

Gopher Geyser Installation Manual

Gopher Geyser System Plumbing Instructions

What you're plumbing

- Water supply
 - PVC piping
 - Valve manifold
 - Lateral lines to nozzles
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1) Plan the system layout

- Determine the number of zones needed
 - Determine where each nozzle will be located
 - Assign one valve per nozzle
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2) Shut off and tap into the water supply

- Shut off the home's main water supply.
- Cut into the water line downstream of the house shutoff.
- Install, in order:
 - Tee fitting
 - Dedicated irrigation shutoff valve
 - Backflow preventer (as required by local code)

- Transition from the backflow preventer to PVC mainline pipe.
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3) Trench for mainline and laterals

- Dig trenches along the planned pipe routes.
 - Typical trench depth:
 - 8–12 inches (deeper in freeze-prone areas)
 - Keep trenches smooth and free of sharp rocks.
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4) Install the mainline

- Dry-fit all PVC fittings before gluing.
 - Prime each joint with PVC primer.
 - Apply PVC cement to both the pipe and fitting.
 - Insert pipe fully, twist $\frac{1}{4}$ turn, and hold for 10 seconds.
 - Run the mainline from the water source to the valve box location.
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5) Build the valve manifold

- Set the valve box so the lid is flush with finished grade.
- Bring the mainline into the valve box.
- Install a manifold using tees or a prebuilt manifold.
- Install one valve per nozzle.
- Ensure valves are:

- Oriented correctly with flow arrows
 - Evenly spaced
 - Accessible for future maintenance
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6) Run lateral lines

- From each valve outlet, run ½" PVC pipe to the nozzle location.
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7) Install nozzles

- Install a swing joint or flexible riser for each nozzle.
 - Thread nozzles onto swing joints (do not glue).
 - Set nozzles so the top is flush with finished grade.
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8) Flush the system

- Leave sprinkler heads or nozzles removed.
 - Turn on the water briefly to flush dirt and debris from the pipes.
 - Turn water off once lines are clear.
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9) Test for leaks and operation

- Turn water on slowly.
- Inspect all joints for leaks.

10) Backfill trenches

- Backfill trenches carefully, avoiding large rocks near pipe.
 - Lightly compact soil.
 - Leave valve boxes and nozzles exposed and accessible.
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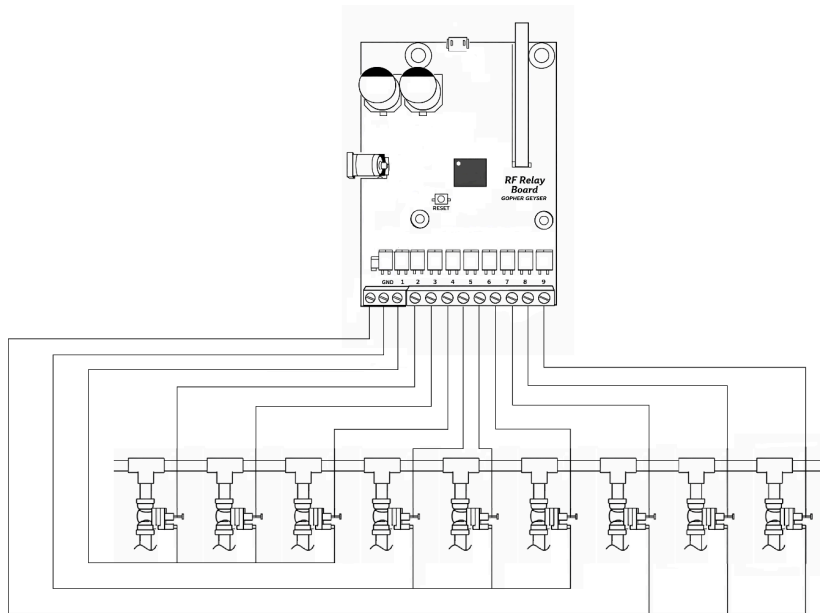
Gopher Geyser Wiring Instructions

What you're wiring

- Gopher Geyser Controller with 9 zones pins and 3 common (GND) pins
- Sprinkler valves with 24VAC solenoids (each solenoid has two wires)
- Irrigation wire running from controller to the valve box
- GND terminals function as common (COM) terminals for valve wiring. These are not earth ground connections.

What you need

- Waterproof wire connectors
- Wire stripper/cutter
- Small flathead screwdriver (included)
- Irrigation wire (18 gauge and 12 total wires needed)



Step-by-step wiring

1) Run the irrigation cable

Run the irrigation cable from:

- controller location → each valve box
Leave extra slack at both ends.

2) In the valve box: build the “Common bundle”

Each valve/solenoid has 2 wires.

- Pick one wire color to be common (often white).
- Take one solenoid wire from EACH valve and tie them all together with the common wire.

So it becomes:

- Valve 1 solenoid wire A
- Valve 2 solenoid wire A
- Valve 3 solenoid wire A
 - the white/common wire
All in one waterproof connector

3) In the valve box: connect zone wires (one per valve)

Now each valve has one remaining solenoid wire not used yet.

Connect each one to a different wire:

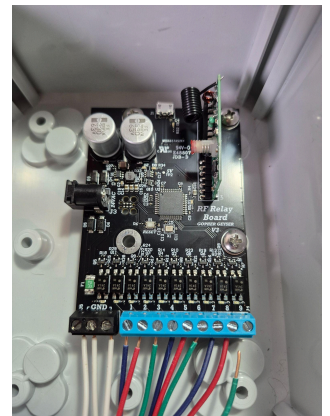
- Valve 1 remaining wire → Zone wire color (ex: red)
- Valve 2 remaining wire → Zone wire color (ex: blue)
- Valve 3 remaining wire → Zone wire color (ex: green)

Each connection gets its own waterproof connector.

4) At the controller: connect the common

At the controller terminals:

- Cut the cable seal to size and feed the sprinkler wire through the seal
- Strip ¼" of the insulation off of each wire.
- Secure the common (white) wires to any of the three terminals labeled "GND" (common) on the controller.
- Secure each remaining color-coded zone wire to the matching labeled zone terminal on the controller.



5) Test zones one at a time (skip this step if using the remote control version)

Run a manual test using the Gopher Geyser app:

- Turn on Zone 1 → verify correct valve activates
- Repeat for Zone 2 - 9

If a zone turns on the wrong area, swap zone wires at the controller.

Super important “rules” that prevent headaches

- Never connect two zone wires to one valve (one valve = one zone output).
 - All valves can share a common wire.
Controller has 3 terminals for common wires labeled GND
 - Always use waterproof splices in the valve box (regular wire nuts fail).
 - Keep splices up off the dirt if possible (less water sitting on them).
 - Use 18 AWG irrigation wire, not speaker wire.
 - The GND terminals on the controller are used only for valve common wiring and must not be connected to earth ground or building ground.
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Plumbing Supplies

Pipe & Tubing

- Schedule 40 PVC pipe
 - ¾" or 1" (mainline, as required)

- ½" (lateral lines)
 - Flexible swing pipe / funny pipe (for nozzles)
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Valves & Boxes

- 24VAC irrigation control valves (1 per nozzle)
 - Valve box (size based on number of valves)
 - Valve box extension (if needed)
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Fittings

- PVC tees (matching pipe size)
 - PVC 90° elbows
 - PVC couplings
 - Male threaded adapters (valves & sprinkler heads)
 - PVC end caps (for flushing and pressure testing)
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Nozzle Components

- Swing joints or flexible risers
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Water Supply & Protection

- Dedicated irrigation shutoff valve

- Backflow preventer (code-required type)
 - Transition fittings (copper/PEX to PVC, as needed)
 - PTFE (Teflon) thread seal tape
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Adhesives & Sealants

- PVC primer
 - PVC cement
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Tools (Plumbing)

- Shovel or trenching tool
 - PVC pipe cutter or saw
 - Tape measure
 - Permanent marker
 - Level
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Electrical (Wiring) Supplies

Wire

- Irrigation wire (18 AWG)
 - Example: 18/4, 18/6, 18/12 (based on number of zones)
- Extra single-strand wire (for repairs or extensions)

Connectors & Protection

- Waterproof wire connectors (DBY / DBR or equivalent)
 - Wire nuts (controller cabinet only)
 - Electrical tape (optional strain relief)
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Tools (Electrical)

- Wire stripper/cutter
 - Small flat-head screwdriver (controller terminals)
 - Multimeter (optional, for troubleshooting)
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Optional / Recommended Items

- Wire labels or marker
- Extra valve box
- Extra waterproof connectors
- PVC repair couplings
- Silicone grease (O-rings)