



User Guide



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Introduction

EtherRain is an internet sprinkler valve controller. It executes irrigation cycles based on commands received through its Ethernet port. EtherRain was designed to provide reliable irrigation while being controlled through a remote scheduling server either from the Internet or from a local LAN scheduling server. EtherRain employs a reliable command protocol whereby only one command is required in order to execute a full irrigation cycle. Multiple EtherRain controllers can exist on a single network. Scheduling applications are available to create 16, 24, and 32 zone controllers from multiple EtherRain devices.

EtherRain was designed for reliable and cost-effective operation. Its primary user interface depends on software application chosen by the user.

EtherRain offers security. Operation can only be initiated through software, and irrigation commands are only accepted after password authentication. In addition, internet commands are only initiated by request of the EtherRain and so off-network hackers cannot initiate cycles or control EtherRain.

EtherRain is manufactured using the highest quality available semiconductors including power supply transient protection to 1.5KV.

EtherRain is available in two models: EtherRain 8 provides 8 irrigation zones. EtherRain 7P provides 7 irrigation zones and one pump control or master valve control port. The master valve/pump control port operates automatically when an irrigation command is running.

EtherRain controllers have been providing reliable water-saving irrigation since 2008.

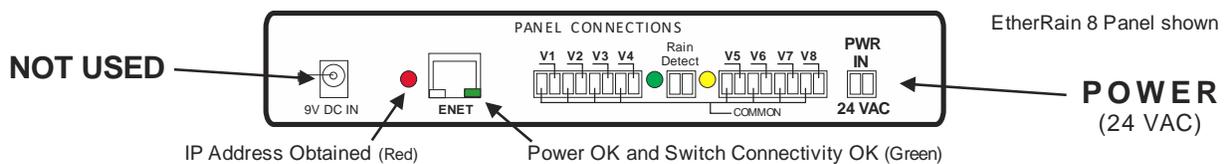
Power Requirements

EtherRain is powered by a standard 24VAC user supplied irrigation transformer. EtherRain consumes 0.5 Watt of power or less during operation.

Installation

1. Establish network connectivity before attaching valve wires.
2. Download the EtherRain Admin Utility (Windows or Java version) from the QuickSmart Web Site: http://www.quicksmart.com/qs_etherrain_support.html

3. Verify that your network has a DHCP server to provide the controller with an IP address. Most networks have this service. EtherRain can be configured with a static address, but requires use of DHCP to initially configure.
4. Connect the controller to your network by plugging one end of an Ethernet patch cable into the controller and the other end into open switch port. (only connect the controller to a switch, not to a hub)
5. Connect the supplied green, two-position plug to the power wires of a 24VAC or 26VAC Sprinkler Valve Transformer (Rain Bird UT-1 or equivalent). If the transformer has a ground wire, snip it off. It is not used. Using a 2mm screw driver, turn the retaining screws on the Plug clockwise until tight. Test that the power wires are held firm by the Plug.
6. Insert the 24VAC power plug into the power connector at the right front of the controller.



7. Plug the wall transformer into the power socket. Check that the Green LED on the Ethernet connector illuminates. The round Red LED located left of the Ethernet connector illuminates only after an IP address is obtained (from DHCP or Static).
8. Launch EtherRain Admin, EtherRain Admin Java version from a networked PC. The controller should be displayed on the screen. Configure or Test as needed.
9. Remove power from the controller. Using the Green 8-Position Plugs provided, attach valve wires using diagram above. (in practice, only one or two ground (common) wires are used) or see the Connection Guide for your version of EtherRain.
10. Insert each valve wire into the holes provided in the Plug. Using a 2mm screw driver, turn the retaining screw clockwise until tight.
11. Mount the controller. Push the plugs into the connectors. Apply Power.

Physical installation is complete. The EtherRain will now need to be configured. Configuration is accomplished using the EtherRain Admin application. See next section.

See Appendix A, Connection Diagrams, at the end of this document for more specific connection information.

Configuration

The EtherRain Admin application is required in order to configure EtherRain. EtherRain Admin is available as a Windows application for use on Windows computers (Windows 7 through Windows 10) and is available as a Java application for use on Macintosh and Linux computers. EtherRain Admin is downloadable from this URL:

http://www.quicksmart.com/qs_etherrain_support.html

Once EtherRain Admin is installed connect the computer/laptop to the same local area network that EtherRain is connected to. EtherRain admin will find and list the controllers.

EtherRain Rev C and above controllers can also be configured in most environments using the limited configuration web pages built into EtherRain Rev C and above controllers. These controllers can be identified by serial number starting above 01500. For information on using these web pages for configuration, see the paragraph below titled Web Based Configuration.

Typical Configuration

Using EtherRain Admin the following parameters should be configured:

1. Device Name. Each controller should be assigned a unique name. The default name is EtherRain-8 or EtherRain-7P. If multiple controllers will reside on one network then each name must be changed so it is unique, otherwise the default name can be retained.

2. Operating Mode.

The default operation mode is Local. If EtherRain is to be used with LawnCheck, then the operating mode must be changed to "Poll Mode."

See LawnCheck Configuration below under applications for more information about configuring for use with LawnCheck.

3. Password

The default password for EtherRain is: pw

It is recommended that the default password be changed. This can be accomplished by clicking the Change Password button on the configuration page of EtherRain Admin.

Optional Network Configuration

EtherRain obtains its network address automatically by default using DHCP. Some installations might want to assign a static address to their EtherRain controllers. This can be accomplished using the optional fields provided on the EtherRain Admin configuration screen.

Device Update

To make changes after setting configurations don't forget to click the "Update Device" button on the configuration screen.

Web-Based Configuration

EtherRain Rev C and above offers convenient limited web-based configuration. If the router that controls your network has DHCP Name Service functionality then you can configure EtherRain by entering the controller name into your browser URL bar. You can test this by entering your controller's unique name into the browser URL bar, for example: `http://EtherRain-8`

If your router has DHCP Name Service, then the controller's index page will be displayed. Through this page you can set basic configuration such as controller name, operating mode, and enter a LawnCheck account number. You can also change passwords. Once you change your controller name you'll be able to access these pages by typing: `http://(controller name)` into your browser's URL bar.

Default controller names: EtherRain-8 or EtherRain-7P

Default Username: admin

Default Password: pw

Do NOT use a "." (period) in your controller name to use this feature.

Note: if you have multiple EtherRain controllers on your network it is best to install one controller at a time and give each controller a unique name before another controller is installed. If multiple EtherRain controllers have the same name the router's name service won't be able to uniquely identify the individual router.

Reset

EtherRain can be reset to the original factory configuration using this procedure.

Reset is only required in cases where a password is forgotten or if the controller needs to have a static IP address that is out of range of the existing network reset back to DHCP.

To reset to default settings:

1. Unplug the power transformer or disconnect the power plug.
2. Remove the top from the enclosure by removing the four screws located at the bottom of the enclosure.
3. Locate the two-pin jumper located on the relay board. A blue or black plastic jumper is provided.
4. Install the Jumper block to connect the two jumper pins.
5. Make sure the Ethernet connector remains connected to the network.
6. Re-apply power to the controller for 20 seconds.
7. Remove power by unplugging the transformer or disconnecting the power plug.
8. Remove the jumper, reposition the jumper so it no longer connects the two jumper pins together.
9. Re-install the cover and the screws.

The original configuration of the EtherRain controller is:

1. DHCP ON
2. Default address: 192.168.1.204
3. Default netmask: 255.255.255.0
4. Default password: pw

Once the controller has been reset, it can be configured using the Windows-based EtherRain Admin configuration software.

Opening the controller voids the warranty, so please be careful!

User Interface Applications

EtherRain does not have a built-in user interface. Instead, it uses a set of applications in order to provide the user interface. This interface strategy results in a much easier-to-use interface experience while providing a much more powerful scheduling service without the need to constantly update and patch the device firmware. This makes using and maintaining EtherRain very simple.

Schedulers

As noted in the introduction, EtherRain depends on an external scheduling application in order to provide commands for irrigation. Two main applications are available that provide reliable, sophisticated, calendar and weather-based irrigation control for EtherRain. They are:

1. OptiRain – for local LAN based irrigation control
2. LawnCheck - for Internet based irrigation control

OptiRain is available for use on Windows computers and servers. OptiRain Open is available for use on Linux servers including the new exceptionally small and inexpensive Linux computers such as Raspberry Pi.

Lawncheck is an Internet-based scheduled built specifically for EtherRain. It provides an easy-to-use web-based user interface that makes it easy to create sophisticated calendar and weather based scheduling.

For many EtherRain owners, these applications are the main user interface to their EtherRain controllers. In addition to the above, a script set is available for use with HomeSeer the leading home automation system and a plugin is available for use with Vera by MiCasa Verde.

For more information about Optirain, please visit this page:
http://www.quicksmart.com/qs_software.html

For more information about LawnCheck please visit these pages:
<http://www.lawncheck.com/>
http://www.lawncheck.com/lc_starting.html

Home Automation Controller Interfaces

HomeSeer 3

A complete and easy-to-use interface for HomeSeer 3 is available on the QuickSmart website. This interface lets you set up HomeSeer events for complete irrigation control. For larger installations, it is possible to sequentially irrigation up to 64 zones using only one HomeSeer Event.

Mi Casa Verde Vera

A plugin is available on the Vera site to that provides EtherRain irrigation control.

LawnCheck Configuration

Using LawnCheck with your EtherRain controller requires a simple configuration step. Configuration is performed using EtherRain Admin.

After an account is set up on LawnCheck a 10-digit LawnCheck account number will be assigned. In addition, during LawnCheck set up, a device name that represents your EtherRain controller will be selected. In order to configure your EtherRain controller to work with LawnCheck, use EtherRain Admin (or optionally on Rev C and above, the controller's configuration web pages) to:

1. Set the name to the name of your LawnCheck device.
2. Set the account number to your 10-digit LawnCheck account.
3. Set the Operating Mode to Polling.

Save changes.

It is important to make sure that the name of your EtherRain controller is exactly the same as the name of your irrigation device that you created in the LawnCheck application.

SmartPhone Apps

The following apps are available for installation on your iPhone or Android SmartPhones:

SprinklerAce – for iPhones. This is a third-party app and is available from the iTunes store
ZonePopper – for Android. This is available via email from QuickSmart.

Both of these applications make it easy to start manual cycles and to perform valve testing via a Wi-Fi connected Smartphone.

For more information please visit the following pages:

Sprinkler Ace:

http://www.quicksmart.com/qs_EtherRain-iPhone-app.html

ZonePopper:

http://www.quicksmart.com/qs_EtherRain-Android-app.html

Rain Sensor

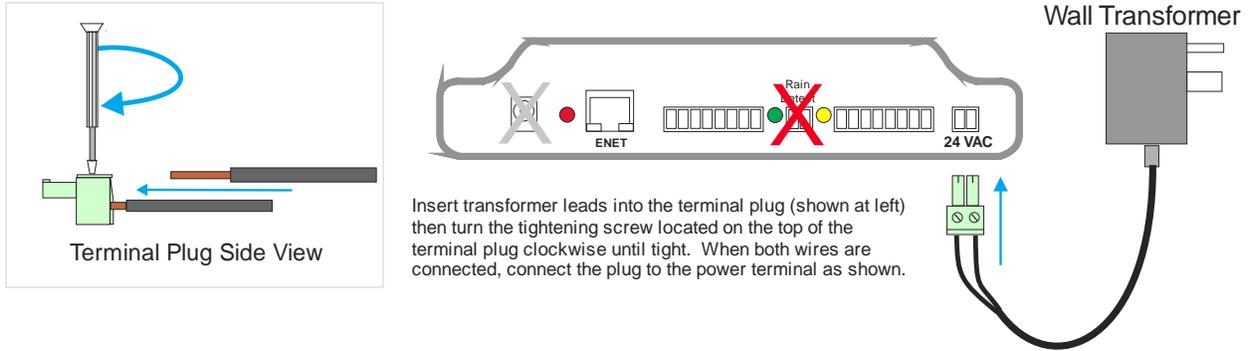
EtherRain provides a rain sensor interface. The rain sensor interface works with any commercially available rain sensor that has a NORMALLY OPEN (NO) configuration.

API

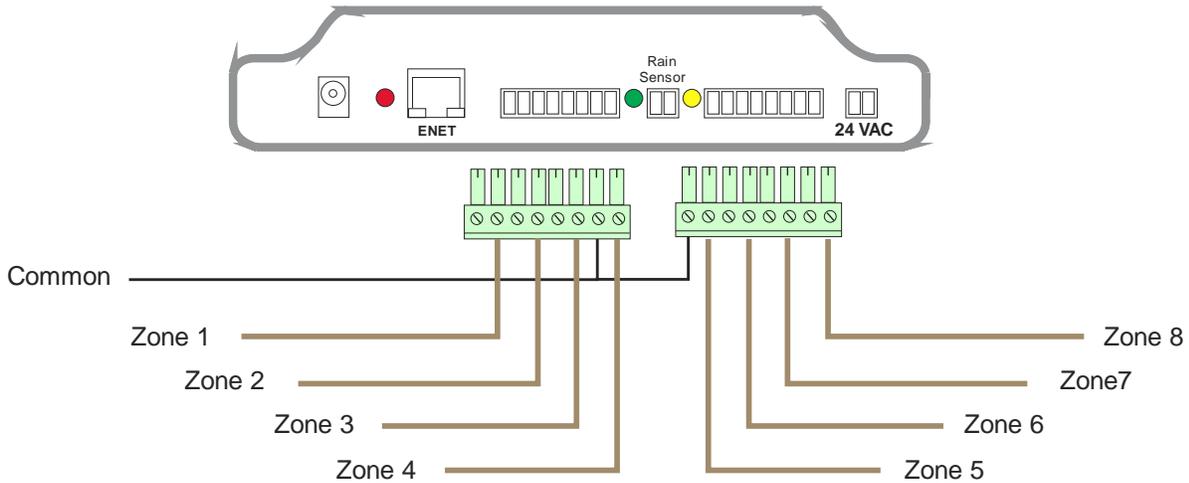
An application programming interface (API) document is available to customers who wish to write their own control applications for EtherRain. Contact QuickSmart Development to request the API.

Appendix A. Connection Diagrams

Power



EtherRain 8



EtherRain 7P

