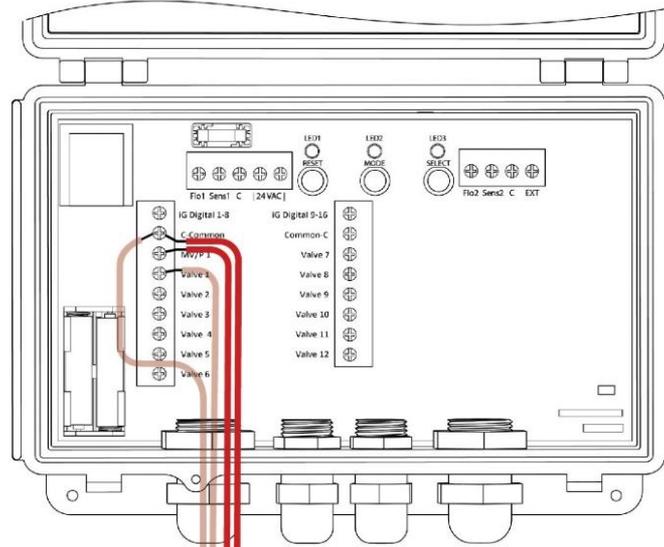
Installing Standard Irrigation Valves

Schedule will runs Valve Zones after the Digital Zones

If Pump relay is installed in addition to the Master Valve, a Pump Start Relay Booster may be needed.

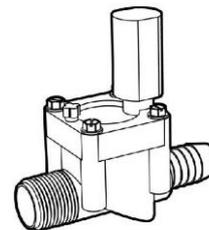
NOTE: Must also enable “Valve Zones” on Setup page in the App.

Irrigreen recommends using Hunter® or Rainbird® valves



Drip/Standard valves:
One wire to “Common”

Other Wire to Valve 1-12, 24



Master Valve and/or Pump:
One wire to “Common”
Other wire to “MV/P”

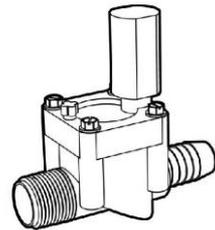
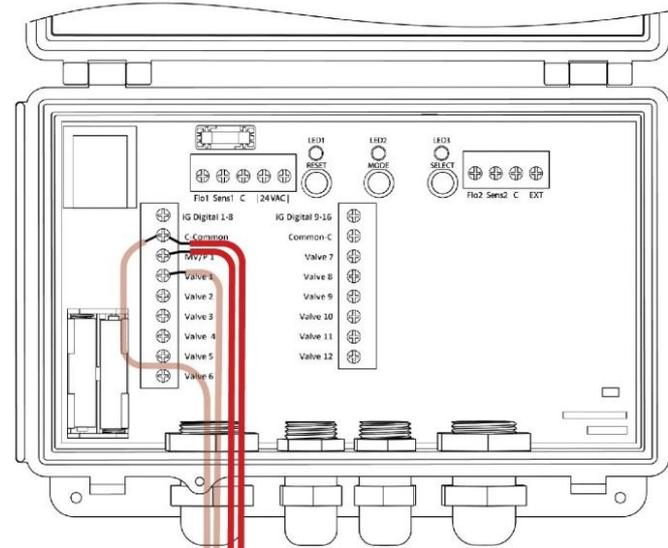
Installing Master Valve

Irrigreen recommends installing a Master Valve

If Pump relay is installed in addition to the Master Valve, a Pump Start Relay Booster may be needed.

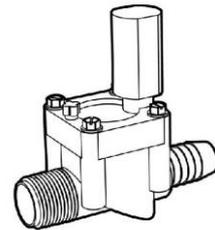
NOTE: Must also enable “Master Valve” on Setup page in the App.

Irrigreen recommends using Hunter® or Rainbird® valves



Drip/Standard valves:
One wire to “Common”

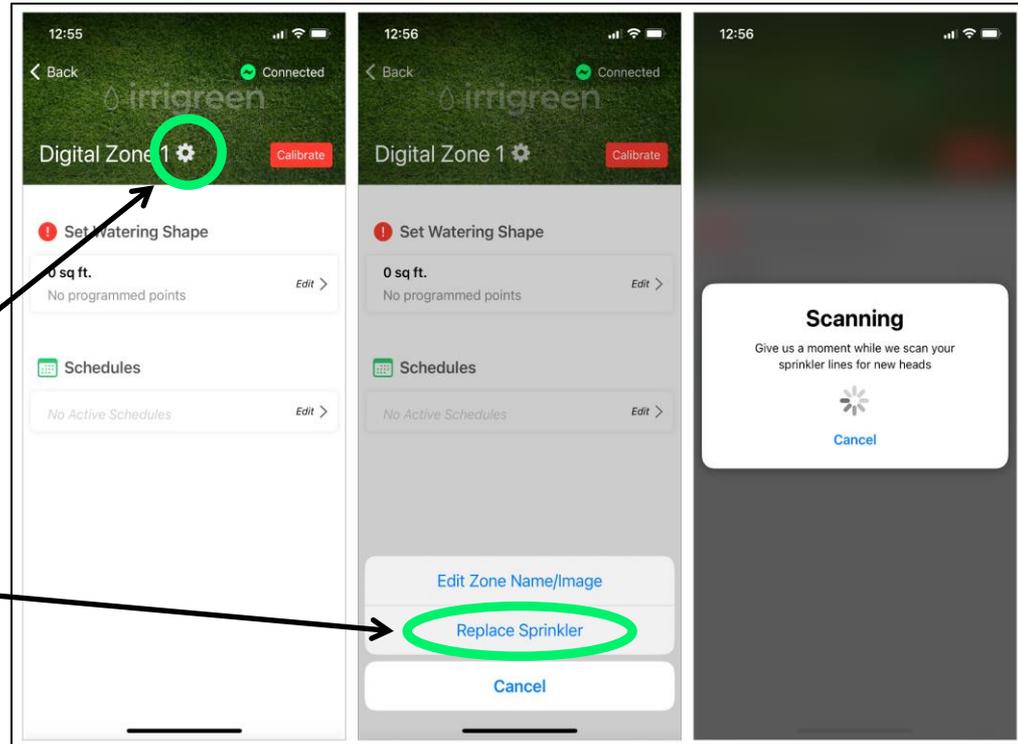
Other Wire to Valve 1-12, 24



Master Valve and/or Pump:
One wire to “Common”
Other wire to “MV/P”

Irrigreen Sprinkler Head Replacement

1. Physically replace the sprinkler on the line with a new head.
2. Ensure the new head has power.
3. In the Irrigreen app, enter the zone targeted for replacement.
4. Select the small “Gear” icon located next to the zone name.
5. Tap “Replace Sprinkler.”
6. The interface will scan the system and present the user with a list of sprinkler heads it discovers that can act as a replacement.
7. Select the sprinkler head you wish to use as a replacement.



Irrigreen Controller Indicator Lights

Green LED is ON, blinks off

briefly: System is connected to home Wi-Fi network.

Green LED is OFF, blinks on

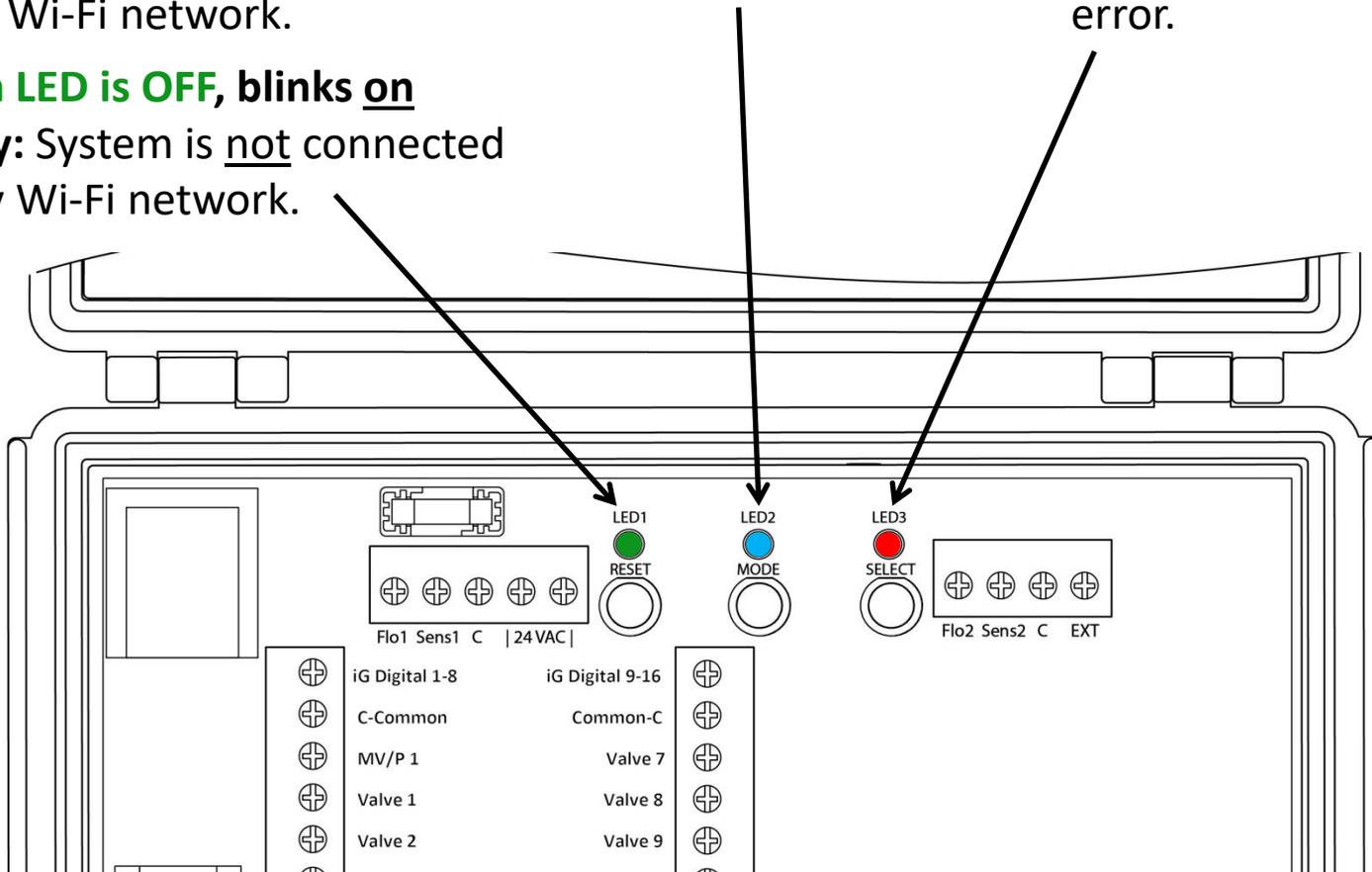
briefly: System is not connected to any Wi-Fi network.

Blue LED Flashing:

System is watering.

Red LED Flashing:

System communication error.



Irrigreen Controller Buttons

Green RESET Button:

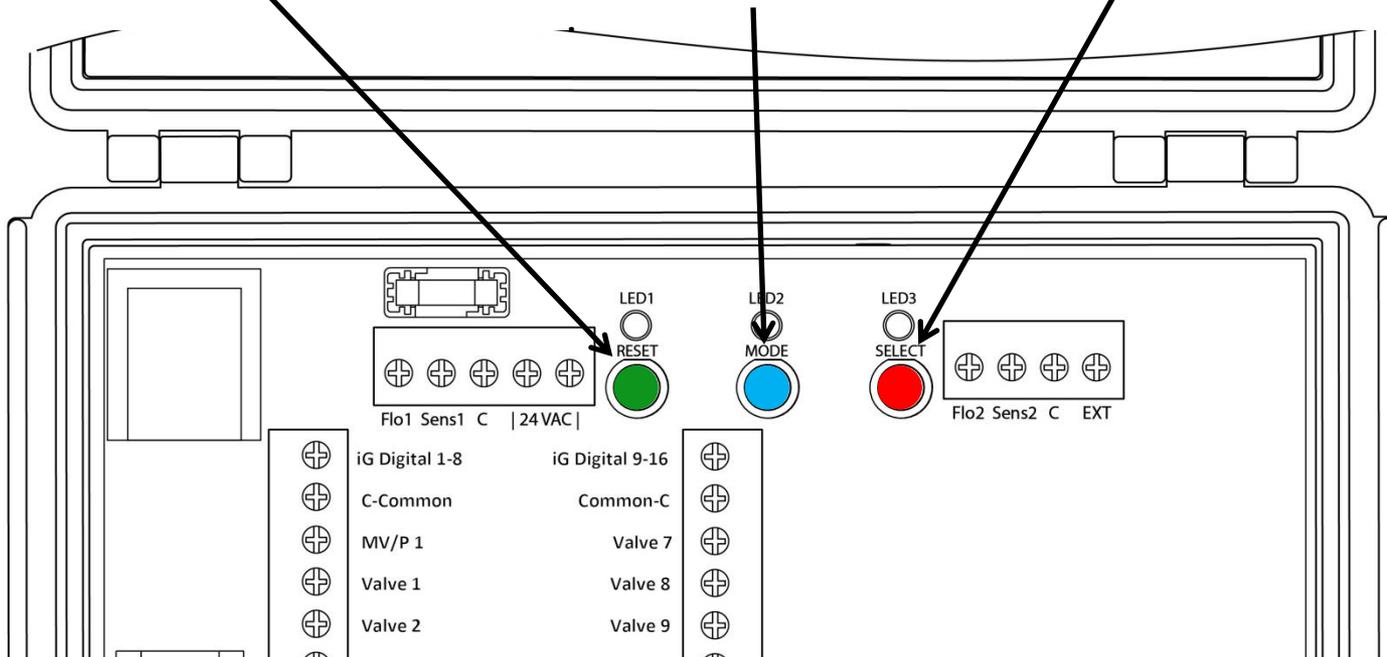
Resets system.
Press for 1 second.

Blue MODE Button:

Runs all zones.
Press for 3 seconds
to run all zones.
To skip a zone,
press for 1 second.

Red SELECT Button:

Stops all watering.
Press for 1 second.



System Status/Reset & Manual Watering Control

System Status:

GREEN LED is ON, blinks OFF briefly: System is connected to “home” Wi-Fi network.

GREEN LED is OFF, blinks ON briefly: System is NOT connected to any Wi-Fi network and will broadcast default “Irrigreen” Wi-Fi network.

BLUE LED Flashing: System is watering.

RED LED Flashing: System communication error.

Watering Controls:

Start Watering Schedule: Press **BLUE** button for 3 seconds. All scheduled zones will run.

Skip a Zone: Press **BLUE** button for 1 second.

Stop All Watering: Press **RED** button for 1 second.

System Reset:

System Reset: Press **GREEN** button for 1 second. Will reconnect to customer “home” Wi-Fi network within 10 seconds.

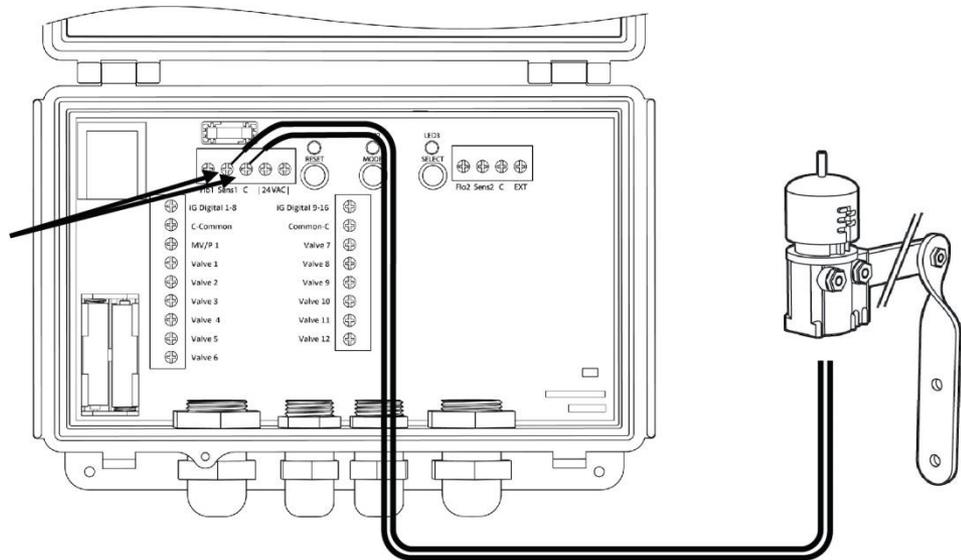
Direct Connect to Controller: Press **RED** button for 6 seconds. The default “Irrigreen” Wi-Fi network will begin broadcasting. Log in with password. Press **RED** button for 6 seconds to reconnect to customer “home” Wi-Fi network.

Rain Sensor or Soil Moisture Sensor Wiring

Connect Normally Closed Wires to “Sens1” and “Common” Controller Terminals
(Turns System Off When Sensor Is Activated)

NOTE: Must also enable
“Rain/Soil Sensor” for the
system, go to Setup page
in the Irrigreen App.

Connect Sensor “Normally Closed” (NC) wires
to “Sens1” and the “Common” terminal



Installation DO's and DON'Ts

DO's

- **DO** check flow/pressure to determine maximum throw before placing sprinkler heads.
- **DO** flush all air and debris from pipes prior to installing Irrigreen sprinkler heads.
- **DO** plug all heads together with cables before burying to test sprinkler connections.
- **DO** use supplied cable end-plug to seal the last sprinkler connector.
- **DO** add a second controller cable if branching off immediately from the controller.
- **DO** install cables in a trench or pull a run of 1" pipe as conduit for the cables.
- **DO** use cable tees to branch cables in different directions if needed.
- **DO** use cable locks on all cable connections.
- **DO** loop excess cable inside a valve box buried adjacent to each sprinkler head.
- **DO** protect all digital sprinkler cable connections with valve boxes buried below turf.
- **DO** use supplied Flex-Pipe for attaching all Irrigreen sprinkler heads.
- **DO** hand tighten Irrigreen sprinkler heads so that they bottom out on Flex-Pipe fittings.

DON'Ts

- **DON'T** cut and splice Irrigreen cables.
- **DON'T** use Teflon tape inside of Irrigreen heads.
- **DON'T** pull Irrigreen cables with a vibratory plow/trencher.
- **DON'T** calibrate or program sprinkler heads before flushing air and debris from pipes.

Compliance

Per FCC 15.19 (a) (3) and (a) (4): This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Per FCC 15.21: The user and installer of the Irrigreen Genius Irrigation System shall not make any modifications to the system not expressly approved by IrriGreen. Unauthorized modifications will void the warranty and void the user's authority to operate the equipment per FCC rules.

Wi-Fi Range: Wi-Fi Is a Low-Power Radio Signal

Controller location, landscape elevations (signal going through soil), house construction (stucco, steel, etc.) affects Wi-Fi range. Wi-Fi extenders will extend range. IrriGreen has Wi-Fi extenders available for purchase.



Irrigreen® Digital Sprinkler Installation Manual



**Irrigreen® Sprinkler System
Full Installation Video**



**Irrigreen® Sprinkler Zone
Map Design Video**

