



IrriGreen® EcoZone Installation Manual

Waterproof Plug n Play Cables 16+4 EcoZone ConServer
Genius® Sprinkler 2.0 with EcoZone Technology



2.0.5

Installation Video
Irrigreen.com/professionals-logged-in/
Password: goirrigreen!



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IrriGreen EcoZone™ Products

EcoZone ConServer™ Package



Wi-Fi Controller

Private Wi-Fi

EcoZone™ Server

(20 Zones: 16 EcoZones,
4 standard valves, 1 master)



1" Flow Sensor



Indoor Transformer

(24 VAC, 20VA)



Genius® Sprinkler 2.0

(1 per zone, ~2000 sq. ft.)



FlexPipe (15 in.)



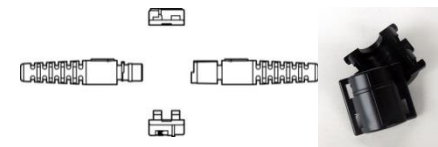
Server Cable w/ end plug (50ft)



Sprinkler Cable (50ft)



Cable Tee w/ end plug



CableLok

Contractor Supplied



1 " Mainline PVC or poly



1" PVC

Two 24" lengths
for Flow Sensor



1" Tees PVC or poly



Elbows PVC or poly



Small valve box

Use for Flow Sensor and for
EcoZone Cable connections



**Grease cap /wire nut
connectors for Flow Sensor**

3M® DBY/R, Orbit® 57002 or similar



Two strand transformer and flow sensor wire

IrriGreen System Requirements

Constant pressure, good flow, clean water

- **40 - 80 psi** (Any constant pressure between 40 - 80 psi)
- **10+ gpm** (1" mainline)
- **Well systems** require a constant pressure pump or regulated constant pressure supply e.g. with a PRV set below the lowest pump setting
- **Filter needed for any water source with particulates** (sand, grit)
500 Micron filter (similar to drip systems) recommended



IrriGreen Throw Distances

Verify psi before placing heads

Low flow may affect throws

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'

Total Area

At 60 psi, one IrriGreen Genius head will evenly water up to ~2000 sq.ft.



System Design (1 of 2)

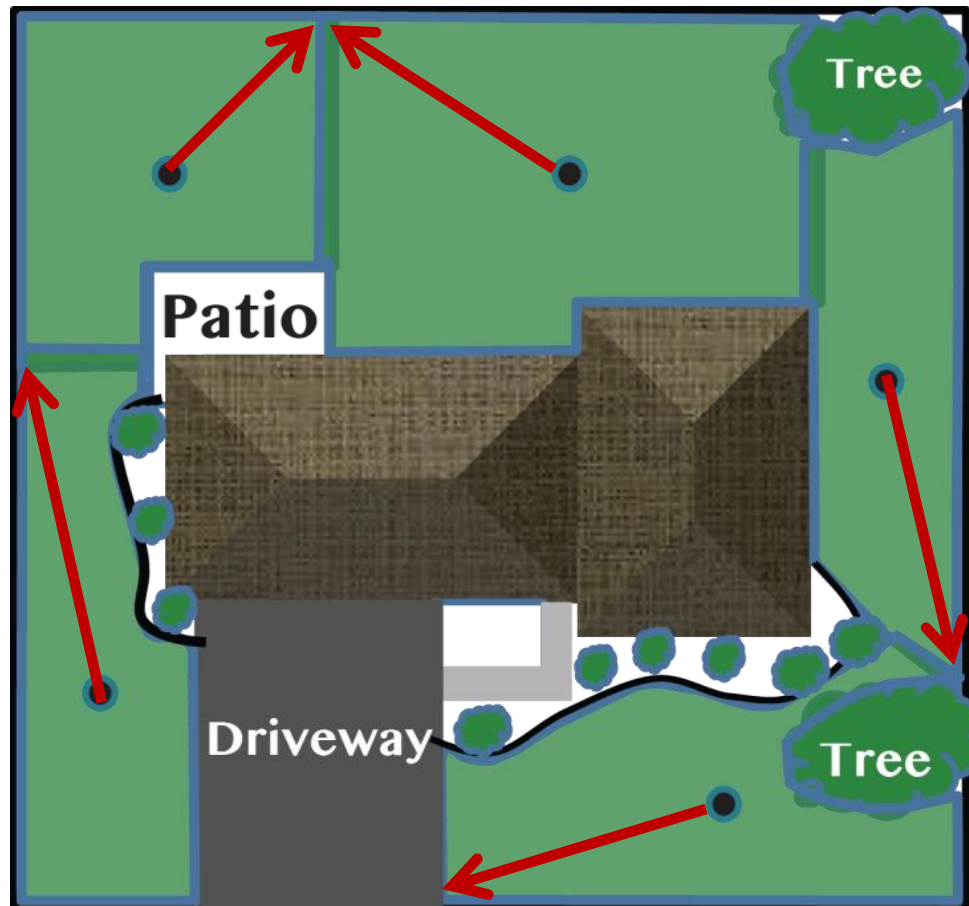
One Head per Zone

Place Head to Reach Farthest Corner, 25-35 Feet

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

Don't overlap sprays or zones

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



NOTE: The zone start up point (Position 1) **must be set at least 10 feet** so the head has enough flow/pressure to fully “pop up”.

After head is fully popped up, OK to set points as short as 5 feet.

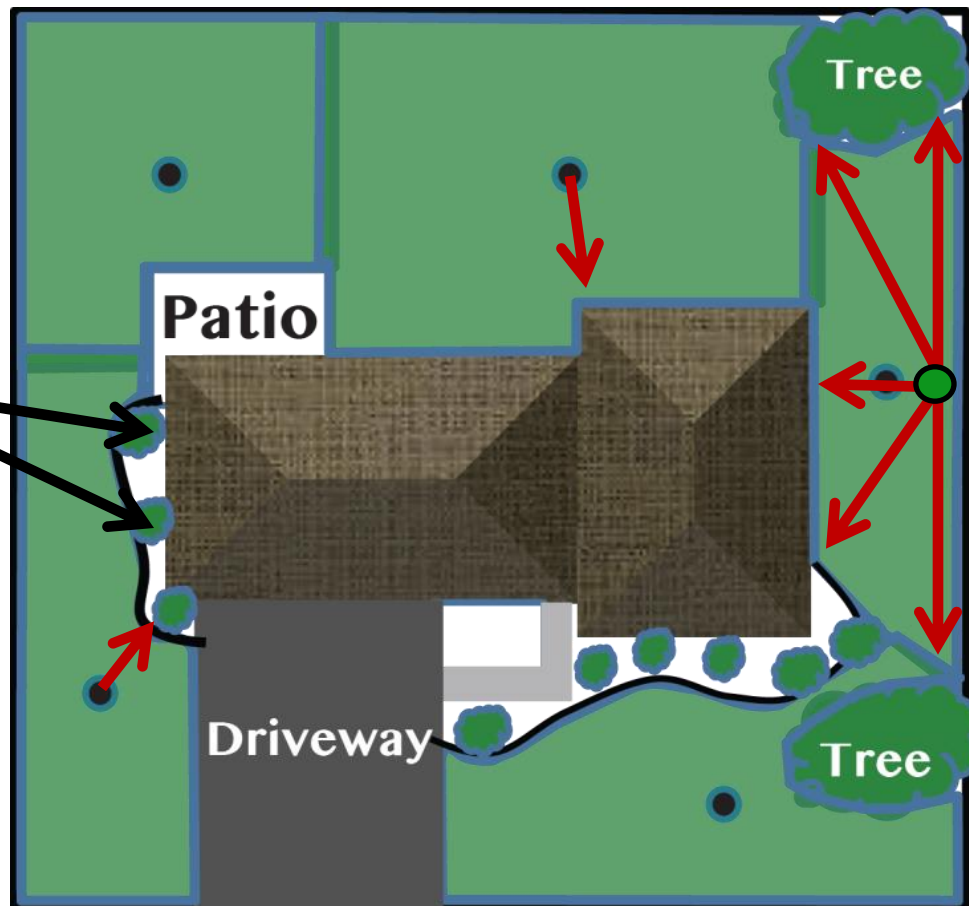
System Design (2 of 2)

One Head per Zone

Place head 5 feet or more from the nearest edge*

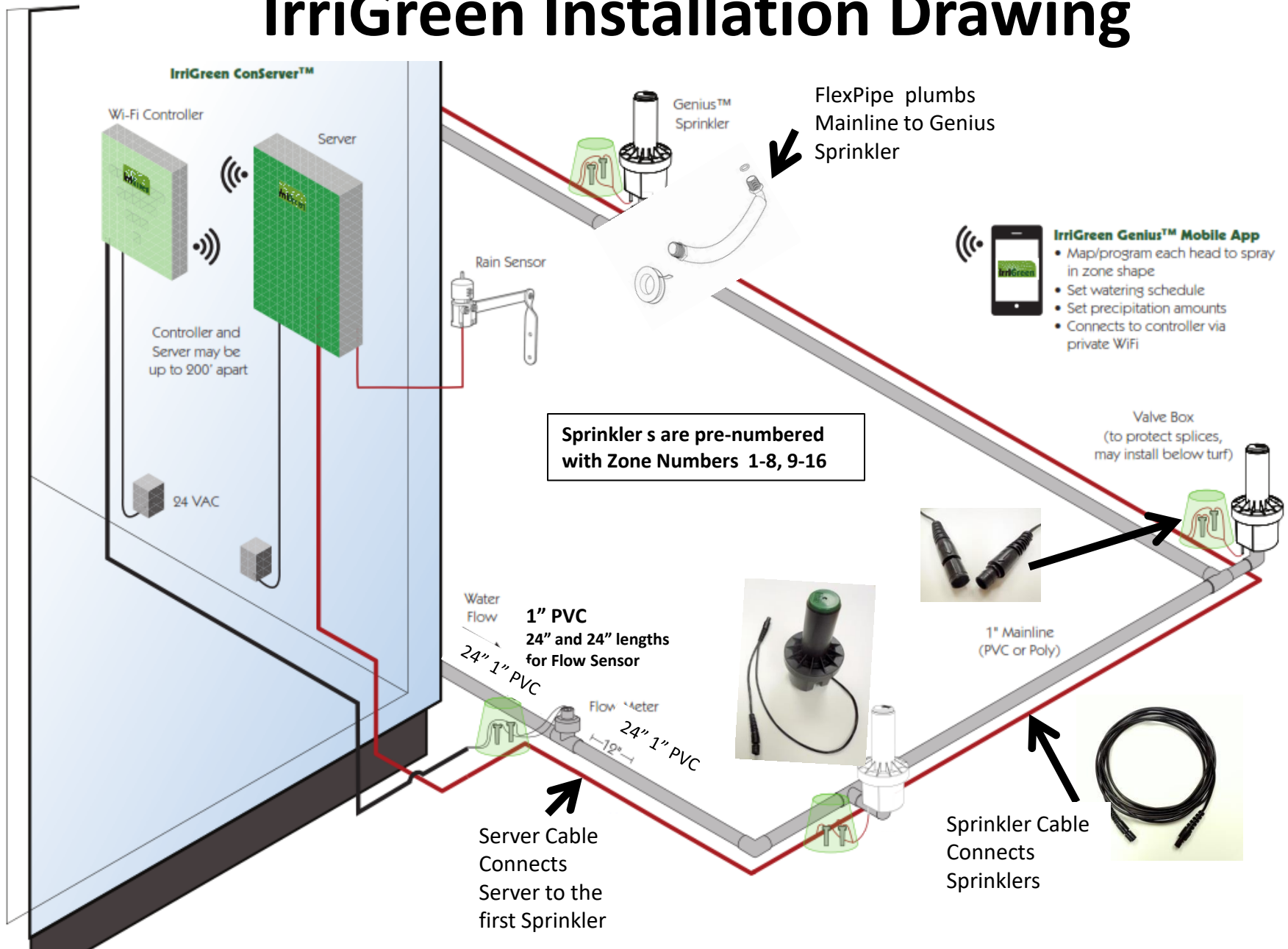
Design hint:

For watering shrubs/bushes without drip, program streams to shoot out and hit individual bushes



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

IrriGreen Installation Drawing



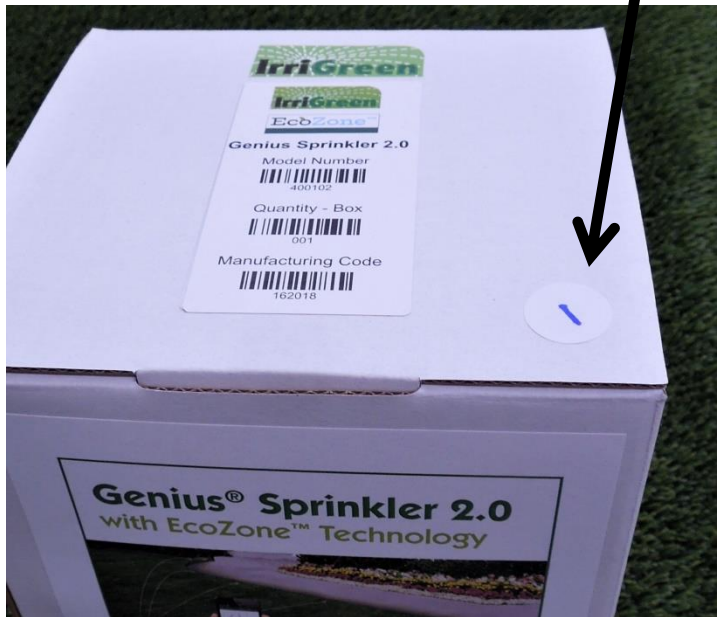
Sprinklers are Pre-numbered for each Zone

Sprinklers will run in that Zone Number numerical order*

Locate each sprinkler in the numerical order you want them to run*

*Head #1 runs first
Head #2 runs second
Head #3 runs third
Etc.

EcoZone Sprinklers have Zone Numbers
1-8, 9-16 assigned at the factory



Zone Number on Sprinkler box



Zone Number on Sprinkler

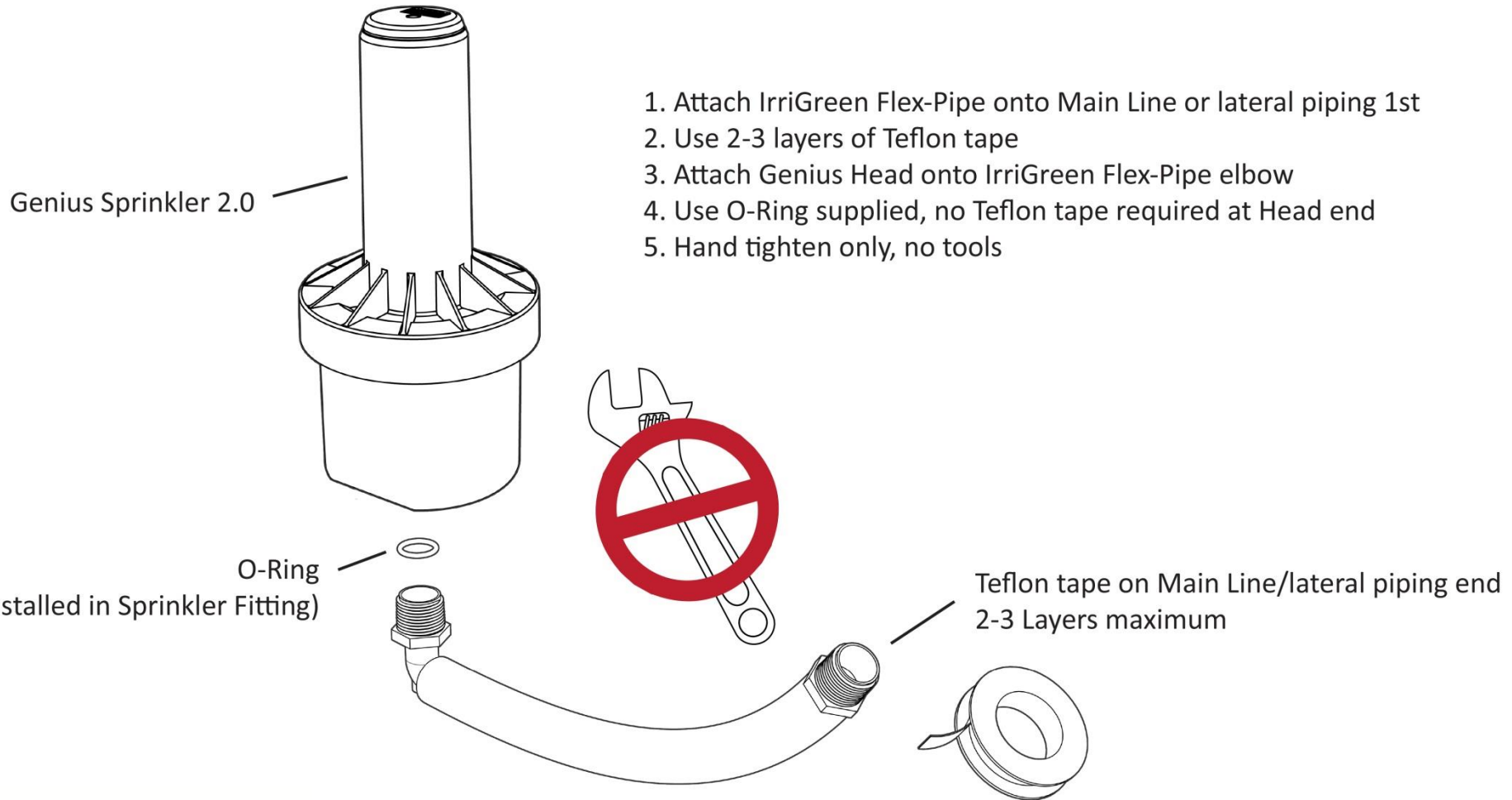
Flush all lines **before and after** installing heads

1. **Before** installing any heads, flush lines to remove all dirt and sand
2. **After** all heads are installed, run the last Genius sprinkler(s) on the line at maximum throw for several minutes **to remove all air** from the system.

Trapped / deadhead air will cause calibration errors

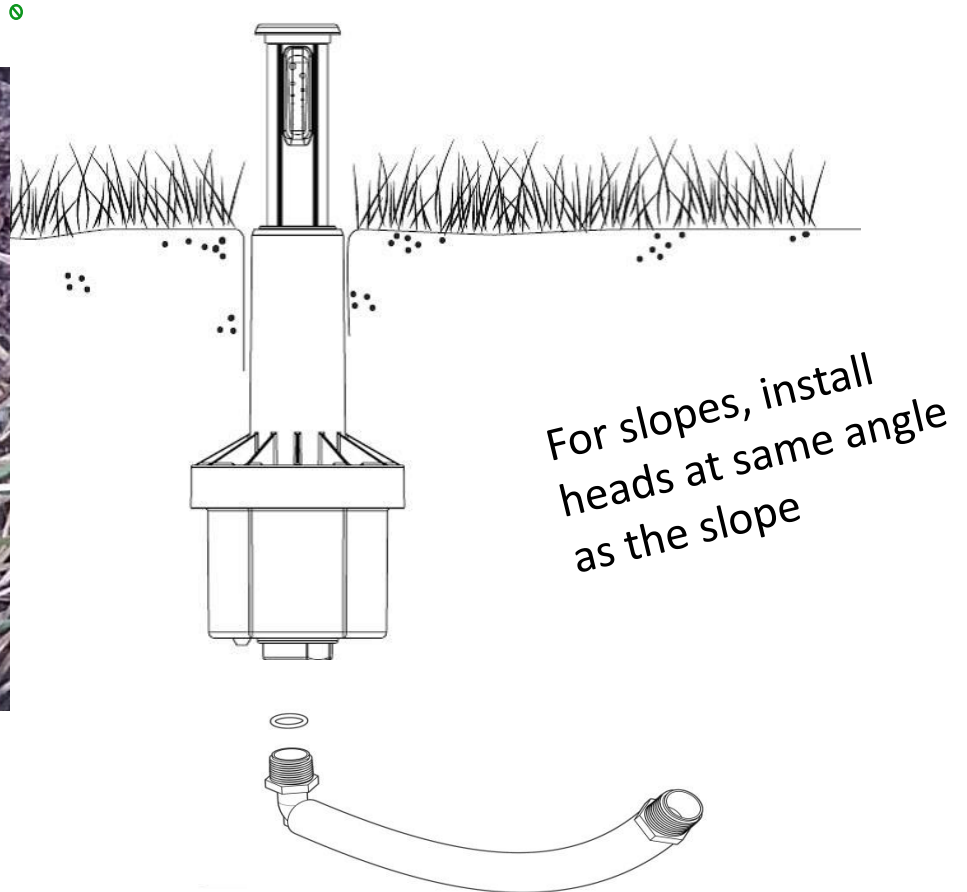


Flex-Pipe Plumbing Connection



Genius Head Depth

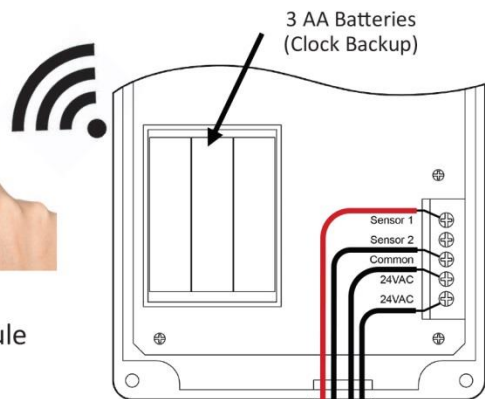
Position head so the Genius sprinkler cap is slightly above grade



IrriGreen® Wiring

Controller

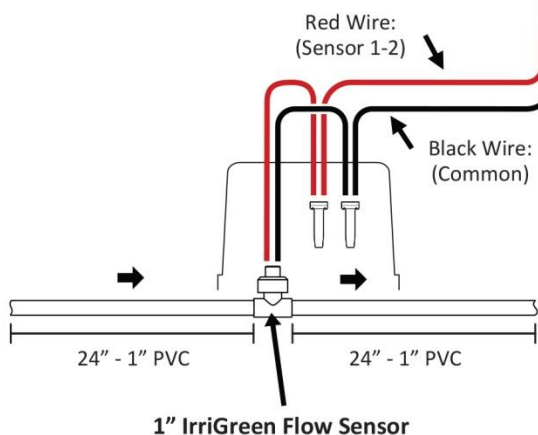
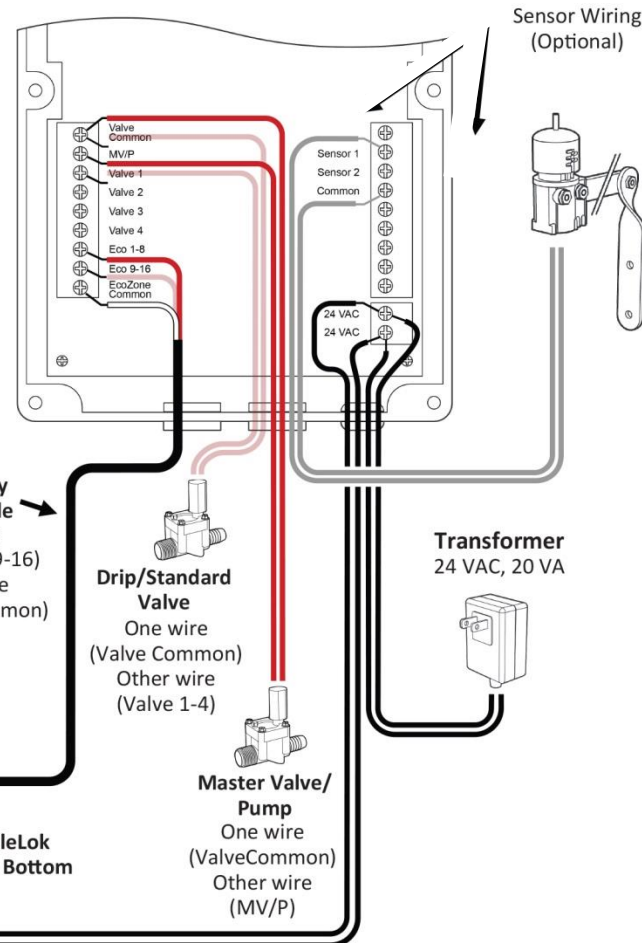
Connects via Wi-Fi to Mobile App
Connects wirelessly to Servers



Wirelessly
communicate
up to 150'

Server

Connects wirelessly to Controller
Wired to Genius® Sprinklers, Sensors



Can repeat up to 8X total
per EcoZone connection

50FT
Plug-n-Play
Sprinkler Cable

Plug-n-Play
Female End Plug

Plug-n-Play
Sprinkler Pigtail

50FT
Plug-n-Play
Server Cable
Red Wire
(Eco 1-8/Eco9-16)
White wire
(EcoZone Common)

CableLok
Top & Bottom

Sprinklers are pre-numbered
with Zone Numbers 1-8, 9-16



EcoZone Mobile App Connects to Controller via IrriGreen Private Wi-Fi Network

Look for IrriGreen Wi-Fi network with your mobile device
No internet connection needed



Mobile App
configures System

IrriGreen private Wi-Fi signal from Controller



Note:
No need to log onto
property owner's
Wi-Fi network

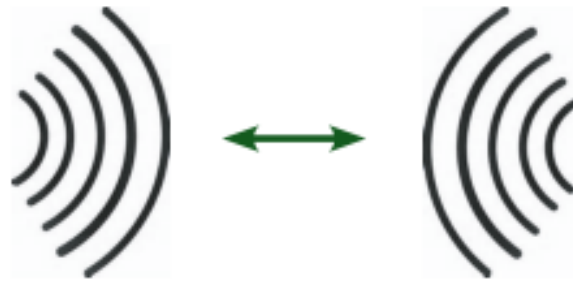
Wi-Fi Range:

Controller location, height, landscape elevations (signal going through dirt), house construction (stucco, etc.) will affect Wi-Fi range. Use Wi-Fi extender such as Linksys AC750 to extend range while mapping zones.

Controller & Server

Communicate Wirelessly up to 150'

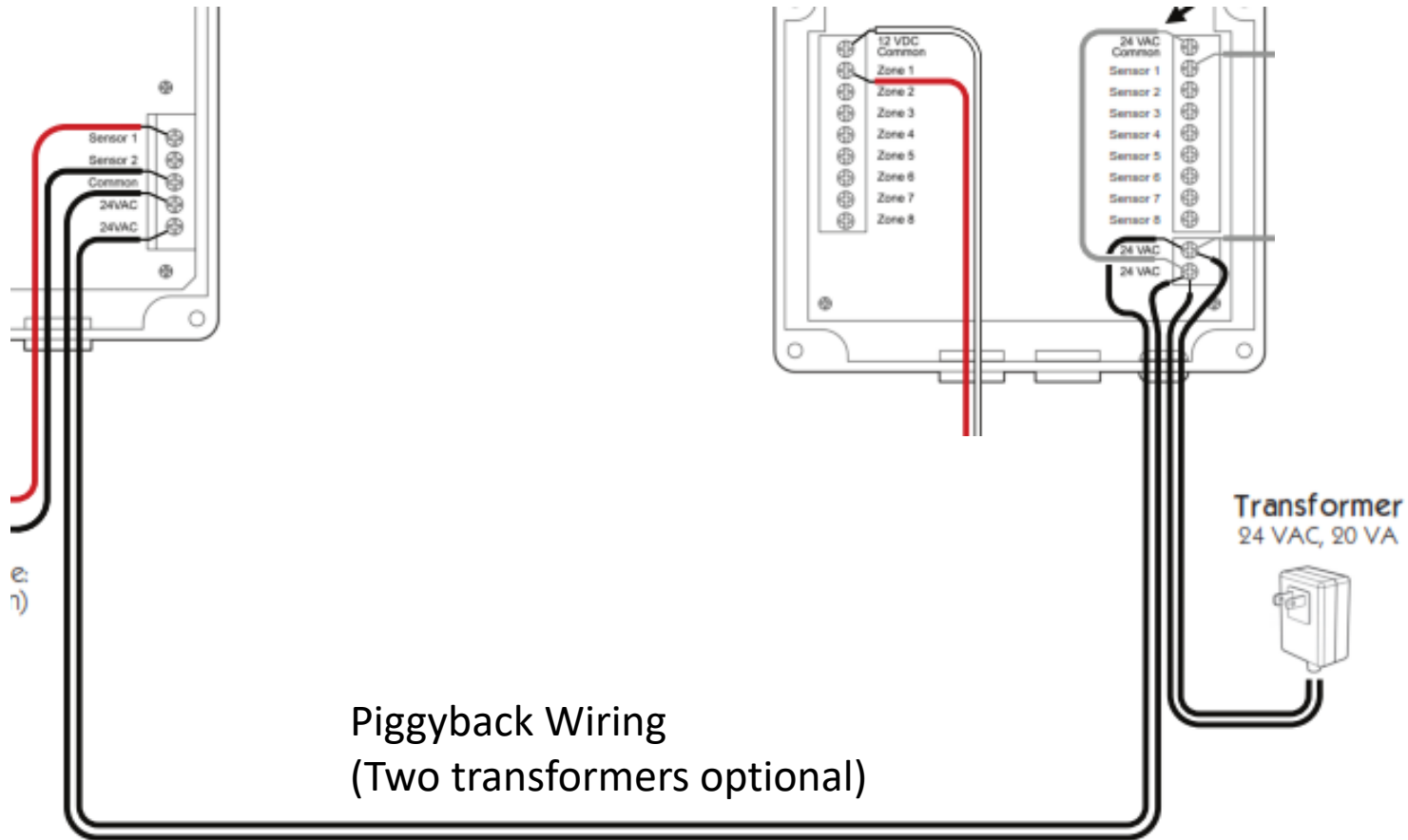
Install at least 6" apart



They communicate via 433 Mhz radio, separate from the IrriGreen Wi-Fi network

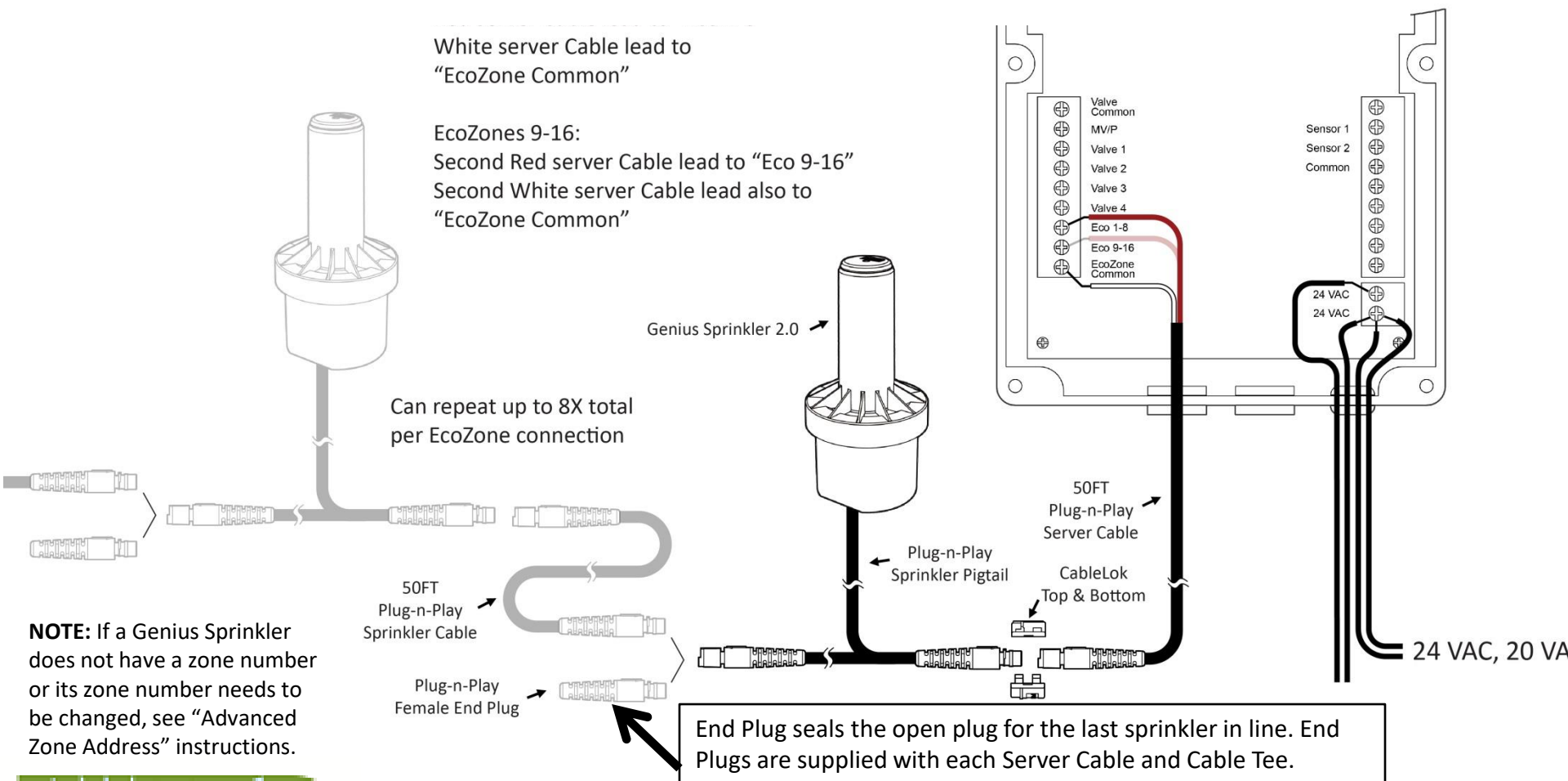


24 VAC, 20 VA



EcoZone™ Waterproof Cable Connections

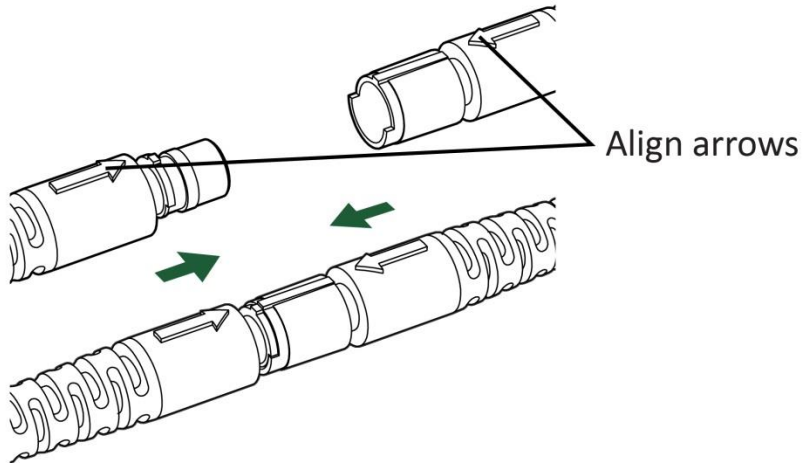
Daisy-chain up to eight Genius Sprinklers per Server Cable
Sprinklers are pre-numbered with Zone Numbers 1-8, 9-16



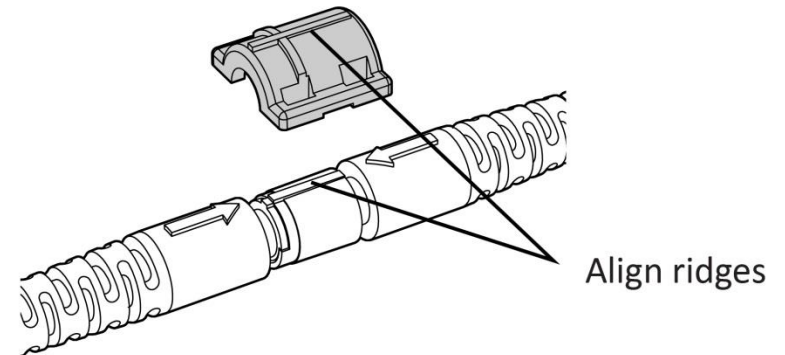
CableLok

**Install on all EcoZone
Cable connections**

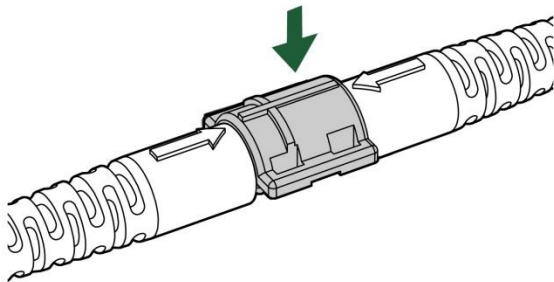
1. Align arrows on connectors
2. Push connectors together until they bottom out



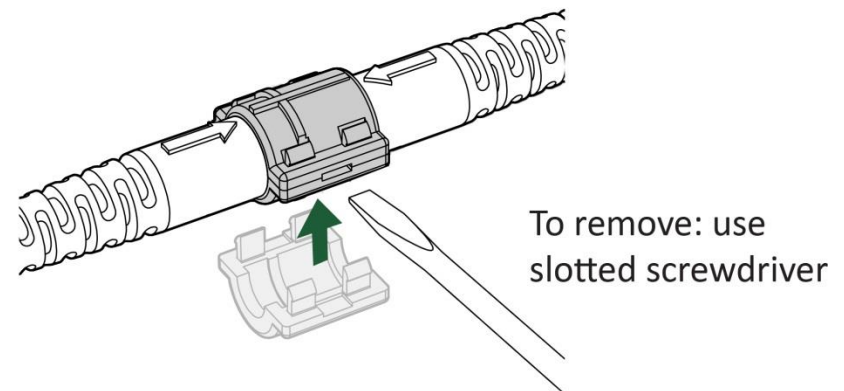
3. Place CableLok Top over connectors
align ridge with corresponding ridge on connector



4. Snap CableLok Top down into place



5. Align and Snap CableLok Bottom into place



Waterproof EcoZone Cable Connections

All connections should be protected by a small valve box
Install next to Genius head below turf

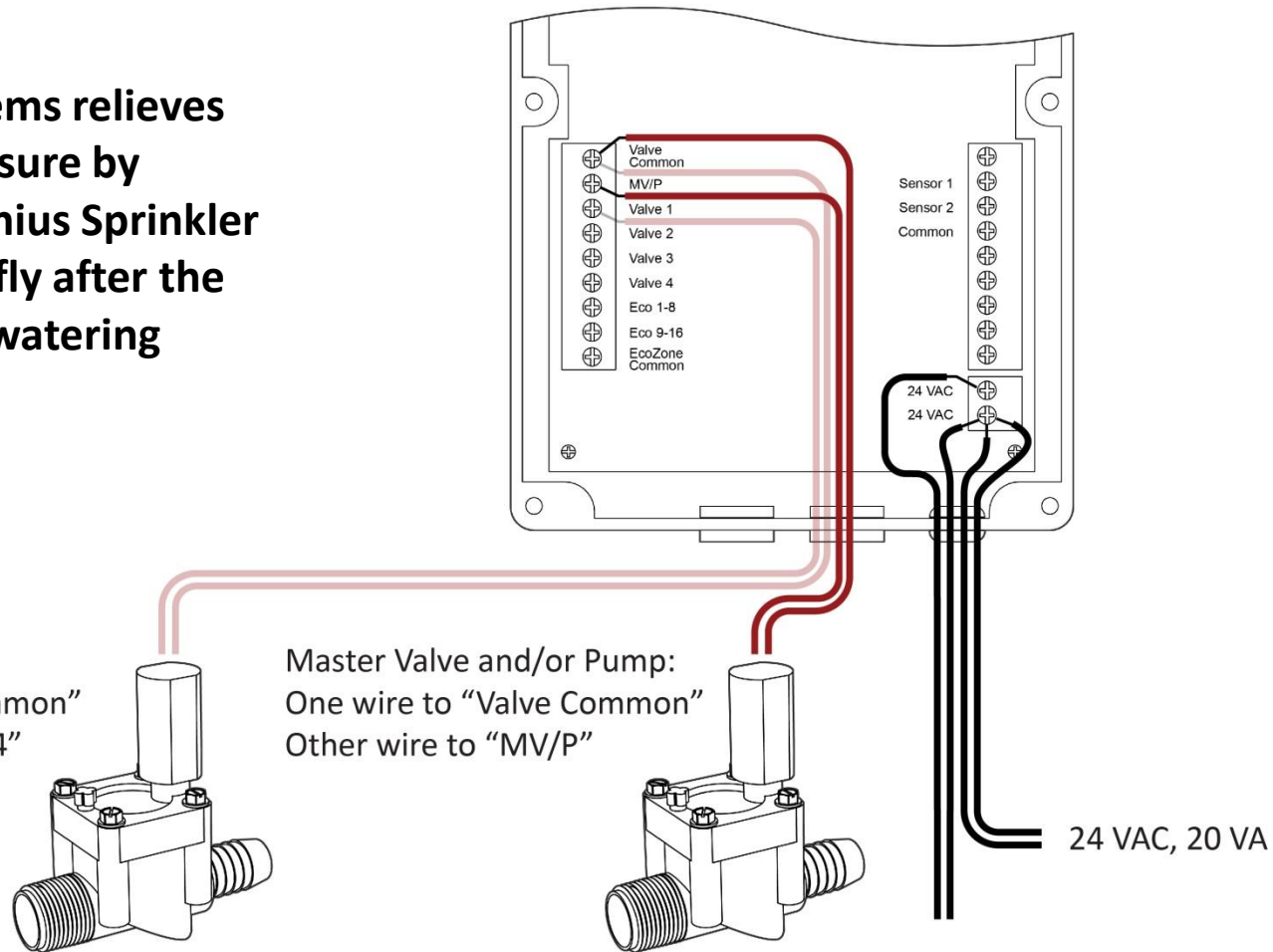


Install box
below turf

Master Valve Recommended for all Systems

Master Valve Wiring

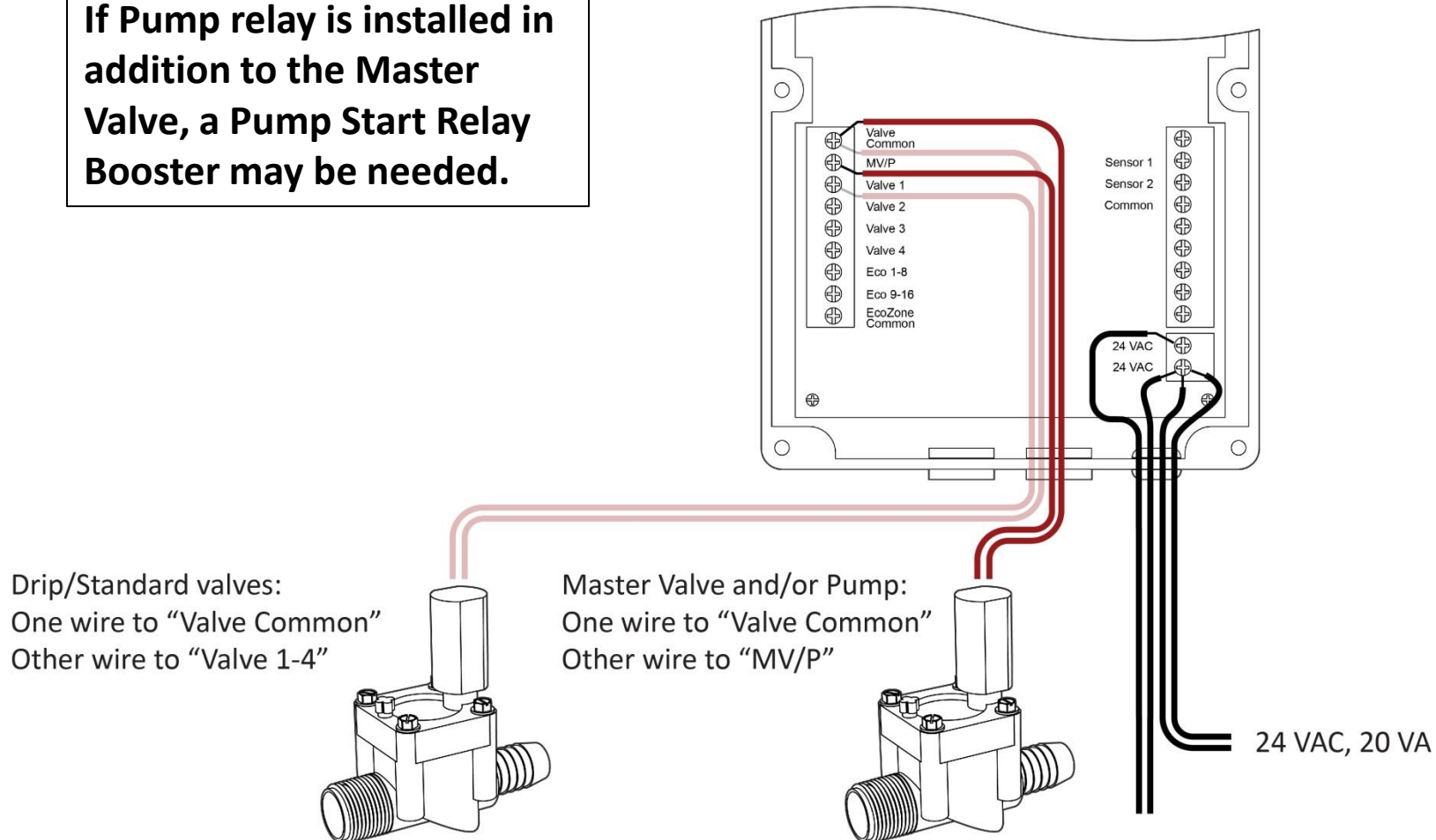
EcoZone systems relieves mainline pressure by opening a Genius Sprinkler 2.0 valve briefly after the last EcoZone watering event.



IrriGreen Runs Standard Irrigation Valves

Create hybrid systems with Genius Sprinklers, Drip Zones and Sprays

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



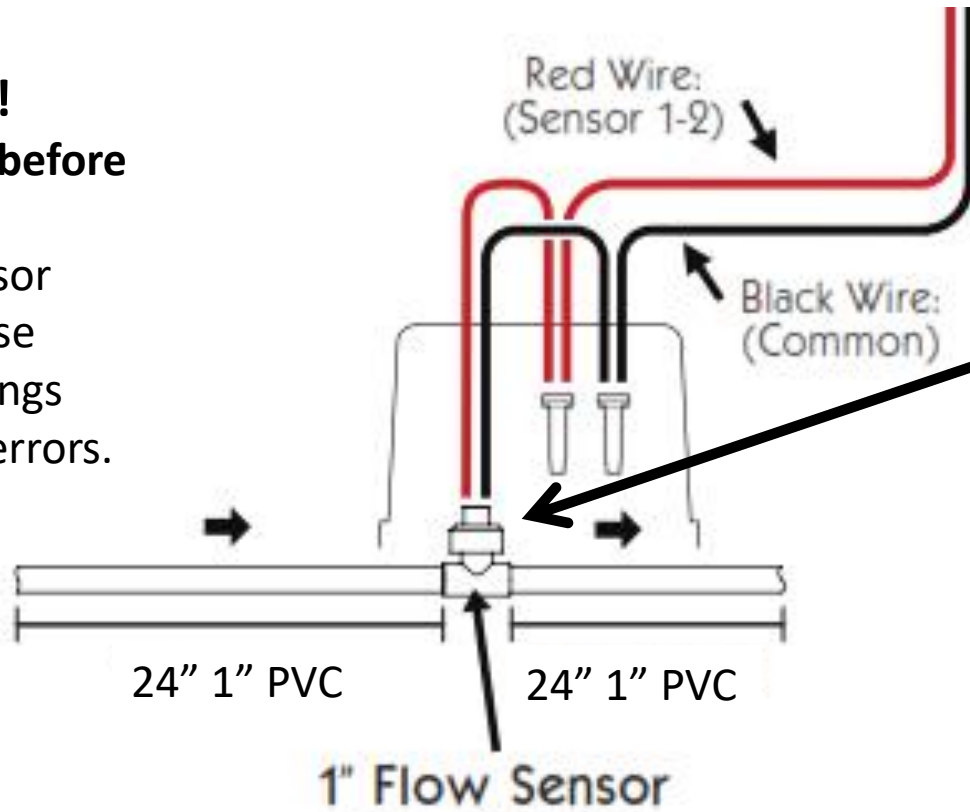
Flow Sensor Installation

24" PVC before and after the IrriGreen 1" flow sensor*

Glue Carefully!

**Remove sensor before
gluing pipe.**

Glue on the sensor
paddles will cause
inaccurate readings
and calibration errors.



Flow sensor
unscrews from the
saddle tee. When
reassembling, make
sure to seat sensor
properly on the tee
alignment pin

***Required by flow sensor
manufacturer to eliminate
turbulence at sensor**



Flow Sensor Installation

Waterproof “DBY” connections required
Install Flow Sensor and Splices in Valve Box

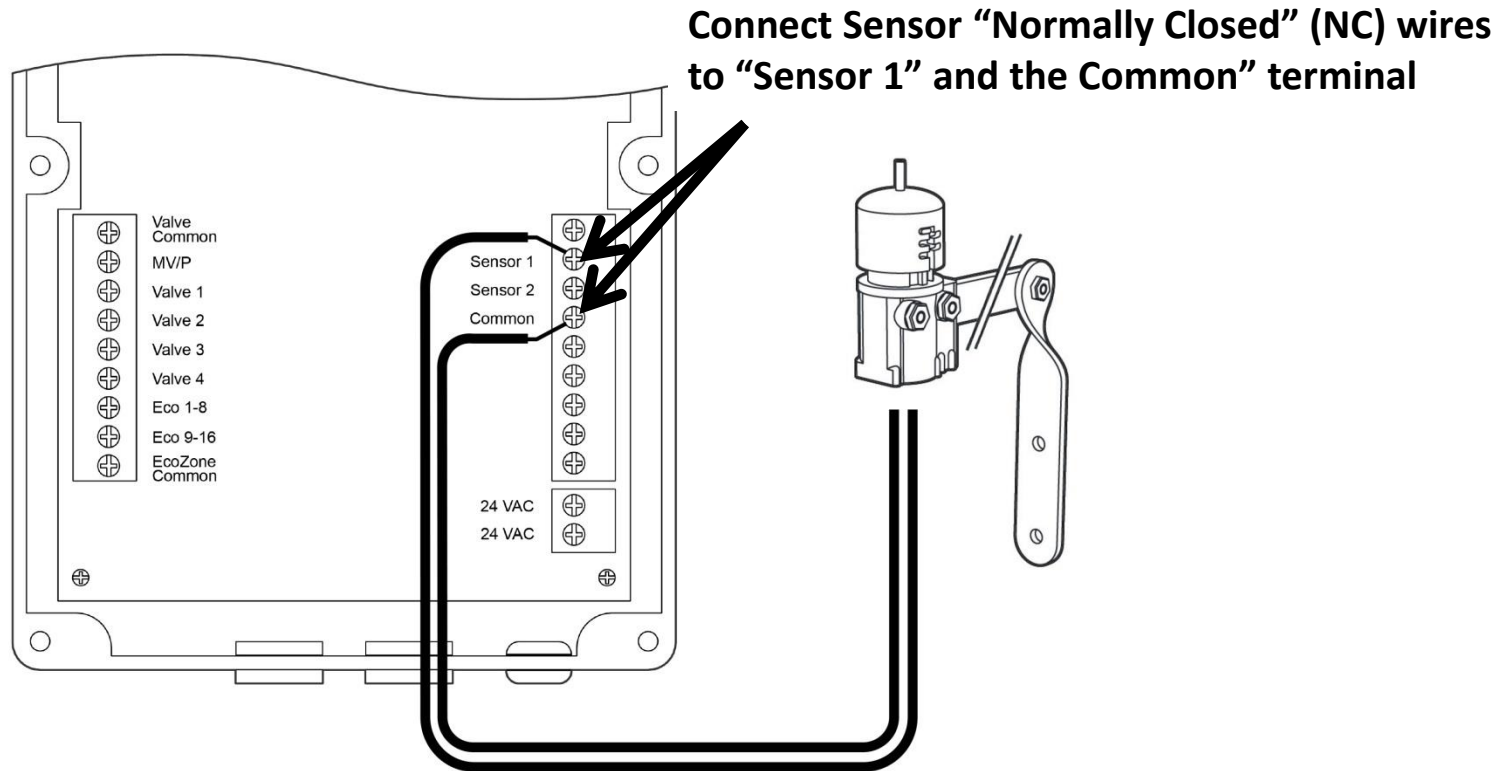


Use only 3M® DBY/R/O, Orbit® 57002 or similar “grease cap with wire nut” connectors
Push wire nut all the way into gel cap, ensure wires and wire nut are totally sealed by gel

Remember: Unsheathed multi-color wire is not rated for, or meant, for direct burial
Even very small nicks or cracks in multi-color wire insulation will cause ground faults/data errors

Rain Sensor or Soil Moisture Sensor Wiring

Connect Normally Closed (NC) wires to “Sensor 1” and “Common” right side Server terminals
Turns the system off when sensor is activated

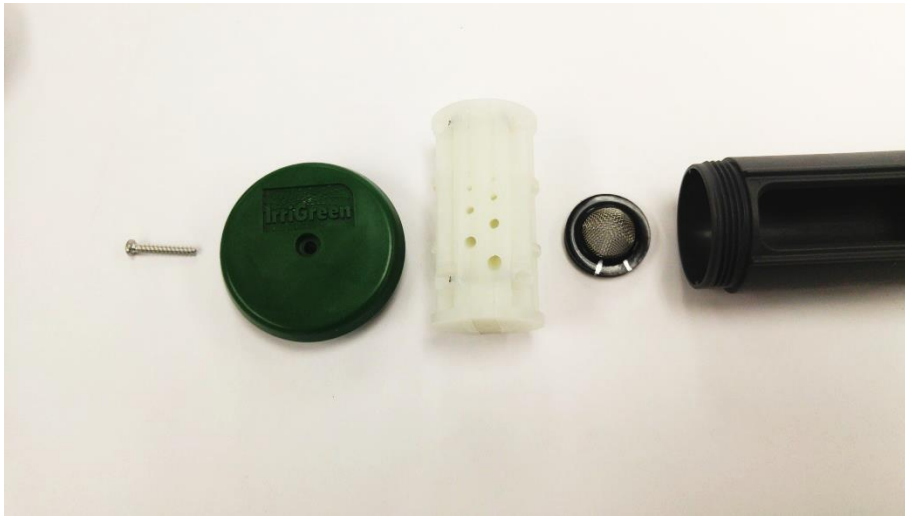


Shortened Stream Distances

Streams Not Evenly Spaced

Make sure green cap is tight
Line up filter marks with nozzle opening
Clean/change filter & nozzle

Check filter if streams not tracking evenly. Make sure filter markings line up with nozzle opening



IrriGreen Diagnostic Help Screens

These appear if the system detects a problem

Follow troubleshooting list on screen

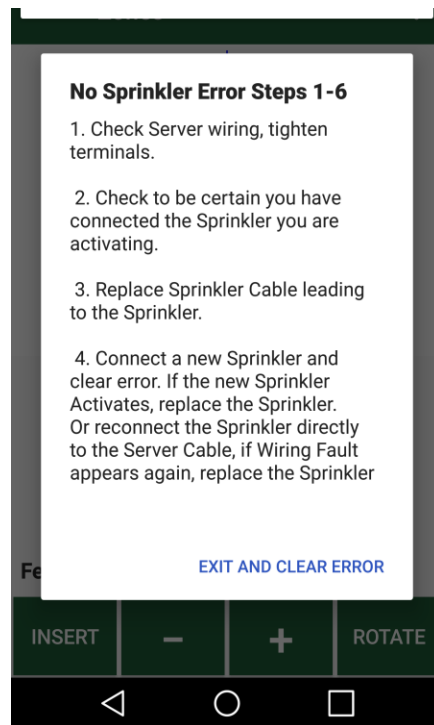
Wiring Faults

Typically caused by connecting multiple sprinklers without zone addresses

1. Check Server wiring, tighten terminals.
2. During EcoZone Activation, make sure only one non-activated Sprinkler is connected at a time. Disconnect any extra Sprinklers.
3. During EcoZone Activation, make sure to select the next EcoZone Sprinkler number on the Server Page before activating the new Sprinkler. If the same number is selected twice, clear the Error, select the next EcoZone and activate the Sprinkler.
4. Replace Sprinkler Cable leading to the Sprinkler.
5. Connect a new Sprinkler and clear error. If the new Sprinkler Activates, replace the Sprinkler. Or reconnect the Sprinkler directly to the Server Cable, if Wiring Fault appears again, replace the Sprinkler.

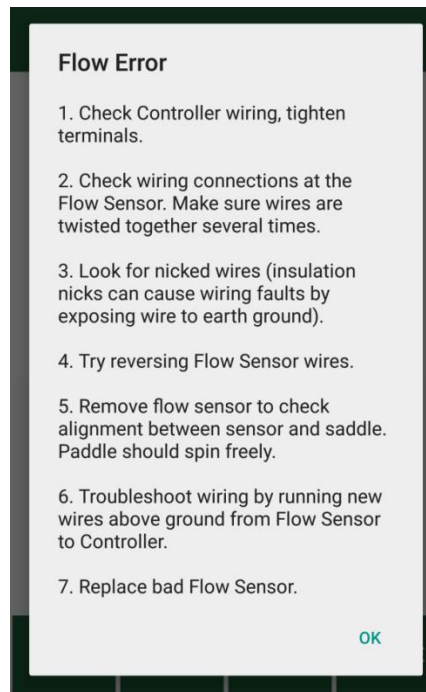
No Sprinkler

System doesn't detect the Genius Sprinkler



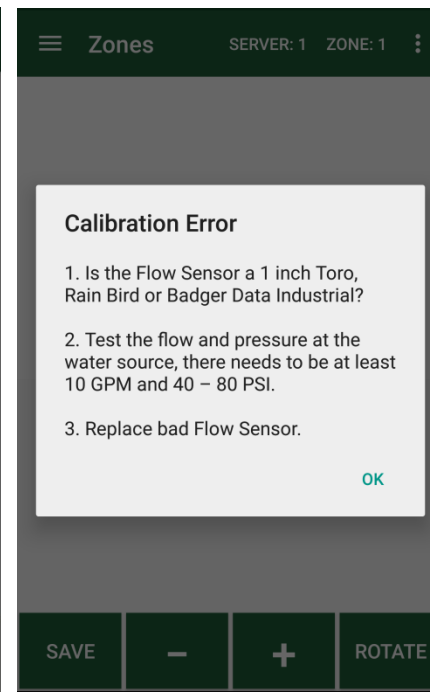
Flow Sensor*

Not getting usable data from the flow sensor



Calibration*

Not getting enough (or consistent) flow to calibrate



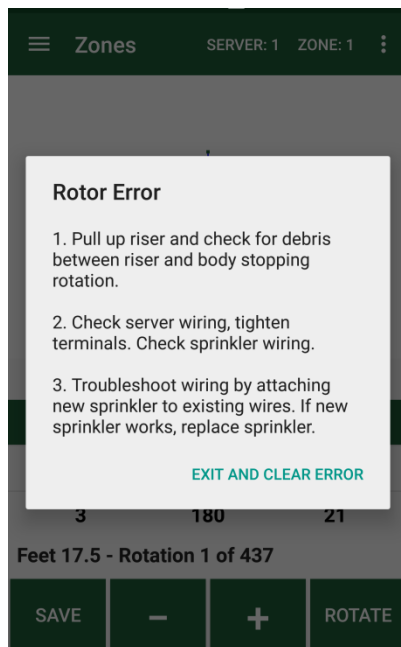
***NOTE: Flow and Calibration errors may also be caused by air in the line.** Run the last Genius sprinkler(s) on the line at maximum throw for several minutes to remove all air from the system .
Also check for glue on the flow sensor impeller.

IrriGreen Diagnostic Help Screens

These appear if the system detects a problem
Follow troubleshooting list on screen

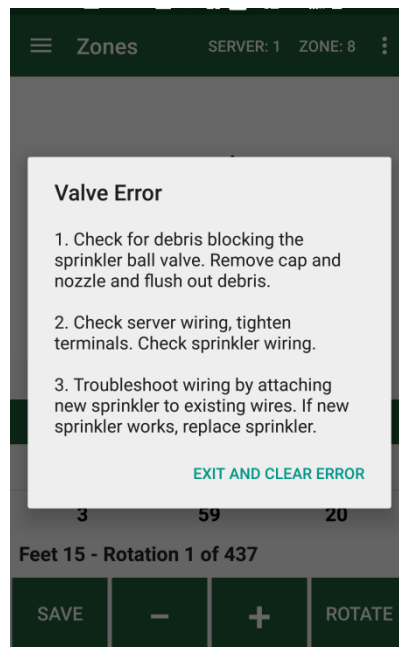
Rotor

Rotor drive in
sprinkler not
operating properly



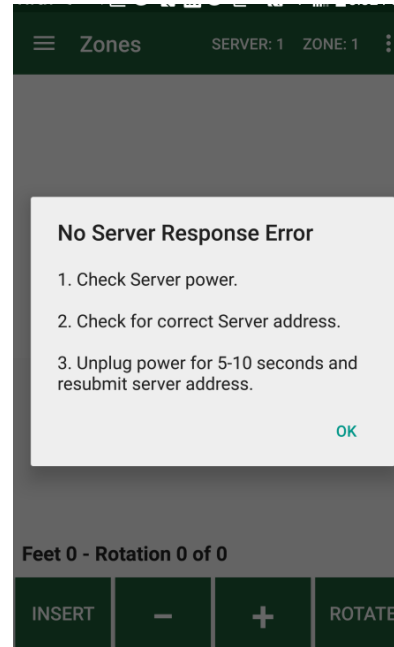
Valve

Ball valve in
sprinkler not
operating properly



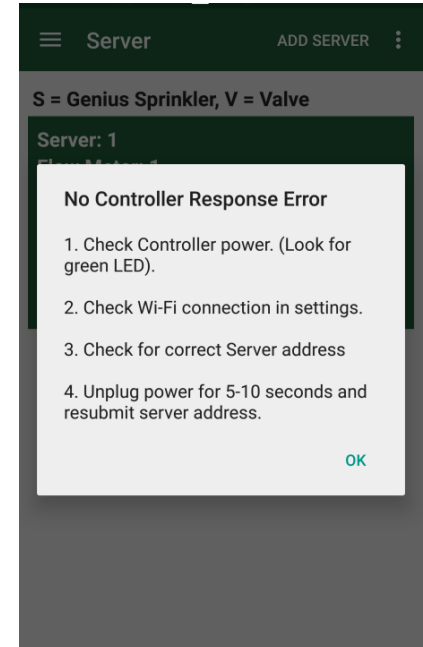
Server

Server not
communicating with
the Controller



Controller

Controller not
communicating with
the mobile app



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:

Controller location, height, landscape elevations (signal going through dirt), house construction (stucco, etc.) will affect Wi-Fi range. Use Wi-Fi extender such as Linksys AC750 to extend range while mapping zones.