

Hunter®

 **Hydrawise™ Ready**
IRRIGATION CONTROLLERS

Hydrawise Software/App Owner's Manual



hydrawise.com

Table of Contents

Table of Contents	2
Controller - Navigating Screens	5
Wireless - Connection Status Messages	6
Controller - Viewing Controller Status	7
Server Status	8
Success	8
Offline	9
Saving Settings	9
Serial Number	9
Controller - Viewing Network Information / Testing Internet Connectivity	10
Controller - Viewing Time and Date	11
Controller - Installing and Wiring	11
Hardware Installation	12
Controller Location	12
Cable Entry	12
Mounting the Controller	13
Connecting Solenoid Valves	13
Solenoid Valve Wiring	13
Connecting the Plug Pack	14
Connecting Sensors or Flow Meters (Optional)	14
Troubleshooting Zone Issues	14
Controller - Function Paths	15
Account/Controller - Manual Run All Zones	16
Running a zone manually from your web browser or app	16
Running all zones manually	17
Running a zone manually from the controller	17
Controller - Factory Reset	18
Controller - Serial Number Location	19
Account - Location	20
Account - Language	23
Account - Linking Controller	25
Account - Adding a Controller	26
Account - Zones and Schedules	29
Account - Run Length and Frequency	39
Account - Watering Start Times And Water Days	41
Account - Controller Weather Stations	44
Account - Alerts	46
Account - Controller Configuration	49
Account - Account Details	52
Account - Changing Current Controller	55
Account - Assigning Images on Mobile	56
Account - System Shut Off (Winterization)	59
Account - Delete Controller	61
Account - Watering Type - Time Based	65
Account - Watering Type - Smart (ET) Watering	67
Account - Watering Type - Virtual Solar Sync	70
Account - Virtual Weather Station	73
Alerts - Auto suspend for high flow	75

Account - Units of Measurement	77
Account - Link to Contractor	79
Account - Cycle/Soak Operation	80
Account - Account Name Edit	81
Account - Rename Controller	82
Account - Add User/Files	84
Add User	84
Account - Setting Delay	86
Account - Exporting Reports	87
Account - Editing Serial Number	88
Account - Resetting Password	90
Account - Not Receiving Hydrowise Activation Emails	92
Configuring - Several Watering Lengths One Zone	93
Configuring - Pre-configured Schedules	95
Configuring - Trigger "Water More Often When Hot"	96
Configuring - Trigger "Water Longer When Hot"	101
Setting Trigger	102
Smart Watering - Quick Reference	104
Smart Watering - Adjustment and Changes	105
Offline Mode - Accessing Offline Mode	109
Offline Mode - Run the Setup Wizard	112
Offline Mode - Sensors	114
Offline Mode - Seasonal Adjust	115
Account - API Information	118
Smart Voice Device - Amazon Alexa	119
Home Automation - Control4	123
HCC - AC Wiring	123
HPC - Installation	127
HPC- WRCLIK and HC Flow Meter	128
Flow Meter - Install Chart	129
Flow Meter - Quick Start Guide	130
Flow Meter - Specifications	130
Flow Meter - Test	131
Flow Meter - Custom Flow Sensor Configuration	133
Flow Meter - Winterization	134
Sensors - Configuration	135
Flow Meters	136
Rain/Moisture Sensors	136
Wiring	137
Sensors - Clik Sensor Status	141
Normally Closed (Default Setup) All Hunter CLIK Sensors	141
Sensors - Installing Personal Weather Station	142
HCC - Valves and Controller Wiring	143
Master Valve - Configuration	144
How does it work?	144
Configuring Master Valve - HC	145

Configuring Master Valve - PRO-HC	145
Configuring Master Valve - HPC-FP (Panel for PC-400 controller)	146
Valve - Wire Distance	147

Controller - Navigating Screens

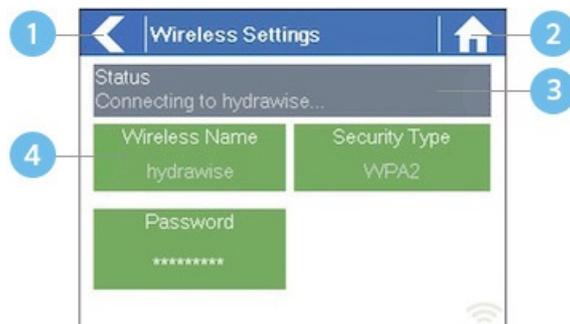
The controller features a full color touchscreen making navigation easy.

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.

Wireless - Connection Status Messages

The controller will show different status messages while connecting to your wireless router.

Looking for Wireless	Controller is currently scanning for local wireless networks.
Connecting to	Controller is currently trying to connect to your wireless router.
Waiting for IP	Controller has connected to your wireless router and is waiting for your wireless router to give it an IP address. Your wireless router must be configured as a DHCP server.
Connected	Controller has successfully connected to your wireless router.
Local Connection Only	Controller is acting as a local wireless router.

Troubleshooting Wireless Connection Issues

After entering your wireless settings, the controller will connect to your access point. The connection process takes about 30 seconds.

Upon successful connection the wireless status will show **Connected**.

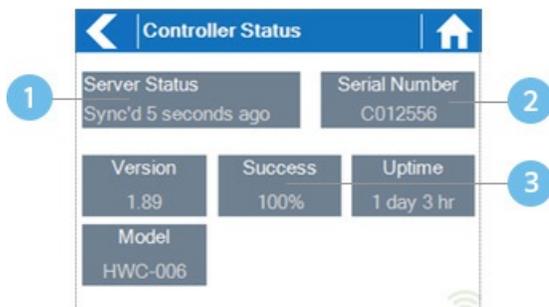
If your controller fails to connect to your wireless router check the following:

- Your password is entered It is case sensitive and must be at least 8 characters long.
- Check that the wireless security types match between the controller and your wireless
Hydrawise recommends use of WPA2 security between the controller and your wireless router.
- We have WiFi specifications here: [WiFi Specs](#)

Controller - Viewing Controller Status

From the Home screen navigate to the Controller Status by pressing Status⇒Controller Status.

The controller status screen shows your controller's connection to Hydrawise servers for synchronizing schedule and weather information.



1 Status of Connection to Hydrawise Servers

2 Your Serial Number. Used to link your controller to your account

Server Status

A successful connection to the Hydrawise servers is indicated by **Sync'd** as the Server Status.

Different types of status messages are shown below –

SERVER STATUS MESSAGES

Status	Description
Sync'd	All is good. Controller has a connection to Hydrawise servers.
No Internet	Controller has connected to wireless but is unable to connect to Hydrawise servers. Check that your internet is OK by connecting another device to the same wireless router. If this is OK then go to Status⇒Network and select Test Network to perform a diagnostics test.
Wireless Down	Controller has not connected successfully to your wireless. Go to Settings⇒Wireless Settings to check the wireless status.
Checking	The controller is checking the connection to Hydrawise.
Error XXX	The controller received an error whilst connecting to the Hydrawise server.

Success

The success percentage shows the percentage of time the controller successfully connects to Hydrawise servers to synchronize weather and schedule-related information.

A low success percentage will indicate a poor wireless connection between the controller and your access point.

To improve your wireless signal strength you could try the following –

- Move the controller closer to your wireless router.
- Remove any obstacles in a direct line of sight between the controller and your wireless router such as metal items (metal is an extremely good isolator for WiFi signals).
- Move your wireless router closer to the controller.
- Install a higher gain antenna on your wireless router.
- Use Ethernet to a location closer to the controller and install a new wireless router.
- Consider a WiFi repeater/extender between your wireless router and the Hydrawise controller to boost the signal strength.
- Consider moving the controller away from potential sources of interference, including microwave ovens, nearby base stations using adjacent channels or cordless telephones operating in the 2.4GHz range (you could also change the channel your

phone uses).

Note that the Hydrowise unit is designed to work in poor wireless environments. However, if you wish to manually run or stop a zone and the wireless signal is down then these actions will fail.

Offline

If the controller loses internet for more than 24 hours you'll receive a notification email.

The controller will go into an offline mode. In offline mode, your controller won't be able to access local weather conditions such as rainfall or evaporation and will revert to a pre-defined program.

- For Smart Watering zones, the controller will adjust each zone's watering length based on your offline watering budget and will water at each zone's configured peak watering frequency.
- For Time Based Watering zones, the controller will adjust each zone's watering length based on your offline watering budget and will water at each zone's configured watering frequency.
- For more information on Smart and Time Based Watering, see "[Configuring Irrigation Zones](#)".
- Note that Cycle & Soak is not supported in Offline Mode and each zone will water for its full watering length without pausing.
- The controller will only water at your configured Program Start Times.

Saving Settings

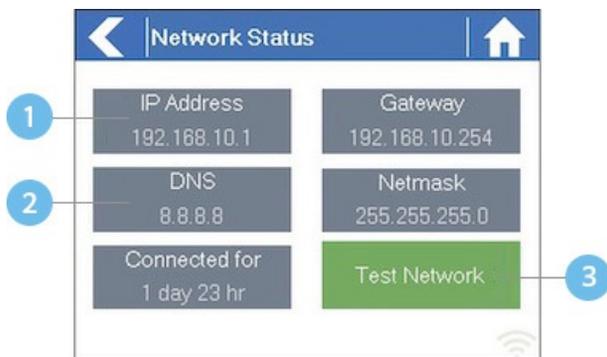
The controller does not need a battery, all settings are saved in a non-volatile RAM (memory).

Serial Number

The serial number is used to link your actual controller with your Hydrowise account. This number is also printed on the rear of the controller.

Controller - Viewing Network Information / Testing Internet Connectivity

From the Home screen navigate to the Network Status by pressing Status⇒Controller Status.



- 1 IP Address (set by your wireless router)
- 2 DNS Address (set by your wireless router)
- 3 Network Test Button

All settings on this page are provided to the controller by your wireless router when it first connects via a protocol, known as DHCP. If any of these settings appear incorrect please change them in your wireless router.

Once the controller has successfully connected to your wireless router the Test Network button can be used to test network connectivity for troubleshooting purposes. The network test will verify connectivity to 4 destinations –

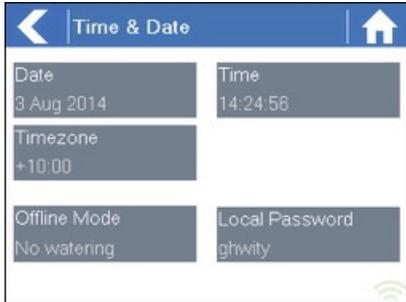
Test Network

Message	Description
Checking WiFi	Performs a ping test to the Gateway address listed in the Network Status screen. If this test fails, check that you don't have MAC address filtering enabled on your router.
Checking DNS	Performs a ping test to the DNS address listed in the Network Status screen. If this test fails, check that the DNS address is correct – if it is wrong then correct the DNS address under DHCP Settings on your wireless router. It is possible that this test may fail if the

Message	Description
	DNS server doesn't accept ping requests which do not indicate an issue.
Checking Internet	Performs a ping test to the Google server at IP address 8.8.8.8. This is a well-known server which accepts ping requests on the internet. If this test fails then it indicates an issue with the internet configuration of your wireless router.
Checking Hydrowise	Performs a ping test to the Hydrowise servers. If this test fails then it may indicate an issue with the internet configuration of your wireless router.

Controller - Viewing Time and Date

Time and date settings are synchronized with the settings that you configure in the Hydrowise app. The timezone is set based on the location you entered during the app wizard.



If your controller is running as a stand-alone controller (WiFi is disabled) then the date, time and time zone will be shown on a GREEN background can be changed.

Controller - Installing and Wiring

After you have unpacked your Hydrawise irrigation controller, there are two simple steps to get started:

1. [Hardware Installation](#)
2. [Connecting Solenoid Valves](#)

You can also find the instructions included with the controller on our [Downloads](#) page.

NOTE: Once you've wired and installed your controller, please see [Configuring Your Controller](#) for instructions on how to connect to your Wi-Fi.

Hardware Installation

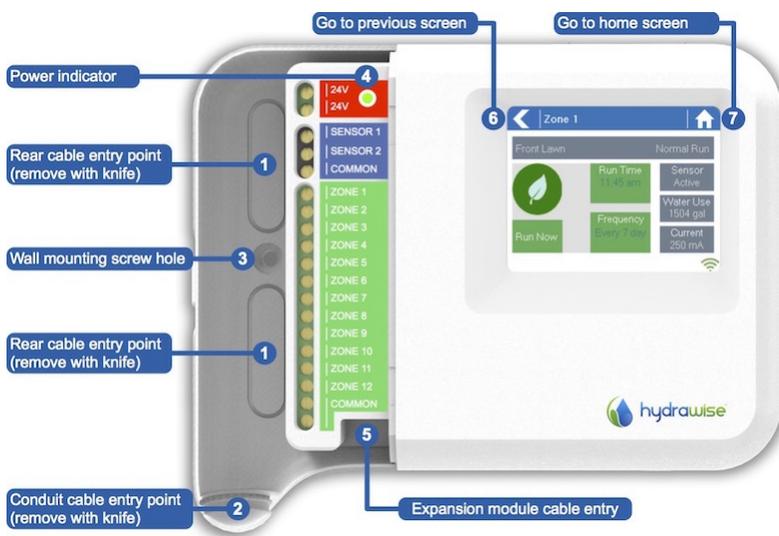
Controller Location

The Hydrawise controller is designed for installation in a protected location.

IMPORTANT: The chosen location must have Wi-Fi coverage. Wi-Fi coverage can be easily checked using an iPhone or smartphone that has Wi-Fi connectivity, or on the Hydrawise unit itself (signal strength is shown when you select a wireless name).

Cable Entry

The controller has two cable entry options: from the rear of the case, or via a conduit from the bottom of the controller.



Entry from the rear of controller	Using a sharp knife, remove the two cutouts on the rear of the controller as indicated on the diagram in label 1.
Entry via 3/4	Using a sharp knife, cut around the semicircular line on the controller as indicated on the

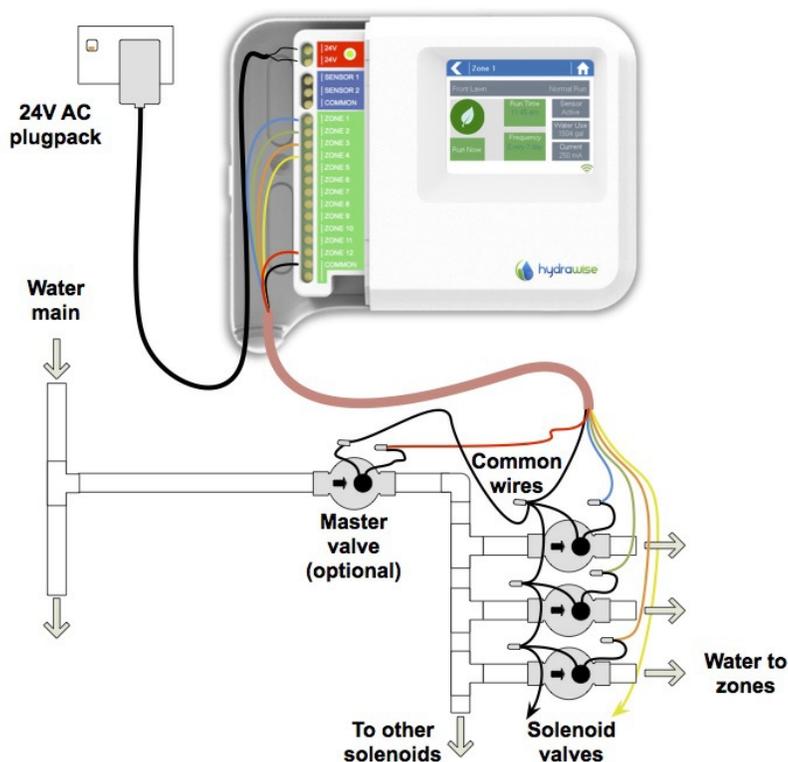
Mounting the Controller

1. Using a 3/16-inch diameter drill bit, drill a hole to a depth of 1 inch (25 mm).
2. Insert plastic anchor so it is flush with the surface of the wall.
3. Screw 1-inch screw into plastic anchor, leaving the head protruding about 1/8 inch.
4. Slide the controller case over the screw head.
5. Mark your second mounting point (see label 3 in the diagram). Then remove the controller, drill a hole, and insert a plastic anchor. Finally, slide the controller case over the first screw head and screw it into place.

Connecting Solenoid Valves

Depending on the model you purchased, your controller has either 6 or 12 zones. For convenience, there are three common wiring points, and any or all of them can be used.

Refer to the diagram below when connecting your solenoid valves to the controller.



Solenoid Valve Wiring

1. Take one wire from each solenoid. Twist the wires together and connect to the COMMON (usually black) wire of your multicore irrigation cable. Hydrowise recommends that all connections be sealed against moisture for long-term reliability.

2. Connect each of the other individual solenoid wires to a different wire in the multicore cable and seal. Record zones against wire color for later reference.
3. Connect the common wire from the multi-strand cable (usually white) to any of the three terminals on the controller marked COMMON.
4. Connect each of the other solenoid wires to one of the zone inputs.
5. If a master valve (sometimes labeled as MV on other controllers) is installed, this can be connected to any spare zone, as any of the zones can be assigned as a master valve output. The configuration of the master valve in the Hydrowise app is required.
6. Click the blue wiring cover into place to seal the controller and protect the wiring.

Connecting the Plug Pack

1. Use the plug pack supplied and connect the wires to the red AC terminal blocks on the unit marked as 24V. The polarity of the wiring is not important.
2. Turn the power on. The power indicator will light up (see label **4** on the previous diagram).

Connecting Sensors or Flow Meters (Optional)

Hydrawise supports most open/close contact sensor types, such as standard rain sensors and soil moisture sensors.

1. Connect one sensor wire to COMMON on the controller.
2. Connect the Normally Closed or Normally Open wire from the sensor to SENSOR1 or SENSOR2 on the controller, and configure in the Hydrowise app.

For full details, refer to the instructions provided with your sensor or flow meter. Instructions for configuring the controller for a sensor are available [here](#).

Troubleshooting Zone Issues

- Try running a zone from the controller's touch screen. If it works from the controller and doesn't work from the app, check that you have linked your controller's serial number to your account (see the previous section for details) and check your controller's wireless status.
- If your old controller had a master valve (sometimes referred to as MV), you must configure a master valve in the app and wire it to a spare zone on the controller. Detailed instructions can be found on the Hydrowise website.
- Check that your wiring is correct. If no zones start, check that your COMMON wire is correctly cabled.

Controller - Function Paths

Below is a list of function paths for use with the controller interface in both online mode and offline mode.

Online Mode:

Change Wi-Fi/Check Status: Home>Settings>Wireless>Select a Setting to Modify

Controller Status: Home>Status>Controller Status

Program Expander: Home>Status>Expansion Modules

Manually Run Zone(s): Home>Zones>Select Zone> Run>Enter Time>OK

Model: Home>Status>Controller Status

Network Status: Home>Status>Network

Reboot Controller: Home>Settings>Config>Reboot Controller

Reset Controller: Home>Settings>Config>Factory Default

Run Wizard: Home>Settings>Run Wizard

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

Offline Mode:

(Note: Changes can be done in offline status only when Wi-Fi is disabled.)

Adjust Time: Home>Settings>Offline Status>Time

Disable Wi-Fi: Home>Settings>Offline Status>Disable Wi-Fi

Program Expander/Check Status: Home>Settings>Offline Status>Expansion Modules

Program Sensor/Check Status: Home>Settings>Offline Status>Sensors

Program Start Times: Home>Settings>Offline Status>Program Start Times

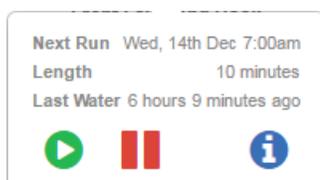
Set Seasonal Adjust: Home>Settings>Offline Status>Seasonal Adjust

Account/Controller - Manual Run All Zones

You can run an irrigation zone on demand from the Hydrowise unit, from your web browser, or from your iPhone/Android app.

Running a zone manually from your web browser or app

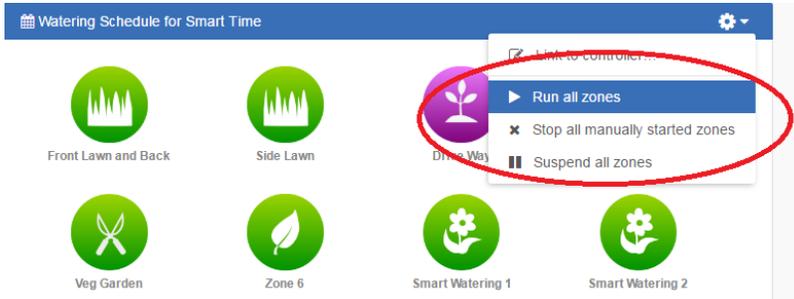
From the web or app **Dashboard**, click or touch the zone icon you wish to run and click the **Run**  button. Select the zone's run time and click OK.



The zone will start running within a few seconds.

Running all zones manually

You can also run all zones in sequence by clicking on the gear icon as shown below.

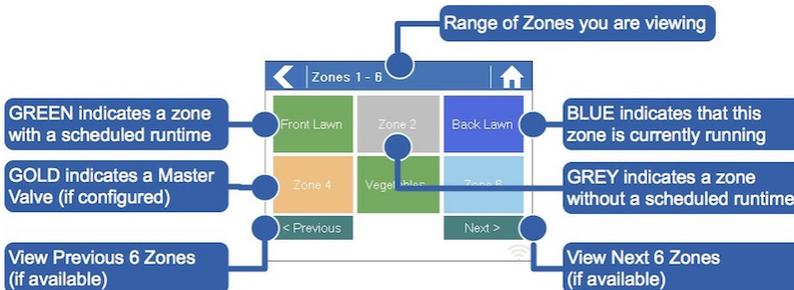


The zones can be run for a specified length of time or can run for their normal programmed time.

TIP: To stop a zone that is currently running, click the **Stop**  button on your Dashboard.

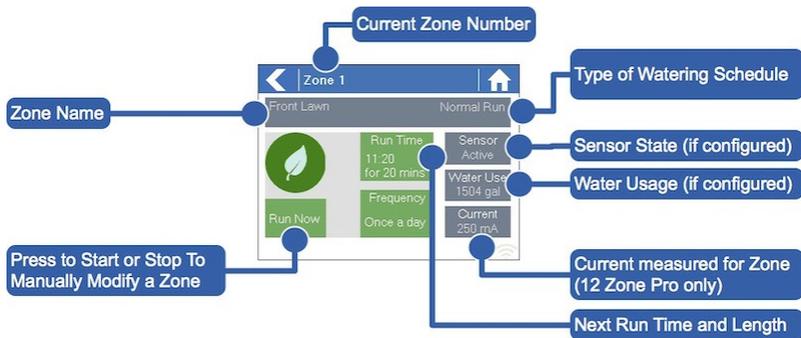
Running a zone manually from the controller

From the **Home** screen, navigate to the **Zone Summary** screen by pressing **Zones**.



The Zone Summary screen shows the status of six zones at a time. To view the next or previous group of zones, use the **Next** and **Previous** buttons. The current range of zones that you are viewing is indicated at the top of the screen.

From the Zone Summary screen, touch the zone you wish to view.



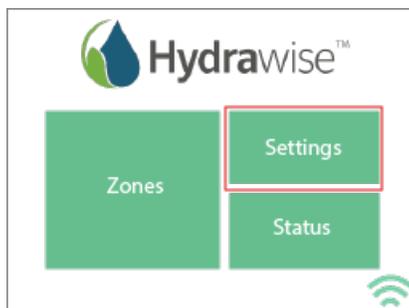
From the Zone Status screen, you can manually start a zone using the **Run Now** button. When started, the zone will run for the zone’s default configured run length. This can be overridden by clicking on **Run Time** prior to manually starting the zone.

When a zone is running, the **Run Now** button will change to **Stop**. This allows you to stop a running zone.

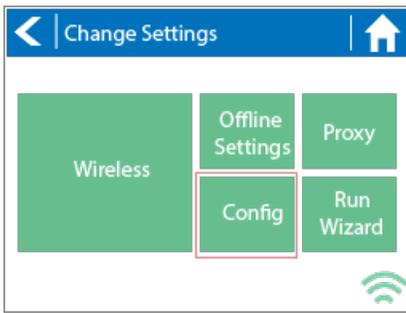
Controller - Factory Reset

Please follow the steps below to perform a factory reset on your controller.

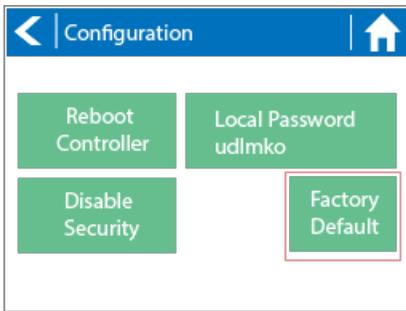
Step 1: From the home screen, tap on **Settings**.



Step 2: Next, tap on **Config**.



Step 3: Tap on **Factory Default.**



Step 4: Finally, tap on **Erase Config.**



Congratulations, you have now successfully factory reset your controller. The controller is now ready for fresh configuration settings, either manually or automatically through synchronization with your Hydrowise account.

To link your controller to your account, refer to [Linking Your Controller to Your Account](#).

Controller - Serial Number Location

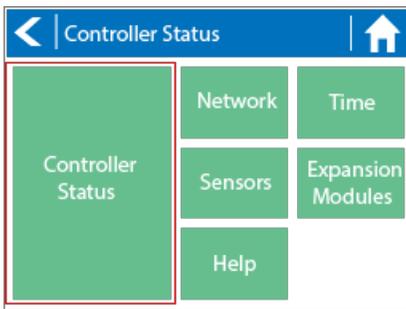
Your controller's serial number is found on the rear of your controller or on the controller's touch screen.

To access the serial number on the touch screen, follow these steps:

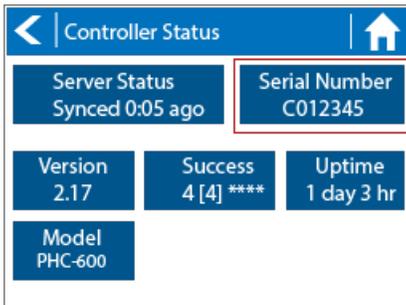
1. From the Home screen, click **Status**.



2. Then click **Controller Status**.



3. The serial number is shown on this screen. Note: The serial number contains only letters **a through f** and numbers **0 through 9**.



To link your controller to your account, you can also refer to [Linking a Controller to My Account](#).

Account - Location

Mobile Quick View

The location is synchronized after the settings are configured in the Hydrawise app. The time zone and forecast are automatically set when the **location** is entered during the app set up wizard process. In the event this setup needs to be changed or updated, we recommend editing the setting in the application under the Weather station tab.

Please view the steps and screenshots to set the weather station location:

1. Click on the settings tab on the upper right and select "**Weather Stations.**"
2. Enter the "**complete street address.**"
3. Regional setting will "**automatically**" be updated to the correct timezone.

Weather Station Location: Step 1

HCC - Office

Observations

Temperature

Current 77 °F

Max 77 °F

Sensors

No sensors configured. A

CONTROLLER

- Weather Stations
- Configuration
- Generate Job Sheet
- Events
- Setup Wizard

ACCOUNT

- My Account
- Messages
- Alerts
- My Customers
- Logout

Weather Station Location: Step 2

1943 Diamond St, San Marcos, CA 92078, USA

Agra

5

+

-

Weather Station Location: Step 3



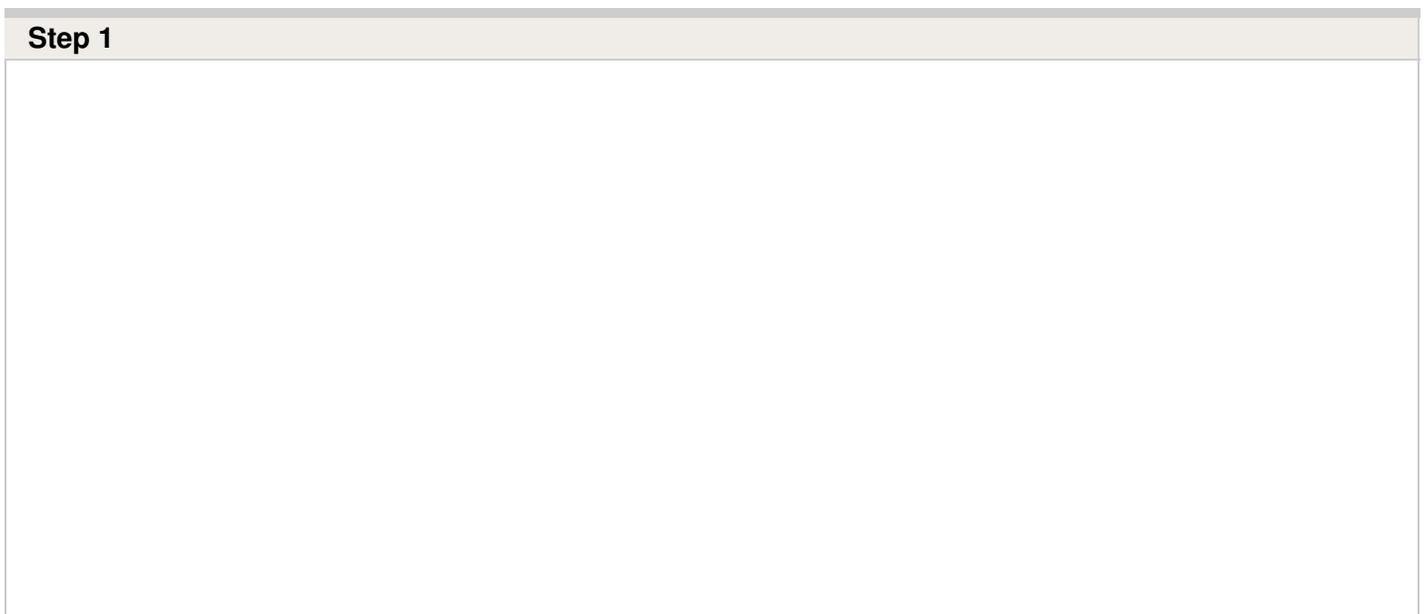
NOTE: If your controller is running in offline mode (WiFi is disabled) then the date, time and time zone will be shown on a GREEN background can be changed.

Account - Language

For information on changing the language on your account, please see the steps below:

1. Click **"My Account"** under the settings tab on the upper right.
2. Click the  icon in the user settings box.
3. Choose the **"language"** and select **"ok."**

Screenshots below:



Football field

Observations

Temperature

Current

Max

63 °F

Sensors

Sensor a
This sensor is no

CONTROLLER

- Weather Stations
- Configuration
- Generate Job Sheet
- Events
- Setup Wizard

ACCOUNT

- My Account**
- Messages
- Alerts
- My Customers
- Logout

Step 2

USER SETTINGS

UNITS OF MEASUREMENT
Celsius & Millimeters

LANGUAGE
English

Hydrawise Contractor
contractor@hydrawise.com



Step 3

The image shows a web interface for editing a user profile. The form is titled 'Edit User' and contains the following fields:

- Name:** Hydrowise Contractor
- Email Address:** contractor@hydrowise.com
- Units of Measurement:** Celsius & Millimeters
- Language:** English (highlighted with a red border)

At the bottom of the form, there are three buttons: 'Change Password' (blue), 'Cancel' (grey), and 'OK' (green).

Account - Linking Controller

After you receive your Hydrowise irrigation controller, you will need to link it to your Hydrowise account.

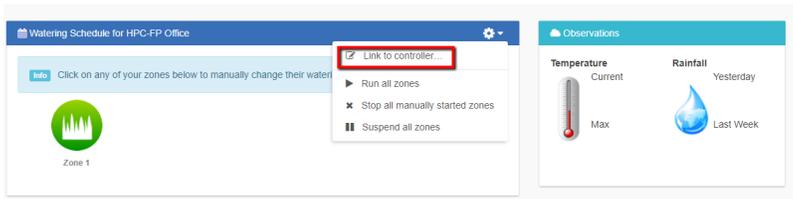
There are two locations where you can link your controller to your account:

- During the setup wizard (optional)
- From the controller **Dashboard**

NOTE: You only need to link your controller to your account once. If you provided a serial number when going through the setup wizard, you've successfully linked your controller to your account and you can ignore these instructions.

To link your controller through your account Dashboard, follow these steps:

- Log in to your account.
- On the Dashboard, click on the Settings icon located on the blue Watering Schedule bar. Then click the **Link to controller...** button.
- Enter your controller's serial number. The eight-character serial number is found on the side of the unit. The serial number is not case-sensitive.



Once you've entered the serial number, your controller will automatically download your settings and begin watering based on your watering schedules.

Account - Adding a Controller

Mobile Quick View

For information on adding a controller to your account on the PC, please see the steps and screenshots below:

1. Select the **"Three Gear Icon"** on the upper right on the dashboard.
2. Click **"My Account"**
3. Click the **+** button in the my controllers section.
4. Add the new controller by inputting the name, serial number, location and model.
5. Click **"create"**.

Plan	Max Controllers
Home Plan	3 Controllers
Enthusiast Plan	5 Controllers

Steps: 1-2

The screenshot shows the Hunter Industries dashboard. At the top, there is a header with the company name and a settings icon. Below the header, there are several sections: 'Observations' with a temperature gauge showing 'Current' and 'Max' at '64 °F'; 'Sensors' with a 'main flow' sensor showing '0 gal water usage'; and a navigation menu on the right. The navigation menu is divided into 'CONTROLLER' and 'ACCOUNT' sections. The 'ACCOUNT' section includes 'My Account' (highlighted with a red box), 'Messages', 'Alerts', 'My Customers', and 'Logout'.

Hunter Industries

CONTROLLER

- Weather Stations
- Configuration
- Generate Job Sheet
- Events
- Setup Wizard

ACCOUNT

- My Account**
- Messages
- Alerts
- My Customers
- Logout

Observations

Temperature

Current

Max

64 °F

Sensors

main flow

0 gal water usage

Step 3

The screenshot shows the 'My Controllers' page. The title is 'My Controllers' and the subtitle is 'Generate job sheet, change controller model, add or remove controller'. Below the title, there is a search bar and a list of controllers. The 'CONTROLLERS' header is highlighted with a red box. The list includes 'Golf Room', 'Instructor Pro-HC', and 'PI'. To the right of the list is a map of the Pacific Northwest region, showing parts of British Columbia, Washington, Oregon, Idaho, and Montana.

My Controllers

Generate job sheet, change controller model, add or remove controller

My Controllers

Search

CONTROLLERS +

- Golf Room
- Instructor Pro-HC
- PI

ALBERTA

BRITISH COLUMBIA

WASHINGTON

MONTANA

OREGON

IDAHO

Step 4

Add New Controller ×

Controller name

Enter the name of the new controller

Serial number

If you know the serial number of the controller enter it here, otherwise leave it blank

Location

Please enter your location

Step 5

Add New Controller ×

Controller model

Please choose your controller model



HC
6 or 12 Zone Controller

6 Zones
 12 Zones



Pro HC Indoor/Outdoor
6, 12 or 24 Zone Outdoor Controller

6 Stations
 12 Stations
 24 Stations



HPC
Pro C WiFi Facepanel Upgrade

Up to 16 Stations

Account - Zones and Schedules

Hydrawise supports 2 types of watering - [Smart Watering](#) or [Time Based Watering](#). Choosing which style of watering depends on a number of things, including your type of irrigation zone, if any watering restrictions exist in your area and personal preference (for example, for people who like to know that their irrigation will start on Mondays, Wednesdays and Fridays then Time Based Watering is ideal). Other topics covered in this article include:

[Add a Zone](#)

[Add Zone Images](#)

[Configure Master Valve](#)

Configure Program Start Times and Water Days

Configure Preconfigured Water Schedule

Time Based Watering

For Time Based watering you decide the watering frequency and irrigation run time, either by entering the information directly or choosing a preconfigured watering schedule. The controller will use the Watering Triggers you've set to automatically adjust its watering schedule.

Time based watering will water on specific days (unless delayed by rainfall or forecast rainfall) and will vary the watering length based on your watering triggers.

Smart (ET) Watering

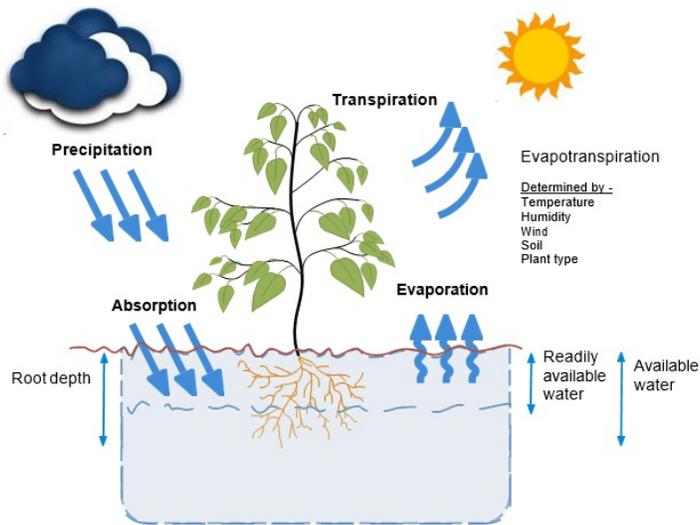
Smart (ET) watering is an automated watering schedule that uses information about environmental conditions to ensure your plants get the optimal amount of water. Evaporation will draw moisture from your garden, while rainfall and irrigation will add moisture. Understanding these conditions allows Hydrowise to decide when the time is right to water your garden. ET stands for evapotranspiration and is explained further in the diagram below.

For each zone, we'll ask you to specify the watering length and peak watering frequency:

- The watering length is how long watering needs to run to fully water your
- The peak watering frequency is how often you would normally water this zone during your peak irrigation period.

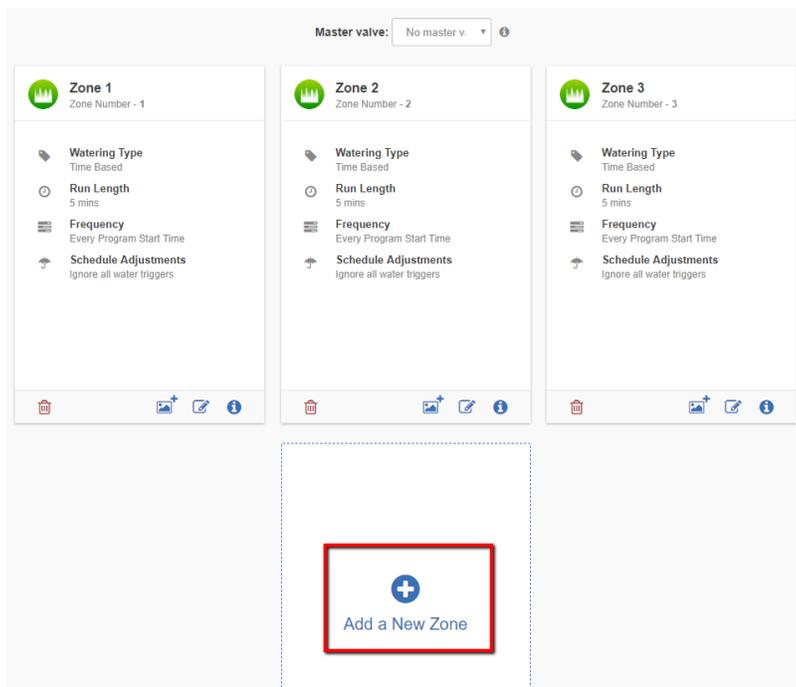
The controller will vary your watering frequency based on actual evaporation and rainfall in your area on a day to day basis.

In contrast to Time Based Watering, Smart Watering will always water a zone for the same length of time and it will vary the frequency of watering based on temperature and rainfall.



Adding a Zone

To add an irrigation zone, navigate to the **Zones & Schedules** page in your Hydrowise account and click on **Add a New Zone**. The Zone wizard will be displayed.



Fill in the Zone Details:

Zone Name: Use a meaningful name for each irrigation zone. Zone names are displayed on the Hydrowise controller and are used in your Hydrowise account to show run times and allow manual modification of watering schedules.

Zone Number: The zone number for each irrigation zone should match the number you

have used when wiring the controller.

Zone Icon: Choose an icon which will be used to display the zone on the dashboard. If you have uploaded an image for this zone you can choose it to be displayed on the dashboard instead.

Watering Type: Select a watering mode for this zone. A zone can use Smart (ET) watering or Time Based watering, which are described below.

Depending on the type of watering you chose, fill in the details for [Smart \(ET\) watering](#) or [Time Based watering](#).

Smart (ET) Watering

Watering Type: Choose whether to set the information manually or choose from a list of preconfigured watering schedules.

Enter Time and Frequency: allows you to manually set the watering length and frequency.

Use a preconfigured Watering Schedule: add a [preconfigured watering schedule](#) or use one you've previously created. If your controllers are managed by a contractor, you may see preconfigured watering schedules that your contractor has created, which you can also use.

Enter Time and Frequency: If you choose to enter the time and frequency, the following fields are available:

Watering Length: The number of minutes this zone will run for each time.

Peak Season Watering Frequency: How often the zone will normally run during your peak irrigation period. This frequency will be automatically adjusted throughout the year based on actual evaporation and rainfall.

Use a Preconfigured Watering Schedule: If you choose to use a preconfigured [Watering Schedule](#) you can either choose from a list of schedules you've previously created, or add a preconfigured watering schedule by entering the watering length and frequency and schedule modifications. If your controllers are managed by a contractor, you may see preconfigured watering schedules that your contractor has created, which you can also use.

Note that the Schedule Adjustment option in a preconfigured Watering Schedule is not used for Smart (ET) watering zones.

Cycle and Soak: Cycle and Soak is the ability to break the watering time into periods of

watering (cycle) and pause (soak) to allow the water to soak into the soil without runoff. You can enable or disable Cycle and Soak. If you enable it, you need to specify the cycle and soak periods:

- Cycle Time- the maximum number of minutes the zone can run
- Soak Time- the minimum time between zone waterings to allow the water to soak into the soil

Tuning: Adjust the watering time for this zone from the calculated time. This allows you to fine tune your watering if your zone appears to be too dry or wet.

Time Based Watering

Watering Type: Choose whether to set the information manually or choose from a list of preconfigured watering schedules.

Enter Time and Frequency: allows you to manually set the watering length and frequency.

Use a Preconfigured Watering Schedule: add a preconfigured watering schedule or use one you've previously created. If your controllers are managed by a contractor, you may see preconfigured watering schedules that your contractor has created, which you can also use.

Enter Time and Frequency: If you choose to enter the time and frequency, the following fields are available:

Watering Length: The number of minutes this zone will run for each time.

Watering Frequency: Choose how often to water the zone.

Schedule Adjustment: Choose how to adjust the watering time based on your weather triggers.

Use a Preconfigured Watering Schedule: If you choose to use a preconfigured Watering Schedule you can either choose from a list of schedules you've previously created, or add a preconfigured watering schedule by entering the watering length and frequency and schedule modifications as per the fields above. If your controllers are managed by a contractor, you may see preconfigured watering schedules that your contractor has created, which you can also use.

Cycle and Soak: Cycle and Soak is the ability to break the watering time for a zone into periods of watering (cycle) and pause (soak) to allow the water to soak into the soil without runoff.

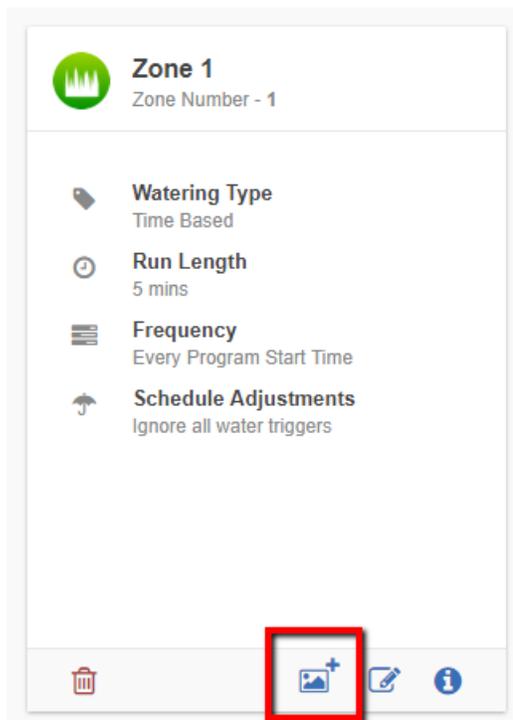
You can enable or disable Cycle and Soak. If you enable it, you need to specify the cycle and soak periods:

- Cycle Time: the maximum number of minutes the zone can run for
- Soak Time: the minimum time between zone watering to allow the water to soak into the soil

Tuning: Adjust the watering time for this zone from the calculated time. This allows you to fine tune your watering if your zone appears to be too dry or wet.

Adding Zone Images

You can upload multiple pictures of each of your irrigation zones to the Hydrowise system. To upload an image click on the Image Add button  next to the Zone Edit button.



You can upload multiple images per zone. The total number of images that can be uploaded is based on the images size and is different for each account's Plan Subscription.

After an image is uploaded you can select an image to be displayed on the Dashboard by editing the zone  and selecting the image in the Zone Icon list.

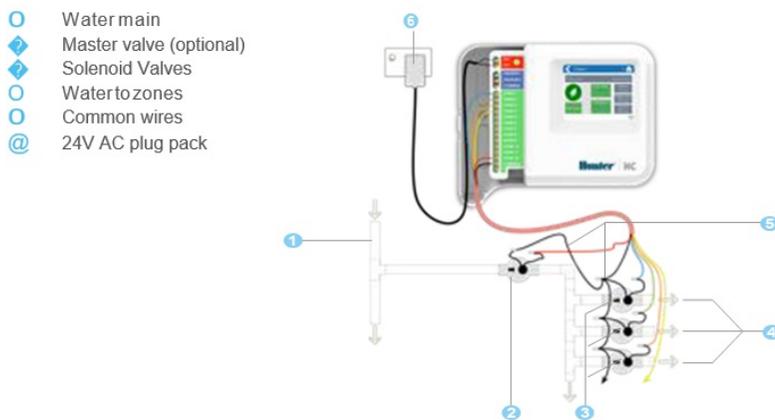
Configuring a Master Valve (Sensors and Valves Section)

A master valve is an automatic valve that is installed at the point where the irrigation

system connects to the water supply. (Sometimes this circuit is called a “pump start circuit.” Both types of circuits work similarly and can be used for a pump and/or a master valve.) The controller turns the master valve on and off.

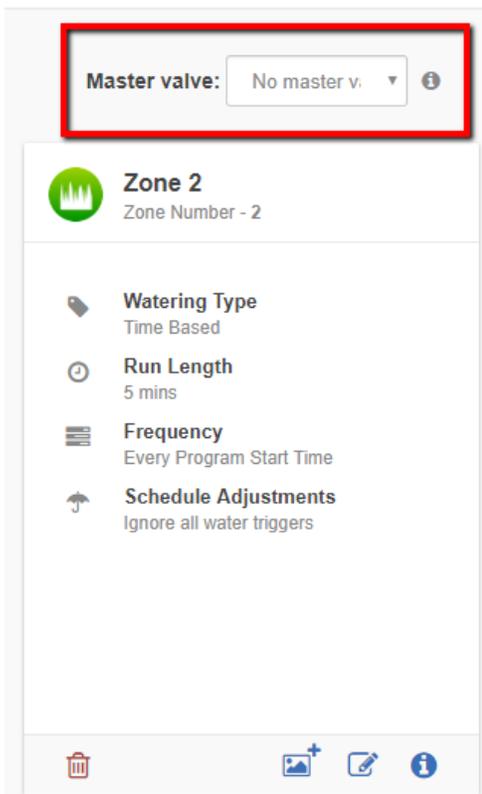
Zone valves are the individual valves that operate a group of sprinklers or drip emitters. Typically one zone valve is turned on at a time, and controls the irrigation in a specific area of your garden. Whenever one of the irrigation zone valves is told to open by the controller, the controller also signals the master valve to open - the master valve acts like a back up valve, or a fail-safe valve. The purpose of the master valve is to shut off the water to the irrigation system when none of the zone valves are operating.

The image below shows a master valve operating connected to Zone 12 on a Hunter HC controller.



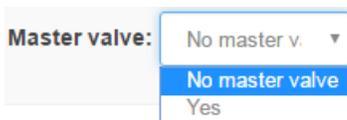
Different Hydrowise-Ready controller models have different options when selecting a master valve. With a Hunter HC controller, any one of your ordinary zones can be configured to act as a master valve, with all other Hydrowise-Ready controller models there is a dedicated master valve.

The master zone is configured on the Zones & Schedules page underneath your list of irrigation zones as highlighted in the image below.



Configuring Master Valve - PRO-HC

With the Pro-HC, setting the master valve (MV) is similar. All you need to do is select whether you have a MV as shown below.



You no longer have to select which zone the MV is connected to, as the option will be different depending on the controller you select when setting up your controller for the first time.

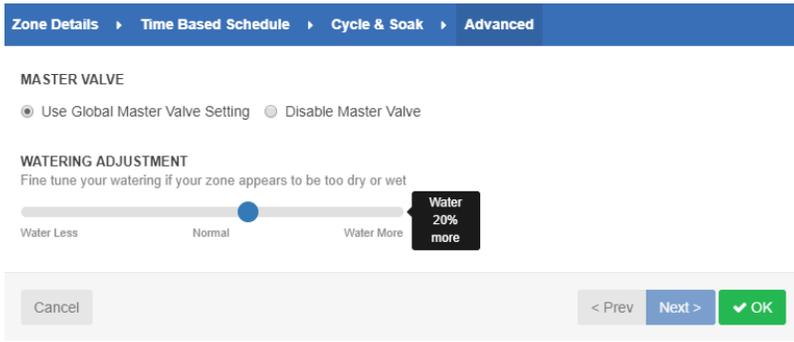
Initially there is no master valve configured.

Configuring Master Valve - HPC-FP (Panel for PC-400 controller)

The default is for all stations to have the master valve/pump start circuit ON. The master valve/pump start can be set **ON** or **OFF** by station, regardless of which program the station is assigned.

Please follow the steps for initializing the P/MV for each zone.

1. Click the  icon for the zone in **"zones and schedules"**
2. Click **Next** three times to enter the advanced section or programming.
3. You can now choose either of the following:
 1. Use **Global Master Valve Setting** (Turns the P/MV circuit ON)
 2. Use **Disable Master Valve** (Turns the P/MV circuit OFF)
- 4.



Configuring Program Start Times

Your controller's watering Program Start Times specify when your controller is permitted to do any watering. If multiple zones are using the same Program Start Time, then they will be started in sequence (only one zone can run at a time).

To add a program start time, navigate to the Zones & Schedules page in your Hydrowise account and click on Add Watering Time.

Start Time: Enter the time for this Program Start Time.

Watering Type: Choose the watering type for this Program Start Time. For example, choose odd or even weeks.

Watering Days: Choose which days this Program Start Time applies to. For example, choose odd or even days, or select specific days of the week.

Set Time ▶ Select Zones

START TIME
Enter the time for this Program Start Time

05:00 AM

WATERING TYPE

Normal watering time (every week)

Normal watering is permitted to start at this time

WATERING DAYS
Select the days of the week to water

Selected Days of the week

SN M T W TH F S

Cancel < Prev Next > ✓ OK

Then select the zones to which this Program Start Time applies. Either apply it to all zones or select from a list of zones or [Preconfigured Watering Schedules](#).

Configuring Preconfigured Schedules

Preconfigured Watering Schedules allow you to group together zones with identical watering properties.

Each Preconfigured Watering Schedule determines how long a group of zones will run and how the schedule should be modified based on your local weather. Zones will water only at your defined [Program Start Times](#).

To add a preconfigured watering schedule, navigate to the Zones & Schedules page in your Hydrowise account and click on Add Watering Schedule.

Schedule Name: Give the schedule a name.

Run Time: Choose how long each irrigation zone associated with this Preconfigured Watering Schedule will run.

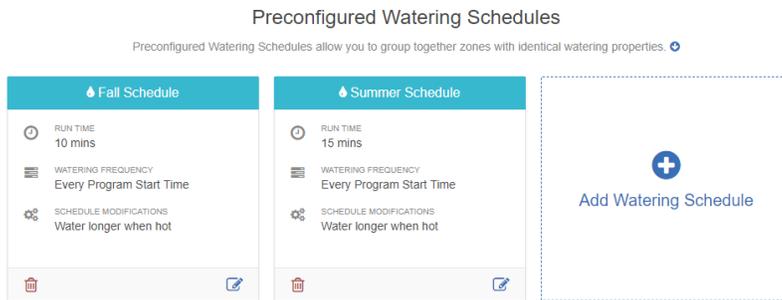
Run Frequency: Choose how often each irrigation zone associated with this Preconfigured Watering Schedule will run.

Schedule Modification: Select how the watering schedule for this Preconfigured Watering Schedule is modified based on temperature and rainfall. Note: if you apply this watering schedule to a [Smart \(ET\) Watering](#) zone, the schedule modification is not used.

Viewing Preconfigured Watering Schedules

You can see all your preconfigured watering schedules on the Zones & Schedules page.

If your controllers are managed by a contractor, you may also see preconfigured watering schedules that your contractor has created. These will have a group symbol next to them as highlighted below. You can use these preconfigured watering schedules but you can't edit or delete them – only the contractor can do that.



Account - Run Length and Frequency

If you choose to enter the time and frequency for each of the zones, the following fields are available:

Time and Frequency	
Watering Length:	The number of minutes this zone will run for each time.
Watering Frequency:	Choose how often to water the zone. The most common is Every Program Start Time.
Schedule Adjustment:	Choose how to adjust the watering time based on your weather triggers.

Please view the steps and screenshots to access this feature:

Click on **"Zones and Schedules"** from the home dashboard.

1. Select the  box for the station (zone) that you will need to edit.
2. Select **"Next"** in the zone details

3. Enter "watering length and/or frequency". Select "OK" to save.

Step 1

Zone 1
Zone 1

Watering Type
Time Based

Run Length
5 mins

Frequency
Every Program Start Time

Predictive Watering™
Forecast below 60°F
Water 30% less when below 73°F
80%+ chance of rain
0in+ rainfall last day
3in+ rainfall last 7 days

Zone 2
Zone 2

Watering Type
Time Based

Run Length
3 mins

Frequency
Every Program Start Time

Predictive Watering™
Forecast below 60°F
Water 30% less when below 73°F
80%+ chance of rain
0in+ rainfall last day
3in+ rainfall last 7 days

Step 2

Zone Details ▶ **Time Based Schedule** ▶ **Cycle & Soak** ▶ **Advanced**

Zone Name
Assign a name for this irrigation zone

Zone Number
Choose the zone number that this zone is wired to on your Hunter controller

Zone Icon
Choose the icon you want to see on the dashboard for this zone


Watering Type
 Time Based Schedule Smart (ET) Schedule Virtual Solar Sync™
Water at a specified frequency (eg. every 1 week) and adjust schedule based on temperature and rainfall

Step 3

Account - Watering Start Times And Water Days

Watering Start Times are the specified times when your controller is permitted to water. Watering will not occur with no start times even if run time are added to all the zones.

Watering Start Time

Please view the steps and screenshots to access this feature:

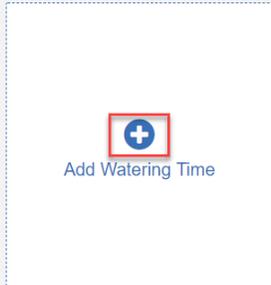
Click on "**Zones and Schedules**" from the home dashboard. Scroll down to the bottom where you start times section. see the plus sign labeled **Add Watering Time**.

1. Click on the plus sign labeled **Add Watering Time**.
2. Choose the **start times, watering type, and watering days** then click "**next**."
3. Choose "**All Zones or Selected Zones**" then click "**ok**."

Step 1

Program Start Time

Your controller's watering Program Start Times are listed below. These times specify when your controller is permitted to do any watering. [?](#)



Step 2

Set Time ▶ Select Zone

Start Time

Enter the time for this Program Start Time

12:00 AM

Watering Type

Normal watering time (every week)

Normal watering is permitted to start at this time

Watering Days

Select the days of the week to water

Selected Days of the week

SN M T W TH F S

Cancel

< Prev Next > ✓ OK

Step 3

The screenshot shows a software interface for selecting zones. At the top, there are two tabs: 'Set Time' and 'Select Zone'. Below the tabs, the 'Select Zones' section features a dropdown menu currently displaying 'Applies to all zones'. A red rectangular box highlights this dropdown, and a red arrow points from it towards the 'OK' button. Below the dropdown, a note states: 'This program start time can be used by all zones'. At the bottom of the interface, there are three buttons: 'Cancel', '< Prev', and 'Next > OK'. The 'OK' button is highlighted in green.

Watering Type Options:

Normal watering time (every week)	This watering time is used first when determining when the controller is permitted to run.
Watering even weeks only	This watering time is only used on even weeks. We use the ISO 8601 definition of even and odd weeks, where each week starts on a Monday. You can check if a particular date is on an even or odd week using an online tool . When watering on even weeks, you can choose to water on specific days of that week or only odd or even days of the week.
Watering odd weeks only	This watering time is only used on odd weeks. We use the ISO 8601 definition of even and odd weeks, where each week starts on a Monday. You can check if a particular date is on an even or odd week using an online tool . When watering on odd weeks, you can choose to water on specific days of that week or only odd or even days of the week.
Low priority water	Low-priority watering times are used when there are no Normal, Odd Week, or Even Week watering schedules available and a zone need to run. A low-priority watering time can be useful where you want the controller to insert extra watering cycles between your normal watering cycles on hot days. This watering type works in combination with How to Set Up "Water More Often When Hot."

Watering Day Options:

Select days of the week	<p>You can specify the days on which you want this program start time to be effective.</p> <p>Note: Blue means selected, so by default all days are selected. You can deselect a day by clicking on it and it will turn white.</p>
--------------------------------	---

Even days	Will only allow this program start time to start on even days of the month
Odd days	Will only allow this program start time to start on odd days of the month

Applies to all zones	This automatically applies the specified program start time to all zones. If you remove or add irrigation zones, they will automatically be applied to this program start time
Selected zones	This will only allow the selected zones to use this program start time. If you add more irrigation zones, you may be required to add them to this program start time if you want them to use this program start time.

NOTE: If multiple zones use the same Program Start Time, they will be started in sequence.

Remember that there are many variables that can affect your Program Start Times. To understand how each one works, spend some time looking at the different options and settings to see how they affect your watering schedule. If you would like to know more about how **Watering Triggers** can affect your program start times, refer to these links:

[Water More Often When Hot](#)

[Setting Watering Triggers](#)

[Smart Watering Adjustment](#)

[Configuring Watering Schedules](#)

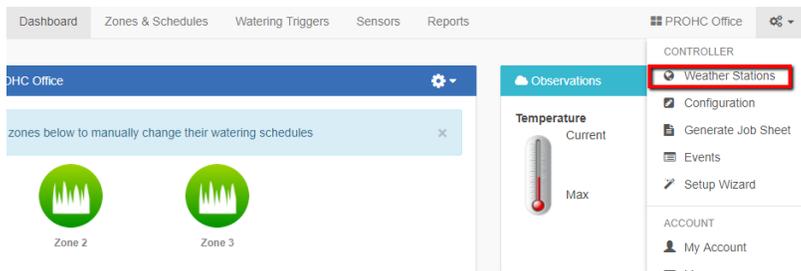
For further information, email us at support@hydrowise.com. We're happy to help.

Account - Controller Weather Stations

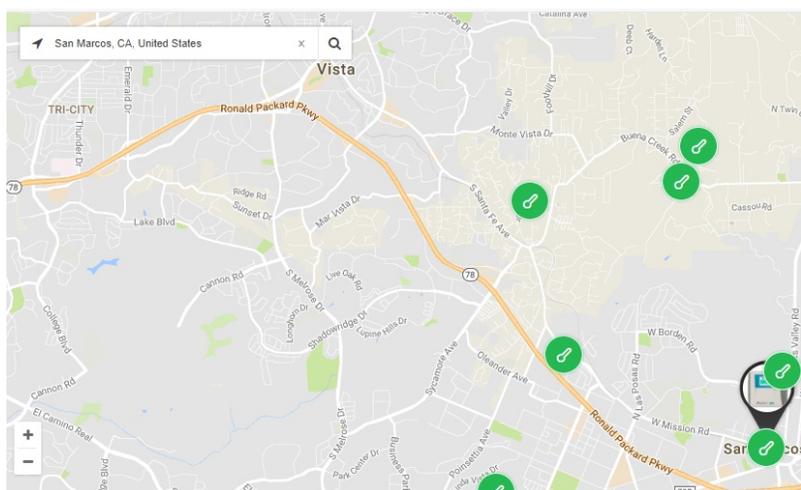
Setting your location allows your Hydrowise controller to adjust watering based on your local weather conditions.

IMPORTANT: You must configure your location correctly, because your weather forecasts and local weather stations are based upon your location.

From the menu at the top right-hand corner of the screen, select **Weather Stations**.



Enter the location of your controller and click **Update Address**.



IMPORTANT: Make sure you enter enough information to find your address. There are lots of towns around the world with the same name.

Using Google Maps, we will resolve your location and display local weather stations. Your watering schedule will be based on this location and will be used to decide when to suspend watering (due to low forecast temperature) or water more (due to high temperature).

IMPORTANT: If you have an Enthusiast Plan or higher, you can choose up to five personal or airport weather stations. Otherwise, you will only be able to choose one airport station (shown in **purple**).

Once we have your location, we will display a map showing the closest weather stations to you. Up to 15 weather stations will be displayed. Icons are color coded based upon the key below. Here is an example:

Click on the most relevant weather station(s). To start using a station, press the **Select** button.

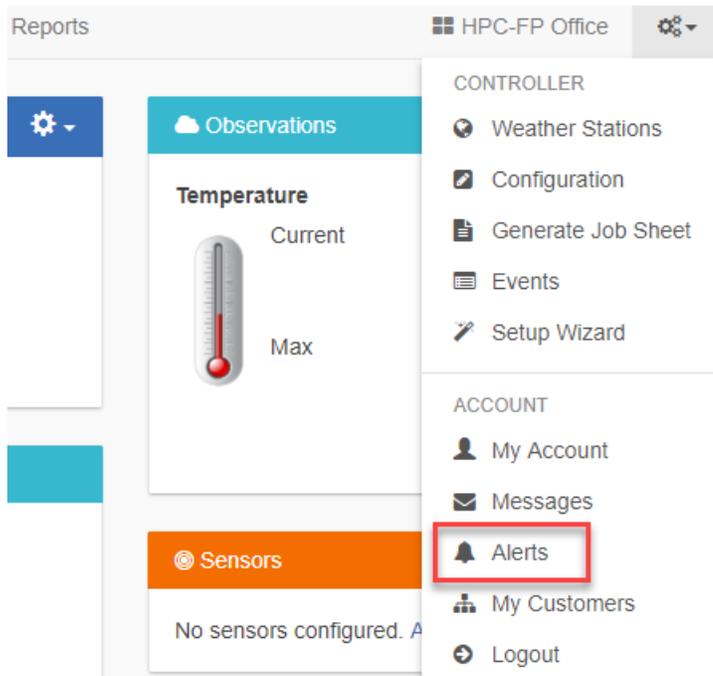
Information from the weather station(s) is used to determine whether to suspend watering (due to high local rainfall for the day or week) or water more (due to high current temperature).

If you have an Enthusiast Plan or higher, we recommend that you select three or more weather stations in your area to average out abnormalities in individual weather stations.

Account - Alerts

In this section, we will cover how alerts work and a description of each of the alerts.

To access your **Alerts** from your browser, click on **Settings** which is located on the top right of your **Dashboard**:



From your mobile device application, click on **More**. Then click on **Alerts** (scroll down, if needed).

Understanding what each alert does:

Below is a list of different alerts and information about what each alert means.

Alert	Description
High water usage for zone	Zone's water usage rate is higher than the previous time this zone ran.
Low water usage for zone	Zone's water usage rate is lower than the previous time this zone ran.
High water usage with no zone running	High water usage detected when no zones are active.
High water usage over the last hour with no zones running	Water usage over the last hour when no zones are active is greater than your trigger.
Interrupted water usage at any time	Water usage at any time is less than your trigger (averaged over 15 min).
Interrupted water usage over last hour	Water usage over the last hour is less than your trigger.
Wiring short (high current) to your solenoid	High solenoid current caused by faulty wiring or faulty solenoid valve.

Broken wire to your solenoid

No solenoid current caused by broken wiring or nonexistent solenoid valve.

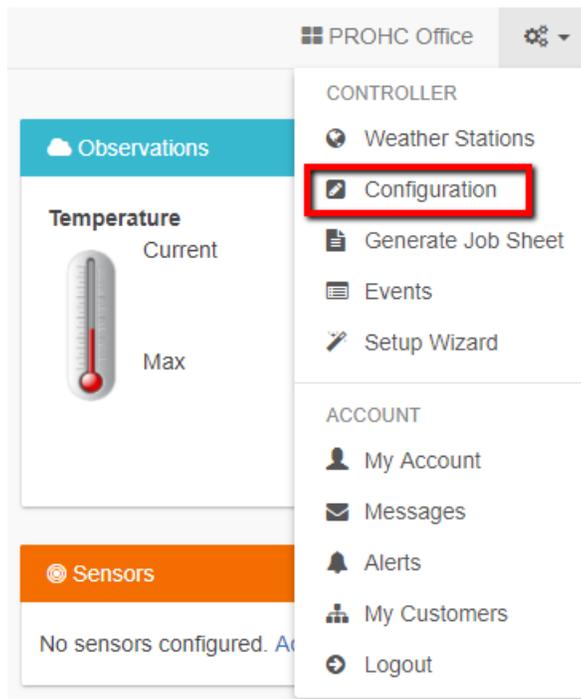
How each alert works:

Alert	How it works
High water usage for zone	If a zone has a water rate higher than the previous time it was scheduled and no changes have been made to the watering length, you can set a % to give you an alert (as there might be a leak somewhere when this zone runs).
Low water usage for zone	This alerts works similar to the above. However, alerts for low water usage advise you if there is a blockage or a potential leak minimizing the water output through the solenoid.
High water usage with no zone running	This will notify you if water flow is being measured while no zone is active. If you use this alert, make sure you make room for residual water that can pass back and forth through your flow meter, which can give false alerts. We recommend setting this between 5-10 liters.
High water usage over the last hour with no zones running	This measures slow water leaks that occur over a period of one hour, so you can be notified if a zone has been leaking "x" amount of water in the last hour.
Interrupted water usage at any time	A threshold can be set in liters. If usage falls below the threshold, an alert is triggered.
Interrupted water usage over last hour	This alert works similar to the above alert, but the difference is that it measures usage hourly. Note: This alert is useful if you expect to have water flow every hour.
Wiring short (high current) to your solenoid	On average, a solenoid can use 200-400 mAh. If you have a master valve, this value can change to 300-500 mAh. You will receive an alert if our controller measures a spike, as there could be a fault in wiring or the solenoid itself.
Broken wire to your solenoid	This alert is triggered when no current is measured when a zone runs.

NOTE: The low-current alert is generated after the zone stops watering (i.e., we wait for the entire cycle to see if there is any current). The high-current alert stops the zone at the end of the (aborted) cycle. The same is true for water-usage alerts (we check water usage at the end of the cycle against the previous time the zone ran).

Account - Controller Configuration

To change the configuration of your controller, select **Configuration** from the menu in the top right hand corner.



Controller Settings

Some configuration options include –

Controller Name: The name of your controller

Serial Number: The controller's serial number. Click 'Remove Serial' to remove the serial

number and replace it with another physical controller

Notification Email: The email address notifications are sent to when the controller is offline, or Hydrawise needs to contact you (for example when your subscription plan is about to end)

Notify: The amount of time that your controller is offline for before we notify you

Units: The units used for reports, alerts and elsewhere in the app

Inter Zone Delay: The number of seconds to insert between each zone watering when calculating scheduled

Master Valve Delay: The minimum number of seconds that the master valve should be active before any zone starts

Hide password: If set to yes, this will hide your wireless password on the controller. If your controller is in a publicly accessible area we recommend you hide your password.

Controller Settings for My Controller

CONTROLLER

- NAME: Hunter Industries
- SERIAL NUMBER: vit4563 [Remove Serial](#)
- STATUS: Linked
- MODEL: HC 6 Zone Controller
- INSTALL DATE: Mon, 19 Sep 16 02:07:37 +0000
- SOFTWARE

OFFLINE NOTIFICATIONS

- NOTIFICATION EMAIL: anthony+4@hydravise.com
- NOTIFY: After no contact for 1 day

REGIONAL SETTINGS

- TIMEZONE: America/Los_Angeles

VALVE DELAYS

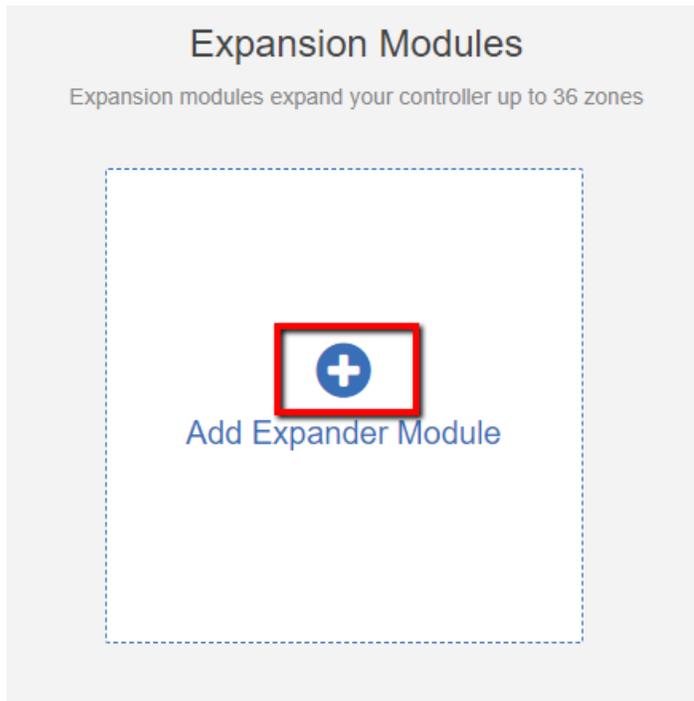
- INTER ZONE DELAY: 0 seconds
- MASTER VALVE DELAY: 3 seconds

INTERNET SETTINGS

- OFFLINE MODE
- HIDE WIFI PASSWORD: No
- DISABLE LOCAL ACCESS: No

Expansion Modules

Here you can see your expansion modules and when they last made contact. You can also add or remove expansion modules. Up to 2 expansion modules can be added to a single Hunter HC controller.



When you add an expansion module you will need to give it a name and specify the ID number that you selected when setting up the module.

Edit an expansion module ×

Expansion Module Name

This is a name for the expansion module

Expander ID

Each expander module has a selectable ID between 1 and 5. This must match the ID selected on the expander unit.

Offline Water Adjustments

Offline water adjustments allow the controller to automatically adjust the amount of watering on a month- by-month basis if the controller is in an Offline mode (ie. if is not connected to the internet).

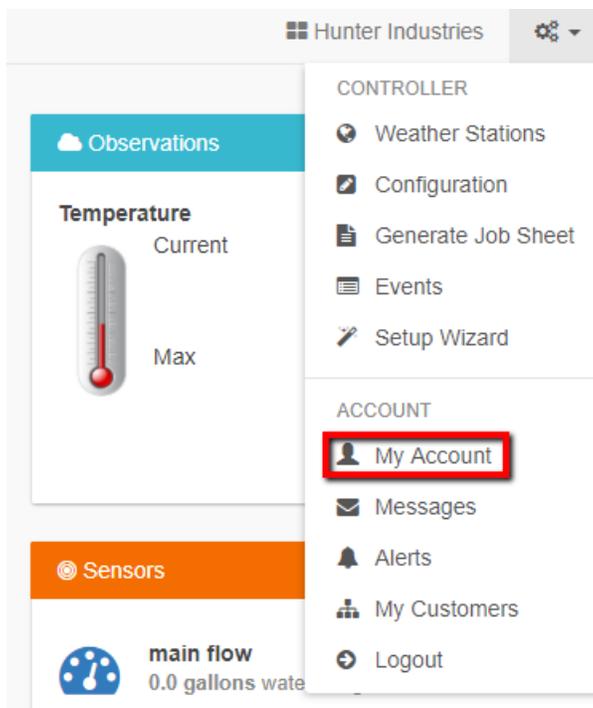
□

Account - Account Details

Account Details

Here you can change your password, change your plan and change your account visibility settings. By default, nobody else can see your account. However, if you want help from a Hydrawise contractor then you can choose to make your account visible to the contractor so that they can help you with configuration or troubleshooting.

1. Click the three gear settings icon  in the top right hand corner to view "My Account".



You can view/edit the following in this section:

1. **User Settings**
2. **Account Settings**

3. Plan Details

4. Privacy settings

My Account Details
Check and edit user account information, including password, plans and contractors

USER SETTINGS

- UNITS OF MEASUREMENT: Fahrenheit & Inches
- LANGUAGE: English
- User: Brendan (brendan.proffitt@hunterindustries.com)

ACCOUNT SETTINGS

- API KEY: D51A-6EB2-531F-3AEE (Generate API Key)
- NOTIFICATION EMAIL: contractor@hydrawise.com

PLAN DETAILS

- PLAN TYPE: Contractor (expires on Tue 19 May 2020)
- IMAGE STORAGE: 5.7MB of 10.0MB
- FILE STORAGE: 0.3MB of 100.0MB
- SMS ALERTS: Sent 0 SMS in last 30 days
- CONTROLLERS: 11 controller configured out of a maximum of 50 controllers

PRIVACY SETTINGS

You are on a contractor plan and this is how your contact details appear to your customers

Hydrawise Contractor
Hydrawise Smart Controller and Water Management Software - Get more control from your sprinkler system.

CONTACT DETAILS

- contractor@hydrawise.com
- Address: San Marcos
- Website: http://hydrawise.com

User Settings

From this screen, you can change the following: Name of user, email address, picture of user, change the units of measurement and edit password.

Edit User [Close]

Name
Field Test guy 1

Email Address
anthony+34@hydrawise.com

Units of Measurement
Fahrenheit & Inches

[Change picture](#)

[Change Password](#) [Cancel](#) [OK](#)

Account Settings

From this screen, you can change the following: choose the user that notifications for account issues should be sent to.

Edit Notification Email

Accounts

Choose the user that notifications for account issues should be sent to

contractor@hydrawise.com

Cancel OK

Plan Details

From this screen, you can view the plan type, image storage, file storage, SMS alerts, and controller amount. You can **edit** the following: change or upgrade plan.

Choose Your Subscription Plan

Home Owner Plans Contractor Professional Plans

The Hydrawise system is free for most users worldwide. For those interested in even more w the Enthusiast Plan provides access to more than 100,000 personal, airport and official weatl

Home	Enthusiast
Free	
<ul style="list-style-type: none">✓ Select from over 10,000 Airport Weather Stations✓ Monitor 1 Weather Station Simultaneously✓ Daily Schedule Updates	<ul style="list-style-type: none">✓ Select from c and Personal✓ Monitor up to Simultaneous✓ Hourly Schec

Privacy settings

From this screen, you can view the contact details, address, and website. You can **edit** the following:

1. Search and select a contractor you want to manage your controller.

Contractor Selection

Filter by radius 30kms 80kms 160kms

Search Contractors

2. Make your account private if previously managed by a contractor.

Contractor Selection

Filter by radius 30kms 80kms 160kms

Search Contractors

Here are the closest 6 Hydrawise contractors to you based on your a

Proffitt Construction (Your Contractor) CONTRACTOR STARTER

CONTACT
760-304-7218

LOCATION
1943 Diamond Street, San Marcos, CA, United States

[MAKE ACCOUNT PRIVATE](#)

Account - Changing Current Controller

From the menu, choose the **Controller link** in the top right.

Reports Hunter Industries ⚙️

Observations

Temperature	Rainfall
Current	Yesterday
 57.0 F	 0.0 in
Max	Last Week
	0.0 in

This will give you a list of all the controllers in your account. Click on the controller name to change to configuring that controller.

Choose the **controller** you want to view.

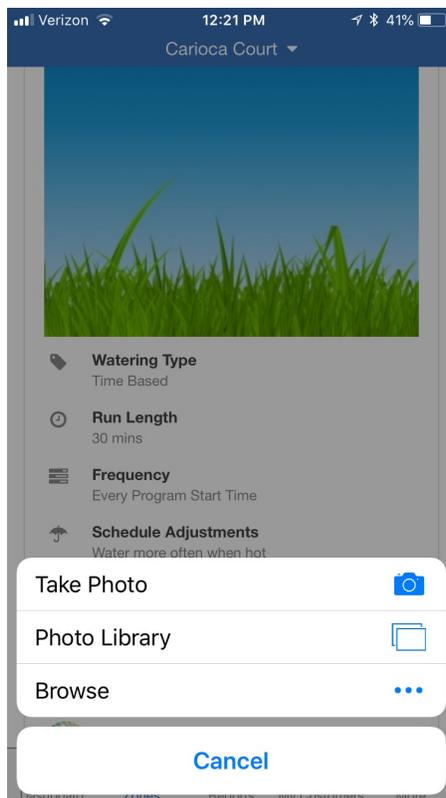
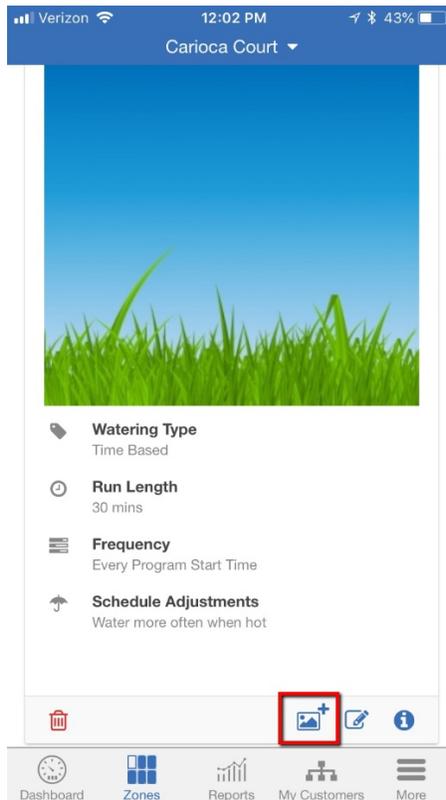


Account - Assigning Images on Mobile

Before assigning the image to an individual zone with your mobile device, please make sure it is captured in the correct orientation (landscape) mode as seen in the illustration below:

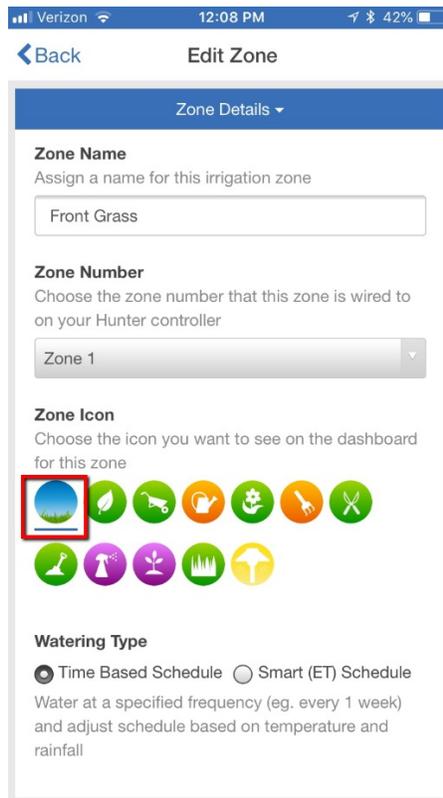


From the "zones section", you can assign an image to each zone. Click on the Image Add button  next to the Zone Edit button at the bottom right.

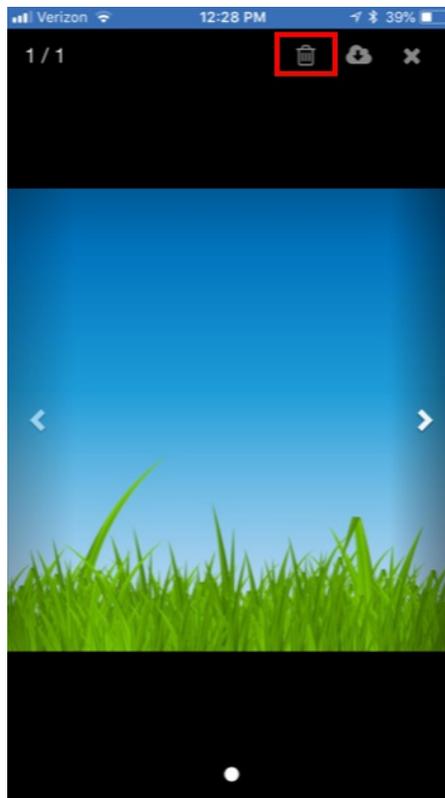


You can **upload** multiple images per zone or take a photo using phone camera. The total number of images that can be uploaded is based on the images size and is different for each account's Plan Subscription.

After an image is uploaded you can select an image to be displayed on the Dashboard by editing the zone  and selecting the image in the Zone Icon list.



To **REMOVE** the image, you can click on the image in the "zones" settings and the following screen will appear. The existing image can be deleted and new one added on the upper right-hand side.

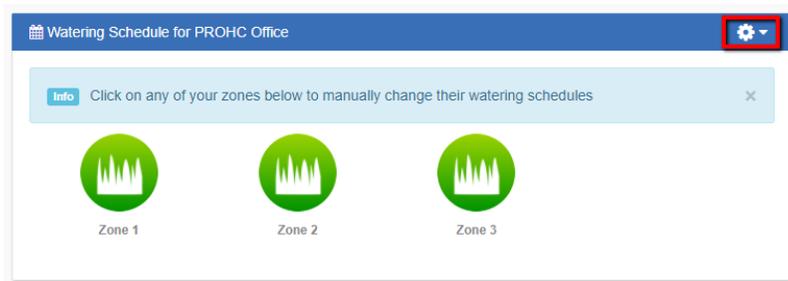


Account - System Shut Off (Winterization)

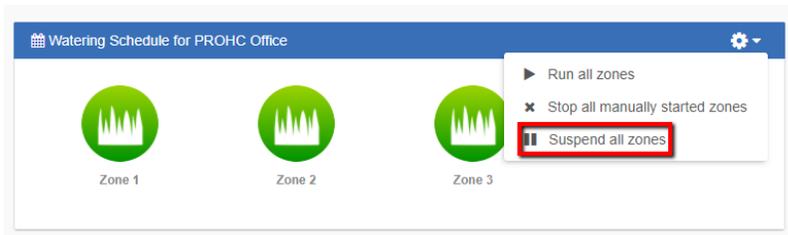
In the application (Smart Device or PC), you can suspend your system for any period of time for winterization purposes or basic system shut down.

- For information on winterizing using the HC flow meter, [CLICK HERE](#).
- For more information on the winterization procedure, [CLICK HERE](#).

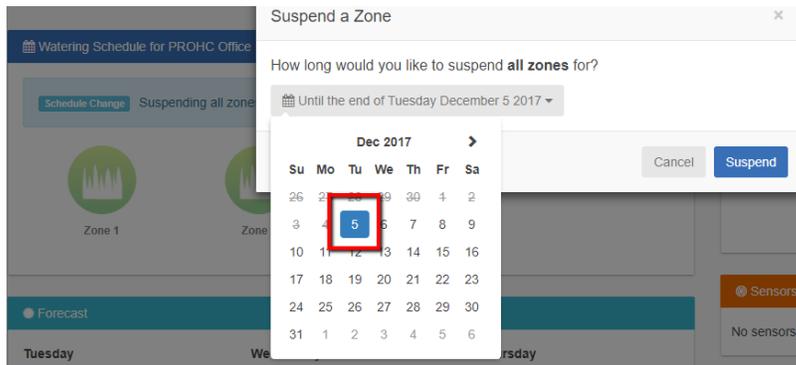
First, **CLICK** on the gear above the zones.



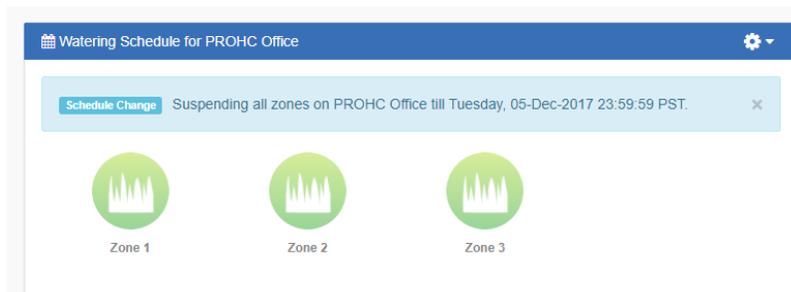
Next, **CLICK** "Suspend all zones."



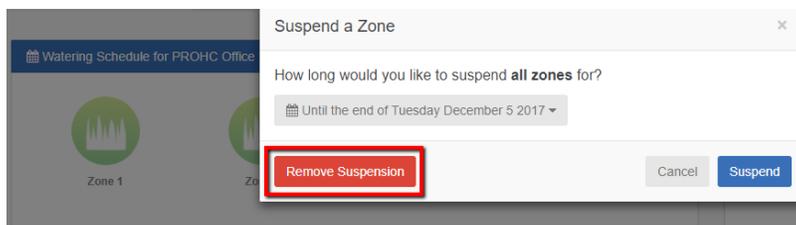
Select the date range for which you would like the controller to be suspended. Use the arrow in the gray drop-down box to select a day and month. Once the date is selected, **CLICK** suspend.



Your zones should all appear faded and you will get the following message: **“All zones suspended for XX months.”** This message will disappear after a few minutes.



If you wish to restart your system before the due date, **CLICK** the single gear above your zones, and **CLICK** “Suspend all zones.” Then, **CLICK** “Remove suspension” in RED. The suspension will be removed and the system will be ready for watering.



Account - Delete Controller

If you have the need to delete a controller from your account, please use the steps and screenshots listed below:

1. Make sure you are **NOT** currently configuring the controller you would like to delete. Click on the **"current controller name."**
2. Change controller by selecting another one from the **"Choose your controller"** category.
3. Click on the top right three gears to access your **"My Account"** settings.
4. Scroll down to the bottom controller section. Click on the **"three selection dots"** to the right of the controller name.
5. Choose **"Remove Serial Number"** to remove controller from the account.
6. Choose **"Delete"** to remove controller from the account.

The controller will now be removed from you account.

Step: 1



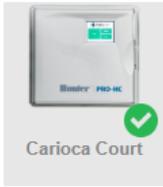
The screenshot shows a user interface for a controller named "Carioca Court". At the top, there are tabs for "Sensors" and "Reports". The controller name "Carioca Court" is displayed in a box, with a red rectangle highlighting a gear icon to its right. Below this, there is a "Settings" button with a gear icon. The main content area is titled "Observations" and displays two data sections: "Temperature" and "Rainfall". The "Temperature" section shows "Current" and "Max" both at 63 °F. The "Rainfall" section shows "Last Day" and "Last Week" both at 0.0 in. There is also a "Grass" sensor icon at the bottom left.

Step: 2



This section is currently empty, intended for a second screenshot illustrating the next step in the process.

Choose your controller



Carioca Court



PROHC Office



1525 Hidden Oaks
Lane SE



Garrison Road

Step: 3

PROHC Office

Observations

Temperature

Current

Max

Sensors

No sensors configured. A

- CONTROLLER
 - Weather Stations
 - Configuration
 - Generate Job Sheet
 - Events
 - Setup Wizard
- ACCOUNT
 - My Account**
 - Messages
 - Alerts
 - My Customers
 - Logout

Step: 4

My Controllers

Q Search

CONTROLLERS +

Carioca Court ⋮

PROHC Office ⋮

- Configure
- Delete
- Remove Serial Number
- Generate Job Sheet
- Move Controller

Step: 5

My Controllers

Q Search

CONTROLLERS +

Carioca Court ⋮

PROHC Office ⋮

- Configure
- Delete
- Remove Serial Number**
- Generate Job Sheet
- Move Controller

Step: 6

Empty content area for Step 6.

My Controllers

Search

CONTROLLERS



Carioca Court



PROHC Office



Configure

Delete

Remove Serial Number

Generate Job Sheet

Move Controller

NOTE: If you attempt to delete a controller that you are currently configuring, the message will appear below.

Information



You cannot delete a controller you are currently configuring

OK

Account - Watering Type - Time Based

Time based watering will water on specific days (unless delayed by rainfall or forecast rainfall) and will vary the watering length based on your watering triggers. The controller will use the Watering Triggers you've set to automatically adjust its watering schedule. This Watering type would be most common as it allows the user to set the information manually or choose from a list of pre-configured watering schedules.

Please view the steps and screenshots to access this feature:

Click on "**Zones and Schedules**" from the home dashboard. Scroll down to the first zone you choose to edit. Click on the  icon.

1. Choose "**Time Based**" as the watering type and click "**next.**"
2. Choose the following options for the Time Based Schedule.
 - Watering type - time and frequency or preconfigured schedule.
 - Watering length - run time for zone in minutes.
 - Watering frequency - Every start time or interval days
 - Predictive watering adjustments - Adjusted based on your water triggers
 - Monthly adjustments can be made using a chart as well.
 - Click "**next**" when adjustments are complete.
3. Choose "**enable or disable**" the cycle soak feature.
4. Finally, the Advance Section will allow you to select a "**watering Adjustment**" as a %.

Step 1

Zone Details ▶ **Time Based Schedule** ▶ **Cycle & Soak** ▶ **Advanced**

Zone Name
Assign a name for this irrigation zone
Front Grass

Zone Number
Choose the zone number that this zone is wired to on your Hunter controller
Zone 1

Zone Icon
Choose the icon you want to see on the dashboard for this zone

Watering Type
 Time Based Schedule
 Smart (ET) Schedule
 Virtual Solar Sync™
 Water at a specified frequency (eg. every 1 week) and adjust schedule based on temperature and rainfall

Cancel **Next >** **OK**

Step 2

Zone Details ▶ **Time Based Schedule** ▶ **Cycle & Soak** ▶ **Advanced**

Watering Type
 Enter Time and Frequency below
 Use a Preconfigured Watering Schedule

Watering Length
The number of minutes this zone will run for each time
10 minutes

Watering Frequency
Choose how often this zone should run
 Every Program Start Time
 Interval Based Watering

Predictive Watering™
Adjust watering based on the following triggers

Don't water when:

- Forecast below 60°F
- 80%+ chance of rain
- Wind above 9mph
- 0.5in+ rainfall last day
- 3in+ rainfall last 7 days

Adjust watering:

- Water 30% less when below 73°F
- Water longer when hot
- Water more often when hot

In addition to daily predictive watering adjustments you can specify **monthly adjustments** using the chart below

5 May 0% 80% 200% x

Cancel < Prev **Next >** **OK**

Step 3

Zone Details ▶ Virtual Solar Sync ▶ Cycle & Soak ▶ Advanced

Cycle & Soak
Cycle and soak reduces runoff from each zone by pausing an irrigation cycle ⓘ

Do not enable cycle and soak
 Enable cycle and soak

Cancel < Prev **Next >** ✓ OK

Step 4

Zone Details ▶ Virtual Solar Sync ▶ Cycle & Soak ▶ Advanced

Water Adjustment
Fine tune your watering if your zone appears to be too dry or wet

Water less  Water more

Water for normal watering length

Cancel < Prev **Next >** ✓ OK

Account - Watering Type - Smart (ET) Watering

Smart (ET) watering is an automated watering schedule that uses information about environmental conditions to ensure your plants get the optimal amount of water. Evaporation will draw moisture from your garden, while rainfall and irrigation will add moisture. Understanding these conditions allows Hydrowise to decide when the time is right to water your garden. ET stands for evapotranspiration and is explained further in the diagram below.

For each zone, you will have to assign the watering length and peak watering frequency:

- The watering length is how long watering needs to run to fully water your zone.
- The peak watering frequency is how often you would normally water this zone during your peak irrigation period.

The controller will vary your watering frequency based on actual evaporation and rainfall in your area on a day to day basis. In contrast to Time Based Watering and Virtual Solar Sync, Smart Watering will always water a zone for the same length of time and it will vary the frequency of watering based on temperature and rainfall.

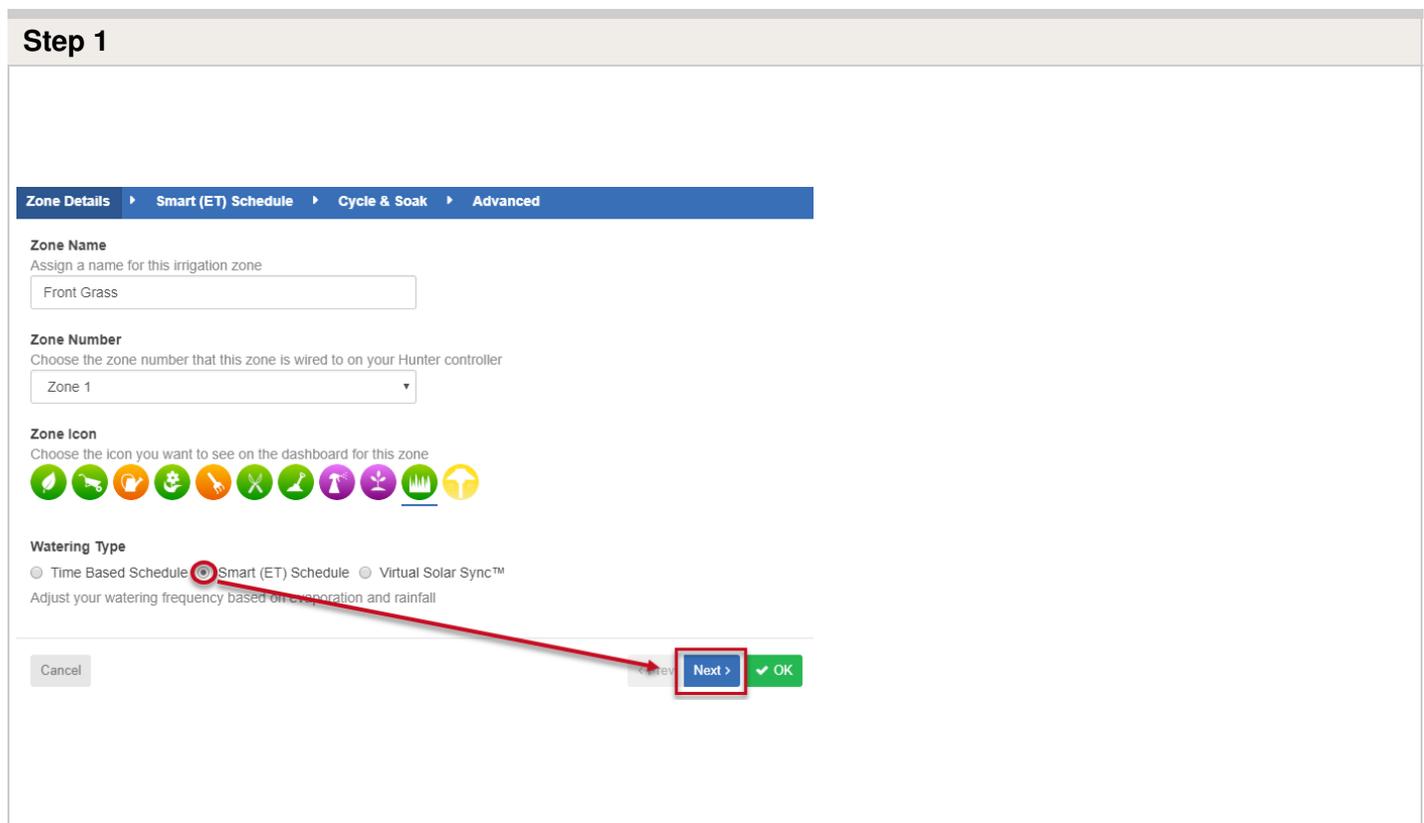
Please view the steps and screenshots to access this feature:

Click on "**Zones and Schedules**" from the home dashboard. Scroll down to the first zone you choose to edit. Click on the  icon.

1. Choose "**Smart (ET) watering**" as the watering type and click "**next.**"
2. Choose the following options for the Smart (ET) schedule.
 - Watering type - Time and frequency or preconfigured schedule.
 - Watering length - Run time for zone in minutes.
 - Peak Season Watering frequency - Days between watering in peak of season.
 - Predictive watering adjustments - Uses ET data from weather stations
 - Monthly adjustments can be made using a chart as well here.
 - Click "**next**" when adjustments are complete.
3. Choose "**enable or disable**" the cycle soak feature.
4. Finally, the Advance Section will allow you to select a "**watering Adjustment**" as a %.

Note: For more information on how smart watering works, please view the article [here](#).

Step 1



Zone Details ▶ **Smart (ET) Schedule** ▶ **Cycle & Soak** ▶ **Advanced**

Zone Name
Assign a name for this irrigation zone
Front Grass

Zone Number
Choose the zone number that this zone is wired to on your Hunter controller
Zone 1

Zone Icon
Choose the icon you want to see on the dashboard for this zone

Watering Type
 Time Based Schedule Smart (ET) Schedule Virtual Solar Sync™
Adjust your watering frequency based on evaporation and rainfall

Cancel

Step 2

Zone Details > Smart (ET) Schedule > Cycle & Soak > Advanced

Your schedule will be adjusted based on evaporation and rainfall.

Watering Type

- Enter Time and Frequency below
- Use a Preconfigured Watering Schedule

Watering Length

The number of minutes this zone will run for each time

10 minutes

Peak Season Watering Frequency

Enter the time between watering in the peak of your irrigation season

Enter watering frequency days

Run this zone at the next available start time

Predictive Watering™

Your schedule is adjusted each day using ET from your weather stations. In addition to ET adjustments you can use the following Watering Triggers:

Don't water when:

- Forecast below 60°F
- Predict watering using:
 - Forecast ET
 - Forecast rainfall

In addition to daily ET adjustments you can specify **monthly adjustments** using the chart below

Cancel < Prev **Next >** ✓ OK

Step 3

Zone Details > Virtual Solar Sync > Cycle & Soak > Advanced

Cycle & Soak

Cycle and soak reduces runoff from each zone by pausing an irrigation cycle ⓘ

- Do not enable cycle and soak
- Enable cycle and soak

Cancel < Prev **Next >** ✓ OK

Step 4

Zone Details > Virtual Solar Sync > Cycle & Soak > Advanced

Water Adjustment

Fine tune your watering if your zone appears to be too dry or wet

Water less **Normal** Water more

Water for normal watering length

Cancel < Prev **Next >** ✓ OK

Account - Watering Type - Virtual Solar Sync

This operates the same way as the Hunter Solar Sync by adjusting the run time per zone. It uses daily ET from your selected weather stations instead of on-site ET so it does not require on-site Solar Sync sensor installation. If no weather station ET is available, then it will fall back to using forecast ET and historical ET.

Hunter's Solar Sync Region and Water Adjustment settings	
Region	Determined automatically based on your controller's location from the weather station selected.
Water Adjustment	Use the Advanced Tab when editing a zone to adjust the zone's watering. See step 4 below:
Run Times	Set station run times for peak summer watering. For assistance on establishing correct run times for your system, see run time calculator .

Please view the steps and screenshots to access this feature:

Click on "**Zones and Schedules**" from the home dashboard. Scroll down to the first zone you choose to edit. Click on the  icon.

1. Choose "**Virtual Solar Sync**" as the watering type and click "**next.**"
2. Choose the watering length, watering frequency, and weather adjustments and click "**next.**"
3. Choose "**enable or disable**" the cycle soak feature.
4. Finally, the Advance Section will allow you to select a "**watering Adjustment**" as a %.

Step 1

Zone Details > **Virtual Solar Sync** > **Cycle & Soak** > **Advanced**

Zone Name
Assign a name for this irrigation zone

Front Grass

Zone Number
Choose the zone number that this zone is wired to on your Hunter controller

Zone 1

Zone Icon
Choose the icon you want to see on the dashboard for this zone

Watering Type

Time Based Schedule
 Smart (ET) Schedule
 Virtual Solar Sync™

Automatically adjust program run length based on daily evapotranspiration (ET)

Step 2

Zone Details > **Virtual Solar Sync** > **Cycle & Soak** > **Advanced**

Watering Type

Enter Time and Frequency below
 Use a Preconfigured Watering Schedule

Watering Length
The number of minutes this zone will run for each time

30 minutes

Watering Frequency
Choose how often this zone should run

Every Program Start Time
 Interval Based Watering

Predictive Watering™
Adjust watering based on the following triggers ⓘ

Don't water when:
 Forecast below 60°F
 Wind above 9mph

80%+ chance of rain
 0.1in+ rainfall last day

3in+ rainfall last 7 days

Step 3

Zone Details > **Virtual Solar Sync** > **Cycle & Soak** > **Advanced**

Cycle & Soak
Cycle and soak reduces runoff from each zone by pausing an irrigation cycle ⓘ

Do not enable cycle and soak
 Enable cycle and soak

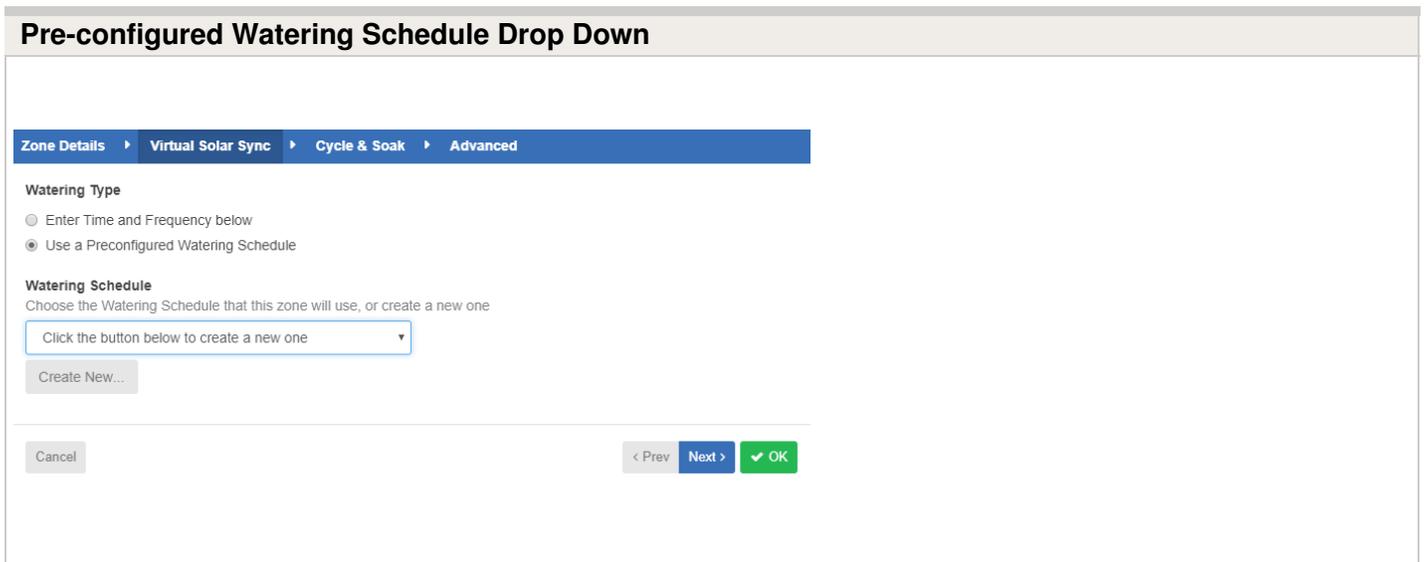
Step 4



After Virtual Solar Sync has been installed and programmed, it is recommended to allow the system to run for a few days at the initial setting. Because of the variety in site conditions, the initial setting may require adjustment in order to achieve the desired performance.

Virtual Solar Sync and Pre-configured Watering Schedule Note:

In order to have this in the option when in Virtual Solar Sync, you must first have a pre-configured schedule assigned in the account. The drop down here will not display any schedule without completing the necessary steps found in the article [here](#) or simply click **CREATE NEW** as shown in the section below.



Account - Virtual Weather Station

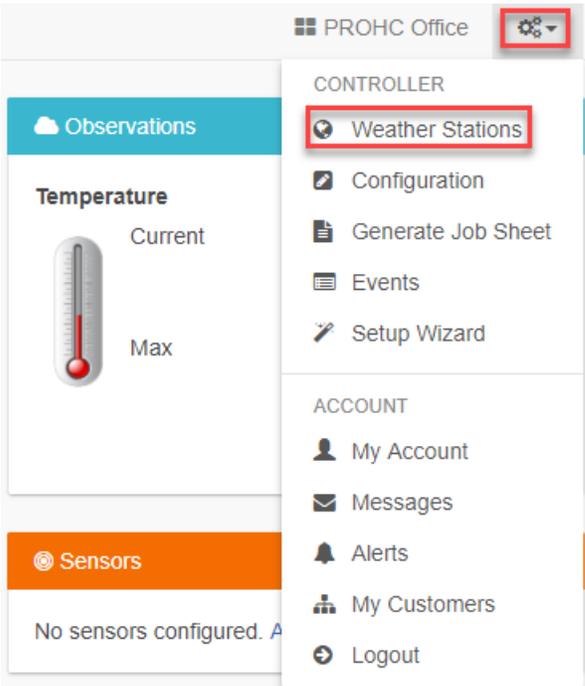
The Virtual Weather Station is a weather station that is created based on the geographic location of the controller. The station is not real, but uses complex algorithms, satellite data, real weather stations, atmospheric data from airplanes, and pressure readings from mobile phones to calculate a comprehensive, highly accurate history for the selected location. The Virtual Weather Station can now be selected as a weather station and is free to use.

Please view the steps and screenshots to access this feature:

1. Click on the settings icon on the upper right, then select "**Weather stations.**"
2. Your free "**virtual weather station**" should already be shown at your address.
3. Click on the purple icon for your virtual weather station and click "**select.**"

NOTE: The virtual weather station will appear more visible on the map if the boxes in STEP-2 are unchecked for the personal and airport weather stations.

Step 1



The screenshot shows the PROHC Office user interface. At the top right, there is a settings icon (gears) highlighted with a red box. A dropdown menu is open, showing the following options: CONTROLLER, Weather Stations (highlighted with a red box), Configuration, Generate Job Sheet, Events, and Setup Wizard. Below these are ACCOUNT options: My Account, Messages, Alerts, My Customers, and Logout. On the left side of the interface, there is a 'Temperature' section with a thermometer icon and 'Current' and 'Max' labels, and a 'Sensors' section with the text 'No sensors configured. A'.

Step 2



Weather Stations

Your Enthusiast plan allows you to select up to 5 Weather Stations updated hourly. If you select multiple weather stations then your weather station readings are averaged out to give a higher degree of rainfall accuracy.



Closest Station 0.00 mi
1943 Diamond St, San Marcos, CA
92078, USA

28 Stations

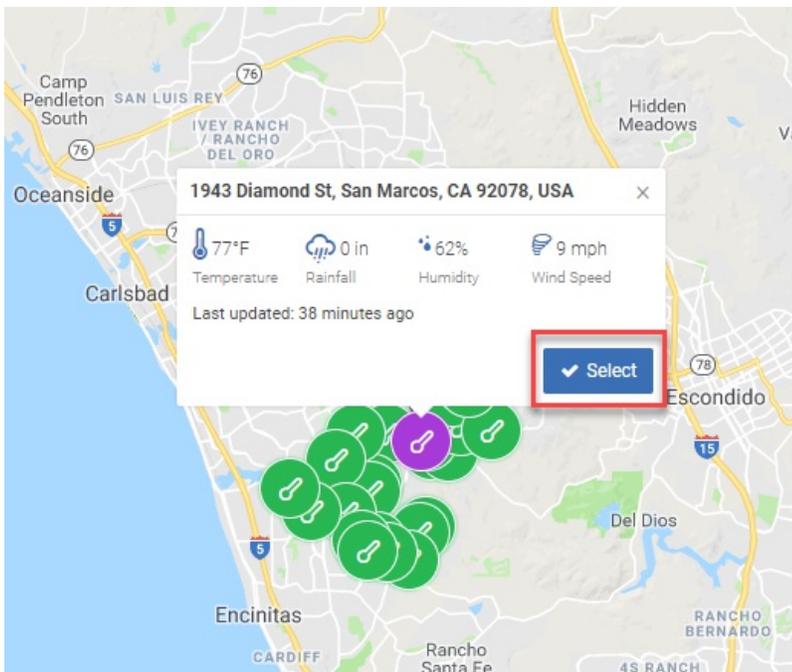
23 Personal Weather Stations

4 Free Airport Weather Stations

1 Free Virtual Weather Station

Show weather stations not reporting temperature and rainfall

Step 3



Alerts - Auto suspend for high flow

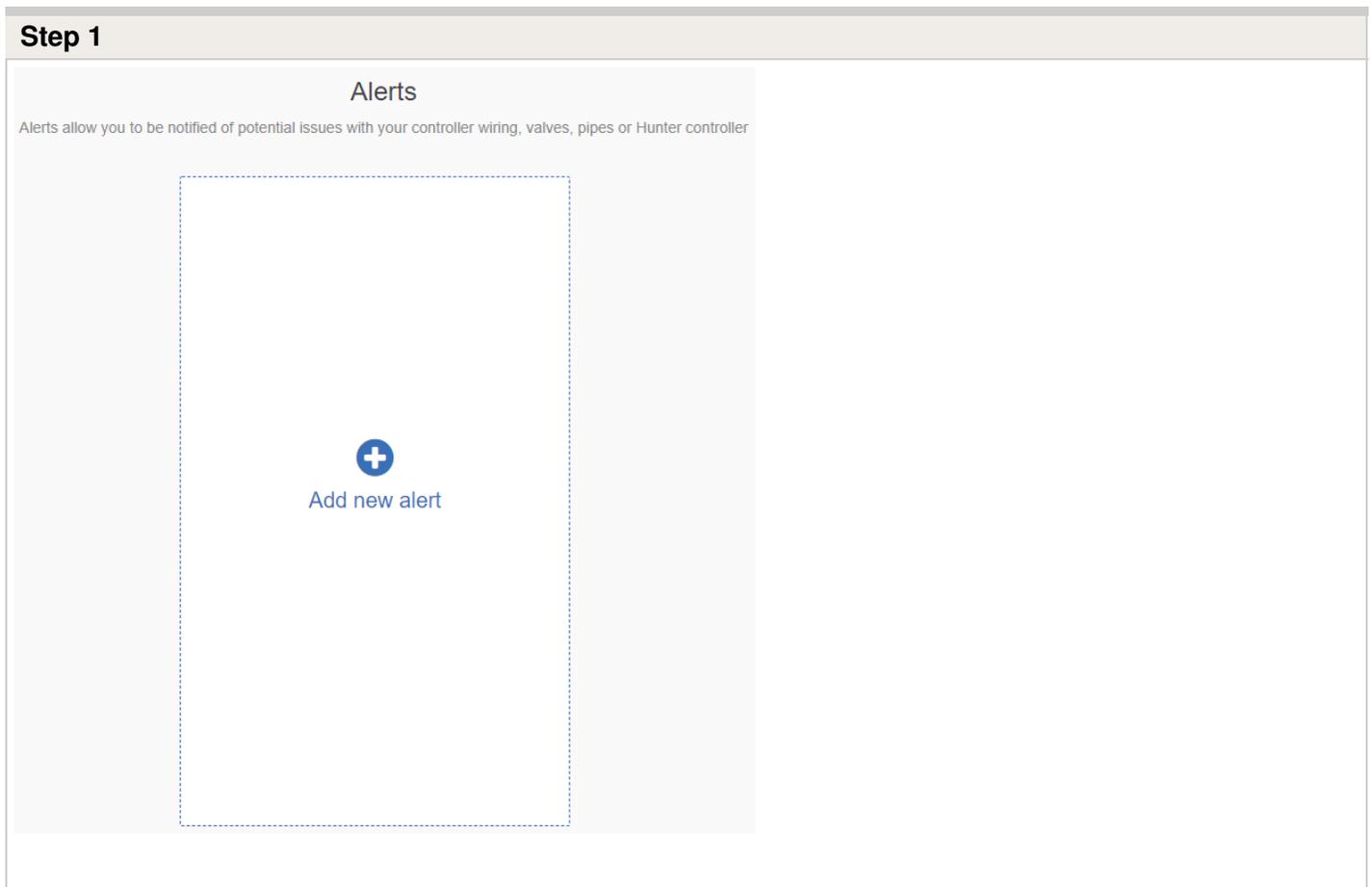
This action for the alert "**High water usage for a zone**" allows the user to automatically suspend the zone a number of days/weeks when high flow is detected. This will allow the time in the field to make all repairs necessary. To learn more about alerts, click [here](#).

Please view the steps to access this action:

Click on **Settings**  icon and scroll down to select "**Alerts.**"

1. Click on "**Add New Alert.**"
2. Choose "**Alert Name, Type and percentage**" then click "**next.**"
3. Choose from drop down to apply to all "**controllers/sensors**" or only "**selected ones.**"
4. Under actions, select "**suspend the zone,**" and number of "**days**" to be suspended, then click "**ok.**"

NOTE: Max suspension is unlimited for days and weeks.





Step 2

Edit Alert ×

Alert Name ▶ **Applies To** ▶ **Actions**

Alert Name

Alert Type

Zone's water usage rate is higher than the previous time this zone ran

Step 3



Edit Alert

Alert Name ▸ Applies To ▸ Actions

Applies To

Applies to all controllers, sensors

Cancel < Prev Next > ✓ OK

Step 4

Edit Alert

Alert Name ▸ Applies To ▸ Actions

Add event to the event log
Add this alert to the controller's event log

Send App notification

Send SMS/Text notification

Suspend the zone

5 Days

Cancel < Prev Next > ✓ OK

Account - Units of Measurement

For information on changing the units of measurement for your area, please see the steps below:

1. Select the three gears on the upper right on the dashboard.
2. Click "My Account"
3. Click the  icon in the user settings box.
4. Scroll down to choose the correct units of measurement. Screenshots below:

Football field 

Observations

Temperature

Current



Max

63 °F

Sensors

Sensor a
This sensor is no

CONTROLLER

- Weather Stations
- Configuration
- Generate Job Sheet
- Events
- Setup Wizard

ACCOUNT

- My Account**
- Messages
- Alerts
- My Customers
- Logout

USER SETTINGS

 UNITS OF MEASUREMENT
Celsius & Millimeters

 LANGUAGE
English



Hydrawise Contractor
contractor@hydrawise.com



Edit User ✕

 [Change picture](#)

Name

Email Address

Units of Measurement

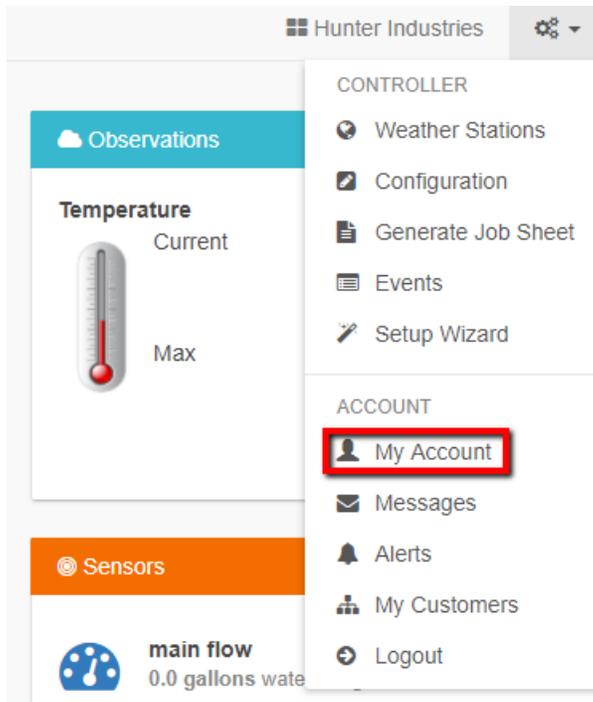
Language

[Change Password](#) Cancel OK

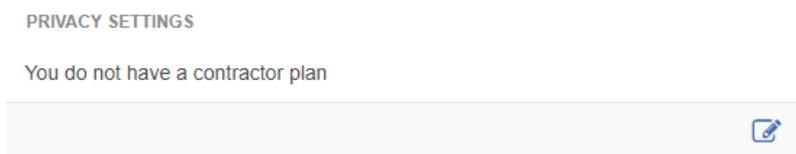
Account - Link to Contractor

If you have a contractor in your area where you would like them to manage or view your controller settings when necessary, please follow the steps below:

1. Click on **My Account**.



2. Click on  icon and you can select.



3. You will now have the option to **search** and **select** a contractor in your area filtered by the radius selected.

Contractor Selection

Filter by radius 30kms 80kms 160kms

Here are the closest 6 Hydrowise contractors to you based on your ac

jp lawn& landscaping CONTRACTOR STARTER

 CONTACT

 LOCATION
peekskill ny

Account - Cycle/Soak Operation

The **Cycle and Soak** feature allows the user to split each station's run time into more usable, shorter duration watering. This feature is particularly applicable for slopes and tight soil (such as clay) because Cycle and Soak will help prevent excessive run off. You should enter the Cycle time as a fraction of the station's watering time and the Soak time as the minimum soak required before watering the next portion. The total number of cycles is determined by taking the total programmed station run time and dividing it by the Cycle time.

- **Cycle Time** is the maximum number of minutes for which the zone can run at a time.
- **Soak Time** is the minimum time between zone watering to allow water to soak into the soil.

For example: Suppose Station 1 required 20 minutes worth of water but after only 5 minutes, runoff occurred. However, after 10 minutes all the water was absorbed. The

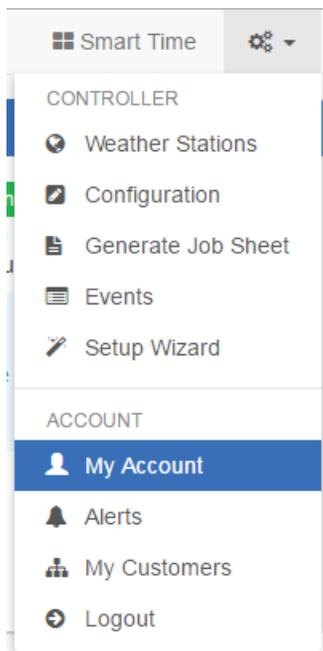
solution would be to program 20 minutes for the Station Run Time, 5 minutes for the Cycle time, and 10 minutes for the Soak. Station 1 will then water for 5 minutes and then the rest of the stations in the program will water. After all the other stations have watered the controller will check to see if Station 1 had soaked for at least 10 minutes. If it had, then Station 1 will water for another 5 minutes. This process would continue to repeat itself until Station 1 watered 4 times for 5 minutes each time, a total of 20 minutes.

Note: To test Cycle and Soak, you will need to have a scheduled run for automatic because running a zone manually from the app does not allow Cycle and Soak to take effect.

Important Offline: If your controller goes offline, your default watering schedule will still run, but Cycle and Soak will not work. Each zone will water its full length while offline.

Account - Account Name Edit

To rename an account, you will need to click on **Settings > My Account**, located on the top right of the **Dashboard** as shown below.



Once you are in **My Account**, click on the  icon near the **User Settings** field.

USER SETTINGS

 UNITS OF MEASUREMENT
Fahrenheit & Inches

 LANGUAGE
English


Hunter Staff
contractor1@hydrawise.com



Enter the new **NAME** desired shown in the box below:

Edit User ×


Change picture

Name

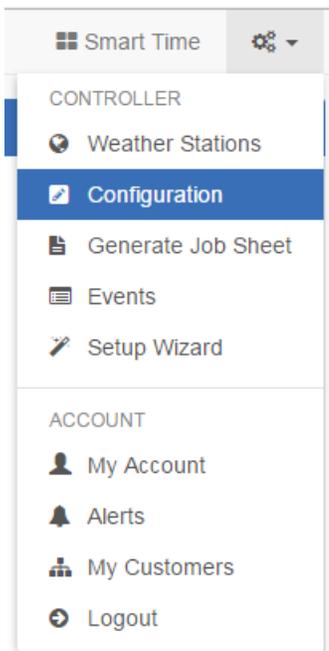
Email Address

Units of Measurement

NOTE: The default account name is your login name until you change it to be something else.

Account - Rename Controller

To rename your controller, you'll need to click on **Settings > Configuration**, located on the top right of the Dashboard as shown below.



Once the configuration screen has loaded, click on the **Pencil** icon to edit the name.

CONTROLLER

NAME
Hunter Industries

SERIAL NUMBER
virt4563 [Remove Serial](#)

STATUS
Linked

MODEL
HC 6 Zone Controller

INSTALL DATE
Mon, 19 Sep 16 02:07:37 +0000

SOFTWARE



When you have entered the new name for your controller, click **OK**.

Edit Controller Settings ×

Name

Model

HC 6 Zone Controller [Change](#)

[Cancel](#) [✓OK](#)

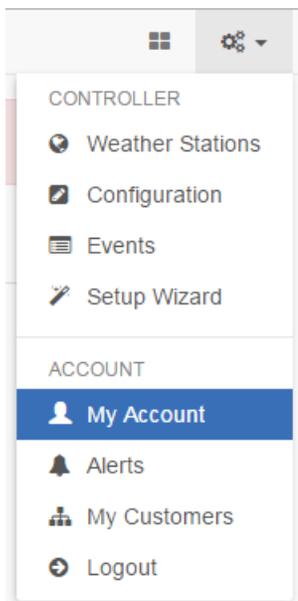
You have now renamed your controller.

Account - Add User/Files

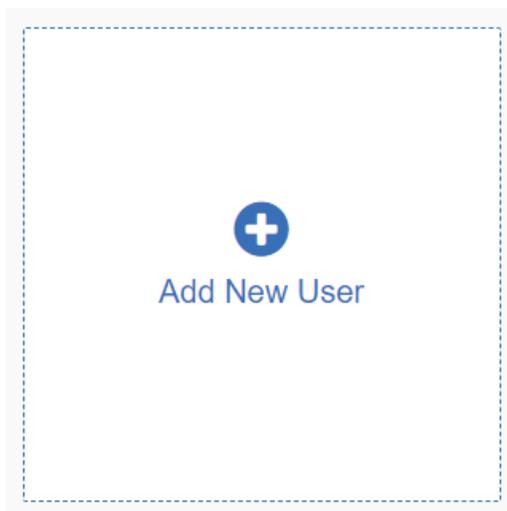
Add User

Both contractors and homeowners can add additional users to an account. However, as a home user, you must have an Enthusiast Plan to add additional users.

To add a user, click on **Settings > My Account**.



Next, scroll down to **My Account Users** and click **Add User**.



Fill in the required details and click **Create**. This will send a validation email to the user to

activate the account. The user must create a password upon visiting the Dashboard for the first time.

Add User ×



Add picture

Name

Email Address

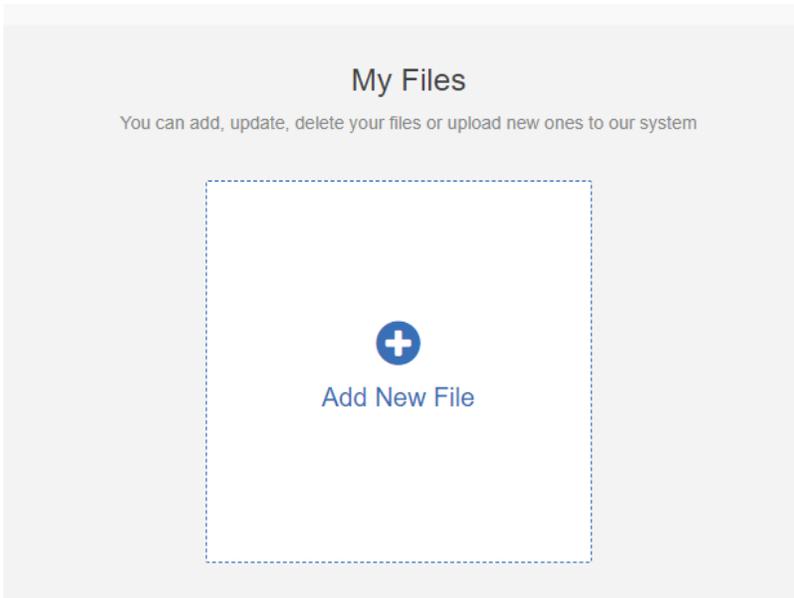
Type of User
Choose what the user can do in their account

User Name	The name of the new user
Email Address	The email address that the new user will use to log in to the account
Type of User	<ul style="list-style-type: none">• If you want the user to have full control over the controller, select “Can modify configuration and run zones.”• If you don’t want the user to have control over configuration, select “Can view configuration, manually run zones.”

IMPORTANT You cannot add a user who already has an existing Hydrawise account. If the user has an account, email us at support@hydrawise.com. We will delete the account from our system and you can then add the user accordingly.

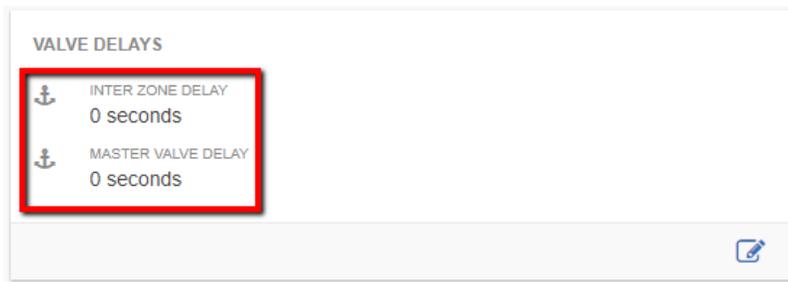
Files

Towards the bottom of the accounts detail page, you can upload files which are useful in managing your garden. For example, you might like to add a picture which shows the layout of your garden and zones. Uploading of files is supported for Enthusiast plan customers.



Account - Setting Delay

To set a delay between your zones (inter-zone delay) or for a master valve/pump before the zone starts (master valve delay), go to  menu then configuration as shown below:



Delay	Description	Max Delay
Inter-Zone Delay	The delay between each zone's start times.	3,600 Seconds
Master Valve Delay	The number of seconds that the master valve starts before a zone starts.	600 Seconds

Edit Edit Valve Delays ×

Inter Zone Delay

 seconds

Master Valve Delay

 seconds

Cancel ✓OK

Some watering systems require water pressure for a sprinkler head to pop up. Thus, this delay can be used to ensure that water pressure is built up or maintained before a zone starts watering (or before the next zone begins watering) by delaying the time the next valve opens, ensuring water pressure is present. Depending on your specified setup, these delays can be used to meet those requirements. If you have questions about how to set delays, email us at support@hydrawise.com.

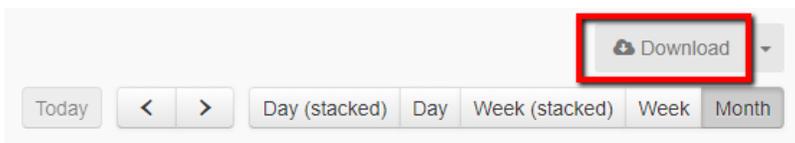
Account - Exporting Reports

The instructions below will allow you to download the report you choose to Excel.

To download your reports in Excel, click on the **Reports Tab**. After highlighting one of the download options listed below, you can click the download tab to automatically save to a excel file on your computer.

Download Options Include:

1. Day (Stacked)
2. Day
3. Week (Stacked)
4. Week
5. Month



NOTE: The free Home Plan provides up to 30 days of reporting, and the Enthusiast Plan provides up to 365 days of reporting.

Account - Editing Serial Number

This article will cover the following information on editing your controller's serial number.

1. Linking to your account (Setup wizard and Dashboard)
2. Unlink controller from your account

Linking to Your Account

There are two locations where you can link your controller to your account:

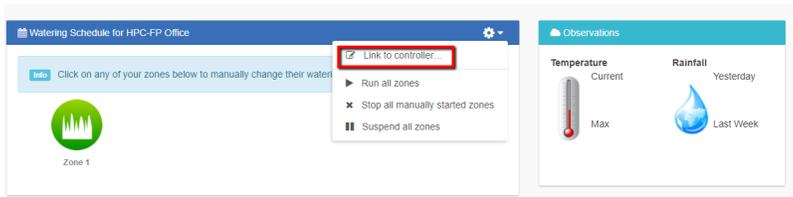
- During the setup wizard (optional)
- From the controller **Dashboard**

NOTE: You only need to link your controller to your account once. If you provided a serial number when going through the setup wizard, you've successfully linked your controller to your account and you can ignore these instructions.

To link your controller through your account Dashboard, follow these steps:

- Log in to your account.
- On the Dashboard, click on the Settings icon located on the blue Watering Schedule bar. Then click the **Link to controller...** button.
- Enter your controller's serial number. The eight-character serial number is found on the

side of the unit. The serial number is not case-sensitive.



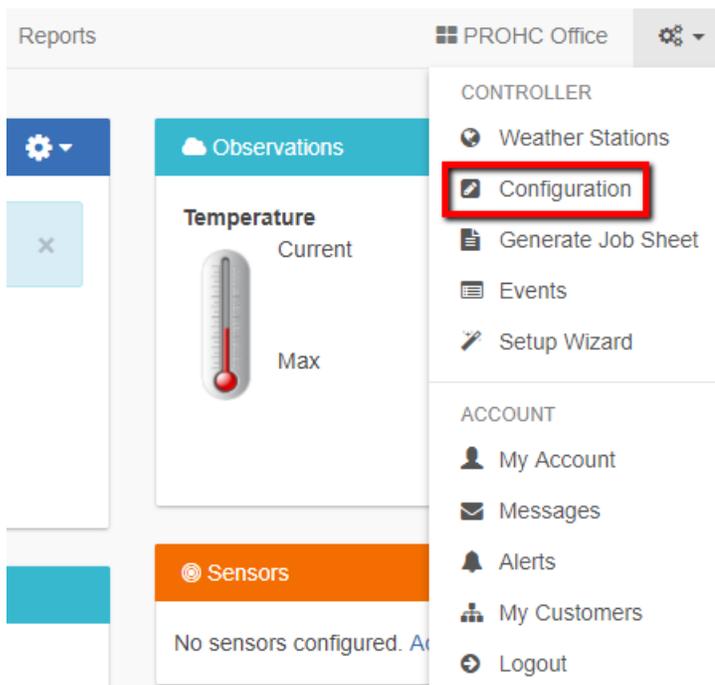
Once you've entered the serial number, your controller will automatically download your settings and begin watering based on your watering schedules.

Unlink From Account

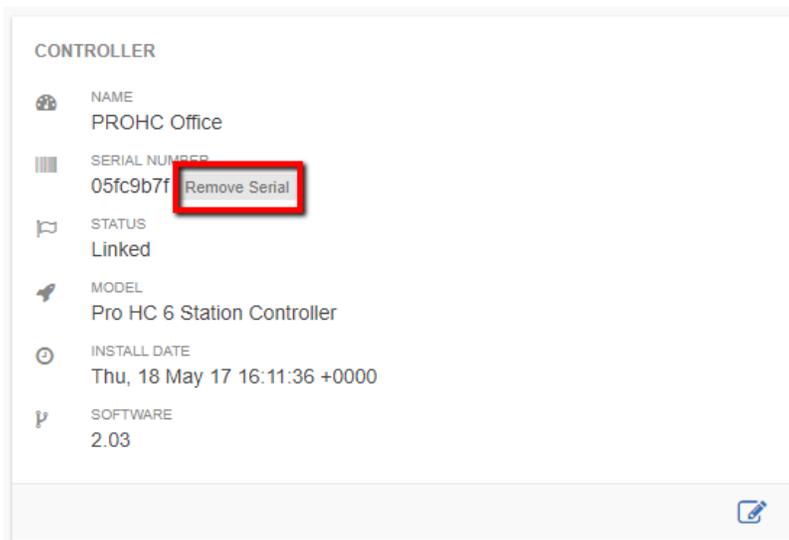
This is important if you wish you resell your controller or want to transfer ownership to someone else. This prevents the next user from getting the error message that the serial number they are trying to link to their account is already in use.

To unlink a controller, follow the steps below:

From your browser, go to the top right of your dashboard and click on **Settings**. From your smartphone app, click on **More**. Then click on **Configuration**.



On the next screen, locate your serial number. Then click **Remove serial**.



NOTE: This is helpful if you are either using controller on another site or replacing under warranty.

Account - Resetting Password

If you registered using your email address (i.e., not using the Facebook option), click on **Forgot password?** from the login screen.



Login to Hydrawise

[Forgot password?](#)

Log in

Or via



You don't have an account? [Register Now!](#)

On the next screen, simply type in your registered email address and click **Reset Password**. You will then receive an email. Click the password reset link and enter in your new password. Confirm the password and you should be good to go again.



Reset your password

Enter your email address below and we'll send you an email to reset your password.

[← Back to login](#) **Reset password**

If you are having issues logging in to Facebook using the application, follow this guide to reset your password: [Unable to Log In Using Facebook App](#). Don't worry; you won't lose

any settings.

Account - Not Receiving Hydrawise Activation Emails

We're sorry that you have not yet received an activation email from support@hydrawise.com. We use a third-party company to ensure our email has the best chance of getting to you.

The following tips will help you verify if the email was delivered. First, check your deleted items to see if the email was inadvertently deleted. If it was, move the email back to your inbox.

Next, look in your spam, trash, or junk folders. The email may have been sent to one of these folders due to email filters. If the email is in one of these folders, right click on the email and select "trust sender" or "always allow email from sender."

We recommend that you add support@hydrawise.com to your "safe senders," "allowed," or "trusted" email list. Depending on your email service provider, you can do this in several ways. Below are shortcuts to some popular providers:

[Outlook](#)

[Gmail](#)

[Apple](#)

Hydrawise does not use your email address for marketing purposes. To view our terms and conditions and privacy policy, visit www.hydrawise.com. Please contact us if you have questions.

Configuring - Several Watering Lengths One Zone

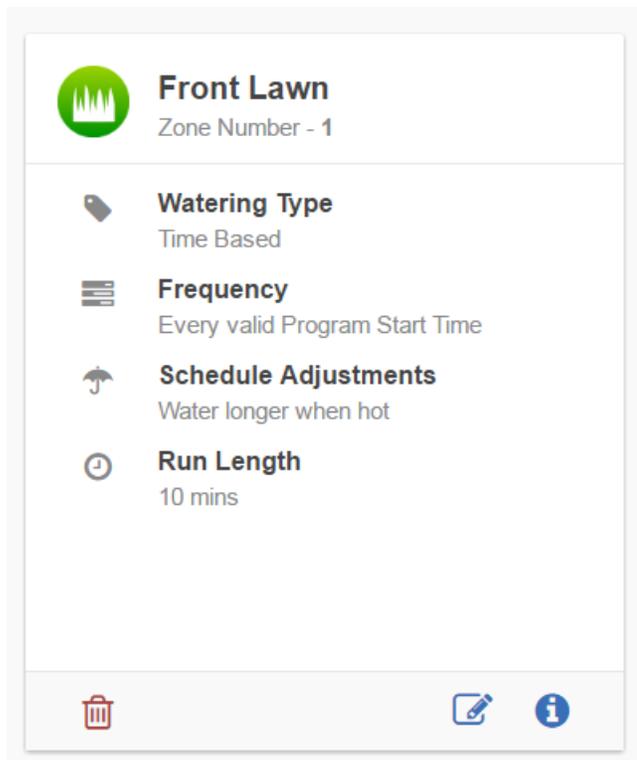
You will now learn how to achieve different watering times using one zone (or many zones, if you understand the concept of stacking start times).

Stacking start times means creating Program Start Times one after the other based on the duration of the watering length set for each zone.

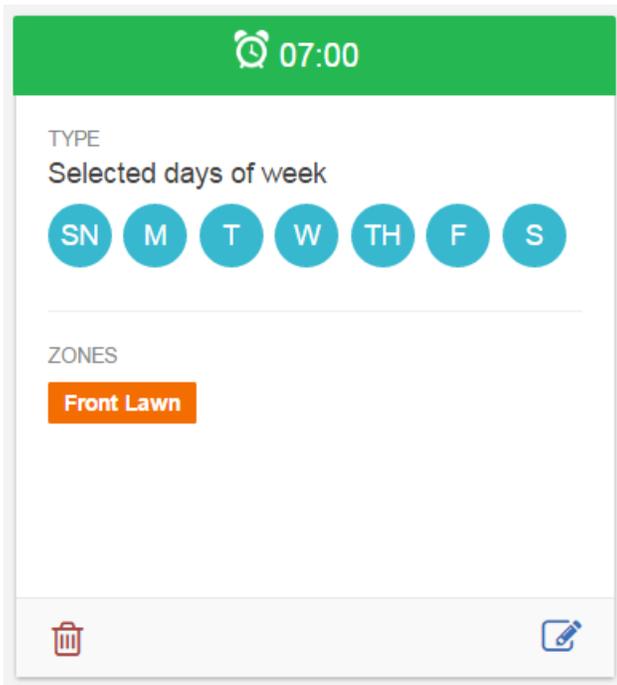
For example, if you wanted Zone 1 to run for 10 minutes in the morning and 30 minutes in the evening, you would have to set up Zone 1 with a watering length of 10 minutes. Then you would use Program Start Times to achieve the watering times you want.

Typically, your zone setup should look like this:

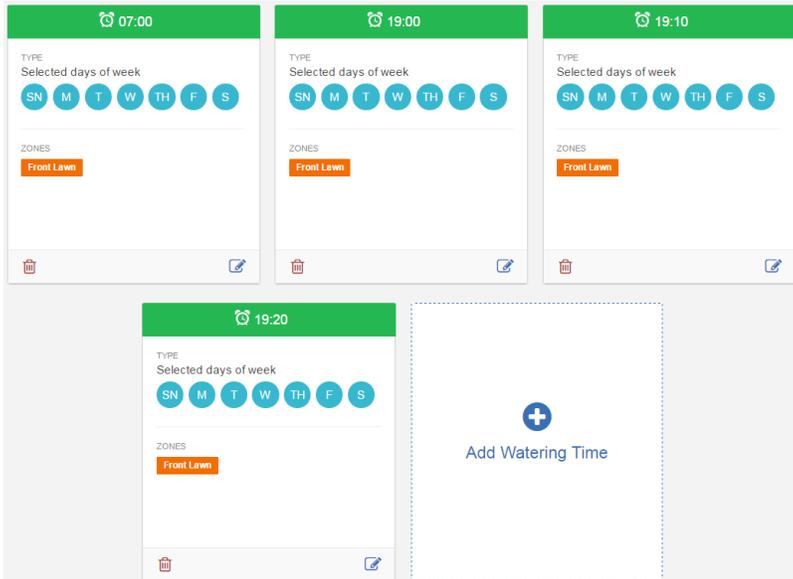
NOTE: You must use “Every Valid Program Start Time” to achieve this goal, as the Program Start Time dictates when the zone is allowed to water.



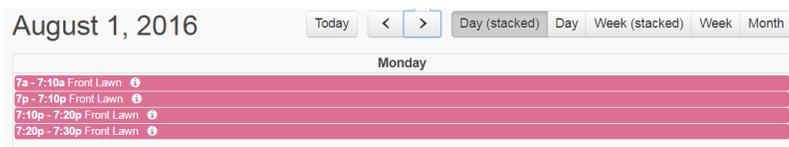
To water for 10 minutes in the morning, you would create one start time at 7 a.m., for example, that allows Zone 1 to run for 10 minutes.



For Zone 1 to run for 30 minutes in the evening, you will need to stack start times. For example, you will need to create program start times for Zone 1 at 7 p.m., 7:10 p.m., and 7:20 p.m., so the zone runs for a total of 30 minutes.



By having the program start times dictate when zone one is allowed to water, we have achieved 10 minutes of watering in the morning and 30 minutes of watering in the evening without modifying the irrigation zone's configuration. See below for what the schedule will look like.

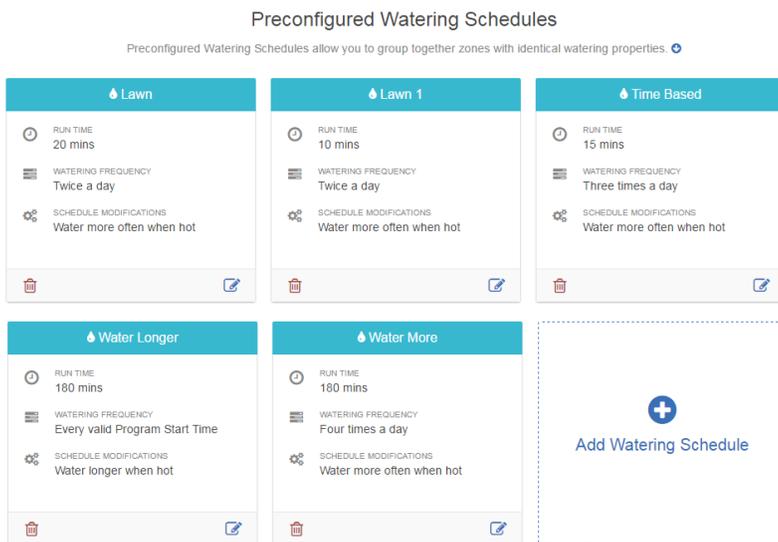


You can see there are 10 minutes of watering at starting at 7 a.m. Then, starting at 7 p.m., there is a total of 30 minutes of watering as a result of stacking your Program Start Times.

IMPORTANT: This method only applies with **Predictive Watering™** and will not work with Smart Watering. The water trigger "Water More Often When Hot" will not also work if you want to use this method, as it uses "Every Valid Program Start Time."

Configuring - Pre-configured Schedules

Watering Schedules allow you to configure watering times, watering frequencies, and schedule modification settings for your irrigation zones.



Watering Schedules can be used for zones that are running either Time-Based Predictive Watering or Smart Watering. However, for Smart Watering zones the Schedule Adjustment option in a preconfigured Watering Schedule is not used. For more information, see [Configuring Irrigation Zones](#).

Each Watering Schedule contains the following settings:

Schedule Name	This is the name of the Watering Schedule
Run Time	This is the watering time for this landscape type under normal conditions (if it is too hot or cold, this value will be automatically adjusted)
Watering Frequency	How often this schedule needs to run

Schedule Modifications	<p>When the day's forecast or current temperature is above your threshold, you can choose how often extra watering occurs.</p> <p>Don't water When and Adjust watering:</p> <ul style="list-style-type: none">• Forcast below 60F• Wind above 9mph• 3in+rainfall last 7 days• 80%+chance of rain• 0.1in+ rainfall last day• Water 30% less when below 73F• Water 30% less when below 73F• Water longer when hot• Water more often when hot <p>If you are using a watering frequency of Every Valid Program Start Time, watering will occur at each Program Start Time regardless of schedule modifications set above.</p>
-------------------------------	---

NOTE: Watering Schedules are not just time based; they work for smart watering zones, too. You create the schedules in advance for use across multiple zones.

Configuring - Trigger "Water More Often When Hot"

The "**water more often when hot**" feature will allow the end user to water a second time based on the current climate condition of the temperature reading. This is only available when using **Time Based Watering type**. Please view the steps and screenshots to access this feature:

Click on "**Zones and Schedules**" from the home dashboard. Scroll down to the first zone you choose to edit. Click on the  icon.

1. Choose the watering type **"Time Based Schedule"** and click **"next."**
2. Change the watering frequency to **"interval based watering"** interval one.
3. Check the box for **"Water more often when Hot."**
4. Choose **"ok"** to complete this setup.

Step 1

Zone Details ▶ **Time Based Schedule** ▶ Cycle & Soak ▶ Advanced

Zone Name
Assign a name for this irrigation zone
Zone 1

Zone Number
Choose the zone number that this zone is wired to on your Hunter controller
Zone 1

Zone Icon
Choose the icon you want to see on the dashboard for this zone

Watering Type
 Time Based Schedule
 Smart (ET) Schedule
 Virtual Solar Sync™
 Water at a specified frequency (eg. every 1 week) and adjust schedule based on temperature and rainfall

Cancel < Prev **Next >** ✓ OK

Step 2-4

Zone Details ▶ **Time Based Schedule** ▶ Cycle & Soak ▶ Advanced

Watering Type
 Enter Time and Frequency below
 Use a Preconfigured Watering Schedule

Watering Length
The number of minutes this zone will run for each time
5 minutes

Watering Frequency
Choose how often this zone should run
 Every Program Start Time
 Interval Based Watering
 1 days

Predictive Watering™
Adjust watering based on the following triggers

Don't water when:

- Forecast below 60°F
- Wind above 62mph
- 3in+ rainfall last 7 days
- 80%+ chance of rain
- 0in+ rainfall last day

Adjust watering:

- Water 30% less when below 73°F
- Water longer when hot
- Water more often when hot

Edit monthly adjustments (advanced)

Cancel < Prev **Next >** ✓ OK

Scroll to bottom of **"zones and schedules"** to create a 2nd start time.

1. Choose the plus sign for **"Add watering Time."**
2. Choose a **"second start time"** and click **"next."**
3. Make sure you apply to the correct zones and click **"ok."**
4. In the **"water trigger"** section, set the one trigger highlighted accordingly.

IMPORTANT: Make sure you have all zones selected for the start times created (or, at the very least, the zone you intend to "Water More Often When Hot").

Step 1

Program Start Time

Watering Program Start Times are listed below. These times specify when your controller is permitted to water.

5:00am

TYPE
Normal watering time (every week)

SN M T W TH F S

ZONES
All Zones

Add Watering Time

Step 2

Set Time ▶ **Select Zone**

Start Time
Enter the time for this Program Start Time
06:00 PM

Watering Type
Normal watering time (every week)
Normal watering is permitted to start at this time

Watering Days
Select the days of the week to water
Selected Days of the week

SN M T W TH F S

Cancel < Prev **Next >** ✓ OK

Step 3

Set Time ▶ **Select Zone**

Select Zones
Applies to all zones

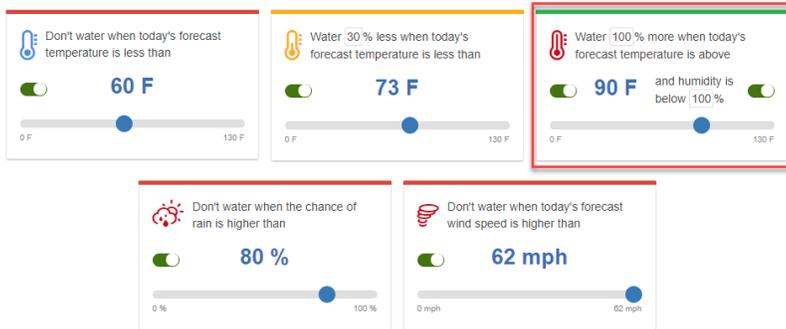
This program start time can be used by all zones

Cancel < Prev **Next >** ✓ OK

Step 4

Predictive Watering™ Adjustments

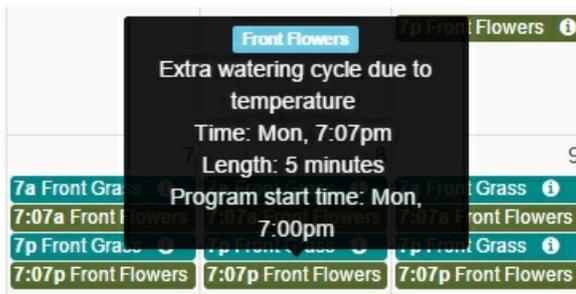
Manage your watering based on weather forecasts. Choose which adjustments to apply when editing a zone.



You can set the trigger up however you like. See below for this example:

When you check your **Watering Schedule** on the days that meet your watering triggers, extra watering will occur. For example, you will notice all watering that has been set to start at 6p.m. is "extra watering watering due to temperature."

Setting your frequency affects how this feature works. For it to work correctly, you must always have an extra program start time that is above your watering frequency. In our example, we used "water once a day" and created two program start times so extra watering can occur once. If you want to change this, you must ensure the above is met. For instance, if you have set watering to twice a day, you must create three program start times for the third program start time (the extra watering schedule) to take effect.



NOTE: Due to changes made to this setup, the extra zones do not show on the above screenshot because those are passed events on my watering schedule. At this time, due to weather changes, no extra watering has been scheduled. Thus, only past events were used in this example.

IMPORTANT: To ensure that "Water More Often When Hot" works, you need to have an extra program start time that is above your watering frequency. If you select "Every Available Program Start Time" as a watering frequency, this feature will not work because watering is already scheduled for all program start times.

The general calculation is:

$\langle \text{number of times per day} \rangle \times (1 + \langle \text{trigger percentage} \rangle) = \text{number of watering}$

times for the day (rounded down)

So, for once a day and a 50% trigger, the calculation is:

$$1 \times (1 + 0.5) = 1.5 = \text{once a day (rounded down)}$$

Twice a day multiplied by (1 + trigger percentage) could be greater than 2 if the percentage is greater than 50%:

$$2 \times (1 + 0.5) = 3 = 3 \text{ times a day}$$

Twice a day multiplied by (1 + trigger percentage) with a trigger percentage of 100% would give you 4 times a day:

$$2 \times (1 + 1) = 4 = 4 \text{ times a day}$$

IMPORTANT: If you require multiple watering's per day, this is the one situation where low-priority watering times are useful. You could have a normal watering time of 6 a.m. and 6 p.m. and a low-priority time of 12 p.m., which will get used only if you are watering more often and you need a third cycle for the day.

Please feel free to test this setup as you see fit for your watering needs. Should you have further questions, send an email to support@hydrawise.com.

Configuring - Trigger "Water Longer When Hot"

The "**water longer when hot**" feature will allow the end user to water the zone longer based on the percentage set in the water trigger. This is only available when using **Time Based Watering type**. Please view the steps and screenshots to access this feature:

Click on "**Zones and Schedules**" from the home dashboard. Scroll down to the first zone you choose to edit. Click on the  icon.

1. Choose the watering type "**Time Based Schedule**" and click "**next.**"
2. Check the adjust watering feature "**water longer when hot**" and click "**ok.**"

Step 1

Zone Details ▶ Time Based Schedule ▶ Cycle & Soak ▶ Advanced

Zone Name

Assign a name for this irrigation zone

Zone 1

Zone Number

Choose the zone number that this zone is wired to on your Hunter controller

Zone 1

Zone Icon

Choose the icon you want to see on the dashboard for this zone



Watering Type

Time Based Schedule Smart (ET) Schedule Virtual Solar Sync™

Water at a specified frequency (eg. every 1 week) and adjust schedule based on temperature and rainfall

Cancel

< Prev Next > OK

Step 2

Zone Details ▶ Time Based Schedule ▶ Cycle & Soak ▶ Advanced

Watering Type

- Enter Time and Frequency below
- Use a Preconfigured Watering Schedule

Watering Length

The number of minutes this zone will run for each time

5 minutes

Watering Frequency

Choose how often this zone should run

- Every Program Start Time Interval Based Watering

Predictive Watering™

Adjust watering based on the following triggers

Don't water when:

- Forecast below 60°F
- 80%+ chance of rain
- Wind above 62mph
- 0in+ rainfall last day
- 3in+ rainfall last 7 days

[Edit monthly adjustments \(advanced\)](#)

Adjust watering:

- Water 30% less when below 73°F
- Water longer when hot
- Water more often when not

Cancel

< Prev Next > OK

Setting Trigger

1. Click on the default **"100%"** from the top right water trigger.
2. Adjust the **"percentage"** needed to water more and click **"ok."**
3. Click **"Submit."**
4. Using the slide bar, choose the **"temperature"** threshold.

NOTE: As an example, the zone using this trigger will water 15% longer when the temperature outside is above 85 degrees.

Setting Trigger: Steps 1-3

redictive Watering™ Adjustments

Based on weather forecasts. Choose which adjustments to apply when editing a zone.

The screenshot displays two panels for adjusting watering triggers. The left panel, titled 'Water 30% less when today's forecast temperature is less than', features a toggle switch that is turned on and a slider set to 73 F. The right panel, titled 'Water 100% more when today's forecast temperature is above', features a toggle switch that is turned on, a temperature slider set to 90 F, and a humidity trigger set to 100% with its toggle switch also turned on. A 'Submit' button is visible in the top right of the right panel.

Setting Trigger: Step 4

redictive Watering™ Adjustments

Based on weather forecasts. Choose which adjustments to apply when editing a zone.

This screenshot shows the final step of the configuration. The left panel remains unchanged with the 73 F temperature trigger. The right panel now shows the temperature trigger adjusted to 85 F and the humidity trigger set to 100%. A red box highlights the 85 F value on the slider and the 100% value in the humidity trigger's input field.

Smart Watering - Quick Reference

How Does it Work?	Description
When does it water?	Waters when estimated moisture level reaches 0% in zones and schedules.
Choosing Run Times	See run time calculator here or consult with local contractor/distributor.
How is ET calculated?	The calculation is done through the run times and the last 10 years of ET history based on the hottest time of the year for that location.
Forecasting High Temperature	Forecast three days in advance.

Programming: Zones and Schedules	Description
Enter Watering Length	Enter the number of minutes you want the zone to run (hottest time of the year)
Enter Peak Watering Frequency	Enter the time between watering in the peak of your irrigation (hottest time of the year) Example: 1 day

	interval means the system will water every day in the summer schedule.
Next Available Start Time Box	Checking this box will reset the smart water balance to 0. If this box is not checked when changing from time based to smart watering then the bar will automatically be at 100%.
Cycle/Soak	This helps reduce runoff by running small increments with same total run time. This is used instead of soil type and slope. <i>Example:</i> Station 1 requires 20 minutes of watering, but after 5 minutes, runoff occurs. However, after 10 minutes all the water is absorbed. The solution would be to program 20 minutes for the station run time, 5 minutes for the Cycle time, and 10 minutes for the Soak time.
Advanced	Fine tuning: This feature is designed to slow down or speed up the drying process. If the soil is too wet, then we allow it to dry for longer, too dry, smart watering will allow less drying time.

Example: If we have every 2 days set as the frequency, this is not the minimum frequency as it is merely a reference point based on the driest time of the year. If we experience a drier time, we may need to water each day. Likewise, if we have a wetter time the frequency will increase, allowing for more time between watering.

Water Triggers	Description
Use forecast temperature to predict Smart Watering	This trigger allows frequency adjustment based on the current season.
Use forecast rainfall to delay Smart Watering	This feature assists in delaying irrigation when rain is predicted.

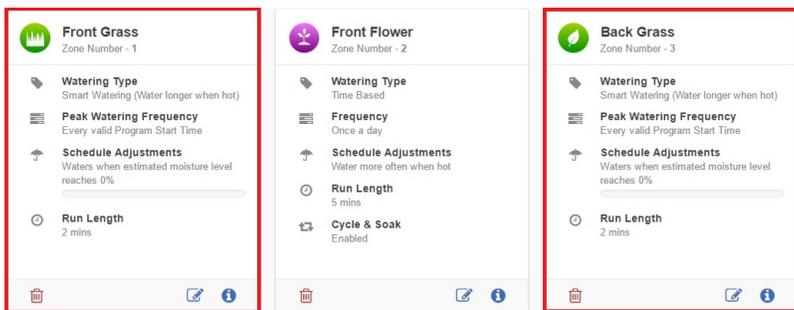
Smart Watering - Adjustment and

Changes

Smart Watering is an automated watering schedule that uses information about environmental conditions to ensure your plants get the optimum amount of water. Evaporation will draw moisture from your garden, while rainfall and irrigation will add moisture. Understanding these conditions allows Hydrowise to decide when the time is right to water your garden.

NOTE: This calculation occurs in the background and may not always be reflected when checking reports or viewing your **Dashboard**. However, the feature does work and is reliable even if you can't visibly see these calculations.

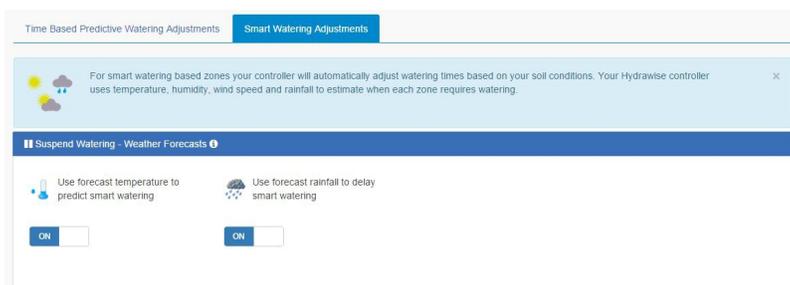
In this example, there are two Smart Watering zones highlighted in red:



The **Watering Triggers** use Smart Watering Adjustments and have been left as default, with both switched on:

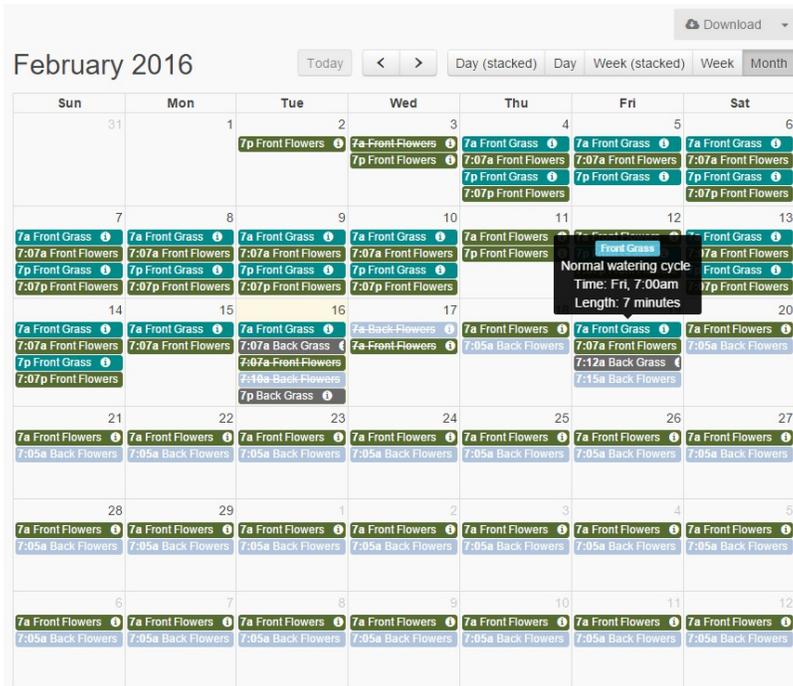
NOTE: If you turn off "Use forecast temperature to predict Smart Watering," your Smart Watering zones will not water. This is because all calculations have been switched off, and Smart Watering is calculated using weather data to predict estimated soil moisture balance. You can use this feature when you don't want any watering to occur without having to suspend your Smart Watering zones.

The second option, "Use forecast rainfall to delay Smart Watering," assists with delaying irrigation when rain is predicted. Refer to the example below to see how this is affected when it is turned off.

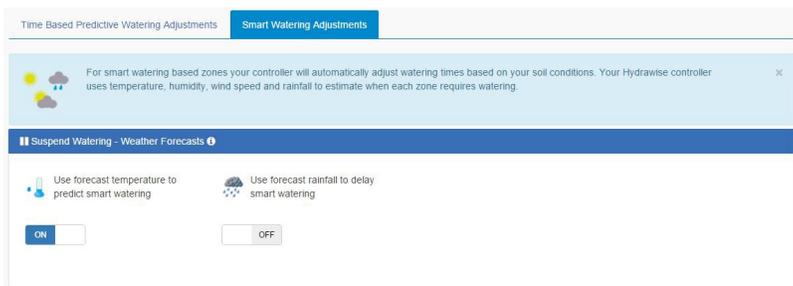


This is what your watering schedule will look like with these settings are combined with the

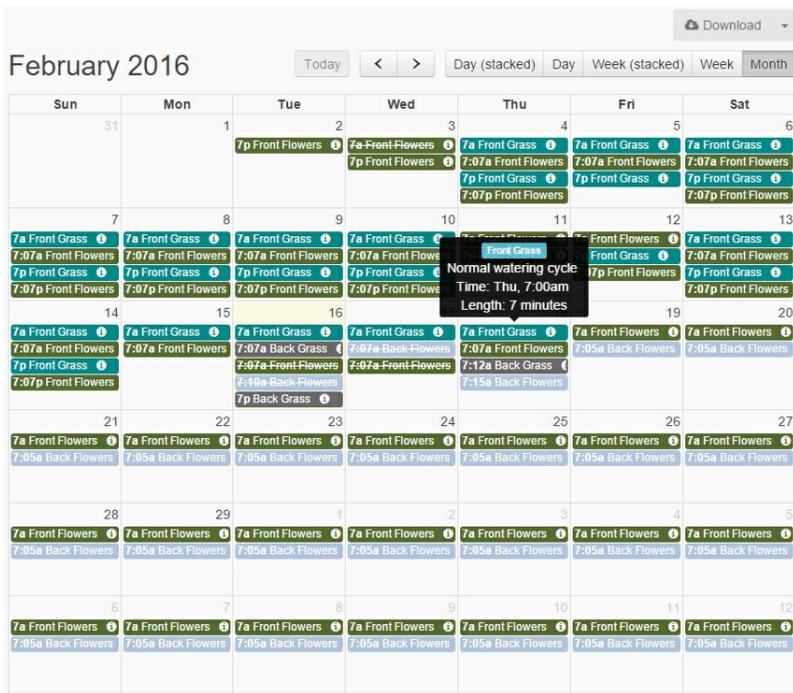
weather forecast from your selected weather station.



Now if we are to change the watering trigger on the second option to off as shown below:



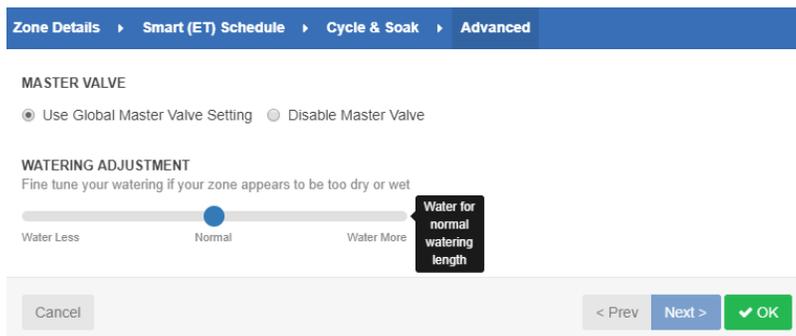
You will notice when checking your watering schedule that it has been changed to water a day earlier on both zones. This is because the trigger "Use forecast rainfall to delay Smart Watering" is on (this is based on the calculations from the weather station; there is rain predicted on 18th). It has not been scheduled to water on that day, and watering has been pushed to the 19th. However, since we turned off this feature, watering will occur regardless if rain is predicted.



IMPORTANT: Some things to keep in mind when using Smart Watering:

Remember that Smart Watering schedules are based on estimated soil moisture balance and how you specify the watering length and peak watering frequency. Thus, the higher your estimated soil moisture balance, the less likely a smart watering zone will be scheduled to water. More importantly, please remember that Smart Watering only forecasts three days in advance. If there is no watering scheduled during the next three days, you will see **Not Scheduled** next to **Next Run** when you highlight over your Smart Watering zone on your dashboard.

- If you choose to change the watering time, you can always go to the tuning tab on any zone for both Smart Watering and Time-Based **Predictive Watering™** to modify watering length as shown below:



Please refer to the link above to gain further understanding of smart watering, if needed. If you have further questions regarding this feature, email us at support@hydrawise.com.

A final note: Although both Smart Watering and time-based **Predictive Watering™** achieve similar water savings due to “predictive weather” watering triggers, time-based watering is easier to understand and adjust.

Offline Mode - Accessing Offline Mode

Offline Mode

If the controller loses its internet connection for more than 24 hours, you'll receive a notification email. The controller will then go into offline mode. In offline mode, your controller won't be able to access local weather conditions such as rainfall or evaporation. As a result, it will revert to a predefined program.

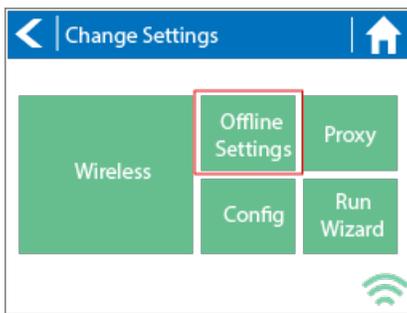
- For **Smart Watering** zones, the controller will adjust each zone's watering length based on your offline watering budget and will water at each zone's configured peak watering frequency.
- For **Time-Based Watering** zones, the controller will adjust each zone's watering length based on your offline watering budget and will water at each zone's configured watering frequency.
- Note that **Cycle and Soak** is not supported in offline mode and each zone will water for its full watering length without pausing.
- The controller will only water at your configured **Program Start Times**.

To set your controller to **offline Mode** for manual configuration, please follow the steps below:

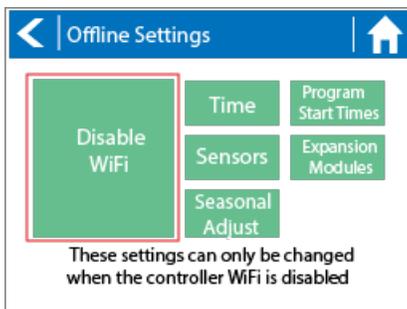
Step 1. From the main menu, tap on **Settings**.



Step 2. Tap on **Offline Settings**.



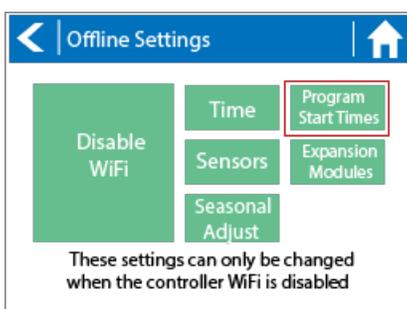
Step 3. Tap on **Disable Wi-Fi**.



Step 4. You will be presented with a warning dialogue. Please make sure you understand the warning before proceeding. If you're sure that you want to go offline, tap **Go Offline**.



Step 5. Now that your controller is in Offline Mode, you can configure it manually by tapping on **Program Start Times**.



Step 6. From this screen, you can manually configure each zone according to your desired schedule. Simply tap on **Add** to add a program start time and follow the steps below. You can toggle between zones by tapping on **Next/Previous** or you can leave the start time to **APPLY to ALL ZONES**.

Applying the start time to **ALL ZONES** will run through all zones with a single start time.

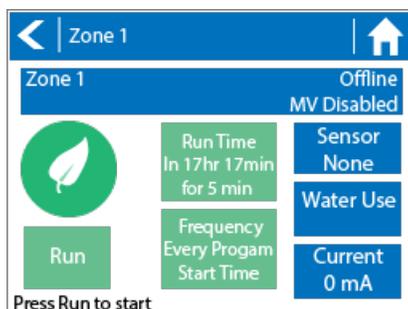
1. Tap **ADD** in the start times menu.
2. Select the green box upper in left to enter **PROGRAM START TIME (24 hr format)**
3. Tap the **DAYS** to be selected **after** finished with start time entry.
4. Tap **CONFIRM** to save the start time entry.
5. Add a second start time for all zones or single zone if desired.
6. Tap the **HOME** icon (upper right) to allow station run times setup.

NOTE: Each zone can have up to four program start times and an additional four start times under the **All Zones** section as shown below.



Step 7. From the home screen, you can manually configure each zone run time. Simply tap on **ZONES** to add a zone run time and follow the steps below. You can toggle between zones by tapping on **each zone number**.

1. Tap **ZONES** in the home menu.
2. Tap the first zone to edit, (**For Example: ZONE 1**).
3. Tap on **RUN TIME** in the center of the screen.
4. Enter **RUN TIME (minutes:seconds format)**, then press **OK** to save entry.
5. Repeat steps **1-4** for station run times.

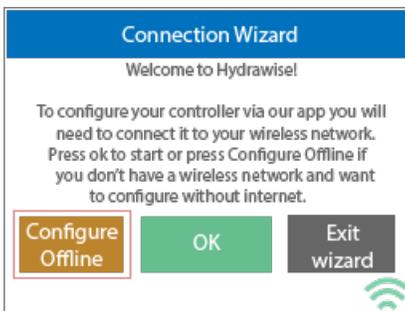


NOTE: To get your controller back in online mode, follow the above steps, enable **Wi-Fi**, reconnect to your **SSID (Wi-Fi connection)**, and let the controller synchronize with your online **Hydrawise account**.

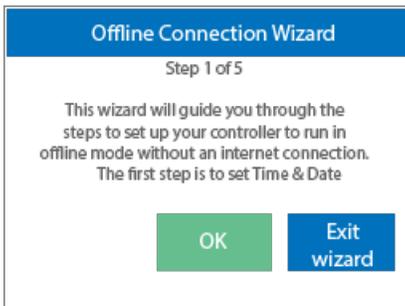
Offline Mode - Run the Setup Wizard

Please follow the steps below to run the setup wizard in offline mode. Refer to [Setting Controller to Offline Mode](#) or [How to Factory Reset Controller](#) before running the wizard.

Step 1. From the **Connection Wizard** screen, tap on **Configure Offline**. If you select **OK**, you will proceed to the online setup wizard.



Step 2. Tap **OK** to move on to the next step.



Step 3. Enter in today's date if it hasn't already been set or if it is incorrect.

Step 4. Enter today's time if it hasn't already been set or if it is incorrect.

Step 5. From this screen, tap **OK**.

Step 6. Please assign your **Master Valve** if you're running one as advised on the previous screen. Otherwise, keep **Not Assigned** selected and tap **Confirm**.

Step 7. Tap **OK**.

Step 8. You can now enter (in minutes) the run length you want for your **default zone run**

time. Then tap **OK**.

Step 9. Tap **OK** to proceed to the next screen.

Step 10. Next, set how often each zone will run. As advised on the previous screen, you can set individual frequencies for each zone.

Step 11. Tap on **OK** to proceed.

Step 12. From this screen, you can manually configure each zone according to your desired schedule. Simply tap on **Add** to add a program start time and follow the steps below. You can toggle between zones by tapping on **Next/Previous** or you can leave the start time to **APPLY to ALL ZONES**.

Note: Each zone can have up to four program start times and an additional four start times under the All Zones section as shown below. Applying the start time to ALL ZONES will run through all zones with a single start time.

1. Tap **ADD** in the start times menu.
2. Select the green box upper in left to enter **PROGRAM START TIME (24 hr format)**
3. Tap the **DAYS** to be selected **after** finished with start time entry.
4. Tap **CONFIRM** to save the start time entry.
5. Add a second start time for all zones or single zone if desired.
6. Tap the **HOME** icon (upper right) to allow station run times setup.

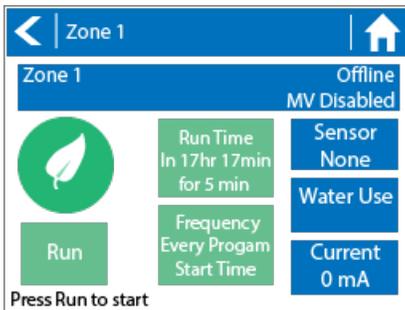


Step 13. From the home screen, you can manually configure each zone run time. Simply tap on **ZONES** to add a zone run time and follow the steps below. You can toggle between zones by tapping on **each zone number**.

Note: The default run time and default watering frequency are applied to all zones during the setup wizard. Setting individual run times and frequencies is done by going into each zone afterwards

1. Tap **ZONES** in the home menu.
2. Tap the first zone to edit, **(For Example: ZONE 1)**.
3. Tap on **RUN TIME** in the center of the screen.
4. Enter **RUN TIME (minutes:seconds format)**, then press **OK** to save entry.

5. Repeat steps 1-4 for station run times.

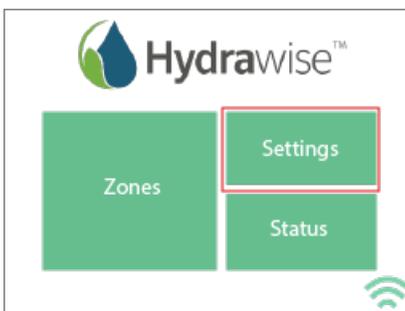


NOTE: To get your controller back in online mode, follow the above steps, enable Wi-Fi, reconnect to your SSID (Wi-Fi connection), and let the controller synchronize with your online Hydrowise account.

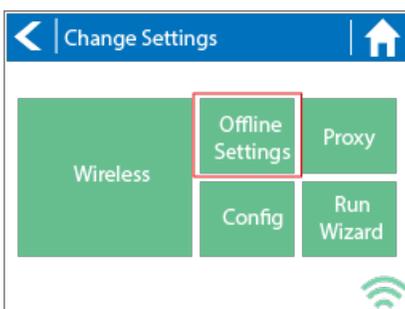
Offline Mode - Sensors

Please follow the steps below to add and configure your sensor or flow meter in **Offline Mode**. Please use the following link for [Installation Instructions](#).

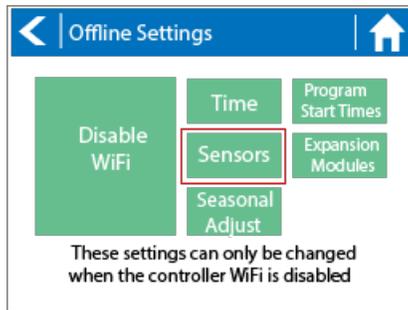
Step 1. From the main menu, select **Settings**.



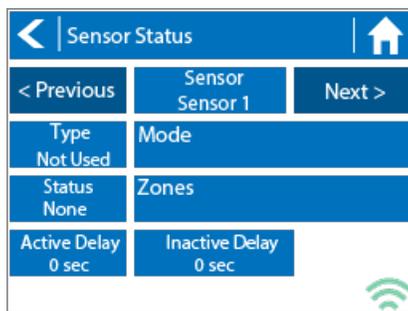
Step 2. Next, select **Offline Settings**.



Step 3. Select Sensors.



Step 4. From this screen, you can now navigate between **Sensor 1** and **Sensor 2** by using the **Next** and **Previous** options. Just as you configure your sensors online, you can select the different options to make changes accordingly.



Sensor Status Options	
Type Options	Not Used, Level (Rain Sensor) or Flow Meter
Mode	Stop when open, Stop when closed, Start when open, or Start when closed.
Status	Open or Closed
Zones	Applies to all zones
Active Delay	Seconds
Inactive Delay	Seconds

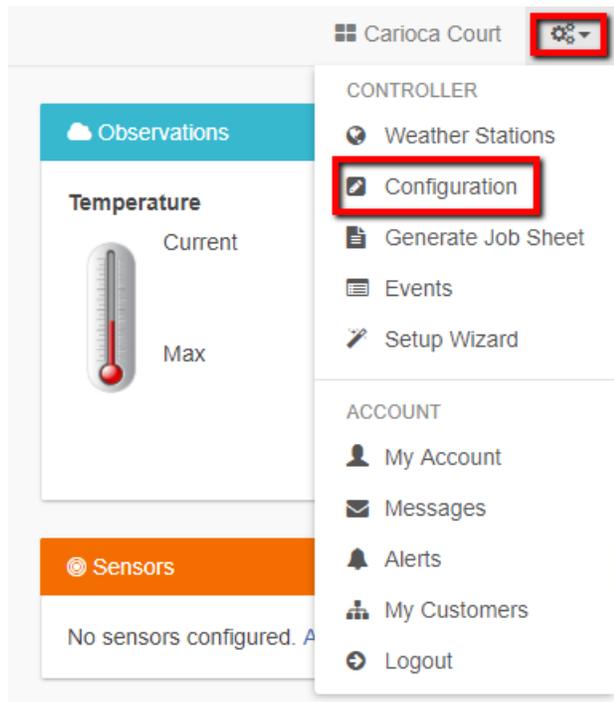
Offline Mode - Seasonal Adjust

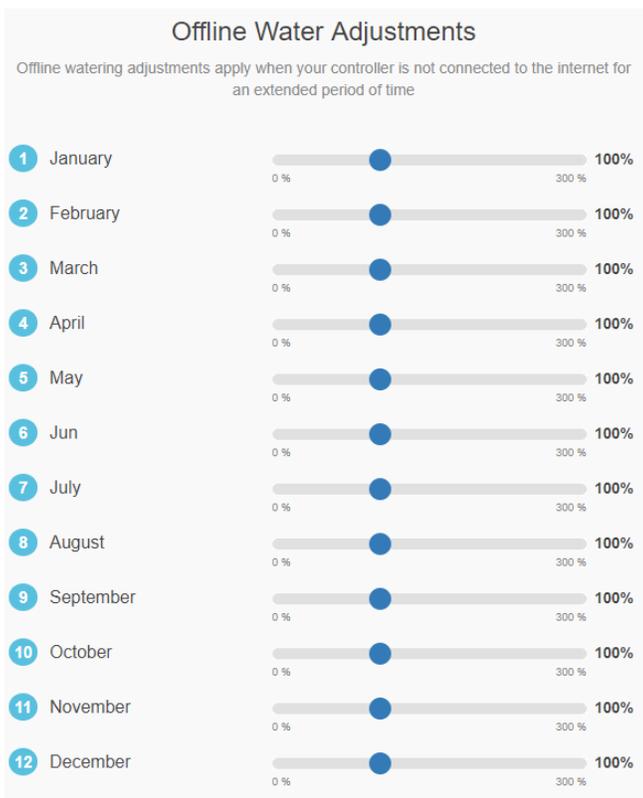
Offline water adjustments allow the controller to automatically adjust the amount of watering on a month by month basis if the controller is in an Offline mode (ie. not connected to the internet). Steps below will cover both online and offline instructions on

changing the seasonal adjust for when the controller enters offline mode.

Online: Offline Water Adjustment

1. Select the three gears on the upper right.
2. Scroll down to configuration.
3. Offline adjustments will be towards the bottom of the page. Sliders can be moved to adjust the offline watering from 0%-300%.

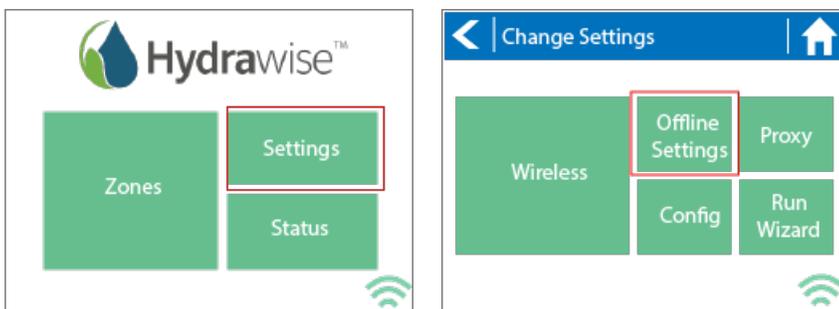


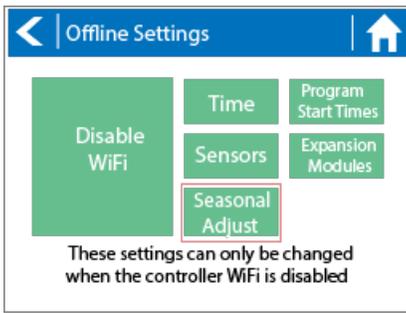


Offline: Offline Water Adjustment

1. Select settings.
2. Next, select offline settings.
3. Select seasonal adjust.
4. Select a month to adjust.
5. Adjust each month by a percentage then select OK.

Controller screenshots below:





Account - API Information

Thank you for your interest! The Hydrowise API is coming soon...

Please register your interest with anthony.long@hydrowise.com

Thank You

Smart Voice Device - Amazon Alexa

In this guide, we will explain how to link your Amazon Alexa account with your Hydrowise account. Once you have linked your Alexa account to your Hydrowise account, you will be able to start, stop, or suspend zones using voice commands to your Alexa device. For example, you can say, "Alexa, ask Hydrowise to start Zone 1."

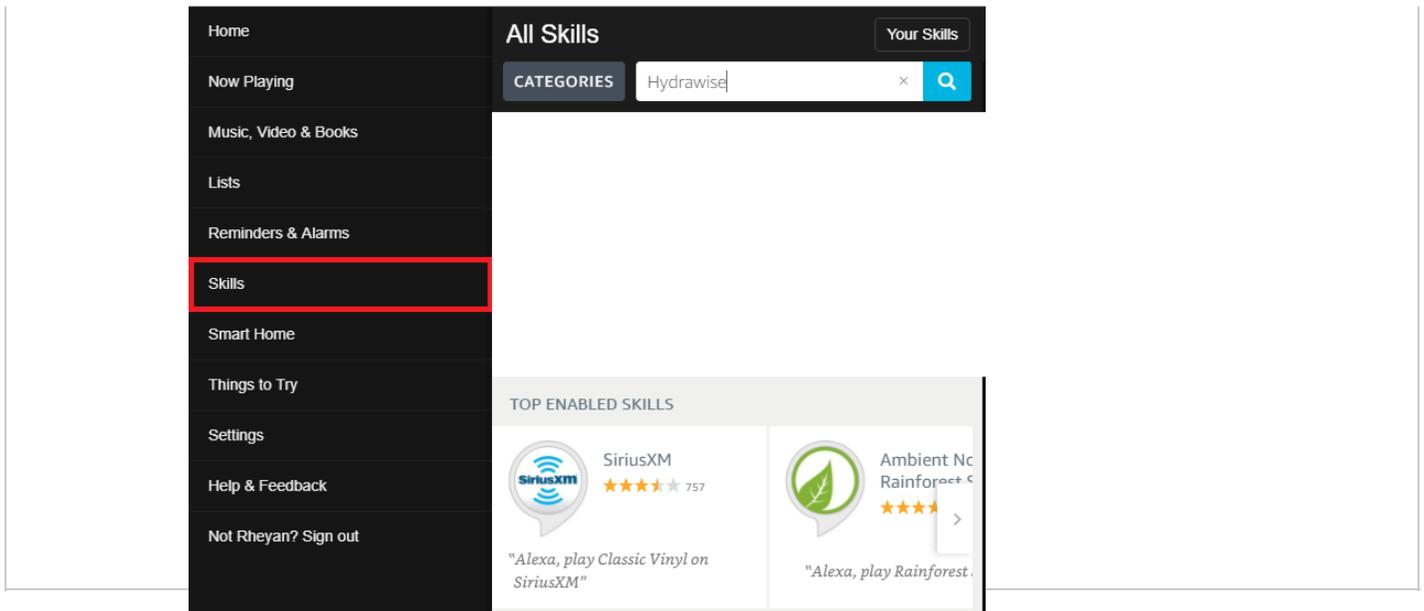
NOTE: Alexa supports only one controller per account. If you have multiple controllers linked to your account, Alexa does not know which controller you are referring to and will not be compatible. We now have Amazon Alexa approved for the following countries USA, Canada, Germany, and India.

Adding the Hydrowise skill to Alexa

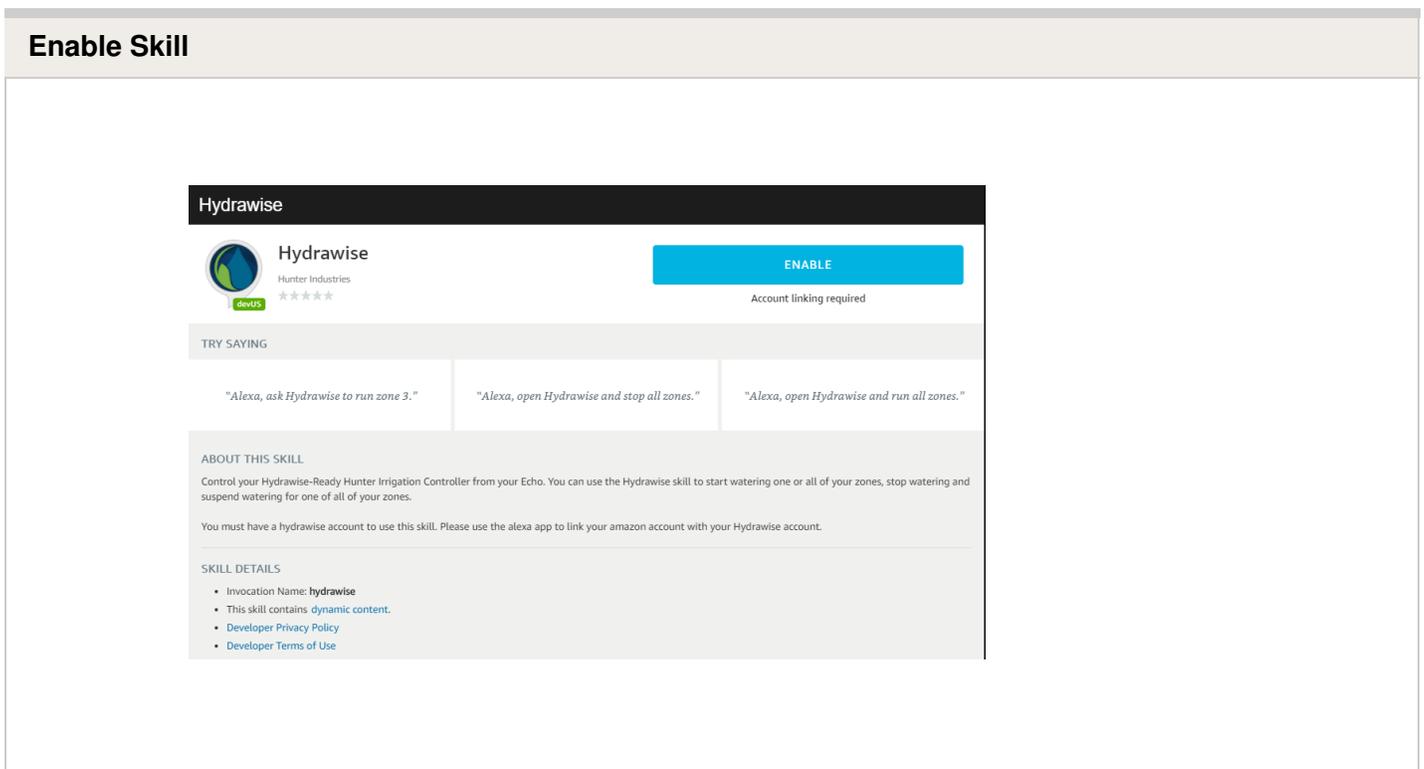
To get started, you will need to make sure you have a Hydrowise account and have your controller configured. If not, please register for a free account [here](#). Once you have your Hydrowise account ready, log in to your Alexa account (if you don't have one yet, you can register [here](#)). The Alexa account and your Hydrowise account can have a different email address without an issue.

1. Go to the **Skills** section on your Alexa Dashboard.
2. Search for the "**Hydrowise skill**," and select it.





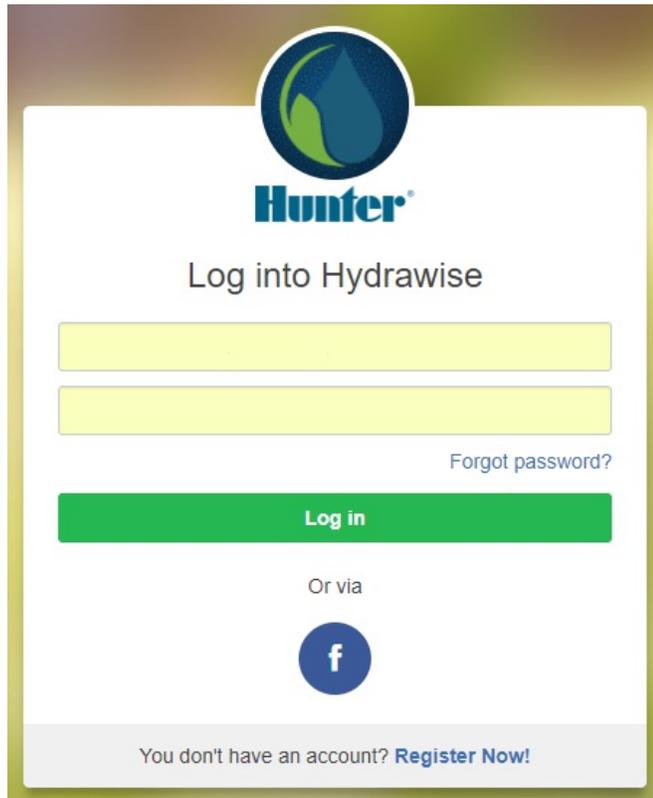
1. Click **ENABLE**.



This will open a new window where you can log in to your Hydrawise account.

IMPORTANT: Please make sure you have pop-ups enabled for the Hydrawise log-in window. If pop-ups are blocked, you will not be able to log in and continue the linking process.

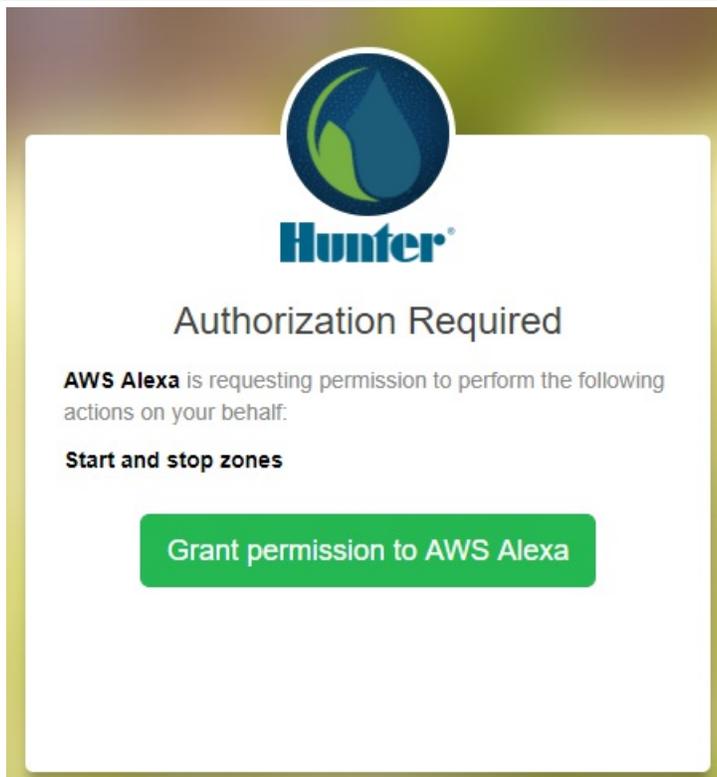
Log Into Hydrawise



The login interface features the Hunter logo at the top, which consists of a blue water drop with a green leaf inside a circular frame. Below the logo, the text "Log into Hydrawise" is centered. There are two yellow input fields for username and password. A "Forgot password?" link is positioned to the right of the password field. A green "Log in" button is centered below the fields. Below the button, the text "Or via" is followed by a blue Facebook icon. At the bottom, a grey bar contains the text "You don't have an account? [Register Now!](#)".

If you are already logged in, you will see the next dialogue box appear.

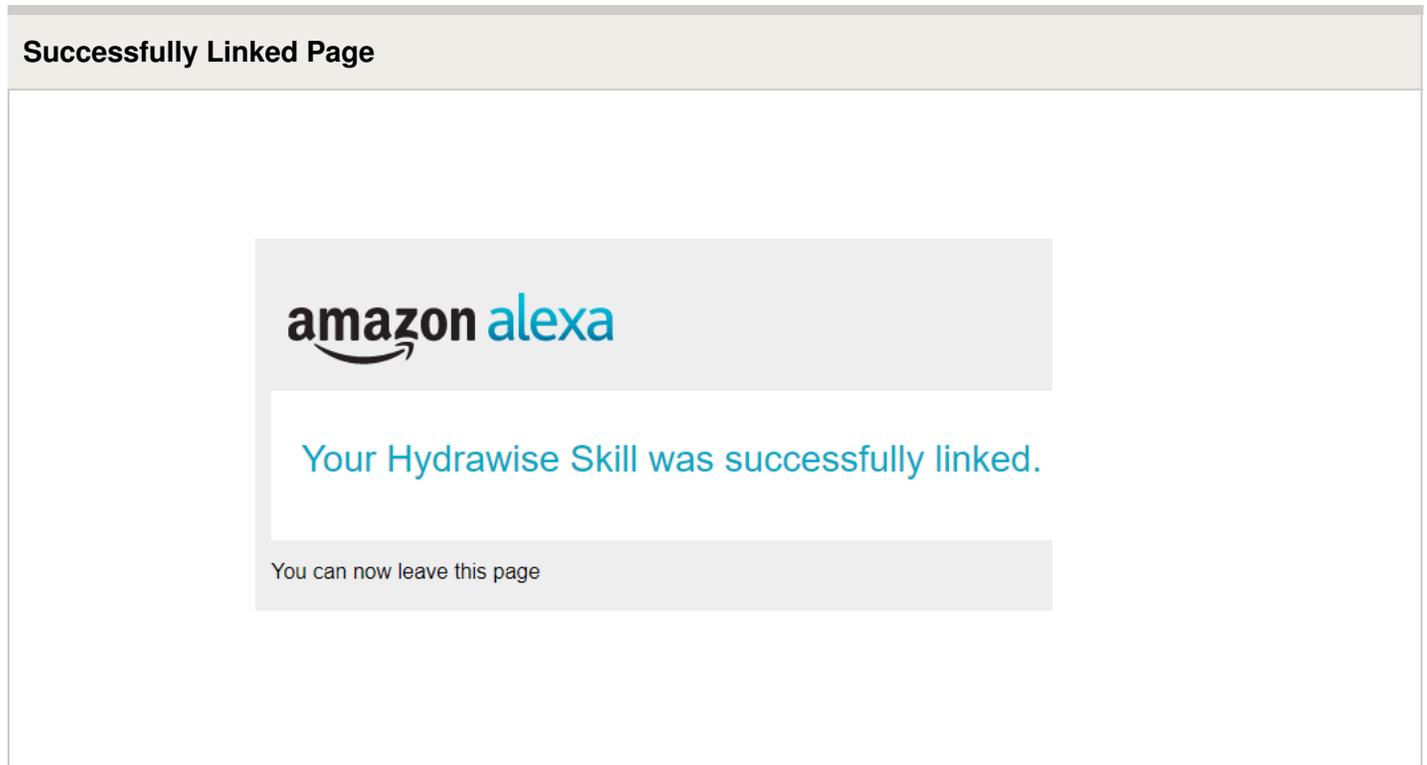
Authorization Required



The authorization dialog box features the Hunter logo at the top. Below the logo, the text "Authorization Required" is centered. The text "AWS Alexa is requesting permission to perform the following actions on your behalf." is displayed. Below this, the text "Start and stop zones" is shown. A green button with the text "Grant permission to AWS Alexa" is centered at the bottom.

Click **Grant permission to AWS Alexa**.

You will then receive a confirmation that Hydrawise was successfully linked and you can close the window.



Using Alexa to control your Hydrawise

Zones can be started or stopped by referencing the zone number (do not use the zone name). For example, if your Zone 1 is called “Front Garden” and you want to start it, you can say, “*Alexa, ask Hydrawise to start Zone 1.*”

Alexa supports the following key phrases:

- **Alexa, ask Hydrawise to start/run zone {number}.**
 - This command will start a single zone for its default irrigation time.
 - e.g., *Alexa, ask Hydrawise to start Zone 5.*
- **Alexa, ask Hydrawise to start/run zone {number} for {x} minutes.**
 - This command will start a single zone for a specific time
 - e.g., *Alexa, ask Hydrawise to run Zone 1 for 10 minutes.*
- **Alexa, ask Hydrawise to start/run expander {expander number} zone {number}.**
 - This command will start a single zone on controllers with expansion modules
 - e.g., *Alexa, ask Hydrawise to start Expander 1, Zone 1.*
- **Alexa, ask Hydrawise to start/run all zones.**
 - This command will start all zones for their default irrigation time.
- **Alexa, ask Hydrawise to stop/finish zone {number}.**
 - This command will stop a single zone if it is currently running.

- Alexa, ask Hydrawise to stop/finish expander {expander number} zone {number}.
 - This command will stop a single zone on an expansion module.
 - Alexa, ask Hydrawise to suspend zone {number} until {time/date}.
 - This command will suspend all zones for a period of time.
-

Home Automation - Control4

Hydrawise is now compatible with Control4 home automation software.

Control4 installers can now download drivers to allow the integration.

From the Control4 app, you can:

- View icons and zone information
- View proposed watering
- Manually start a zone
- View active (watering) stations

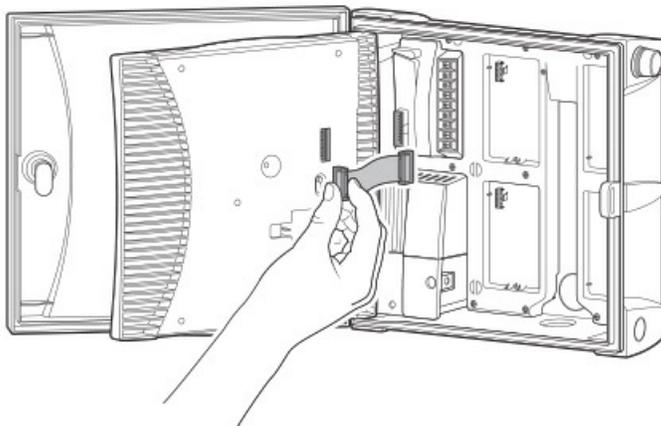
NOTE: More details on Control4 integration can be found using this link: [Control4 Details](#).

HCC - AC Wiring

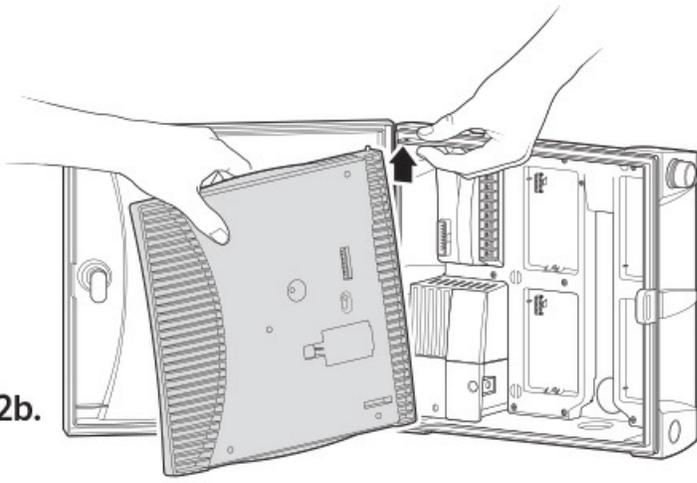
Connecting the controller to primary AC power should be done by a licensed electrician following all local codes. Install in approved conduit and fittings. The controller can operate with either 120VAC or 230VAC power. Supply wires must be 14AWG/ 2 mm² or larger.

1. Turn AC power **"off"** at the source, and verify that it is off.
2. Disconnect the **"facepack"** ribbon cable.
3. Remove the **"facepack."**
4. Remove the **"cover"** from the junction box.
5. Strip about **0.5"** (13 mm) of insulation from the end of each AC power wire.
6. Route the wires through the **"conduit opening"** inside the junction box.
7. Connect AC wiring using supplied terminal block (or taped wire nuts where permissible).

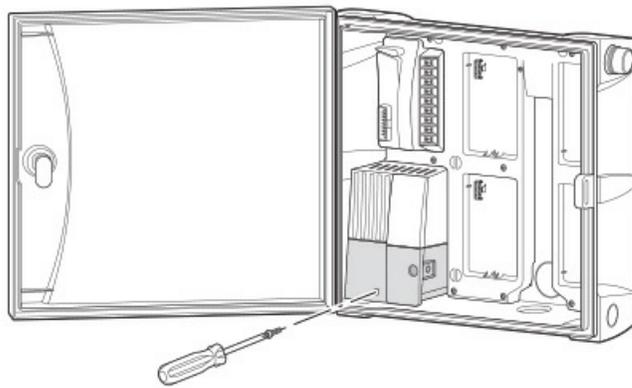
2a.



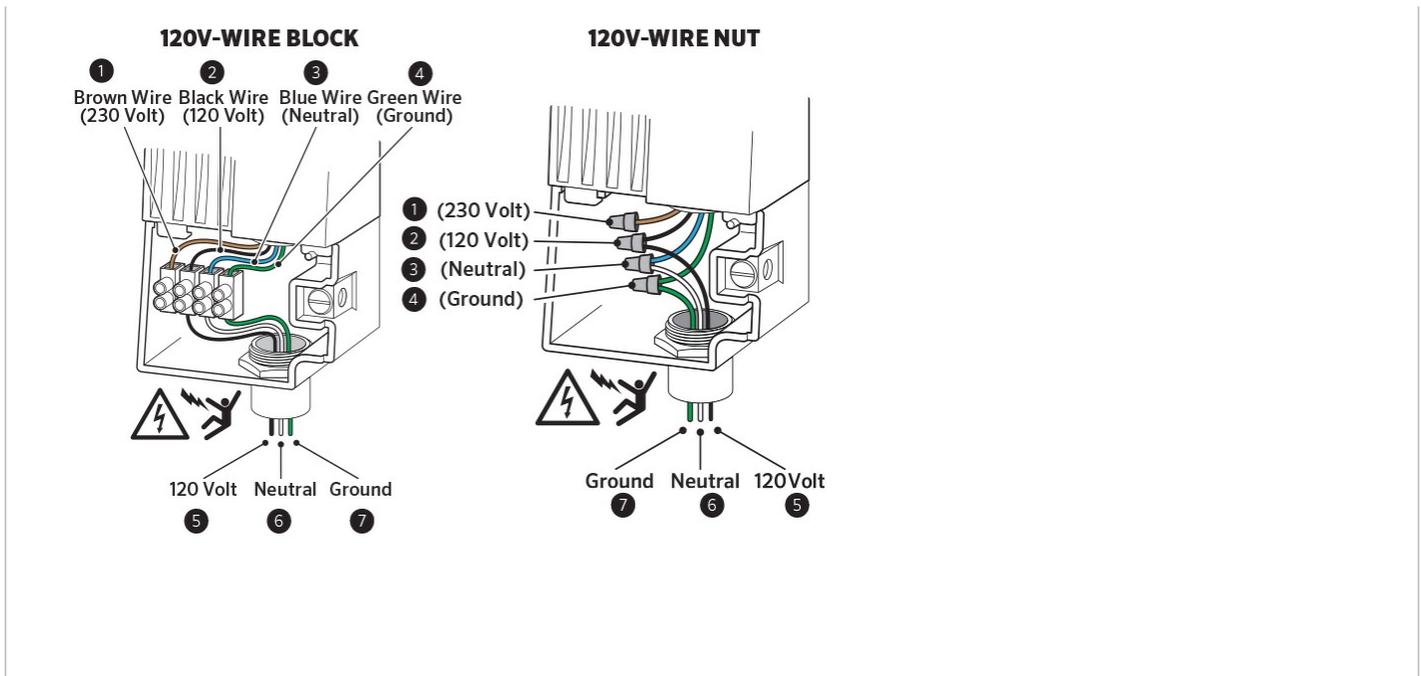
2b.



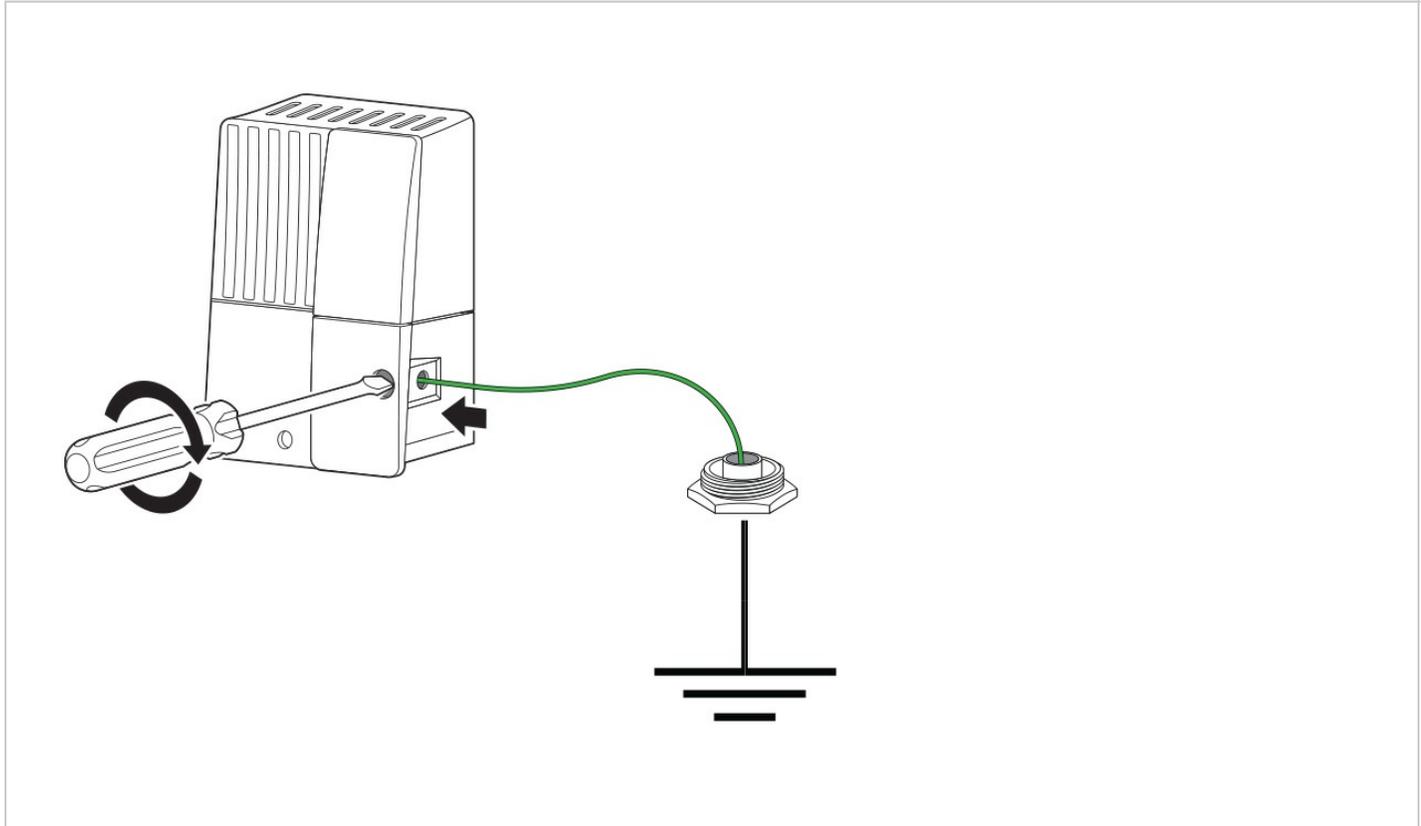
2c.



Wiring Block



Wiring Block



1. Insert copper wire from earth ground hardware, and tighten screw in front.
2. Minimum 10 AWG/5mm² wire to earth ground hardware.
3. Add copper-clad steel ground rods and/or plates sufficient to achieve 10Ω or less resistance at a minimum 8'/2.5 m away from controller.

HPC - Installation

Ensure you have a strong Wi-Fi signal. Wi-Fi connectivity can be tested on the HPC panel itself (signal strength is shown when you select a wireless network). If you have any issues connecting the controller to the router, please verify all Wi-Fi specifications [here](#).

Remove Pro-C Face Panel

1. Remove ribbon cable with power off.
2. Press down on white hinge release button.
3. Remove face panel.



Install HPC-FP Face Panel

1. Press blue hinges together and attach new HPC panel.
2. Reconnect ribbon cable
3. Close and turn power on



For information on complete setup in the application, please visit our "[How To Guide](#)" section.

HPC- WRCLIK and HC Flow Meter

In the event you will need to install a flow meter and a rain sensor on the **HPC** controller, you will need to install using the following instructions. The **HPC** controller utilizes a single SEN output so these steps are necessary to make this work. For correct field wiring of the flow meter, please reference the article [here](#).

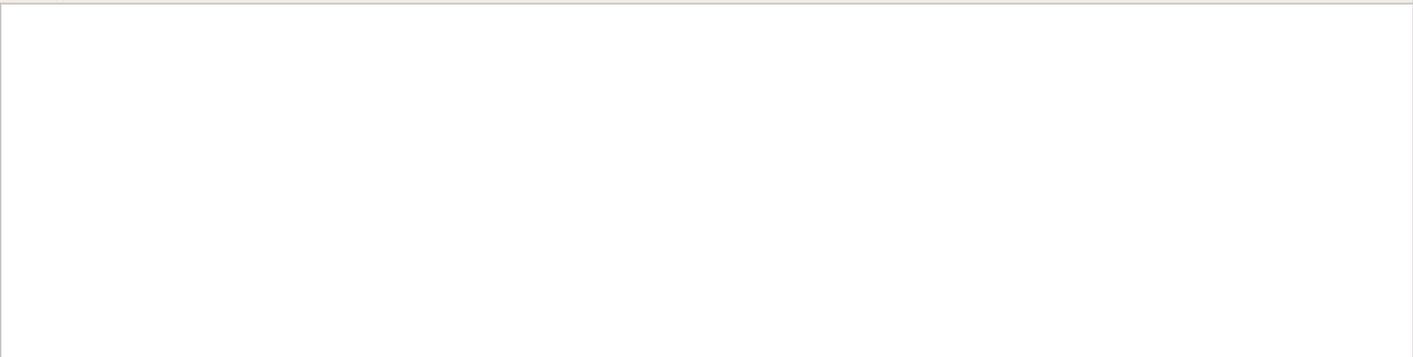
NOTE: The software will only recognize the flow meter for this type of installation. The Wireless Rain Clik will still shut down system after a rain event, but this will not reflect anywhere in the software. The reports will not show ANY data for the rain events.

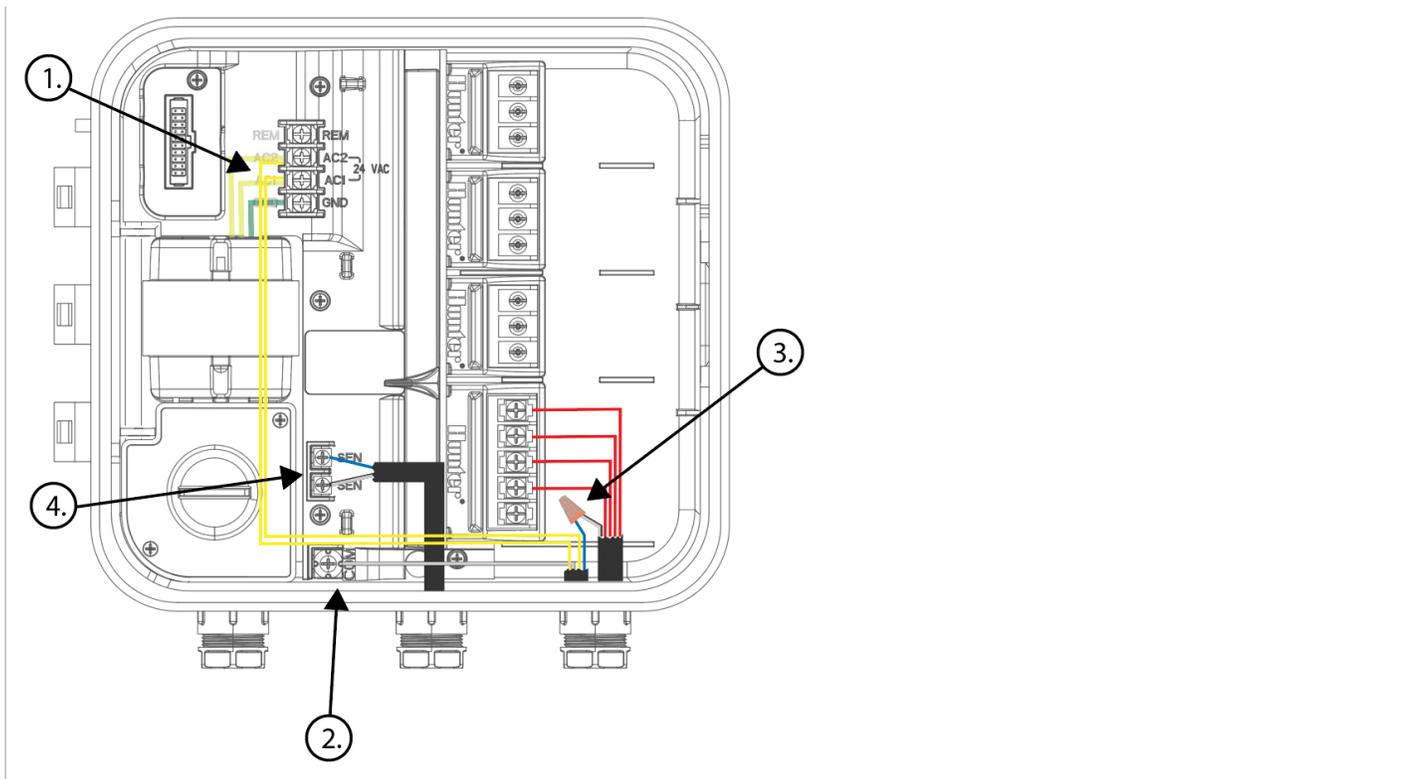
IMPORTANT: You will see alerts for underflow from the flow meter since the system will continue to run even with the common circuit interrupted by the rain event. These alerts will have to be ignored for this type of application. For more details on alerts, please view this article [here](#).

Please reference chart and illustration below for controller wiring details.

Illustration	Terminals	Wires
Figure 1.	AC 1/ AC 2	WRCLIK Yellow
Figure 2.	COMMON	WRCLIK White
Figure 3.	Valve Common	WRCLIK Blue
Figure 4.	Flow meter - Blue/White	METER Blue/White

Right Click to View Larger image





Flow Meter - Install Chart

The chart below will include all the necessary key points of the install to avoid any false alerts or readings.

Installation Steps	Description
Flow Meter Body	Analog dial for manual readings shown in US gallons. Units can be changed in App to gallons or liters.
Adapter	Brass unions included to fit your irrigation system.
	Install between the master valve and zone

Entry Location	valves. Meter should be installed 10 times pipe diameter before and 5 times after with straight pipe, no fittings.
Cable used	18 gauge - 1000 foot max Length. Shielded wire is highly recommended. Cable should consist of two dedicated wires and must not be in the same conduit, cable bundle or trench as the solenoid wires. DO NOT share common wire.
Flow meter body	Arrow indicates direction of flow.
Wire Connection	Blue/White wire only, red not used. See sensor configuration for more info based on model controller.
Log in to your account	Enter your login information.
Create your flow sensor	App will show options for all HC meters.
Creating Alerts	See link here

Flow Meter - Quick Start Guide

Please click on the link below to download the flow meter connection guide.

[Connecting Your Hydrawise Flow Meter](#)

Flow Meter - Specifications

HC FLOW METER SPECIFICATIONS

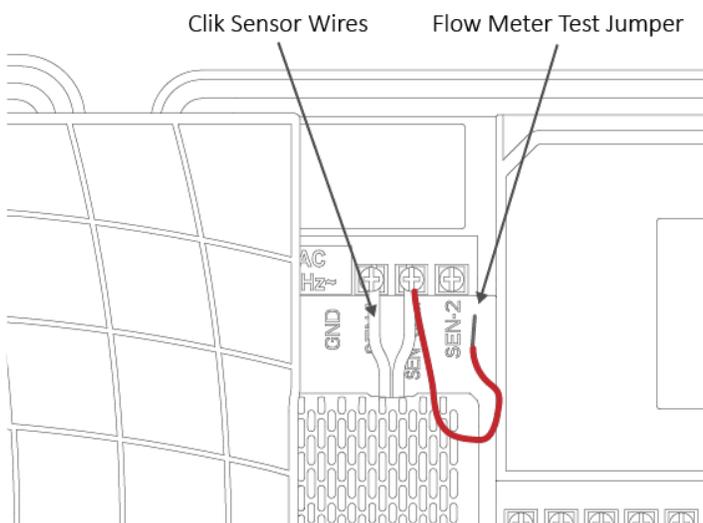


	HC-075-FLOW (¾")	HC-100-FLOW (1")	HC-150-FLOW (1½")	HC-200-FLOW (2")
Inlet/outlet connection size	¾" NPT body, male thread with 1" NPT male adapter	1" NPT body, male thread with 1.5" NPT male adapter	1½" NPT body, male thread with 2" NPT male adapter	2" NPT body, male thread with 3" NPT male adapter
Meter internal diameter	¾"	1"	1.5"	2"
Minimum flow (GPM)	0.22	0.3	0.88	1.98
Maximum recommended flow (GPM)	15	30	66	105
Maximum flow rate (GPM)	21	34	88	132
Dial reading (US gal)	1 pulse per 0.1 U.S. gal	1 pulse per 1 U.S. gal	1 pulse per 1 U.S. gal	1 pulse per 1 U.S. gal
Maximum working pressure (PSI)	230	230	230	230

Flow Meter - Test

If your flow meter is working but is not recording data in your **Dashboard** or events, follow the steps here:

1. If you can access the wires at the flow-meter end, strip the two wires back (if you're using quick disconnects, you can use a paper clip or wire to make contact) and touch them together. Do this 10 times, as each contact will record a pulse.
2. Access your app and see if flow data was registered.
 - If yes, your wiring and system are set up correctly. Reconnect to the flow meter and run a large flow (lots of sprinklers) zone. Did you get a flow on your app? If yes, all is OK. If no, contact support@hydrawise.com.
 - If no, go back to the controller and use another piece of wire to connect one end to either sensor 1 or sensor 2 (the port the flow meter is normally connected to). Then tap the other end against the sensor common (in the blue section). Do this 10 times.
3. Go to the app and see if it registered flow data.
 - If yes, there is a problem with the wire running to the flow meter.
 - If no, contact support@hydrawise.com.
4. To test the sensor inputs on the controller, you can use the same method with a paper clip or wire to make contact between sensor 1/sensor 2 and the sensor common. Do this 10 times and then check for flow data in your Dashboard.



IMPORTANT: Our controller is not polarity sensitive. There is no risk of electric shock when performing these tests. However, if you feel uncomfortable, please contact a qualified technician or irrigation specialist for further assistance.

NOTE: If it works at the controller end but not the flow-meter end, there is a wiring fault.

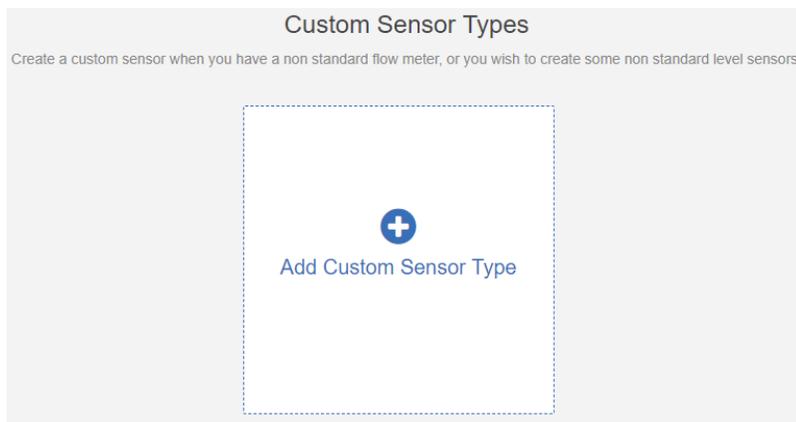
If it doesn't work at the controller end, contact support@hydrawise.com.

If it works at both ends, but still does not register flow on the app, contact support@hydrawise.com.

Flow Meter - Custom Flow Sensor Configuration

To add a custom flow sensor, go to [Sensors](#) from your web browser or smartphone application.

Click **Add Custom Sensor Type**



A dialogue box will appear for you to enter your custom flow meter details. Make sure you enter the calibration details for your custom pulse-based flow meter. Please refer to the manufacturer specifications to find out the calibration. Otherwise, you will not get accurate readings to display on your flow data.

Edit Custom Sensor Type ✕

Sensor Type Name
Assign a descriptive name for this sensor definition

Type of Sensor
Flow Meter ▼

Number of litres per pulse
0 litres per pulse

Flow Meter Action
Record water usage ▼
Choose what actions this flow meter can cause

Cancel

NOTE: For our system to detect the correct flow data and reflect it on your **Dashboard** reports, any third-party flow meter used must be a true pulse flow meter or have a reed switch. We aim for a minimum of 10 pulses per min and a maximum of 120 pulses per min. That means if the flow rate was 10 gal per min, 1 pulse per gallon needs to be set.

When using a third-party flow meter, please ensure it meets the specs above and is calibrated correctly. Otherwise, data will not reflect accurately in reports. Also, note that the wiring is not polarity sensitive. As long as you have one wire in a **Sensor Port** and a **Sensor Common**, the device will work correctly. For flow meters that use three wires and meet the specs above, configure the wiring until you find the two correct wires to use.

Flow Meter - Winterization

We recommend that a qualified licensed contractor perform this type of winterization method. The blowout method utilizes an air compressor with a cubic foot per minute (CFM) rating of 80-100 for any mainline of 2" or less. The compressor is attached to the mainline via a quick coupler, hose bib, or other type connection, which is located beyond the backflow device. Compressed air should not be blown through any backflow or flow meter device. For additional winterization procedures, we highly recommend contacting the local dealer for the most common local practices. In the event you need to blow upstream from where the flow meter is located, we recommend bypassing the meter by temporarily

installing a SCH 80 or galvanized nipple. See the size chart below:

Model	Description	Male-Thread NPT	Nipple Length
HC-075-FLOW	¾" NPT body, male thread with 1" NPT male adapter	1" NPT	5"
HC-100-FLOW	1" NPT body, male thread with 1.5" NPT male adapter	1 ¼"NPT	5"
HC-150-FLOW	1½" NPT body, male thread with 2" NPT male adapter	2"NPT	12"
HC-200-FLOW	2" NPT body, male thread with 3" NPT male adapter	N/A	N/A

Find a Hunter Distributor closest to you using our interactive lookup - [Get Hunter](#)

For step-by-step instructions on installing the nipple to bypass the flow sensor, **CLICK** on this link: [Flow Meter Winterization Bypass](#)

Sensors - Configuration

Hydrawise supports two types of sensors:

1. Flow sensors that measure water usage for an irrigation zone (or zones).

- Rain sensors, wind sensors, and moisture sensors (sometimes called on/off sensors) that allow you to suspend watering cycles for a zone (or zones).

Flow Meters

Flow meters measure the amount of water going onto each zone. This is really useful for understanding water usage and monitoring issues such as broken pipes.

Hydrawise reporting allows you to see how much water is used for each zone and how much water is used across your system.

With a flow meter, you can also create alerts for flow issues, which will keep you up to date on what's happening (particularly important for unattended homes). See [Creating Alerts](#) for more information.

Flow Meters	
US Hunter HC Flow Meters	3/4 inch NPT Flow Meter
US Hunter HC Flow Meters	1, 1/5, or 2 inch NPT Flow Meter
Metric Hunter HC Flow Meters	20mm BSP Flow Meter
Metric Hunter HC Flow Meters	25, 40, or 50mm BSP Flow Meter
Discontinued Sensors	Flow Meter with 3/4 inch coupling
Discontinued Sensors	Flow Meter with 1 inch coupling

Rain/Moisture Sensors

Hydrawise also supports standard open/closed contact rain sensors and soil moisture sensors. In fact, you can use any generic type of sensor that has an open/close contact.

These sensors use two wires and are usually labeled as normally open (sometimes called NO) or normally closed (sometimes called NC).

A rain or moisture sensor is usually used to stop irrigation. However, you can also create your own custom sensor types to start irrigation or for other advanced applications. See [Creating a Custom Sensor](#) for more information.

HUNTER CLIK	
Rain Sensor (Normally Open)	A standard rain sensor (use this if you have wired the rain sensor's normally open wire to the controller)
Rain Sensor (Normally Closed)	A standard rain sensor (use this if you have wired the rain sensor's normally closed wire to the controller)

Soil Moisture Sensor (Normally Open)	A standard soil moisture sensor (use this if you have wired the soil moisture sensor's normally open wire to the controller)
Soil Moisture Sensor (Normally Closed)	A standard soil moisture sensor (use this if you have wired the soil moisture sensor's normally closed wire to the controller)

Wiring

Flow meters are supplied with [detailed installation instructions](#).

The flow meter wires need to be cabled back to the controller and connected to the **Sensor** inputs on the controller. See chart below for wiring standard Hydrowise flow meters (Sizes include 3/4", 1", 1.5", 2")

FLOW METER WIRE	SCREW TERMINAL	CONTROLLER
BLUE	SEN 1, 2	HC
BLUE	SEN 1, 2	PRO-HC
BLUE	SEN	HPC-FP
WHITE	COM	HC
WHITE	SEN COM	PRO-HC
WHITE	SEN	HPC-FP
RED	Not Used, Cap off	N/A

SENSOR WIRE	SCREW TERMINAL	CONTROLLER
Wire 1	SEN 1, 2	HC
Wire 1	SEN 1, 2	PRO-HC
Wire 1	SEN	HPC-FP
Wire 2	COM	HC
Wire 2	SEN COM	PRO-HC
Wire 2	SEN	HPC-FP

WIRELESS RAIN CLIK



SCREW TERMINAL

CONTROLLER

Yellow/Yellow	24V/24V	HC
Yellow/Yellow	AC1/AC2	PRO-HC
Yellow/Yellow	AC1/AC2	HPC-FP
Blue	SEN 1, 2	HC
Blue	SEN 1, 2	PRO-HC
Blue	SEN	HPC-FP
White	COM	HC
White	SEN COM	PRO-HC
White	SEN	HPC-FP
Orange	Not Used for Hunter Controllers	Open Circuit Controllers Only

Once you've wired your rain, moisture sensor or flow meter, configure it in your Hydrowise account as shown below.

Sensor Configuration

There are two steps to getting your sensor to work for each of your zones:

- Create a new sensor in your Hydrowise account under Sensors. Choose the controller the sensor is connected to and the sensor input you connected it to. Also, choose your sensor type as outlined below or create a custom sensor.

Add New Sensor
✕

Sensor details > Set zones

Sensor Name
Assign a descriptive name for this sensor

Type of Sensor
Choose the type of sensor you have installed. You can also create a custom sensor type if you have something non standard.

1 Inch Brass Flow Meter

Create New Sensor Type...

Controller
Choose the controller that this sensor is wired to

My Controller

Controller Input
Choose the input on the controller that this sensor is wired to

SENSOR 1

Cancel

< Prev

Next >

✓ OK

Once you've created your sensor, assign the zones that will use the sensor in the sensor table.

Add New Sensor
✕

Sensor details > Set zones

Select Zones
Select the zones which will use this sensor

Available zones

Zone 1

Exp1 Z1

⇄

Selected zones

Smart Water

Smart Water 2

Cancel

< Prev

Next >

✓ OK

Create a Custom Sensor You can also create custom sensors in your Hydrowise account under **Sensors**. Some examples of custom sensor types are:

- A flow meter of a different size to the standard Hydrowise flow meters.
- A sensor to conform to restrictions that specify no watering for a minimum period of time after rain is detected.
- A sensor to start irrigation if motion is detected (Enthusiast Plan only)

To add a custom sensor type, go to **Sensors** and click on **Add Custom Sensor Type**. Give the sensor a name and choose its type as outlined below.

Flow Meter Liters per pulse: The number of liters of water expected to pass through the flow sensor per flow meter pulse (you can get this information from your flow meter’s specifications)

Normally Open Sensor/Normally Closed Sensor Sensor Action: Whether the sensor should cause a zone to start or stop.

Start a Zone If the zone should start, choose the minimum number of seconds before the sensor can cause the same zone to start again.

Stop a Zone If the zone should stop, choose the number of seconds to delay before stopping the zone, and how long the zone should be disabled. For example, some watering restrictions require that if rain is detected, sprinklers should not run for at least two days.

Add Custom Sensor
✕

Sensor Type Name
Assign a descriptive name for this sensor definition

Type of Sensor

Normally Open Sensor

Sensor Action

Stops a Zone

Choose what happens when this sensor becomes active

Delay before stopping

seconds

Minimum number of seconds before stopping a running zone

Minimum off period

seconds

Minimum number of seconds the zone should be disabled for

Cancel

✓ OK

Sensors - Clik Sensor Status

Please take note of the sensor states below once you've successfully set up your sensor through the Hydrowise application.

Normally Closed (Default Setup) All Hunter CLIK Sensors

Sensor Status		
Green	Dry - Not Stopping Irrigation	Water
 <p>The screenshot shows a mobile application interface. At the top, there is an orange bar with a white circle containing a dot and the word "Sensors". Below this, there is a green square icon followed by the text "Rain Sensor" and "This sensor is not stopping irrigation".</p>		
Red	Wet - Stopping Irrigation	No Water
 <p>The screenshot shows a mobile application interface. At the top, there is an orange bar with a white circle containing a dot and the word "Sensors". Below this, there is a red square icon followed by the text "Rain Sensor" and "This sensor is stopping irrigation".</p>		

Note: A good example would be a simple switch where closed would represent **ON** position and open would mean the **OFF** position.

For more information on configuring sensors, check our guide [here](#).

Sensors - Installing Personal Weather Station

Installing your own weather station

Installing your own weather station is not a requirement for using a Hydrowise controller. The vast majority of customers use one of the 25,000 weather stations already available to each Hydrowise controller. You may have already realized that the Hydrowise irrigation system is driven in part by temperature, rainfall measurements, and predictions sourced from a weather network called Weather Underground.

Worldwide, the network has tens of thousands of privately owned and operated weather stations that contribute data to be shared by all. During setup of your Hydrowise controller, you would normally select three or more nearby stations for temperature and rainfall calculations and decisions. Since Weather Underground is an open network, you have the option of setting up your own weather station to report and share weather data with others. It is relatively easy and inexpensive to do so.

There are a few possible reasons to set up your own station:

- You don't have any nearby stations to select from.
- You want your observations to be as accurate as possible.
- You have other uses for the local climate information.

There is a wide range of weather stations available on the market suitable for uploading weather data to Weather Underground. The following link provides the most common [Stations](#).

The different brands offer different measurements, accuracy, and build quality. Consequently, they vary in price from about \$100 (U.S. dollars) to \$1,000. They generally measure the following parameters:

- Indoor temperature and humidity
- Outdoor temperature and humidity
- Rainfall
- Wind speed
- Wind direction
- Atmospheric pressure

You can refer to this link for the exact steps to register your personal weather station. [Weather Underground](#)

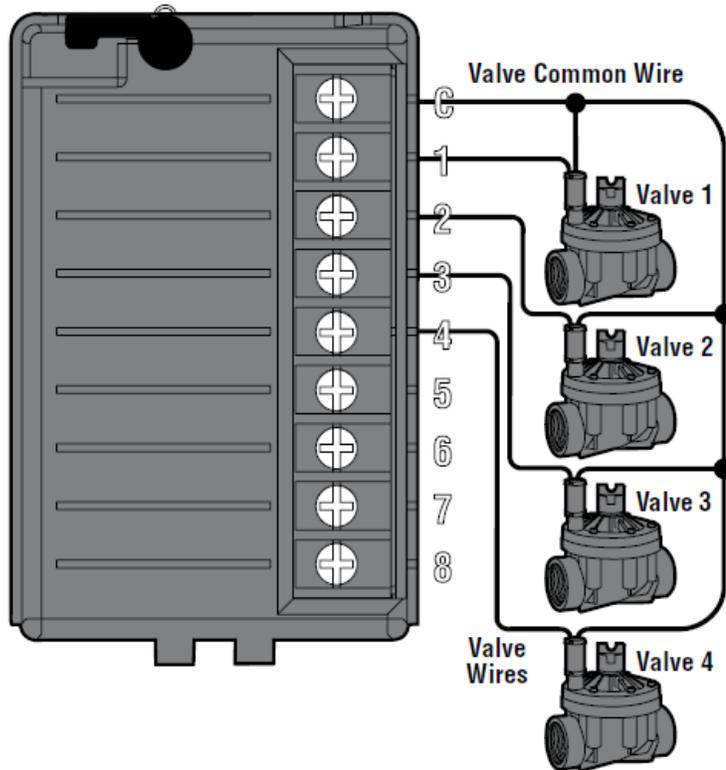
Once Weather Underground has approved and are broadcasting the PWS, please provide

us with the PWS ID. We can upgrade you to the free PWS plan so you have access to your own weather station. [Contact Us](#)

HCC - Valves and Controller Wiring

1. Route valve wires between control valve location and controller.
2. At valves, attach a common wire to either solenoid wire of all valves. The most commonly used color for the common wire is white. Attach a separate control wire to the remaining wire of each valve. All wire splice connections should be done using waterproof connectors.
3. Open hinged faceplate on the controller to access the terminal strip area.
4. Route valve wires through the conduit and attach conduit to the controller at the large conduit opening on the right side of the bottom of the cabinet. The conduit opening has a triple knockout to accommodate 1", 1¼", or 1½" (25, 32, or 40 mm) conduit. Each section can be easily removed using a knife.
5. Strip ½" (13 mm) of insulation from ends of all wires. Secure valve common wire to **C** (Common) terminal on any of the valve modules or power module. Then attach all individual valve control wires to appropriate station terminals.

HCC CONTROLLER

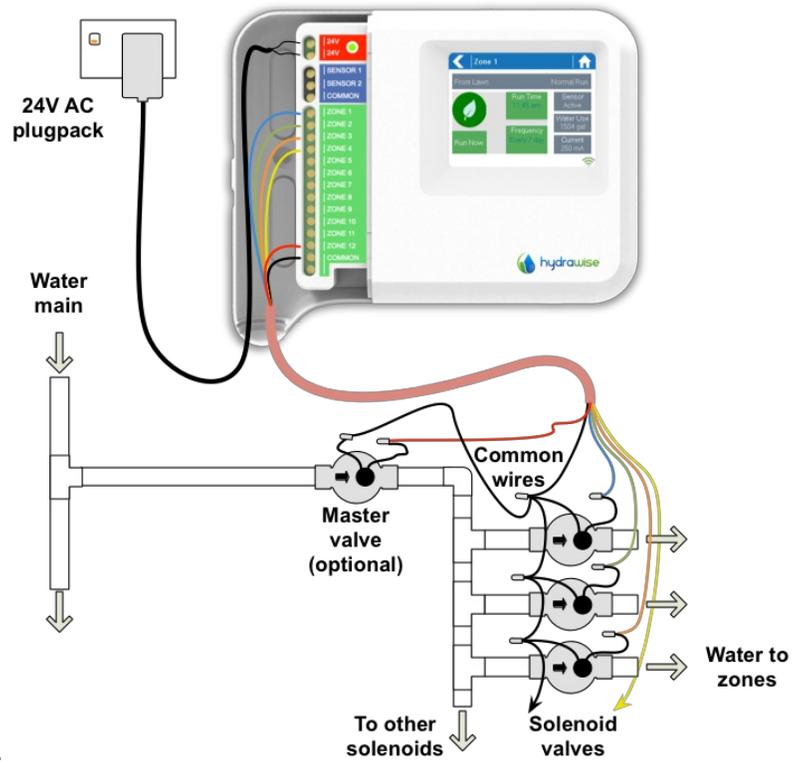


Master Valve - Configuration

A master valve is an automatic valve installed at the point where the irrigation system connects to the water supply. (Sometimes this circuit is called a “pump start circuit.” Both types work in a similar fashion, and can be used as a pump and/or a master valve.) The controller turns the master valve on and off.

How does it work?

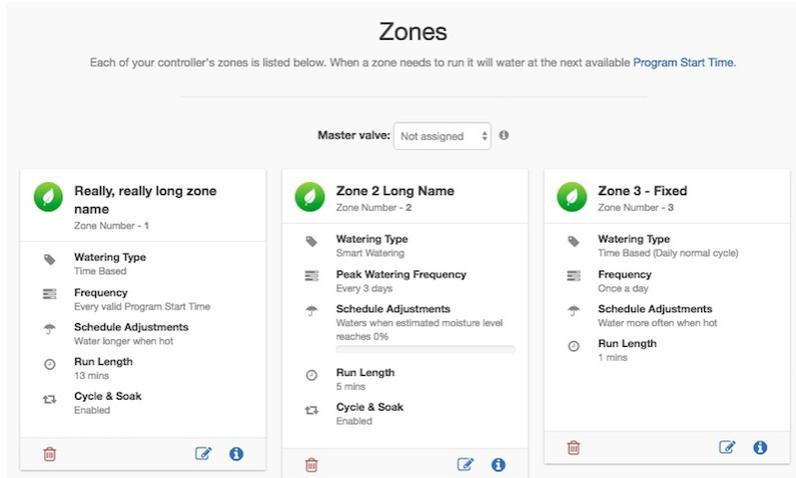
Zone valves are the individual valves that operate a group of sprinklers or drip emitters. A Hydrowise controller supports 6 or 12 zone valves, depending on the model. Typically, one zone valve is turned on at a time and controls the irrigation in a specific area of your landscape. Whenever one of the irrigation zone valves is told to open by the controller, the controller also signals the master valve to open. This means that the master valve acts somewhat like a backup valve or a fail-safe valve. The purpose of the master valve is to shut off the water to the irrigation system when no zone valves are operating. The image below shows a master valve operating



connected to Zone 12 on a Hydrowise controller.

Configuring Master Valve - HC

With a Hydrowise controller, any one of your 6 or 12 zones can be configured to act as a master valve. The master zone is configured on the [Zones and Schedules](#) page above your list of irrigation zones.



Initially, no master valve is configured and all zones on the controller can be used as normal zone valves. To select a master valve, select the relevant zone from the list next to the text that says **Master valve**.

Configuring Master Valve - PRO-HC

With the Pro-HC, setting the master valve (MV) is similar. All you need to do is select whether you have a MV as shown below.

Master valve: No master v. ▾
No master valve
Yes

You no longer have to select which zone the MV is connected to, as the option will be different depending on the controller you select when setting up your controller for the first time.

Configuring Master Valve - HPC-FP (Panel for PC-400 controller)

The default is for all stations to have the master valve/pump start circuit ON. The master valve/pump start can be set **ON** or **OFF** by station, regardless of which program the station is assigned.

First, make sure you have the master valve selected "YES" in the box below:

Zones

ed below. When a zone needs to run it will water at the i

Master valve: Yes ▾ ⓘ

🌿 **Zone 2**
Zone 2

🔧 **Watering Type**

Next, follow the steps for initializing the P/MV for each zone.

1. Click the  icon for the zone in "zones and schedules"
2. Click **Next** three times to enter the advanced section or programming.
3. You can now choose either of the following:
 1. Use **Global Master Valve Setting** (Turns the P/MV circuit ON)
 2. Use **Disable Master Valve** (Turns the P/MV circuit OFF)

Zone Details ▶ Time Based Schedule ▶ Cycle & Soak ▶ **Advanced**

MASTER VALVE

Use Global Master Valve Setting Disable Master Valve

WATERING ADJUSTMENT

Fine tune your watering if your zone appears to be too dry or wet

Water Less
●
 Water More

Water 20% more

Cancel < Prev Next > ✔ OK

Valve - Wire Distance

Below is a chart indicating the maximum wire runs that can be used when installing Hunter AC solenoids and valves.

Valve Wire Sizing							
Ground	Control Wire						
	18	16	14	12	10	8	6
18	850	1040	1210	1350	1460	1540	1590
16	1040	1340	1650	1920	2150	2330	2440
14	1210	1650	2150	2630	3080	3450	3700
12	1350	1920	2630	3390	4170	4880	5400
10	1460	2150	3080	4170	5400	6670	7650
8	1540	2330	3450	4880	6670	8700	10530
6	1590	2440	3700	5400	7690	10530	13330