QUICKSMART

EtherRain Sprinkler Control Interface
For
HomeSeer 2

The EtherRain Sprinkler Control Interface for HomeSeer2 provides both a HomeSeer2 compatible web-page interface and event functions offering easy systematic setup and control of sprinkler irrigation using HomeSeer2 and EtherRain sprinkler valve controllers. The Interface provides support for HomeSeer's flexible events allowing complete irrigation cycles to be run by defining only a single event. This document provides instructions for installing the EtherRain sprinkler control interface into HomeSeer2 environments along with operating instructions and information on how to set up EtherRain events within HomeSeer2.

The EtherRain web page interface is easy to use and install, no script writing is required. The interface provides the following functions:

1. **Virtual controller definition**
2. **Cycle definition**
3. **Setback profile creation (for monthly cycle control)**
4. **Two click manual irrigation (QuickCycle)**
4. **Daily device monitoring event (log or email)**
5. **Global suspend with automatic resume**
6. **Global disable with immediate stop**

Controller Configuration

EtherRain is a reliable sprinkler valve controller that attaches to your network via an Ethernet network connection. The controller is set up so that it is accessed by name, so you never have to worry about how to locate your controllers, or remembering complex networking addresses.

An EtherRain controller is configured by giving it a unique name. Configuration is performed using the EtherRain Admin program provided by QuickSmart. HomeSeer2 can communicate with multiple EtherRain controllers by defining corresponding virtual controllers using the provided scripts. Once the virtual controllers are defined HomeSeer2 will connect to the EtherRain sprinkler controllers using familiar HomeSeer 2 Events and the provided web pages. EtherRain

controllers must reside on the same network as the HomeSeer 2 server and each EtherRain controller must be configured with a unique name.

Installing the EtherRain Interface

Download the EtherRain HS2 Interface file set from the QuickSmart Development site (www.quicksmart.com). Extract the contents from the zip folder. Within the extracted folder, you will find:

1. A folder named "EtherRainAsp"
2. A file named "EtherRain.vb"
3. A file named "EtherRain Interface Users Guide.pdf" (this guide)
4. A file named "EtherRain Interface Function Reference.pdf"

The folder contains all of the interface web pages. To install the interface into your HomeSeer 2 server perform the following steps:

1. Locate the HomeSeer install directory, usually under Program Files in "My Computer" drive C.
2. Open the folder "HomeSeer HS2"
3. Open the folder "html"
4. Copy the complete folder "EtherRainASP" into the "html" folder.
5. Close the "html" folder and return to the "HomeSeer HS2" folder.
6. Open the folder "Scripts"
7. Copy the file "EtherRain.vb" into the scripts folder.

Next, within HomeSeer 2, make a custom web page button to access the EtherRain scripts from the HomeSeer control screen. To do this, from the HomeSeer 2 Home Page, click the Setup tab, then click the Web Site tab. The Web Server Site Customization Settings page will be displayed. Create a custom button by entering the following:

Field: Custom Web Page 1 Title   Enter: EtherRain Home
Field: Custom Web Page 1 URL/Link   Enter: EtherRainAsp/er_home.asp

Then click save. Installation is now complete. When you click the "EtherRain Home" button, the EtherRain Home page is displayed. From this page you can build, maintain and control devices and controllers.

Creating an Irrigation Schedule

The EtherRain Interface provides all of the foundation functions needed to control irrigation using EtherRain. However you create your irrigation schedule by creating standard HomeSeer 2 Events.

Because EtherRain is a "cycle-based" device, you only need to build one event to manage a complete cycle, or for multiple controllers, one event for multiple sequential cycles.

An irrigation schedule typically consists of multiple re-occurring events and you can add as many or as few as needed for your installation.   The procedure for creating an irrigation event for EtherRain is covered below.

Creating a Virtual EtherRain Controller

To conveniently communicate with a physical EtherRain controller from HomeSeer2 you must define a virtual EtherRain controller for each physical EtherRain controller in your system. This is done by clicking the "Add Controller" button from the EtherRain Home Page.   To create a virtual controller you simply need to enter the name and password of your physical EtherRain controller in the fields provided. In addition you must also enter zone names for the zones you will be actively using.

Once your controller is created, you can click the "Status" button, which will now be displayed on the EtherRain Home page. Clicking this button will send a status command to the physical controller allowing you to test that you have entered the correct controller name and password.

Creating Cycles

Cycles can be created by clicking the button labeled "CycleBuilder" on the EtherRain Home Page. Creating a cycle consists of entering a cycle name and then entering the "on-time" minutes for each zone in the cycle. A cycle is not attached to a controller, so your controller zone names will not show up. Because a cycle is not attached to a controller, you can use any defined cycle with different controllers.

To attach the setback profile to any cycle, simply check the box in the "Set Back" column.

By creating a cycle, you can easily change the zone times in the cycle, without having to change Events that use the cycle.

Creating a Setback Profile for Optimizing Water Usage

A setback profile allows you to create cycles that automatically vary the amount of irrigation based on the month of the year. This is a water conservation feature and is optional, though usage is recommended.

To create or edit the Setback Profile, click the "Edit Setback" button located in the Setback Profile area of the EtherRain Home Page. The setback profile consists of a listing of the months of the

year and an input field for each month. The input value range is 1 to 100 representing a percentage of the total amount of time that you wish to have the cycle irrigate in the given month.

To use the profile, set the zone minutes in the CycleBuilder to the maximum amount of time that you wish to have your cycle run, and check the "Set Back" box.   In the setback profile, enter 100 for the warmest months of the year. Enter lower values for cooler months. Months that have a 100 scale factor will receive irrigation at the set zone irrigation time.   Months with values less than 100 will be scaled back proportionally.   Enter 0 if you want to turn the irrigation for that event off during a certain month.   More information about setbacks is available on the EtherRain Help page.

Setting Up an EtherRain Irrigation Event in HomeSeer2

A typical re-occurring irrigation event is created within HomeSeer 2 as follows:

1. From the HS2 Events screen, click "Add Event"
2. The Event Properties screen will be displayed with the "Name" tab highlighted
3. Enter Name "Main Irrigation Cycle" and uncheck all of the option checkboxes.
4. Click the "Trigger" tab
5. Verify the current trigger type of "Absolute Time"
6. Check the days you wish to have the Event trigger.
7. Provide an Event Trigger time.
8. Click "Add Action" and from the list, click "Run Script"
9. Click "Switch to Advanced View" (though it may already be in advanced view)
10. From the field labeled "Existing Script," click the dropdown arrow and select "EtherRain.vb"
    (If the script does not appear then it was not copied to the correct folder.)
11. In the field labeled "Optional Parameters" enter the following.
    Important: Pay close attention to the formatting characters.

    ("runNamedCycle","EtherRainName; CycleName")

    Replace EtherRainName and CycleName with your controller name and the cycle you have defined
    Be careful to enclose the two strings using the double quotes characters.
    Be careful to use both a beginning parenthesis and an end parenthesis.
    Be careful to separate the controller name from the cycle name with a semi-colon.
    Be careful to separate the "runNamedCycle" method name from the parameter string with a comma.

12. Click the update button.
13. On the ensuing screen, click the "save" button
14. Locate the event on the event screen under the "Time Triggered" category.
15. You may wish to create a separate event group for EtherRain, if you do, use the group "EtherRain Events" so your scheduled events will be grouped with the monitoring event.

This is the easiest and the recommended way to create an irrigation schedule for EtherRain. Events created this way are globally controllable from the EtherRain Home page by the temporary

Suspend function and the Disable function. You can suspend or disable all of your irrigation events with one button click.

In addition, if you have defined a monthly setback profile, and you have attached the setback to your cycle, your irrigation can be automatically varied based on month of the year, so you may not need separate events for each season.

Depending on your level of sophistication you can attach various conditions to the event trigger, just like any other HomeSeer event. All irrigation results are sent to that main HomeSeer log.

Refer to the EtherRain Interface Function Guide for a list of all functions that are accessible from HomeSeer2 events.

Using Multiple Controllers

Multiple EtherRain controllers can be used within a HomeSeer installation. Each controller must be given a unique name using the EtherRain Admin configuration software (example: EtherRain.1; EtherRain.2 etc).

It is possible easily schedule multiple controllers from one event so that the controllers will execute their cycles sequentially without a large gap time between the cycles by using the runSeqCycles (run sequential cycles) function. This function takes any applied seasonal setbacks into account and sets up the required event times effectively taking multiple 8 zone controllers and turning them into a single 16, 24, 32 or 40 zone controller.

Minimizing Runoff

In order to minimize runoff in applications where the ground soak is slow or on sloped terrain, it is often desirable to run several short cycles in place of one long cycle. By issuing multiple short cycles in place of one long cycle, each zone is given more time to absorb the irrigation water. This type of irrigation is sometimes referred to as "cycle and soak."

This type of cycle can easily be set up with a single event by using the runSeqCycles (run sequential cycles) function. This function is described in the paragraph above. For cycle and soak applications, just specify the same controller and same cycle multiple times on the list. Seasonal setbacks will be taken into account if applied to the named cycle. Make sure to create a named cycle that divides total desired zone time by the number of cycles that will be run.

Setting Up a Monitoring Event

You can enable a daily monitoring event to automatically notify you of the status of your EtherRain controller. From the EtherRain Home Page, click the "Edit Alerts" button. On the Alert Setup Page, select an event run time, and whether you want notification sent to the HomeSeer log, your email address or both.

If you specify Email, an alert will be sent only if the EtherRain device did not respond to the monitoring event. Also, your HomeSeer server must be set up with email functionality for the email alert to work. If you select log then the log will receive notification whenever the Event runs, including results of the Event.

Temporary Suspend

You may temporarily suspend your complete irrigation schedule with the two button clicks and a number entry. To temporarily suspend irrigation, click the Suspend button. Enter the number of days to suspend irrigation, and click OK. Irrigation will resume automatically after the suspension date has passed. You can resume at any time by clicking the "Resume" button from the EtherRain Home Page.

During the suspension period any occurring events will be blocked and a message logged. The EtherRain QuickCycle function will continue to work during the suspension period.

Disable

You can completely disable irrigation by clicking the "Disable" button on the EtherRain Home Page. Irrigation will be immediately disabled; any cycle currently running through HomeSeer Events will be stopped. To re-enable irrigation, click the "Enable" button display on the EtherRain Home Page (this button is displayed only when irrigation has been disabled.

During the disable period any occurring events will be blocked and a message logged. The EtherRain QuickCycle function will continue to work while irrigation has been disabled.

Two-Click Manual Cycles

A manual cycle can be run for any controller defined on the EtherRain Home Page. Just click the run button, then either select a predefined cycle, or enter zone minutes and click "Run Cycle." A status message indicating status of the command will be displayed.

Instant Device Status

The status of a physical controller can be determined at any time by clicking the "Status" button in the controller definition box on the EtherRain Home page.   If the device is currently running, it can be stopped by clicking the button provided.

Summary

The EtherRain Interface for HomeSeer2 provides easy and systematic control for EtherRain controllers within a HomeSeer2 environment. The interface provides easy-to-use core functions that are accessible through web pages, and it provides functions that are accessible from HomeSeer2 events to provide flexible irrigation scheduling.

The web interface provides a Help page for your reference.

Jim

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