

Hunter®

 **Hydrawise™ Ready**
IRRIGATION CONTROLLERS

Hydrawise Software/App Owner's Manual



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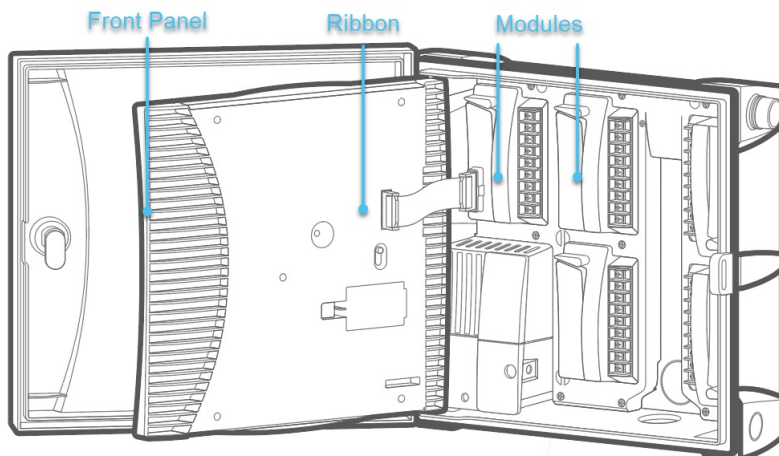
No Communication with Expansion Modules Message

Overview:

If your HCC Controller does not recognize your stations, you will see the facepack message **No Communication with Expansion Modules** on the controller screen. You may need to reset some of the hardware components. You can follow the steps below to make the connection between the facepack and your station modules.

Steps:

1. Open the **Front Panel**.
2. Turn **Off** the power by unplugging the controller.
3. Remove the **Ribbon** from the back of the front panel.
4. Remove all the **Modules** (power module and station module(s)).
5. Reinstall the **Modules**.
6. Reinstall the **Ribbon** cable (wait 2-3 minutes).
7. Turn **On** the power to the controller.
8. Sign in to your [Hydrawise account](#).^[1]
9. Select the **Menu** icon (☰) on the upper left-hand side of the app.
10. Select **Controller Settings**.
11. Verify the correct controller station count under **Model** (i.e., HCC 16 Zones).



Controller - Offline Mode Setup

OFFLINE PROGRAMMING will allow the controller to run like our traditional controllers, the X-core and the Pro-C models. Each of the six programs (a-f) allows you to start each program up to six times a day, set run lengths, and set specific days to water.

To set up your controller for manual configuration, please follow the steps below:

1. From the main menu, click on **SETTING**.
2. Select **CONFIG**.
3. Select **FACTORY DEFAULT**.
4. Select **ERASE CONFIG**. This will reset the controller back to factory settings. You will be presented with a warning dialogue.
5. Select **CONFIGURE OFFLINE** and begin the wizard steps. Click **OK**.
6. Enter **DATE** and **TIME**. Click **OK**.
7. The next step is to enable a **MASTER VALVE**. Click **OK**. [Learn More](#)
8. Make a section for **MASTER VALVE**, then click **CONFIRM**.
9. Click **OK** to start setting up a **PROGRAM**.
10. Edit **WATER DAYS**. Check all that apply. Click the back arrow.
11. Edit **START TIMES** (default 5:00 AM). Click **ADD** and enter **TIME** (Hours and minutes) (six maximum). Click **OK**.
12. Edit **ZONES**. Highlight a **ZONE**, then check the **ZONE ENABLED** box. Click on the green box and enter a **RUN TIME**. Click **OK** when each applicable zone is complete. Repeat as needed.
13. Click the **HOME** button.

Your Hydrowise controller is now set up to run as a standalone controller.



Zones

Settings

Status



Change Settings



Wireless

Offline Programs &
Settings

Config

Run
Wizard



Configuration



Reboot
Controller

Factory
Default

Security

Warning!

This will reset your controller to factory default settings

Press Erase Config to clear your configuration and restart.

Erase Config

No

Connection Wizard

Welcome to Hydrowise!

To configure your controller via our app you will need to connect it to your wireless network.

Press OK to start. If you dont have internet yet press Configure Offline to configure manually.

Configure
Offline

OK

Exit
Wizard

Offline Connection Wizard



Step 1 of 3

This wizard will guide you through the steps to set up your controller to run in offline mode without an internet connection.

The first step is to set Time & Date

OK

Exit
wizard

 | Date & Time | 

Current Time

12

46

44

PM

Date

12

Apr

2021

OK

Offline Connection Wizard



Step 2 of 3

The next step is to enable
a master valve (MV)



If you dont have a master valve, then choose
Zone Master Valve (DISABLE)

OK

Exit
wizard

 | Select Master Valve | 

No Master Valve
Master Valve Is Enabled

Confirm

Offline Connection Wizard

Step 3 of 3

Finally, set up a program by entering Water Days, Start Times, and Zone Water lengths.

OK

Exit
wizard

< | Program A << >> | 🏠

Water Days

No Program Days

Edit
Water Days

Start Times

No Program Runs

Edit
Start Times

Zones

No Configured Zones

Edit Zones

< | Choose Days to Water | 🏠

☐ Sun ☐ Mon ☐ Tues ☐ Wed

☐ Thurs ☐ Fri ☐ Sat

Include These Restrictions

☐ Water on Odd or Even days

☐ Even Days ☐ Odd Days

Or Interval Water

☐ every 30 days. Start in 1 day

<

Program Start Times

↑

Start Time 1

Add

Start Time 2

Add

Start Time 3

Add

Start Time 4

Add

Start Time 5

Add

Start Time 6

Add

OK

<

Enter Zone Start Time

↑

Enter in Format Hours

05

1

2

3

4

5

6

7

8

9

0

.

< X

OK

Cancel

<

Enter Zone Start Time

↑

Enter in Format Minutes

00

1

2

3

4

5

6

7

8

9

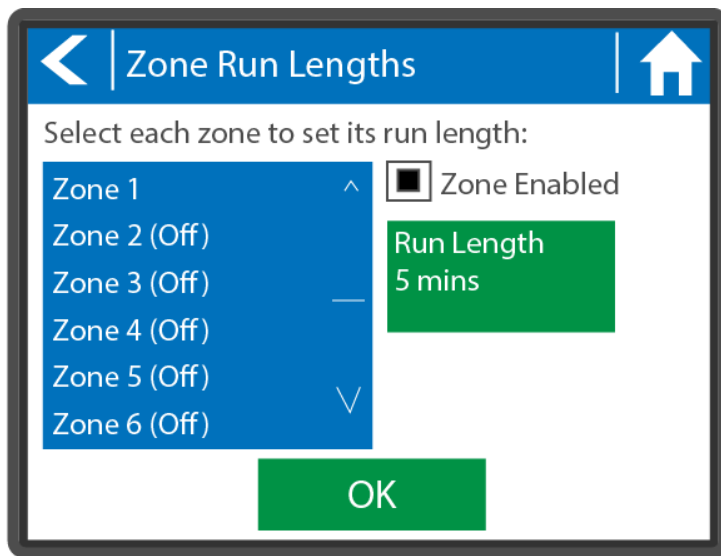
0

.

< X

OK

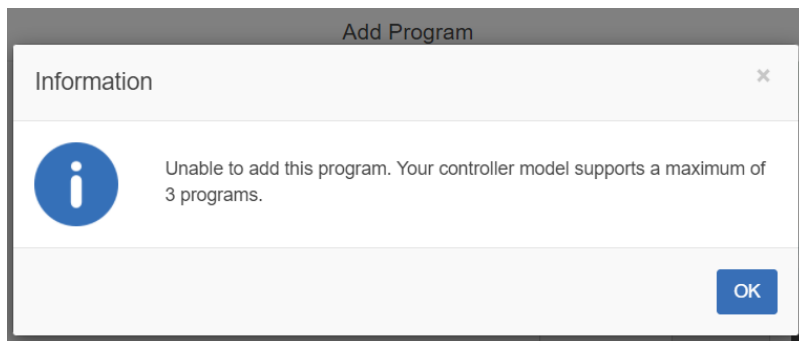
Cancel



Unable to Add Program Message

The Hunter X2™ Controller lets you keep the familiar, dial-based programming style offered by the popular Hunter X-Core® Controller. Hydrowise Software offers three programs for the X2 Controller with the WAND Module. Additional programs are not supported on this model and are usually not needed.

If you attempt to set up a fourth program, you will see this message:



WAND - Installation Guide

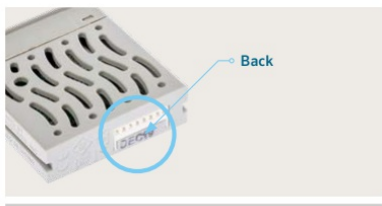
The **WAND** Module allows your X2 Controller to connect to the internet via a Wi-Fi router. Once connected, you can access and manage the controller with your smartphone, tablet, or computer. To connect the X2 controller to the Hydrawise app using the WAND device, you can follow the in-app step instructions. Review the chart below to verify compatibility between the WAND device and the X2 Controller.

Model	Controller Date Code	Wand Date Code
X2 Controller	June 2022 Older	Compatible with all WANDs
	July 2022 Newer	DEC 2022 or newer Only WANDs



X2™ Controllers

Date code is located under the wiring terminal strip.
(mo./yr)



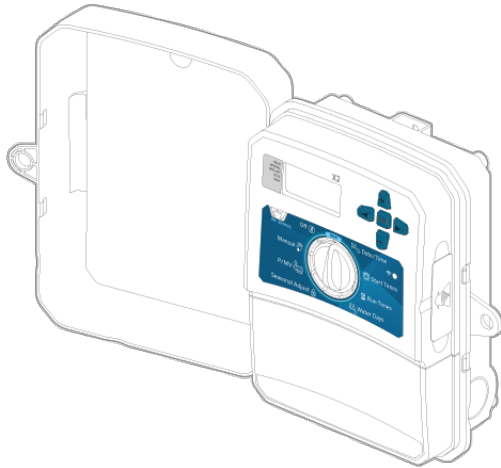
WAND Wi-Fi Modules

Date code is located on the back side of the module.
(mo./yr)

Step 1: WiFi Signal - A medium to high signal strength is preferred to maintain a stable connection between the controller and the router. In some cases, a Wi-Fi extender should be installed to increase the signal. [Learn More](#) ^[2]



Step 2: Installing the WAND Module - Remove the cartridge cover on the X2 Controller. Insert the WAND device. All programming is now managed via cloud-based Hydrawise Software from a smartphone, tablet, or desktop browser.



Step 3: Navigating the WAND Module with the X2 Controller- Make a note of the serial number on the WAND device.

Locate the following:

- A. Wi-Fi status LED
- B. Wi-Fi setup button
- C. WAND serial number



Step 4: Access Hydrowise Software - Download the Hydrowise app from the Apple® App Store or Google Play™ Store, or log on to hydrowise.com.^[3] Log into your account. If this is the first time you have logged in, you will be guided through a setup wizard to help you with an initial configuration of your controller.



Hydrawise Irrigation 4+

WiFi Irrigation from Hunter

HydraWise

Designed for iPad

★★★★★ 3.0 • 20 Ratings

Free

Step 5: Adding your controller -

1. After registering, click the “Let's Get Started” button in the message sent to your email account.
2. Click the “Let's Get Started” button again on your Hydrawise App or website screen.
3. Continue following all in-app steps to add your X2 Controller to Hydrawise.

Welcome Hunter Landscapes, Inc.

Welcome to Hydrawise!

To make your experience as painless as possible we will run you through a wizard to get your controller configured

Let's get started ▶

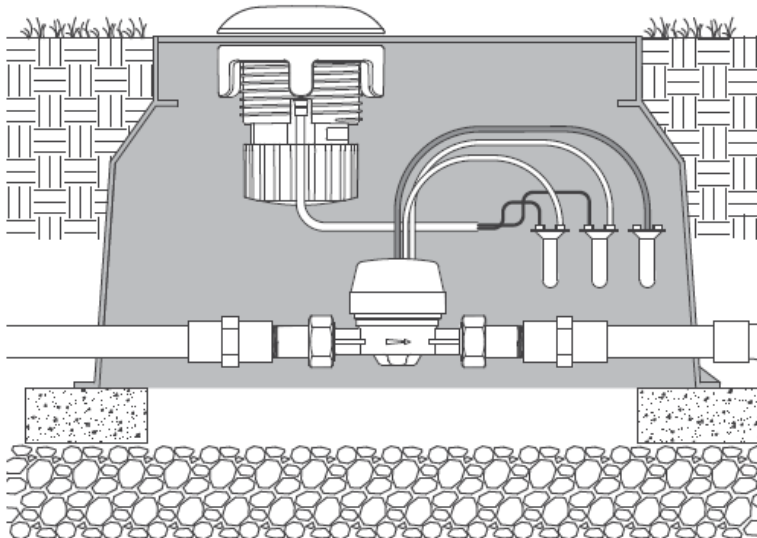
Wireless HC Flow Meter - System Overview and Operations

The Wireless HC Flow Communication Kit (P/N: WHCFLOW) pairs with any HC Flow Meter* to provide wireless flow monitoring capabilities with Hydrawise® enabled controllers. (*meter sold separately)

Compatible flow meters and controllers include:

- HC-075-FLOW, HC-100-FLOW, HC-150-FLOW, HC-200-FLOW
 - HC, HPC, Pro-HC, and HCC Controllers
- The Wireless HC Flow Receiver comes with just over 3' of wire for connection to the controller.
 - The maximum distance extending the receiver from the controller or the transmitter from the flow sensor is 50'.
 - The kit provides 500' (152 m) line-of-sight communication from transmitter to receiver. Flow data is transmitted wirelessly every 5 seconds, indicated by a blinking green LED on the transmitter and receiver.
 - The Wireless HC Flow Receiver is powered by the 24 VAC terminals within the controller. The receiver can be extended using a standard 18 AWG wire up to 25' from the controller.
- The Wireless HC Flow Transmitter is battery-powered (3 AA) and has two wires coming from it for connection to the HC Flow Meter.
- The HC Flow Meter requires 4-5 VDC for power and is rated up to 24 VDC.
 - The sensor operation is a simple reed-switch contact closure that generates a pulse every time the contact closes, which is then converted to a flow rate based on the pre-calibrated pulse rate (1 pulse = 1 gallon).


Transmitter and HC Flow Meter Installation Details



Using the Bluetooth Remote

Overview:

This Home Builder Tool will allow you to use your phone as a remote control for the X2 Controller with Wand module only. To reduce maintenance time, eliminate having to return to the controller to manually start/stop zones when Wi-Fi is not present, and bypass the need for a SmartPort® wiring harness and ROAM Remote, add a **WAND Module to any X2™ Controller**. Then simply connect via Bluetooth® using the Hydrawise App! Hydrawise has a new Bluetooth Control screen that allows remote operation for manual single and all-zone run commands. This feature works up to 75' (23 m) away from the controller location, providing easier zone diagnostics, winterization, and site maintenance.

1. Sign in to your [Hydrawise account](#) ^[1]. From the **HOME** screen, select the () icon in the upper left. Then **BLUETOOTH CONTROL**.
2. Select the module listed from the **WAND** list. Select **RESCAN** if necessary.
3. If your model phone asks for a **PAIRING REQUEST**, accept by selecting **OK**.
4. A 6-digit number will appear on the X2 Controller. **ENTER** the full PIN here and select **OK**.
5. The **REMOTE CONTROL** feature will appear. The **CONTROLLER STATUS** will display any current zones running. Using the two drop-downs, you can select a **SINGLE ZONE** or **RUN ALL ZONES** in sequential order. Enter a **RUN TIME** in minutes. Select **START** and the system will begin watering via Bluetooth connection.

Connecting WAND with Smartphone via Bluetooth – Hydrawise

The X2 Controller with the WAND WiFi device allows for Wi-Fi setup over Bluetooth connection via smartphone. Bluetooth is a wireless technology that is used for exchanging

data between fixed and mobile devices over short distances. This is a useful way to communicate easily when Wi-Fi is not available at the location of the controller.

NOTE: If you receive either of the messages listed below, please use these steps before reconnecting. Under your mobile Bluetooth settings, choose a WAND device, then select **FORGET THIS DEVICE**.

- **Alert** - Peripheral disconnected.
- **Notification** - Hunter device not responding; please try again.

Steps for Connecting WAND with Smart Phone via Bluetooth

1. Navigate to the Hydrowise **SETUP** wizard on the Hydrowise app or [Hydrowise.com](https://www.hydrowise.com) website.
2. Select your **X2 CONTROLLER**.
3. Click **CONTROLLER SETTINGS** in the left menu tab.
4. Click the **CONNECT TO Wi-Fi** button.
5. Select the **BLUETOOTH** button on the app or website.
6. Select the [WAND] HunterX2XXX device matching the last 3 digits of the module's serial number.
7. Enter the **6-digit code** on the X2 controller display and click the Pair button in the app.
8. A list of nearby Wi-Fi networks will appear. Select your wireless network and click the **CONNECT** button.
9. Enter your Wi-Fi password and click the **CONTINUE** button.
10. Once connected, the WAND LED will turn solid green •, the word **ONLINE** with a

solid Wi-Fi icon will appear on the controller LCD. The Hydrowise app will show a 'Connection Successful' message.

11. Click the **CONTINUE** button to continue set irrigation schedules.

IMPORTANT: When the controller first connects, you may notice a controller message UPd8 A, B C. This indicates a firmware update and the WAND should **NOT** be removed during this process. If the WAND is removed, the controller could be damaged.

Programming Offline with No WAND Installed

X2 dial and button functions are disabled when Wi-Fi is on, as well as the existing schedule and settings. All programming is managed from the Hydrowise™ online software. Manual Station, Manual Program, and Test All Stations can be activated at the controller. For full offline functionality without the WAND module installed, click [here](#) ^[4].

Why are my Flow Readings So High?

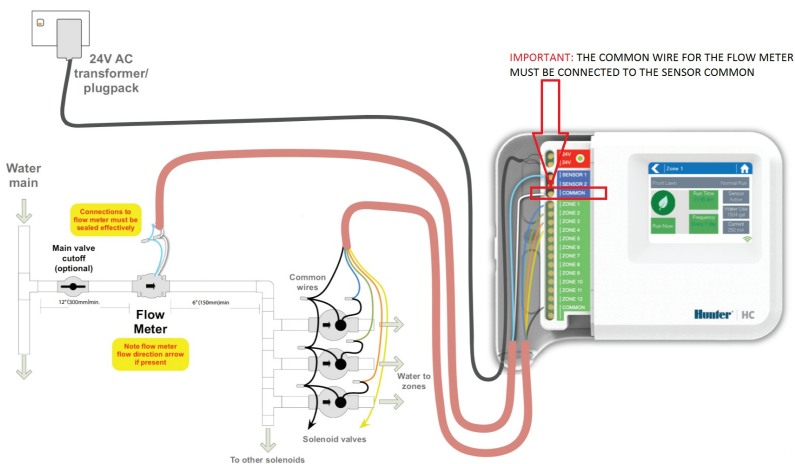
There are two things to consider when this occurs:

1) Check that you have the right flow meter installed and selected via the flow meter set up on the software. If you have a 3/4" but selected 1", the reading can appear up to 10x higher than it should be.

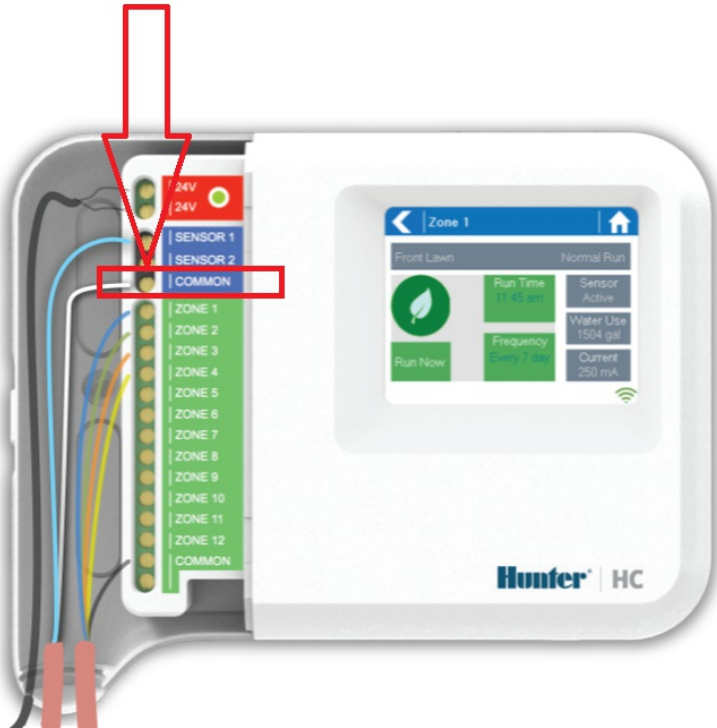
2) Carefully follow the instructions in our wiring guide.

Wire Color	Sensor Terminal Block
White	Common
Blue	SEN1 or SEN2
Red	Not Used

Ensure that the common wire is connected to the sensor common and not the common for the valve, as this will cause massive spikes in readings. **DO NOT USE THE RED WIRE, must cap off.**





IMPORTANT: THE COMMON WIRE FOR THE FLOW METER
MUST BE CONNECTED TO THE SENSOR COMMON



For a more detailed look at our flow meter installation guide, click [here](#) [5].


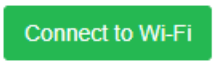
WAND Module Password Information

Firmware version **6.20** for the WAND Module for X2™ Controllers supports a 63-character password. You can view your current firmware in your Hydrowise account with just a few simple steps:

1. Sign in to your [Hydrawise account](#) ^[1].
2. Select the **MENU** icon () on the upper left-hand side of the app. If accessing from a web browser, skip to the next step.
3. Select **CONTROLLER SETTINGS**.
4. The current version will be displayed next to the  icon.

If required, the WAND Module can be updated in the field using a smartphone hotspot or mobile hotspot device. The new firmware automatically downloads to WAND when connected to Wi-Fi. With the new firmware, WAND successfully connects to 2.4 GHz networks.

Hotspot Update Process:

1. Open the Hydrowise App or log on to [hydrawise.com](#) ^[1].
2. If there are multiple controllers in the Hydrowise account, select the desired **X2 CONTROLLER**.
3. Select the **MENU** icon () on the upper left-hand side of the app. If accessing from a web browser, skip to the next step.
4. Select **CONTROLLER SETTINGS**.
5. Select the  button under the model type label.
6. Select **Wi-Fi DIRECT SAP MODE**.
7. Press the black circle ● button 2x on the WAND module at your controller (the Wi-Fi status LED will blink amber ● 2x per second and "SAP" will appear on the controller LCD).
8. Select the **CONTINUE WHEN LED IS BLINKING TWICE** button on Hydrowise.
 - **iPhone users:** Go to the Wi-Fi settings on the iPhone and select the **HunterX2XXX** Wi-Fi network name. Then return to the Hydrowise App.

- **Android users:** Scan and select the **HunterX2XXX** Wi-Fi network name. Then press **CONTINUE**.
 - **Computer users:** Go to the Wi-Fi settings on the computer and select the **HunterX2XXX** Wi-Fi network. Then press **CONTINUE**. A browser window should appear (if not, launch a web browser). Enter 192.168.7.7 in the address bar.
9. Select or enter the **HOTSPOT'S WIRELESS NETWORK NAME** and click **CONTINUE**.
 10. Enter the hotspot's Wi-Fi **PASSWORD**. Verify the information is correct. Then click the **CONNECT** button.
 11. Once connected, the WAND LED will turn green ● and "UPd8b" will appear on the controller LCD, upgrading WAND to the latest firmware. If "UPd8A" or "UPd8C" appears, the system is upgrading the X2 Controller or Wi-Fi chipset firmware. Firmware updates take 2-12 minutes each. **ONLINE** will appear on the controller LCD once all firmware upgrades are complete.
 12. Return to Step 3 and complete all steps thereafter to connect to the desired Wi-Fi network.
-

HPC - Install Guide

Hydrawise-Ready Controllers

INSTALLATION GUIDE FOR THE FOLLOWING CONTROLLERS:



HC - Install Guide

Hydrawise-Ready Controllers

INSTALLATION GUIDE FOR THE FOLLOWING CONTROLLERS:



WAND - Codes and Descriptions

The X2 Controller will have code messages that appear on the LCD display for a number of different reasons. Please reference the charts below for more information on **CONNECTION**, **FIRMWARE**, and **UPDATE** codes.

X2 - CONNECTION CODE	DESCRIPTION	SOLUTION
FAIL	Wi-Fi setup failed	Check the spelling of the network name (SSID) and/or password and reconnect to Wi-Fi
donE	The previous operation is complete	N/A
bAd/SSID/OR/PASS/CodE	The internet was not found or the password is incorrect	Check the spelling of the network name (SSID) and/or password and reconnect to Wi-Fi
rouTer/CONNECT/FAIL	Can't connect to Wi-Fi router	Verify Wi-Fi network is 2.4 GHz, correct spelling of network name (SSID) and/or

		password. Reconnect to Wi-Fi.
Cloud/CONNECT/FAIL	Can't connect to Hydrawise	Server down or Certificate is bad. Verify specifications [2]
OFF/LINE	WAND was connected to the Wi-Fi network, but the Wi-Fi connection went offline or out of range.	Reconnect to Wi-Fi
ONLINE	Connected to Hydrawise Server	N/A
PUSH/Slde/Button	Press the button to begin provisioning	Press the button [1 2 3] times to select the desired Wi-Fi setup method

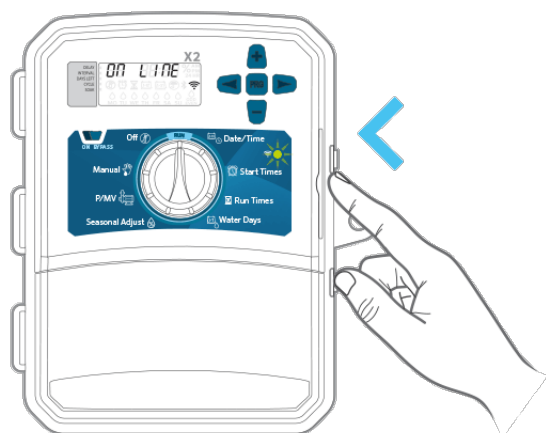
X2 - FIRMWARE CODE	DESCRIPTION	SOLUTION
H xxx	WAND Firmware Version Number	N/A
C xxx	X2 Controller Firmware Version Number	N/A

X2 - UPDATE CODE	DESCRIPTION	SOLUTION
UPd8 A	Update in progress for X2 controller firmware	N/A
UPd8 b	Update in progress for WAND module firmware	N/A
UPd8 C	Update in progress for WAND Wi-Fi firmware	N/A

WAND - Factory Reset

1. Press and hold the WAND button for 5 seconds and **Fdr** will appear on the controller LCD.
2. The module **LED** will turn off.
3. Release the button when the solid amber LED appears. The word **DONE** will appear on the controller LCD.

4. Return to the online setup wizard in your Hydrowise controller settings account page to reconnect **WAND** to Wi-Fi.



Wire Distance (Controller to Valve)

The chart below indicates the maximum wire runs that can be used when installing Hunter AC solenoid valves with controllers. The example in the chart below demonstrates the most commonly used wire size for station control and ground wire (e.g., 12 AWG = 3390 feet).

NOTE: Valve Wire Sizing (Maximum One-Way Distance in Feet Between Controller and Valve)

Ground Wire (size)	Control Wire (FT)					
	18 AWG / 1.0 mm	16 AWG / 1.2 mm	14 AWG / 1.6 mm	12 AWG / 2.0 mm	10 AWG / 2.5 mm	8 AWG / 3 mm
18 AWG / 1.0 mm	850	1040	1210	1350	1460	1540
16 AWG / 1.2 mm	1040	1340	1650	1920	2150	2330
14 AWG / 1.6 mm	1210	1650	2150	2630	3080	3450

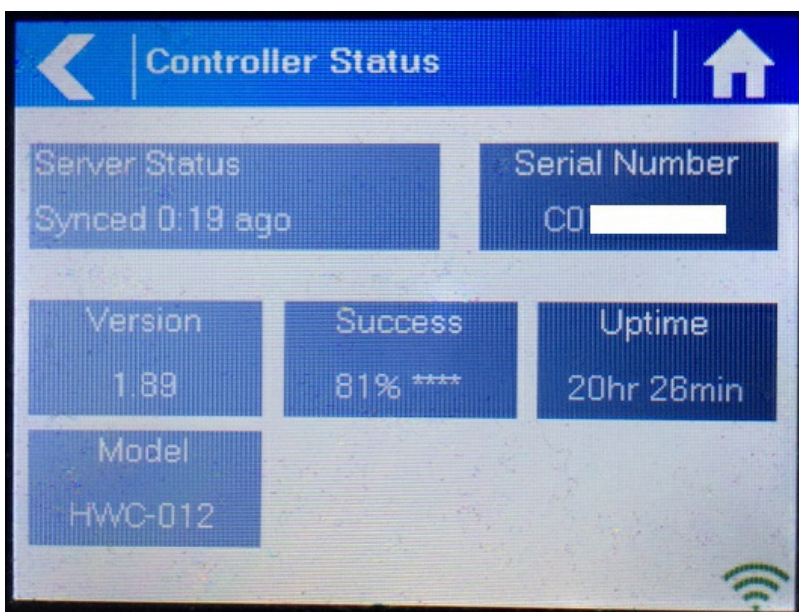
12 AWG / 2.0 mm	1350	1920	2630	3390	4170	4880
10 AWG / 2.5 mm	1460	2150	3080	4170	5400	6670
8 AWG / 3 mm	1540	2330	3450	4880	6670	8700

HC - How To Link My HC Controller To My Hydrawise Account?

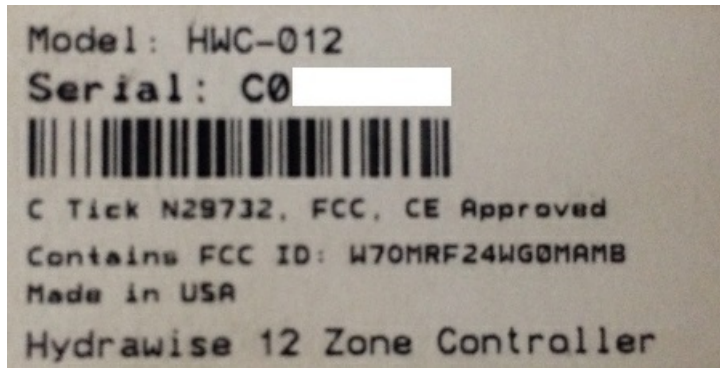
When you receive your HC controller, you will need to link the controller hardware to your Hydrawise account. This is done by entering the unit's serial number into your website account.

The serial number can be found in two places:

From the main display tap on **Status > Controller Status**



If you haven't already mounted your HC controller to the wall, then you can reference the number on the backhand side.



For more detailed instructions to locate your serial number, [click here](#) ^[6].

Once you have your serial number noted please follow the step below in order to register for an account if you haven't already or to log into your account so you can link your controller.

1. **Register for an account**

If you have not already done so, you should [register](#) ^[3] for an account at the HydraWise website.

2. **Log into your account**

[Log into your account](#) ^[7]. If this is the first time that you have logged in you will be guided through a setup wizard to help you with the initial configuration of your controller.

3. **Link your controller to your account**

You must link your Hydrowise unit to your Hydrowise website account before it will start watering. Go to the [Dashboard](#) ^[7] and move your mouse over the Status icon and click the "Link to Controller" button.

4. **Enter the serial number of your controller**

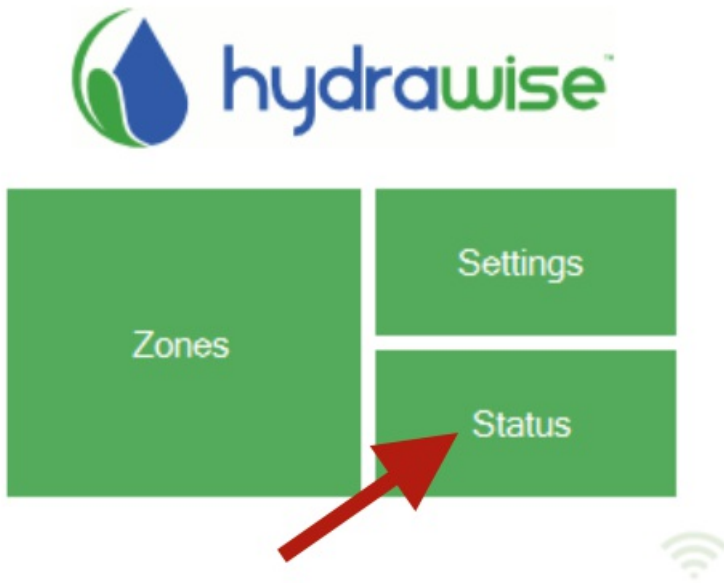
The serial number can be found on the rear of the unit, on the outside packaging or on the Controller Status screen in the HydraWise unit.

HC - How Do I Find My HC Controller's Serial Number?

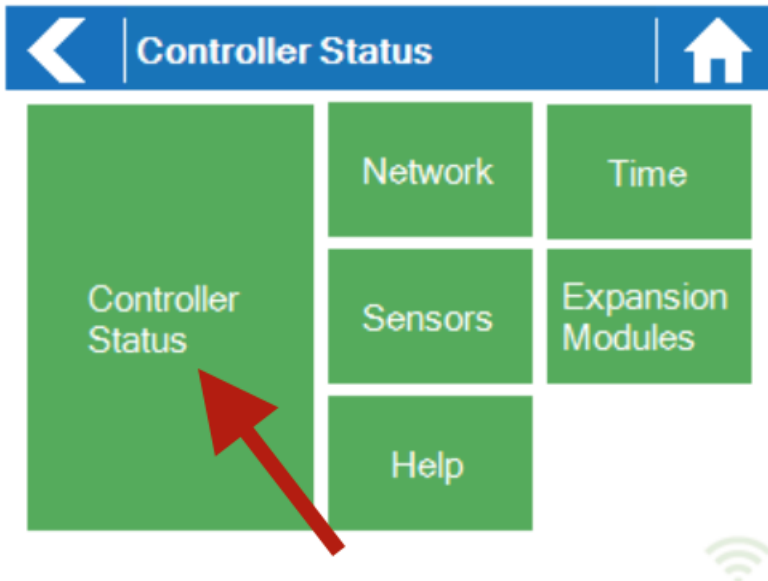
Your controller's serial number can be found on the rear of your controller or on the controller's touchscreen.

To access the serial number on the touchscreen follow these steps:

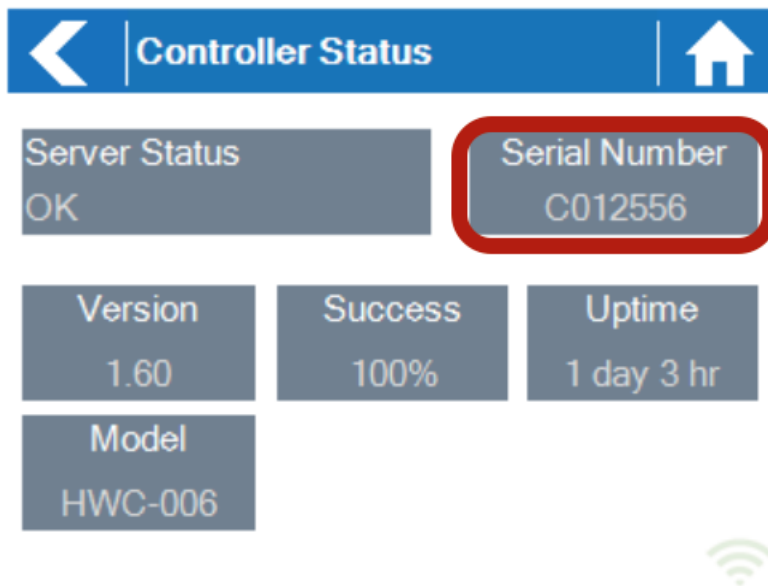
1. From the Home screen touch on **Status**



2. Touch on **Controller Status**



3. The serial number is shown on this screen. Note that the serial number only contains the letters **A through F** and the numbers **0 through 9**.



if you haven't already mounted your controller to the wall, you can find the serial number on the back of the unit.



You can also refer to this [Link controller to my account](#) ^[8] to link controller to you account.

HCC - Can I use my existing Hunter remote?

Yes, the HCC is compatible with Hunter's ROAM and ROAM XL remotes, allowing for fast and reliable manual operation in the field from long-range distances without the need for a smartphone. There is no need to remove the smart port adapter from the controllers when doing a facepack upgrade.

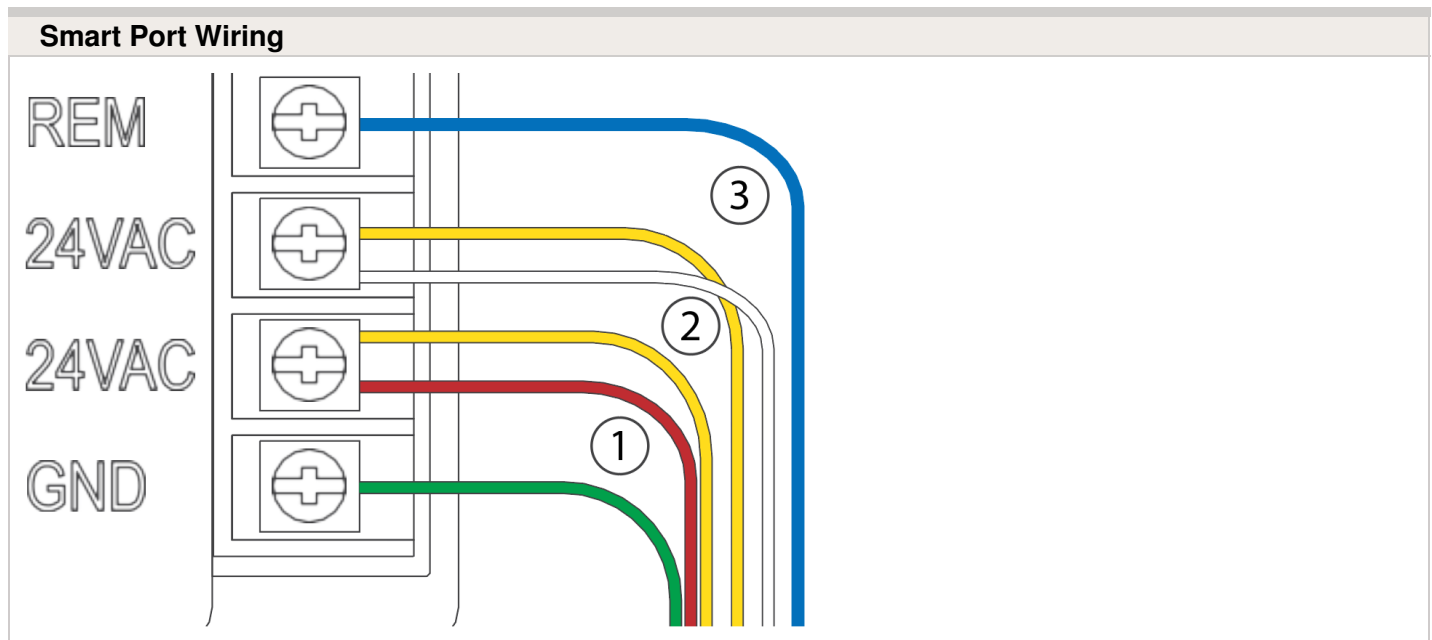
Compatible models include all Hunter remotes: **SRR, ICR, ROAM, and the ROAM-XL.**

If the Smartport is not installed on the controller, see illustrations below for wiring instructions.

Note: Any extension of the wiring on the SmartPort may result in an error message in the controller display and possible malfunction of the remote unit due to radio interference. In some situations, lengthening of the harness may work fine, in others it may not work at all (it is site specific). In either case, extending the wiring harness should be done using shielded cable to minimize the possible effects of electrical noise. For easiest installation, order the Hunter SmartPort shielded cable wiring harness. (P/N ROAM-SCWH) with a full 25' (7.6 meters) of shielded cable.

Wiring

1. Bottom 24 VAC terminal - Red wire
2. Second 24 VAC terminal - White wire
3. Remote terminal - Blue wire



Operation

The ROAM System will allow you to remotely turn on and off any station on your Hunter controller with the press of a button. Once on, the station will run for the run time you have designated in the remote. To remotely activate a **station**, follow the steps below:

1. Plug the receiver into a SmartPort® that is connected to a powered controller. The receiver will beep 4 times followed by a 10-second pause and a single beep.
2. If your transmitter is not on (no display), wake it up by pressing and holding the **MODE** button for 5 seconds. The Transmitter will display the active station.
3. Use the **up** and **down** buttons to display the station you would like to start.
4. Press the **"Green Play Button"** to start the station. The Transmitter will display the Transmit icon . If you are near the receiver, you will hear it beep 2 times. This indicates that the Receiver has received the command.
5. Press the **"Red Stop Button"** to turn off any station that is on. The display will show the Transmit icon and receiver will beep again twice. The ROAM System is designed to turn on one station at a time (unless you activate a program). Therefore, turning a station on while another station is operating will cause the operating station to turn off.

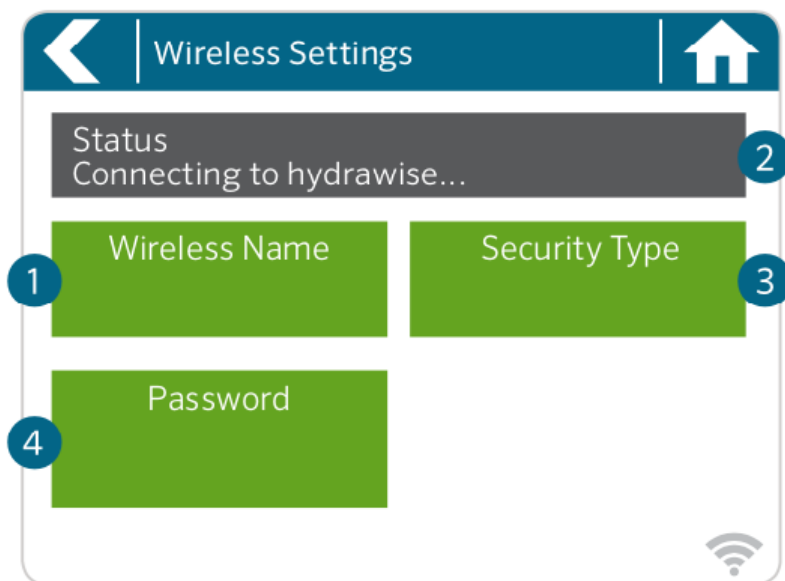
NOTE: The ROAM remote can activate any station on the controller whether the controller dial is in the "SYSTEM OFF", "RUN" or "RUN/BYPASS SENSOR" modes. If a sensor device has been wired to the controller, the ROAM remote will NOT override the sensor for manual operation. For more programming information, please see attached manuals for both the ROAM and ROAM XL remotes.

HCC - How do I connect the controller to the Internet?

Using the Connection Wizard

From Home screen touch Settings button then the Wireless button. Select your wireless network from the list shown on the controller display and press the Confirm button on screen. Enter your wireless password and press the OK button on keyboard.

Important: If your network is not listed then check that the unit is within wireless range. Make sure you press the OK button after you've entered your password. Pressing the **HOME** or **BACK** buttons will not save your changes.



1. Touch to change wireless access point.
2. Current wireless connection status.
3. Touch to change wireless security type.
4. Touch to change wireless password.

When connecting to your wireless, the Wi-Fi icon at the bottom right of the controller screen will flash. Connecting takes about 30 seconds and when successfully connected the Wi-Fi icon will remain solid.

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.

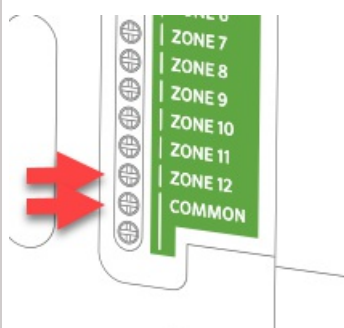
Pump Start Relay Maximum Wire Lengths

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

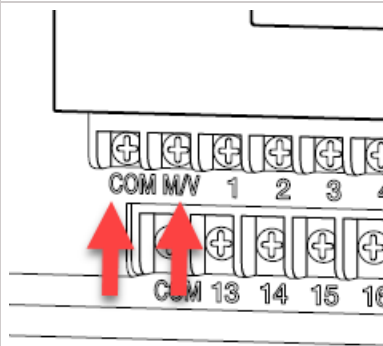
Model	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG	8 AWG
PSR-22	243 ft	386 ft	616 ft	976 ft	1,551 ft	2,463 ft
PSR-52	134 ft	214 ft	341 ft	540 ft	859 ft	1,365 ft
PSR-53	134 ft	214 ft	341 ft	540 ft	859 ft	1,365 ft

Wiring Illustrations

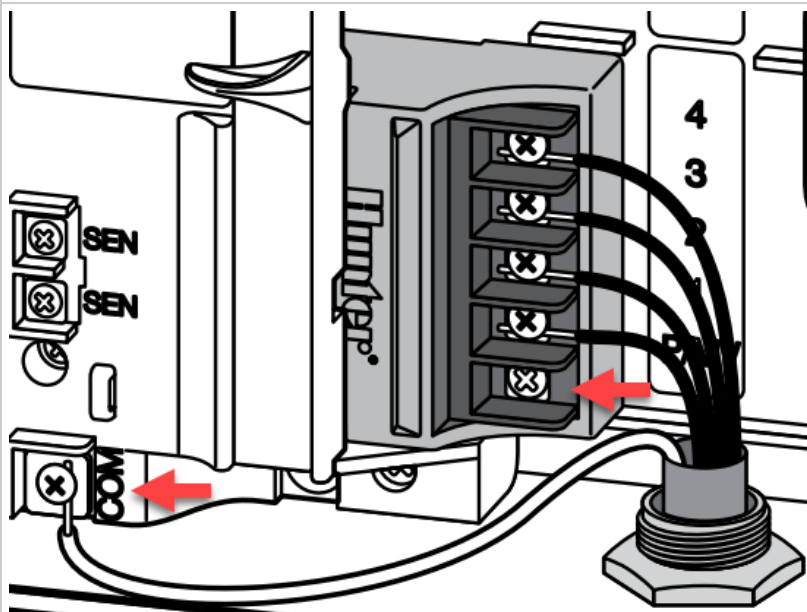
HC



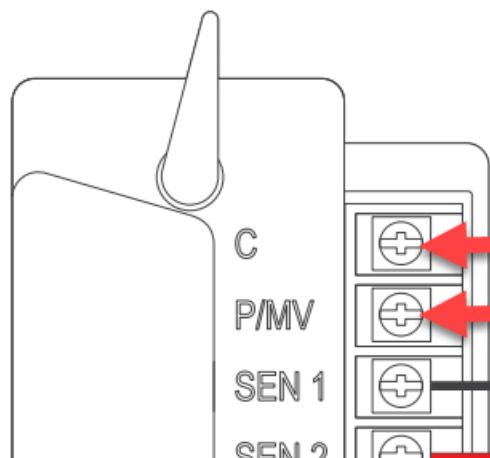
PRO-HC



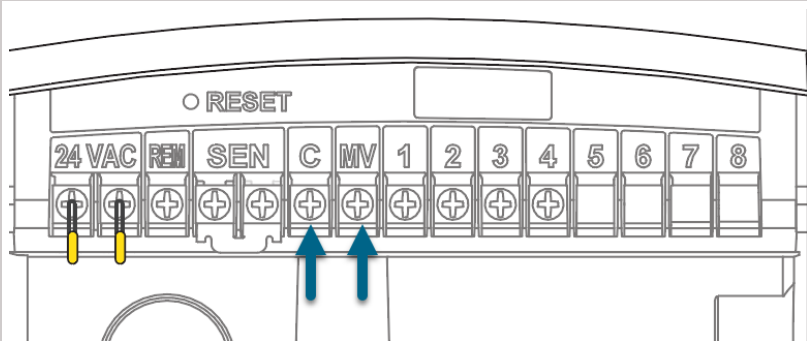
HPC



HCC



X2 w/WAND WiFi Module



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.

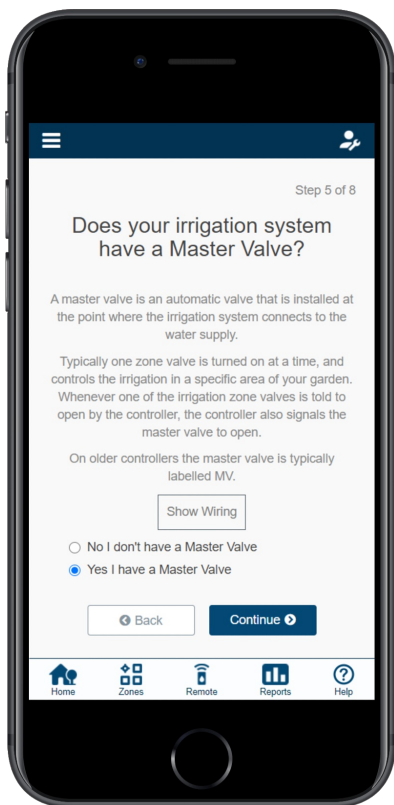
1. To prevent electric shock, turn the main circuit-breaker switch to “off” prior to making electrical connections.
2. Assemble conduit piping and connect AC power from the power source to one side (LINE IN) of the relay.
3. Assemble conduit piping and connect wiring from the pump motor to the other 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)**.

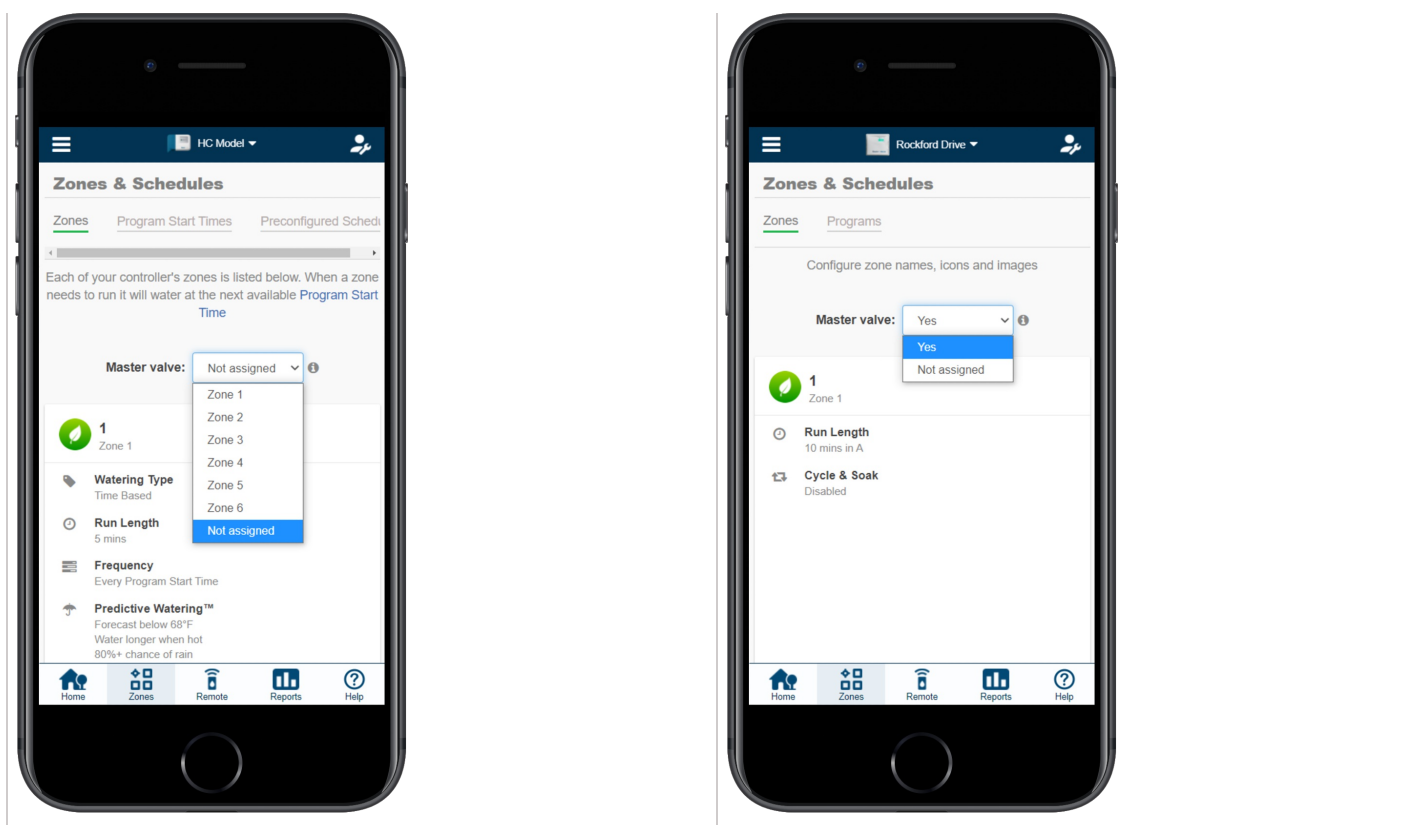
NOTE: With an HC Hydrawise controller, any one of your 6 or 12 zones can be configured to act as the pump start relay. We usually recommend wiring to the last zone that is not being used in the controller.



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

- 1. Log in to your Hydrowise 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

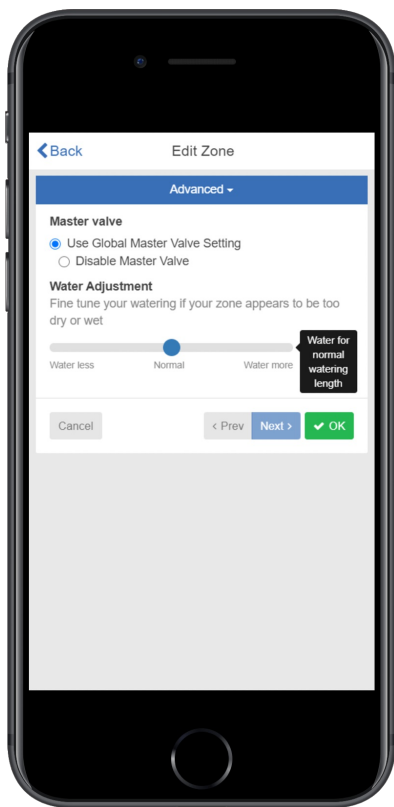


Pump Start Relay Operation per Station

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 (🔍) 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.



One Master Valve - Two Controllers

There are many times when two controllers are being supplied from a single POC (point of connection) or source of water. Hydrowise-ready controllers can be connected to a single master valve using a isolation relay (part number REL2). This device will allow for two controllers to share the same master valve with out any issues.

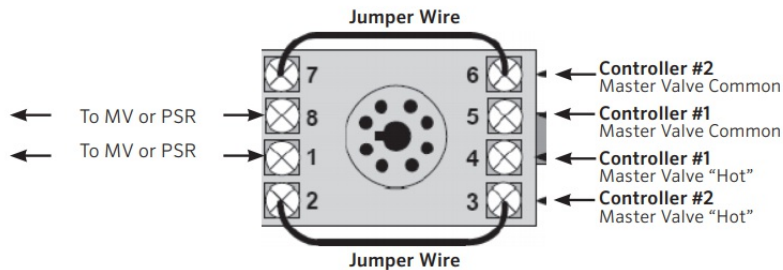
The few limitations include:

- Only one controller can operate at a time.
- A delay of at least five minutes between the operation of controller #1 and controller #2 is desirable.
- Electrical alerts will apply for each controller.

Steps for set up.

1. Wire the relay according to the drawing below.
2. Set up the master valve in the the app for both controllers using the normal instructions in the article [here](#) ^[9].
3. Set up a new master valve using the app for controller #2 as per normal instructions.

REL 2 is NEVER connected to high voltage. It is for 24 VAC devices only.



Master Valve Wiring and Software Setup

In this article, we will discuss the following topics:

- Brief Summary
- Operation Chart
- Wiring
- Software Setup
- Master Valve (P/MV) Operation per zone

Brief Summary

A master valve is a normally closed valve installed at the supply point of the mainline that opens only when the automatic system is activated. Zone valves are the individual valves that operate a group of sprinklers or drip emitters. Hydrowise controllers support 6 - 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 garden. Whenever one of the irrigation zone

valves is told to open by the controller, the controller also signals the master valve to open. The purpose of the master valve is to shut off the water to the irrigation system when none of the zone valves are operating.

IMPORTANT: The default setting for the Pump Start Relay/Master Valve is **NOT ASSIGNED (OFF)** in the software settings.

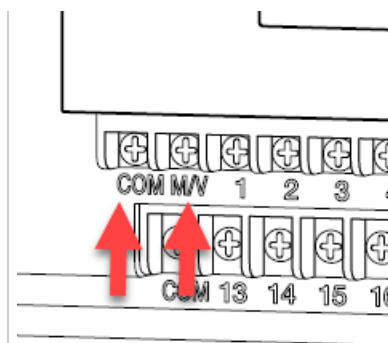
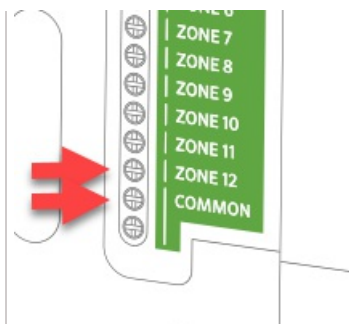
Operation Chart

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

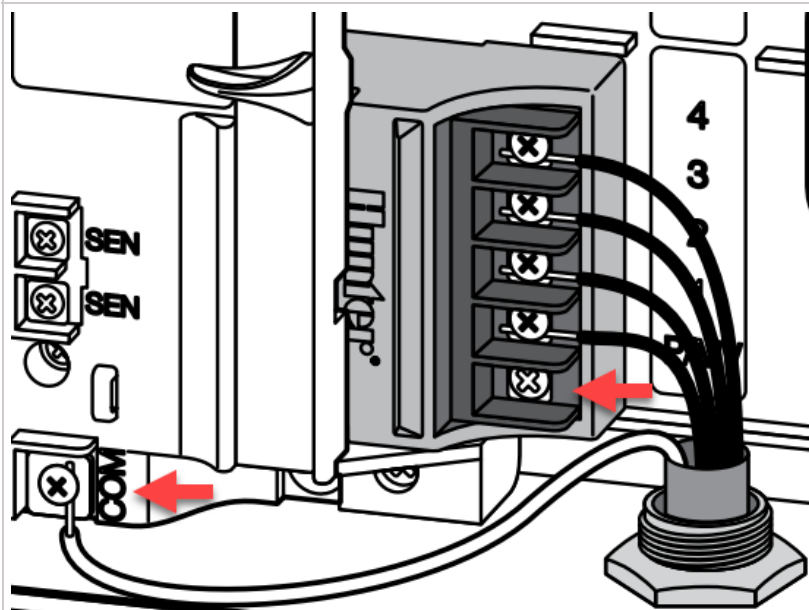
Wiring

1. Route the master valve wire between valve location and the Hydrowise controller.
2. Attach the common wire to either solenoid wire. This is most commonly a white-colored wire. Attach a separate control wire to the remaining wire of each master valve solenoid. All wire splice connections should be done using waterproof connectors.
3. Route wire through the conduit or one of the openings on the bottom of the cabinet.
4. Strip 1/2" (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.

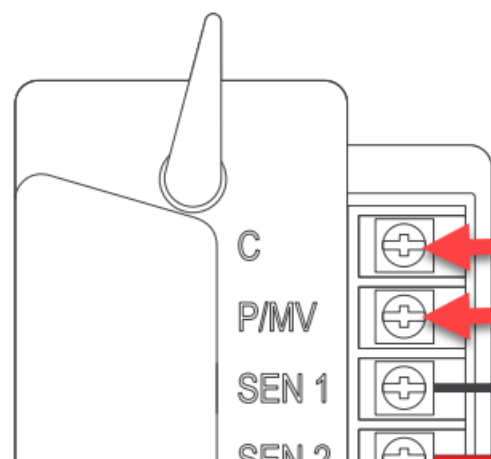
Wiring Illustrations	
HC	PRO-HC



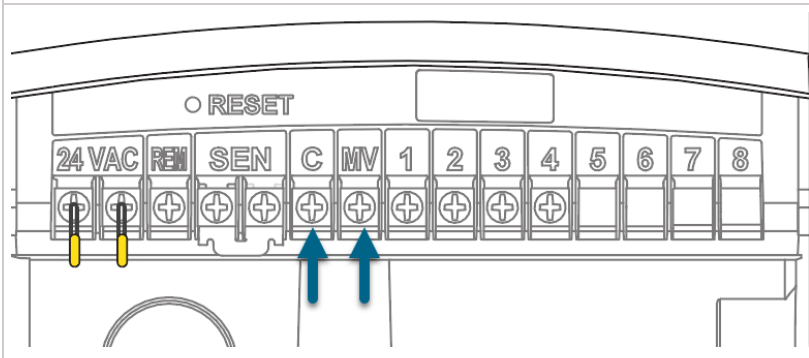
HPC



HCC



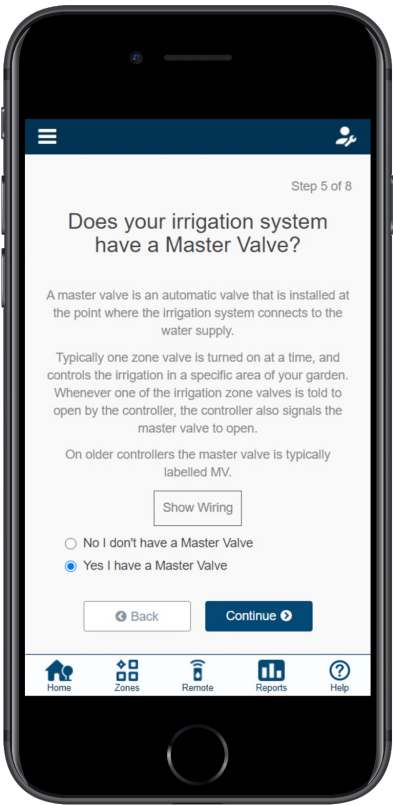
X2 w/WAND WiFi Module



NOTE: With an HC Hydrowise controller, any one of your 6 or 12 zones can be configured to act as a master valve. We usually recommend wiring to the last zone not used in the controller.

Software Setup

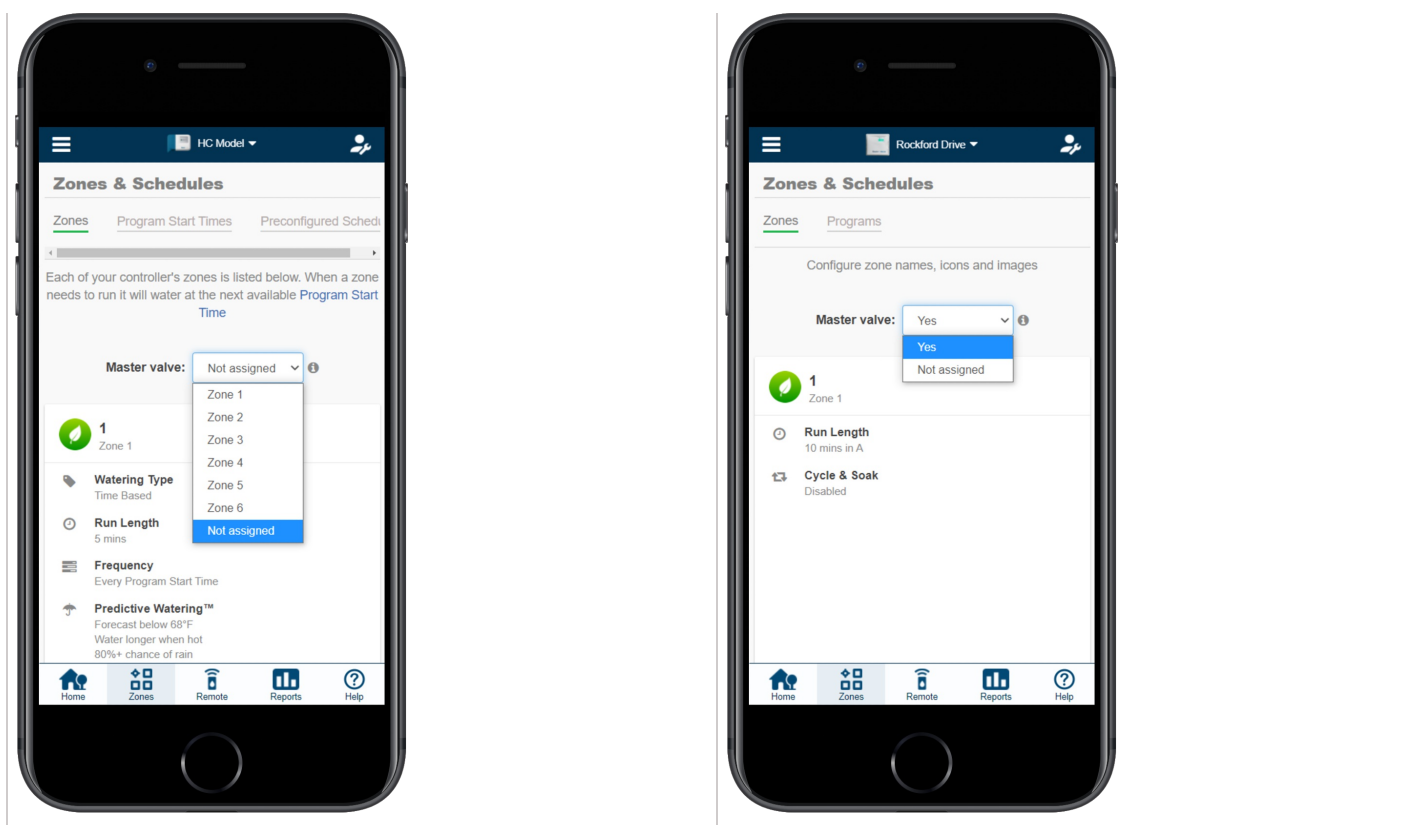
This setup option is prompted when you first go through the initial setup wizard in the software.



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

- 1. Sign in to your [Hydrawise](#) ^[10] account
- 2. Click on **ZONES AND SCHEDULES** for the PC or **ZONES** if using the mobile app.
- 3. Choose **YES** from the drop-down above the zones. If you have an HC controller, then you choose the zone number that you have the master valve wired to.

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

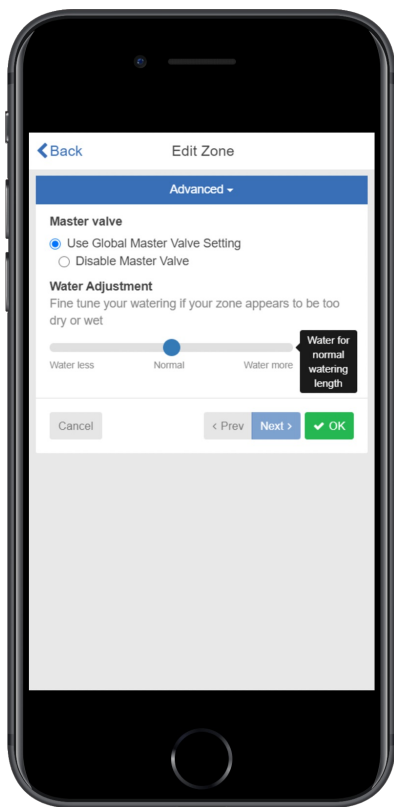


Master Valve (P/MV) Operation per Station

Selecting a master valve to be on/off for an individual zone, can be done when editing the zone in zones and schedules under advanced settings. This option is useful when one zone is using city water and another is using it from another source. This option is for X2 w/WAND, HPC, and HCC controllers only.

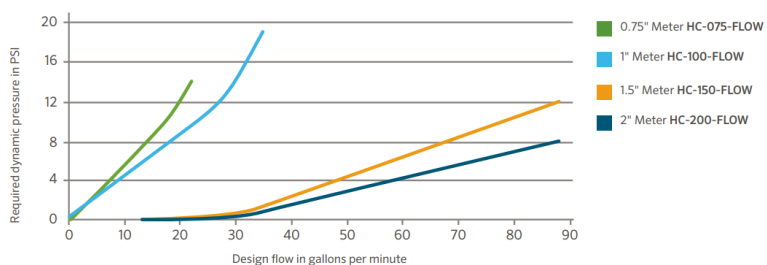
Please follow the steps below to change this setting.

1. From the **ZONES AND SCHEDULES** page, click on the (✎) icon on the zone you would like to edit.
2. Click on **ADVANCED** 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 this circuit off.



Flow Meter Pressure Loss Chart

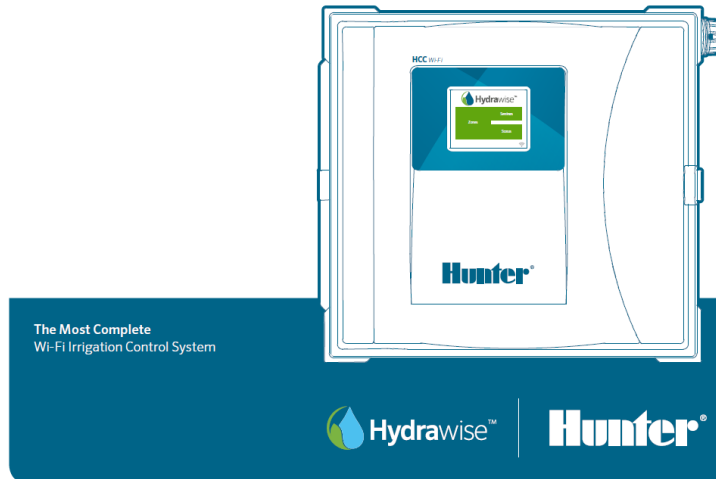
HC FLOW METER PRESSURE LOSS CHART



HCC - Install Guide

HCC & HCC-FPUP

HYDRAWISE-READY CONTROLLER QUICK START GUIDE



PRO-HC - Install Guide

Hydrawise-Ready Controllers

INSTALLATION GUIDE FOR THE FOLLOWING CONTROLLERS:



Flow Meter Reports Not Matching

Hydrawise controllers monitor the flow coming through your Hydrawise flow meter. The data can be reported in several ways within the **REPORTS** section.

On rare occasions, the flow meter and the Hydrawise reports may not match exactly. You should expect some variation in flow, but not by large amounts each week or month. Here are some common reasons why a flow meter and a controller report may show different readings.

Issue 1. Backflow

Backflow is caused by water moving backwards in the system. Backflow typically happens when the flow meter and/or water source is located at a lower level than some of the irrigation pipes and the system has no backflow prevention. When the system shuts down, the water in the pipe will drain. This creates two potential problems for the flow meter and is a primary reason why a backflow device should be installed.

Problem 1:

Water moving back through a flow meter reverses the paddlewheel direction and removes flow from the dial.

Problem 2:

The flow meter electrically detects the water movement, but does not know that it is flowing backwards. Therefore, the meter adds it to the total system flow.

For example, a 100-gallon (or litre) drain will be displayed as –100 on the dial and +100 on the Hydrowise system, showing a 200-gallon (or litre) variation.

How to Check:

You can verify the flow data on system shutdown. When the pump or system stops, take a video of the dials and watch it for a minute or so to look for the dials moving.

Also, note the timestamp on shutdown. Then check the system (reports) to see if it is gaining flow even though the flow meter is spinning backwards.

Issue 2. Electrical Interference

Electrical interference in the system is the controller reading what appears to be normal flow, but is actually an electrical pulse coming across the wires. Hydrowise sensors monitor an electrical current of 5 V and can detect up to 150 pulses per minute.

Electrical pulses can come from a multitude of devices, including pump fans, electrical junction boxes, and any other device that can switch power on or off or have a repetitive current draw, such as an electric motor (common in pumps) or heat pumps. Electrical pulses are also created by electrical storms and lightning.

To avoid interference, we recommend using shielded cable that has an aluminum cover over the wires and before the PVC wire sheath. This provides a physical shield for the wires. Grounding the aluminum shield with the controller grounding can also help remove electrical interference.

NOTE: Wire insulation does not stop interference from occurring; it is the aluminum shield that helps.

Problem:

Electrical interference can cause the controller to read a flow rate and accumulate water. However, since flow meter has not physically moved, it does not record flow, leading to a disparity between the meter reading and the Hydrowise software. This may also cause a leak detection alert.

How to Check:

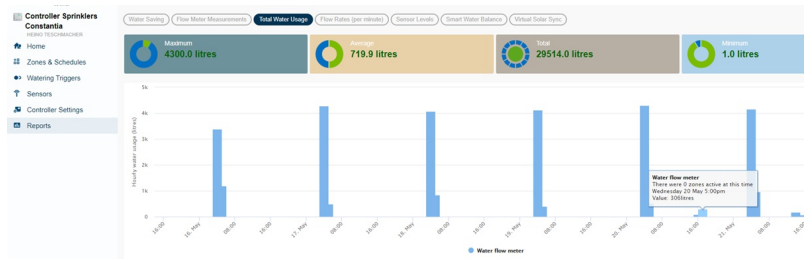
The best way to check is to replace the wire with shielded cable as described above and test the system.

You can also use this [test](#) ^[11] to confirm the system is measuring flow correctly.

View the “Total Water Usage” and “Flow Rates (per Minute)” reports. They will appear as follows:

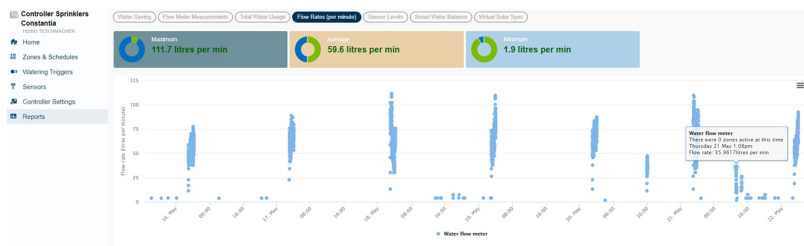
Total Water Usage Report

This report shows the water flow when 0 zones are active. A discrepancy could be a leak or electrical interference.



Flow Rates (per Minute) Report

Note the single dots on each day. The system has measured these as either flow from the meter or due to electrical interference. The single dots are filtered out, as they are often background noise that is not needed by most customers.



Performing a Reboot or Factory Default at Controller

If you are having issues connecting to your Wi-Fi network, it is a good idea to reboot and/or perform a factory default at the controller. You can follow the steps below to perform a reboot on your controller. This can help reestablish WiFi if you are having communication issues. The reboot will not erase any settings in your controller.

1. Select **Settings**.
2. Select **Configure**.
3. Select **Reboot Controller**.



If the reboot procedure did not help with the connection, please follow the steps below to perform a **Factory Default** reset on your controller. When the controller goes back online, the settings in the software will sync back into the controller within a few seconds.

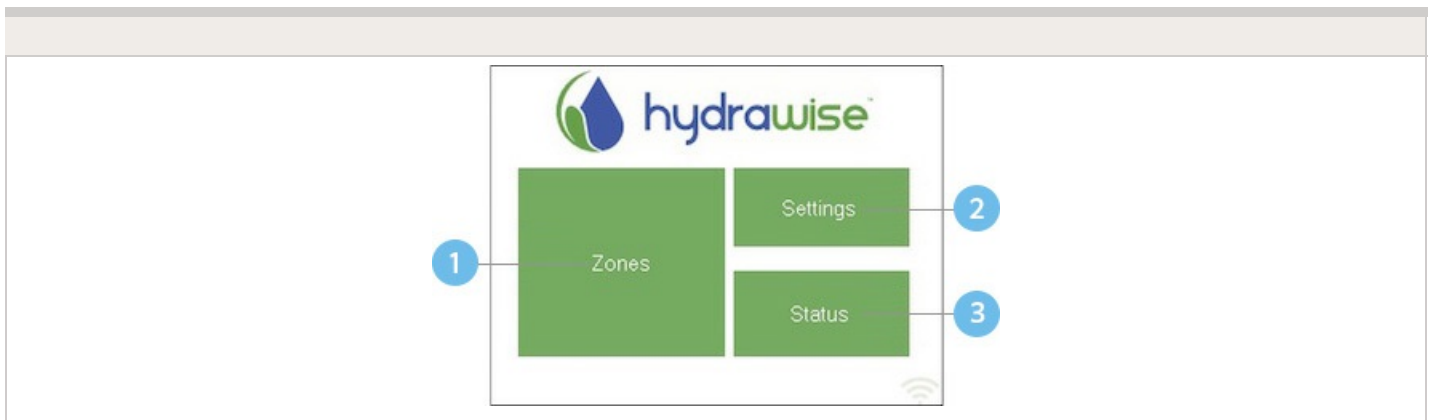
1. From the home screen, select **Settings**.
2. Select **Config**.
3. Select **Factory Default**.
4. Select **Erase config**.
5. Select **Ok** to start.
6. Select **Ok** to scan for networks.
7. You can choose your **2.4g Network** from the list provided on the screen.
8. Select **Confirm**.
9. Enter **Wireless Network** and select **OK**.
10. Select **Continue** to perform a network test.

The controller is now ready for new configuration settings manually or automatically through synchronization with your Hydrowise account.

Basic Screen Navigation & Offline Functions

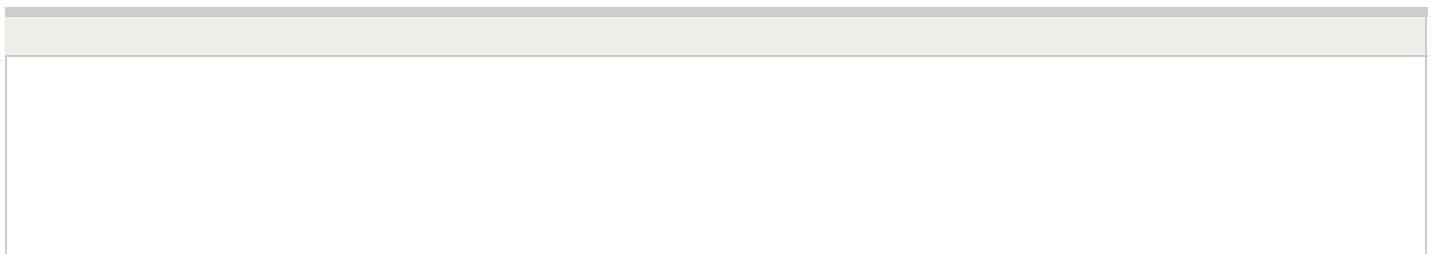
The controller features a full color touchscreen making navigation easy.

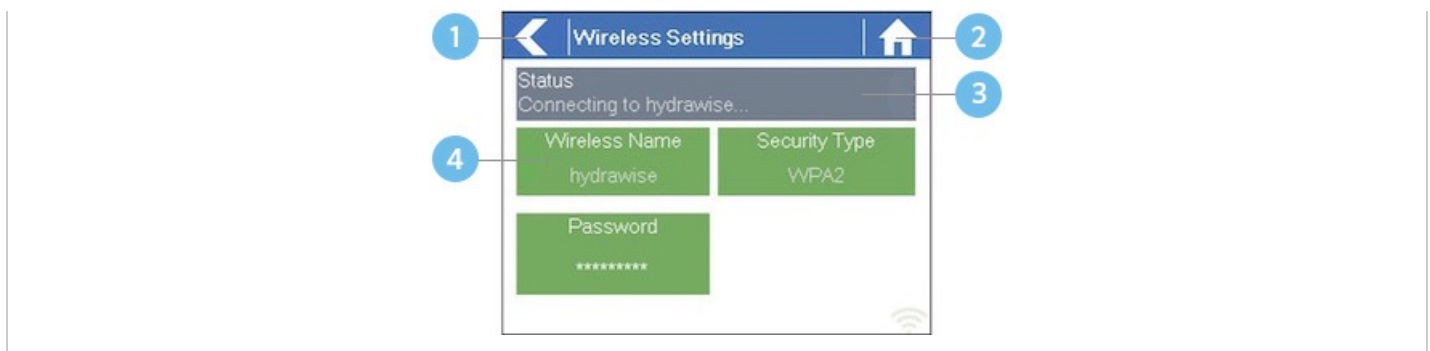
The Home screen, shown below, has 3 buttons allowing you to view and run your irrigation zones, change controller settings or view status information.



- 1 Touch to view all zones
- 2 Touch to change controller settings
- 3 Touch to view controller status information

Each screen (except for the home screen) has two buttons at the top of the page allow you to quickly navigate to the Home screen or the previous screen.





- 1 Go to previous screen (changes not saved)
- 2 Go to Home screen (changes not saved)
- 3 GREEN items indicate settings which can be changed
- 4 GREY items indicate status information

All items on each screen are color coded to indicate which screen elements are buttons and which screen elements indicate status information.

GREEN screen items indicate settings that can be changed. If you touch on the GREEN color item then you'll be able to change that setting.

GREY colored items indicate status information. Touching on these has no effect.

If you're entering information into the controller and use the Home or Back buttons then your changes on that screen will not be changed.

The charts below will walk you through the different function paths when programming at the controller with and without internet.

OFFLINE STANDARD MODE	
Adjust Time:	Home > Settings > Offline Programs and Settings > Time
Enable Wi-Fi:	Home > Settings > Offline Programs and Settings > Enable Wi-Fi
Program Sensor/Check Status:	Home > Settings > Offline Programs and Settings > Sensors > Configure to level type for normally closed style.
Start Times:	Home > Settings > Offline Programs and Settings > Offline Programs > Edit Start Times
Water Days:	Home > Settings > Offline Programs and Settings > Offline Programs > Edit Water Days
	Home > Settings > Offline Programs and Settings > Offline

Zones:	Programs > Edit Zones
Master Valve:	Home > Zones > Zone > Click blue bar > Select Master Valve > Confirm
Set Seasonal Adjust:	Home > Settings > Offline Programs and Settings > Seasonal Adjust

OFFLINE ADVANCED MODE	
Adjust Time:	Home > Settings > Offline Programs and Settings > Time
Enable Wi-Fi:	Home > Settings > Offline Programs and Settings > Enable Wi-Fi
Program Sensor/Check Status:	Home > Settings > Offline Programs and Settings > Sensors
Start Times:	Home > Settings > Offline Programs and Settings > Offline Programs > Edit Start Times
Water Days:	Home > Settings > Offline Programs and Settings > Offline Programs > Add or Modify
Zones:	Home > Zones > Choose Zone > Run Time > OK
Master Valve:	Home > Zones > Zone > Click blue bar > Select Master Valve > Confirm
Set Seasonal Adjust:	Home > Settings > Offline Programs and Settings > Seasonal Adjust

ONLINE MODE
<p>Change Wi-Fi/Check Status: Home>Settings>Wireless>Select a Setting to Modify</p> <p>Controller Status: Home>Status>Controller Status</p> <p>Program Expander: Home>Status>Expansion Modules</p> <p>Manually Run Zone(s): Home>Zones>Select Zone> Run>Enter Time>OK</p> <p>Model: Home>Status>Controller Status</p> <p>Network Status: Home>Status>Network</p> <p>Reboot Controller: Home>Settings>Config>Reboot Controller</p> <p>Reset Controller: Home>Settings>Config>Factory Default</p> <p>Run Wizard: Home>Settings>Run Wizard</p>

Sensor Status: Home>Status>Sensor

Serial Number: Home>Status>Controller Status

Server Status: Home>Status>Controller Status

Test Network: Home>Status>Network>Test Network

Test Zone: Home>Status>Zone Tester

Time and Date: Home>Status>Time

Version Number: Home>Status>Controller Status

Zone Status: Home>Zones>Select Zone

Why is a flow meter useful?

Flow meters can be used to detect broken pipes, broken spray heads, faulty valves, or faulty wiring.

An undetected water leak can take months to notice and lead to expensive water bills.

Faulty wiring could mean that your garden isn't receiving the right amount of water, which can lead to dead plants and leave you with the cost of replacing them.

A flow meter also allows you to understand the amount of water applied to your garden, and gives you the ability to monitor your irrigation system remotely.

What alerts can I get from my flow

meters?

If your water flow is higher or lower than previous watering cycles, our system can send app notifications or SMS alerts. The thresholds for the alerts are configurable as a percentage of the previous watering cycle.

For example, you can create an alert if the watering amount is 10% above the previous cycle, as this could indicate a broken spray head. Or you can create an alert if the watering amount is 90% less than the previous watering cycle, as this may indicate that the system is blocked or wiring is faulty.

You can also create an alert if water flow is detected when no irrigation zones are running. This may indicate that you have a broken pipe or stuck valve.

For more information, see [Configuring Sensors](#) ^[12] and [Understanding Flow Alerts and How They Work](#) ^[13].