

# Pump Start Relay Wiring and Software Setup

In this article, we will discuss the following topics:

- Summary
- Operation Chart
- Wiring (24 VAC)
- Wiring to Power Source
- Software Setup
- Pump Start Relay Operation per Zone

## Summary

When a system requires the use of a booster pump or pulls water directly from a creek or pond, it's imperative to include a relay to activate the pump each and every time. A pump start relay is a relay box that activates a pump every time a zone is activated from the controller. Zone valves are the individual valves that operate a group of sprinklers or drip emitters. Hydrowise controllers support 6- to 54-zone valves, depending on the model. Typically, one zone valve is turned on at a time and controls the irrigation in a specific area of your landscape. Whenever one of the irrigation zone valves is told to open by the controller, the controller also signals the pump start relay to turn the pump on.

## Operation Chart

Controller Model	Set Master Valve Operation
HC	ON or OFF by All Zones
PRO-HC	ON or OFF by All Zones
X2 w/WAND WiFi Module	ON or OFF by Zone or All Zones
HPC	ON or OFF by Zone or All Zones
HCC	ON or OFF by Zone or All Zones

## Wiring (24 VAC)

Use a minimum distance of 15' (4.5 m) between the controller and the relay to dampen electromagnetic noise. In addition to this recommendation, Hunter also recommends all controllers be mounted 15' (4.5 m) away from pumps and high-voltage devices.

1. Detach the pump start relay cover plate by removing the four screws with a Phillips screwdriver.
2. Run a single wire from the "common" terminal on the controller to one of the yellow wires on the pump start relay.
3. Run a single wire from the "P/MV" terminal on the controller to the other yellow wire on the pump start relay.
4. Use wire nuts to make the connections and verify they are secure.
5. Install pump start relay cover plate and four screws. Close and lock the cabinet door.
6. Route wire through the conduit or one of the openings on the bottom of the cabinet.
7. Strip ½" (13 mm) of insulation from the ends of all wires. Secure the valve common wire to the **COM**" (Common) terminal. Attach the opposite control wire to the M/V terminal.

## Pump Start Relay Maximum Wire Lengths

**MAXIMUM one-way wire length (do not go this far!)**

Model	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG	8 AWG
PSR-22	243 ft	386 ft	616 ft	976 ft	1,551 ft	2,463 ft
PSR-52	134 ft	214 ft	341 ft	540 ft	859 ft	1,365 ft
PSR-53	134 ft	214 ft	341 ft	540 ft	859 ft	1,365 ft

## Wiring Illustrations HC

### HPC

### X2 w/WAND WiFi Module

## PRO-HC

### HCC

**NOTE:** With an HC Hydrawise controller, any one of your 6 or 12 zones can be configured to act as the pump start relay. We usually recommend wiring to the last zone that is not being used in the controller.

## Wiring to Power Source

Connecting the pump start relay should only be done by a licensed electrician following local codes. Improper installation could result in shock or fire hazard.

1. To prevent electric shock, turn the main circuit-breaker switch to “off” prior to making electrical connections.
2. Assemble conduit piping and connect AC power from the power source to one side (LINE IN) of the relay.
3. Assemble conduit piping and connect wiring from the pump motor to the other side of the relay (LOAD OUT).
4. Check to make sure there are no exposed or loose connections.

## Software Setup

This setup option is prompted when you first go through the initial setup wizard in the software.

The online instructions will refer to a **MASTER VALVE** but this same setting applies when using a **PUMP START RELAY (PSR)**.

**NOTE:** With an HC Hydrawise controller, any one of your 6 or 12 zones can be configured to act as the pump start relay. We usually recommend wiring to the last zone that is not being used in the controller.

If you need to change this in the software after the setup wizard, refer to the instructions below.

1. Log in to your Hydrawise account
2. Click on **ZONES AND SCHEDULES** for the PC or **ZONES** if using the mobile app.
3. Choose **YES** from the drop-down menu above the zones. If you have an HC controller, choose the zone number to which you have the master valve wired.

## HC Controller

## X2 w/WAND, PRO-HC, HPC, and HCC Controllers

## Pump Start Relay Operation per Station

When selecting a **PUMP START RELAY** to be on/off for an individual zone, you can edit the zone in **ZONES AND SCHEDULES** under **ADVANCED SETTINGS**. This option is useful when one zone is using city water and another is using water from a different source. This option is for X2 w/WAND, HPC, and HCC controllers only.

Follow the steps below to change this setting:

1. From the **ZONES AND SCHEDULES** page, click on the (i) icon on the zone you would like to edit.
2. Click on **ADVANCED**, which is located on the top blue search section.

3. Select **USE GLOBAL MASTER VALVE SETTING** to keep this circuit on or select **DISABLE MASTER VALVE** to turn it off.

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