



Rain Watch™ Set up Manual

IC System™ with Rain Bird®

IC CONNECT™



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Required materials to configure Rain Watch™

1. Tipping bucket Rain Can- PN. F69400 (Figure 1)
2. Rain Bird® IC-IN Integrated Control Sensor Input Device
— PN. HS4000 (Figure 2)
3. Rain Bird Central Control software version 8.1 or higher
4. Mounting equipment (Not Included)



Figure 1



Figure 2

Installation

Location

There are many factors to consider when choosing a location to install a Rain Can.

1. Rain Can must not receive any input from sprinklers.
2. Rain Can must have an unobstructed view of the sky.
3. Avoid mounting near trees, as trees may eventually obstruct the Rain Can's operation.
4. The base of the Rain Can must be unobstructed to allow proper drainage. Standoffs are provided with the kit to allow for mounting on flat surfaces as well as a mounting kit available for mounting to poles.
5. Allow for ease of access to Rain Can for future maintenance.
6. It is recommended to locate the Rain Can within a reasonable distance from the wire path for easy installation. (Maximum of 50')
7. Optional spike strips are available to deter the presence of birds.

<https://texaselectronics.com/products/parts-accessories/bird-spikes.html>



Field Installation

Typical Rain can installations are shown below. On the right (Figure 4) is a typical field installation on a flat surface such as rooftop. On the left (Figure 3) is a typical installation on a pole such as a fence post or mast.

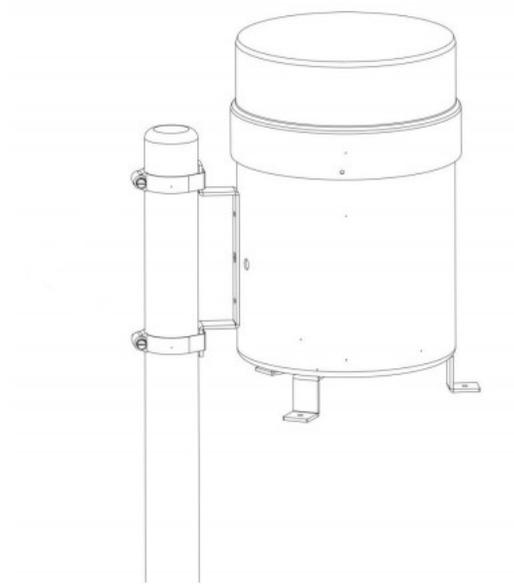


Figure 3

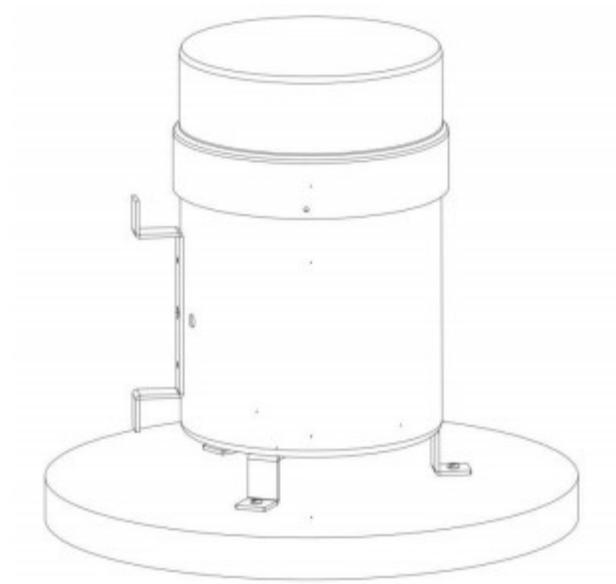


Figure 4

The Rain Can must be mounted level to ensure proper operation of the tipping mechanism and to provide accurate rainfall measurements. The mount on which the Rain Can is attached must be sturdy enough to prevent movement in windy conditions. Vibrations from small movements may reduce the accuracy of the readings while excessive movement will generate false readings from the tipping assembly.

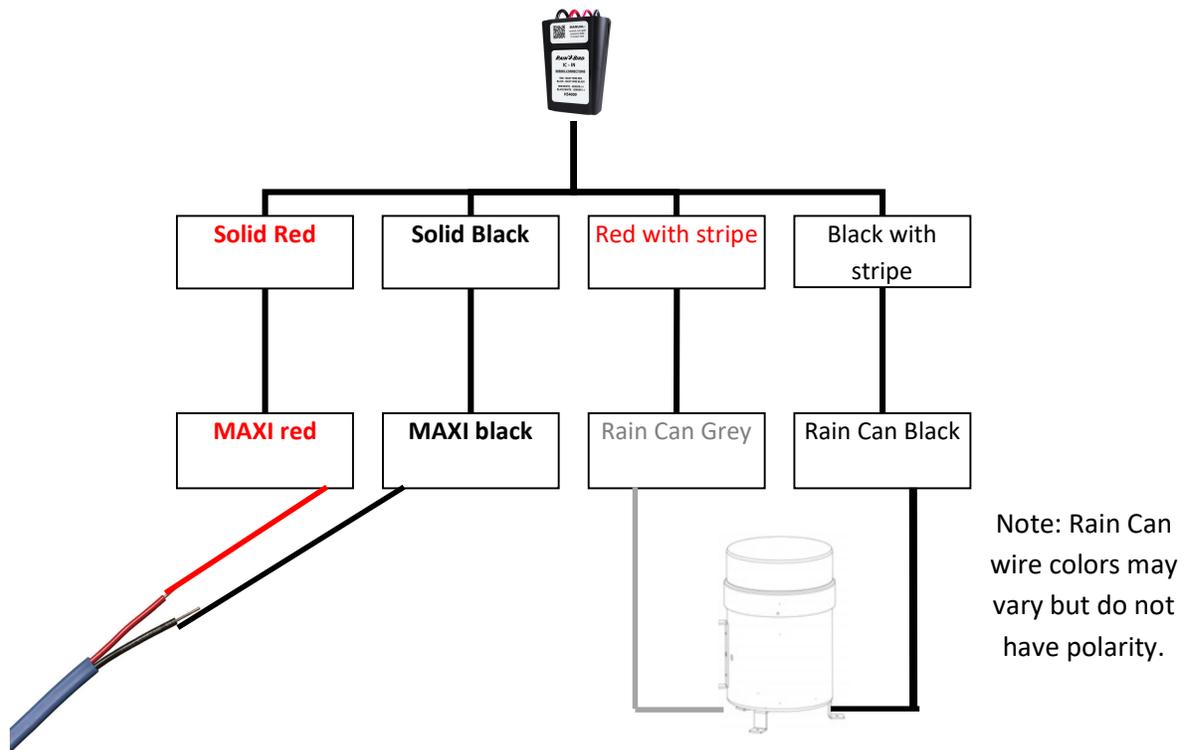


Connecting the Rain Can

Up to four Rain Cans may be used simultaneously depending on site specific needs. These Rain Cans may be placed strategically around the site in order to locally adjust irrigation needs.

Rain Cans come equipped with a 50' length of communication wire. The IC-IN should be connected within 50' of the Rain Can. If the distance between a Rain Can and the IC-IN will be greater than 50', Rain Bird recommends extending the Rain Bird MAXI™ cable to connect the IC-IN within 50' of the Rain Can. It is recommended to place the IC-IN and Rain Can connection in a weather resistant enclosure (such as a valve box) for ease of access. Splices should be located in a valve box and encapsulated in Direct Bury Splice Packs (Rain Bird WC100) or a direct bury splice that is equivalent. Also, any wire exposed above ground should be routed through electrical conduit per local building codes.

IC-IN -> MAXI/Rain Can connections



IMPORTANT! Assure the wire path is powered OFF during installation.

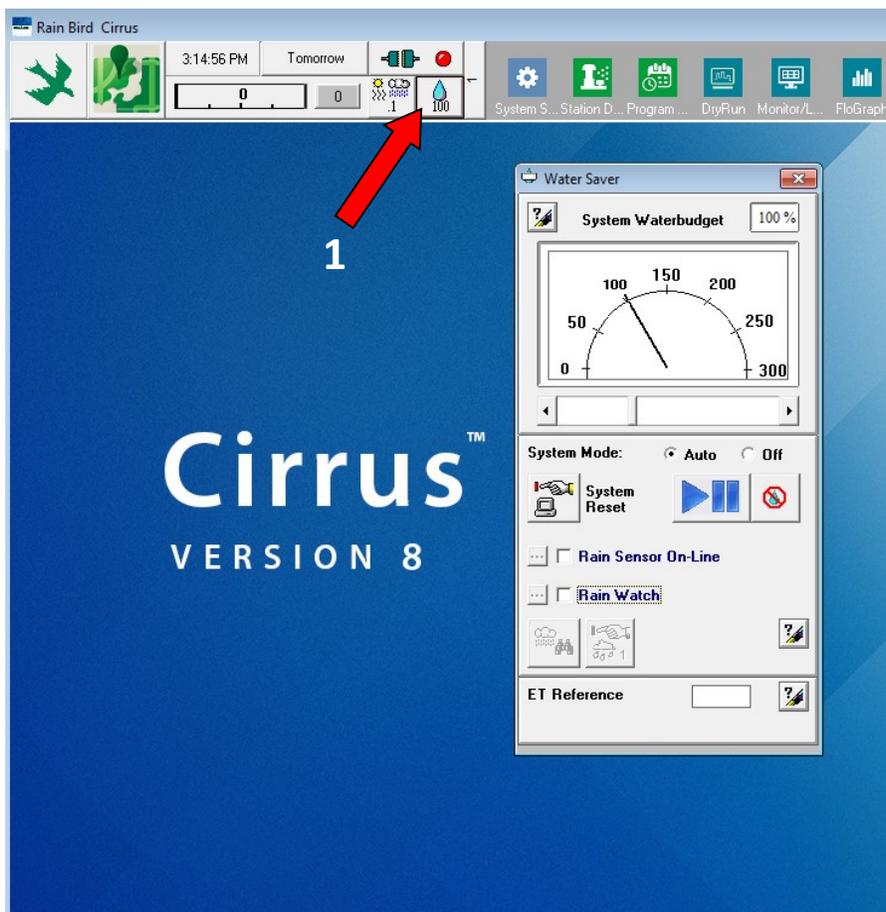
Please reference the IC-IN installation guide for more detailed instructions if needed.



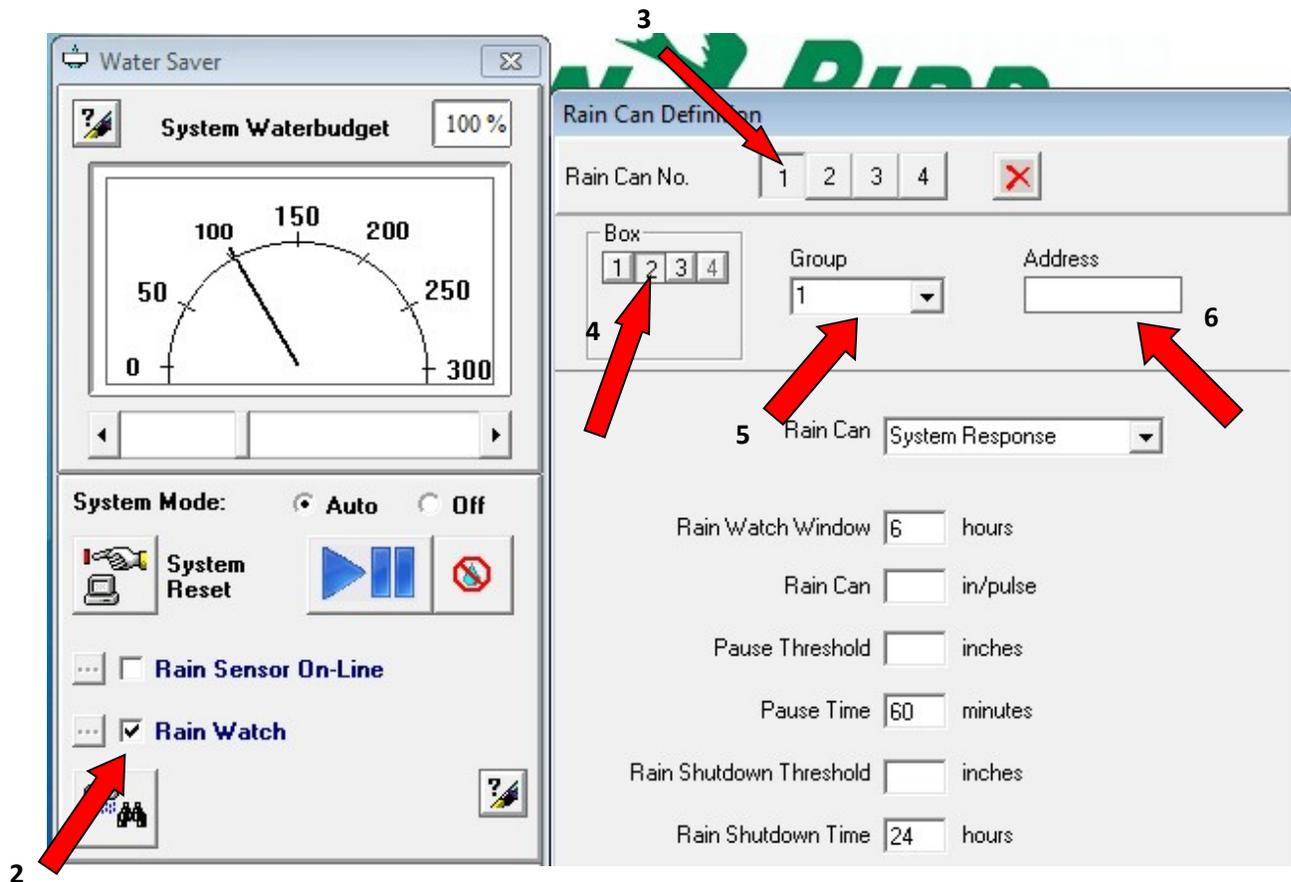
Configuring Central Control Software

The use of Rain Watch™ with IC Connect™ requires Version 8.1 or higher of the Rain Bird golf software including; StratusLT™, Stratus™ II, Nimbus™ II and Cirrus™.

1. Open the Central Control Dashboard and select the Water Saver tab(1).



2. Select the “check box” adjacent to Rain Watch™ (2).
3. Select which Rain Can you would like to configure (3).



- 2
 - a. Note that only Rain Can number 1 can have a total system response and would be the selection to make if only one Rain Can were to be used onsite with a desire for system shutdown.
4. Select the Box number for which the ICI is assigned (4)
 - a. If there are multiple ICI's in use be sure to assign the Rain Can to the ICI in which it is wired to.
5. Select the Group (wire path) the IC-IN is located on (5)
 - a. If there are multiple wire paths, be sure to assign the Rain Can to the correct group (wire path).



6. Enter the Address from the IC-IN into the Address bar (6)
7. Click “Poll IC-IN Status” at the bottom of the window (7).

8. In the IC-IN Status window select “Poll IC-IN” (8)
 - a. If the Sensor Status shows OK, move on to the next step.
 - b. If the Sensor Status is “NO RESPONSE” check previous steps to assure the IC-IN is connected properly, on the correct wire path and ICI, and has the correct address. A 2-minute refresh may be required if the IC-IN was “hot” wired.



9. Click "Poll Type"
 - a. If the type shows "Pulse Counter- Nonaccumulative" in the lower dropdown menu next to **Type**, move on to the next step.
 - b. If the lower dropdown menu shows any other sensor type, check the sensor type at the top of the window to confirm it shows "Pulse Counter- Nonaccumulative". If so, Select "Reprogram IC-IN".
 - c. Repeat Step 9.
10. Once the programmed sensor type matches the IC-IN address box, select cancel.
11. The Rain Can Definition Table comes pre-populated with Rain Can Defaults. The

Rain Can Definition window has many different options on how the Rain Can will impact an irrigation cycle or the system as a whole.

- a. The Rain Can response drop down menu defines the action taken by the Rain Can.

-Off-Line: Disables sensor input from the Rain Can

-System Response: System wide action based on input from Rain Can.
NOTE this is only available for Rain Can #1 and will not affect programs designate to an alternate Rain Can.

-Program Response: Affects programs that have been designated to respond to this specific Rain Can's input.

-No Action: The input from the Rain Can is collected and events are noted in the Alarm Messages, but no action is taken.

The screenshot shows the "Rain Can Definition" window. At the top, "Rain Can No." is set to 1, with buttons for 1, 2, 3, 4, and a close button. Below this, there is a "Box" field with "1", a "Group" dropdown menu set to "1", and an "Address" field with "1057CB". The "Rain Can" dropdown menu is set to "System Response". Below these are several input fields for thresholds and times: "Rain Watch Window" (6 hours), "Rain Can" (.01 in/pulse), "Pause Threshold" (.1 inches), "Pause Time" (60 minutes), "Rain Shutdown Threshold" (.25 inches), and "Rain Shutdown Time" (24 hours). At the bottom, there are two buttons: "Poll IC-IN Status" and "OK".



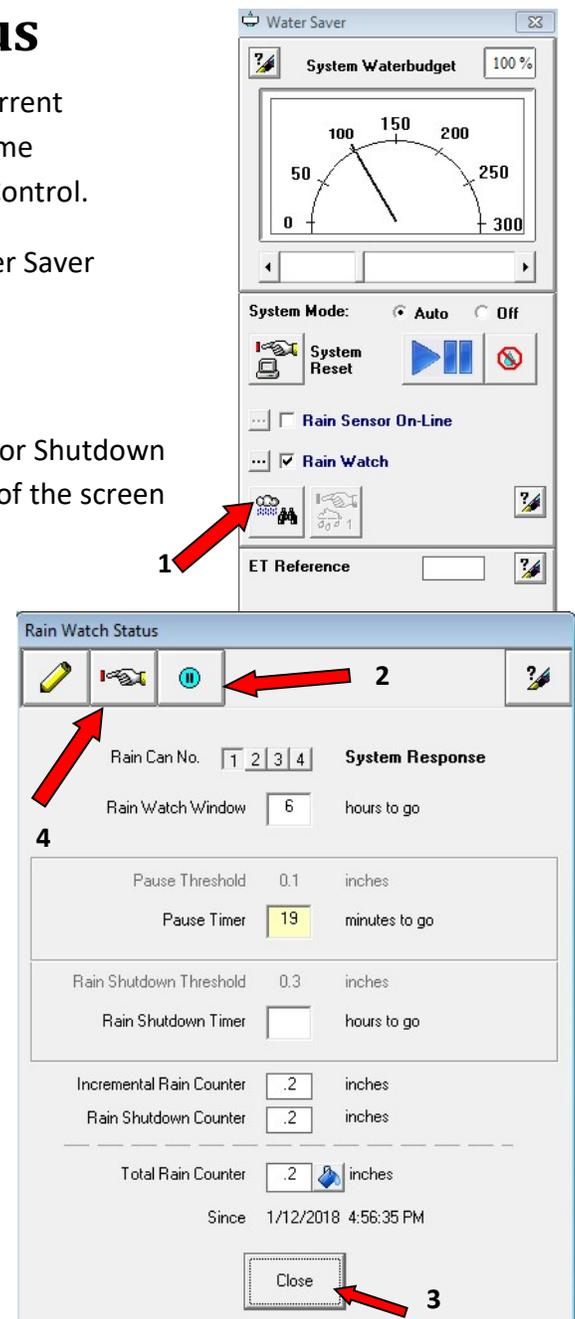
- b. **Rain Watch™ Window** value (hours) is the time frame in which Rain Watch will continue to compile data for each rain event. The Rain Watch Window starts once the LAST input in a rain event is recorded. Once this timeframe is over, the Rain Watch window will restart.
- c. **Rain Can** Value (in/pulse, mm/pulse) is the amount of rain required to tip the tipping bucket mechanism within the Rain Can. This can be user defined by adjusting the Rain Can accordingly. A calibration device is available at <https://texaselectronics.com/field-calibration-device.html> but please check user manual or specifications for the tip amount of your measurement device.
- d. **Pause Threshold** is a user defined value (inches/ mm) which, once reached, will pause any active irrigation cycles associated to that designated Rain Can.
- e. **Pause Time** (minutes) starts once the Pause Threshold is reached. During the Pause time no stations or programs will start, they will be placed in a “suspended” state. Once the Pause time has ended, the irrigation will resume using an adjusted runtime.
 - i. The adjusted runtime is based on the remaining runtime of each station left in the irrigation cycle, minus the amount of rain recorded in the incremental rain counter. Each station’s remaining runtime is based off its specific precipitation rate entered into station detail. If the new adjusted runtime exceeds that of the stations remaining runtime prior to the pause, then the station is turned off. The Pause Time will re-start each time the Pause Threshold amount is reached during the Rain Watch window. This process will continue until either the Rain Watch window is complete or the shutdown threshold is met.
- f. **Rain Shutdown Threshold** (inches/ mm) is the amount of rain designated by the user to cancel all irrigation associated to that Rain Can.

- g. **Rain Shutdown Time** (hours) is the length of time in which the Shutdown Threshold will take place. If a Rain Shutdown Threshold reoccurs within the current Rain Shutdown Window, the time will re-start.

Checking Rain Watch™ Status

The status feature in Rain Watch allows you view the current parameters for each Rain Can along with viewing real-time communication between the Rain Can and the Central Control.

1. Select the Rain Watch Status icon (1) in the Water Saver window.
2. Select the desired Rain Can number.
3. If the selected Rain Can is currently in the Pause or Shutdown mode, there will be an icon displayed at the top of the screen (2).
4. **Rain Watch Window** displays the time, in hours, since the last recording.
5. **Pause Timer** will display the amount of time remaining in the irrigation pause event.
6. **Rain Shutdown Timer** will display the amount of time remaining that irrigation will be OFF.
7. **Incremental Rain Counter** is the measurement of precipitation that has been recorded since the first tip was measured. This will be the value implemented when calculating the adjusted runtimes once normal operation has resumed. This value will be reset to zero once the Pause Timer is complete.



The image shows two screenshots from a software interface. The top screenshot is the 'Water Saver' window, which includes a 'System Waterbudget' gauge set to 100%, 'System Mode' set to 'Auto', and a 'Rain Watch' checkbox that is checked. A red arrow labeled '1' points to the 'Rain Watch' icon in the bottom right corner. The bottom screenshot is the 'Rain Watch Status' window, which displays settings for a selected Rain Can (number 1). It shows a 'Rain Watch Window' of 6 hours, a 'Pause Timer' of 19 minutes, and a 'Rain Shutdown Timer' of 0 hours. It also displays 'Incremental Rain Counter' and 'Rain Shutdown Counter' both at 0.2 inches, and a 'Total Rain Counter' at 0.2 inches. A 'Close' button is at the bottom right, with a red arrow labeled '3' pointing to it. Other callouts include '2' pointing to the Rain Watch icon at the top, and '4' pointing to the Rain Can number selector.

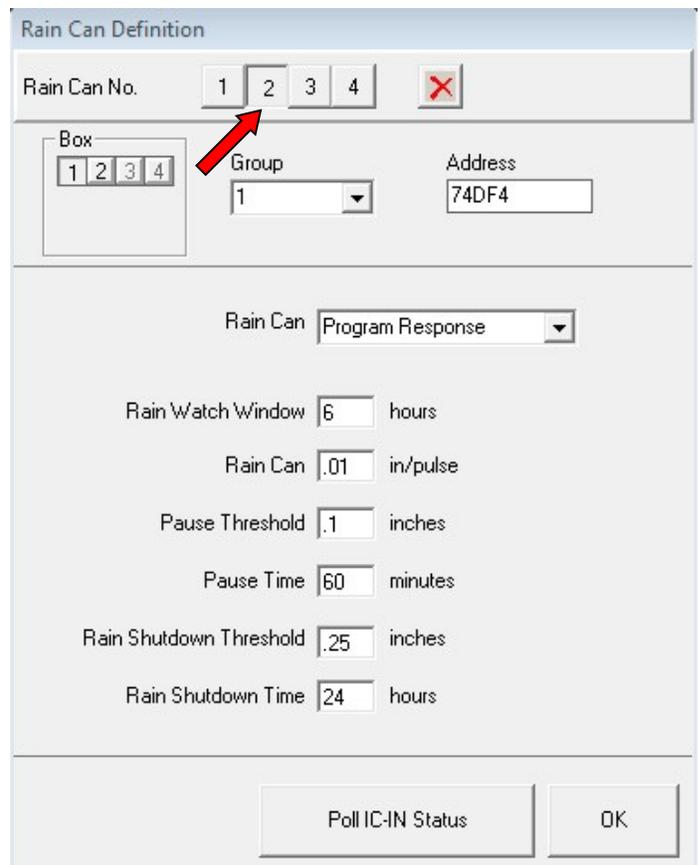
8. **Rain Shutdown Counter** is the measurement of precipitation that has been recorded within the Rain Watch™ Window. This counter will continue until the Rain Shutdown Threshold is met or the Rain Watch Window is complete.
9. **Total Rain Counter** displays the measured precipitation since the displayed date and time. This value is reset manually by selecting the rain bucket icon (3) to the right of the value.
10. Use the Rain Counter Reset Button (4) at the top left to reset all values in this window.

Using Multiple Rain Cans

Up to four Rain Cans may be dedicated to specific areas on a site. A Rain Can may also be given different actions to take during a rain event. In a hybrid scenario there may be 4 different types of interfaces on one system. Each interface can be used to add a Rain Can.

Selecting the Rain Can action to Program Response signifies that only programs designated to this Rain Can will be affected.

1. Designate and configure each Rain Can number to the preferred settings.
2. Record the location of each Rain Can in the field and the affected areas.

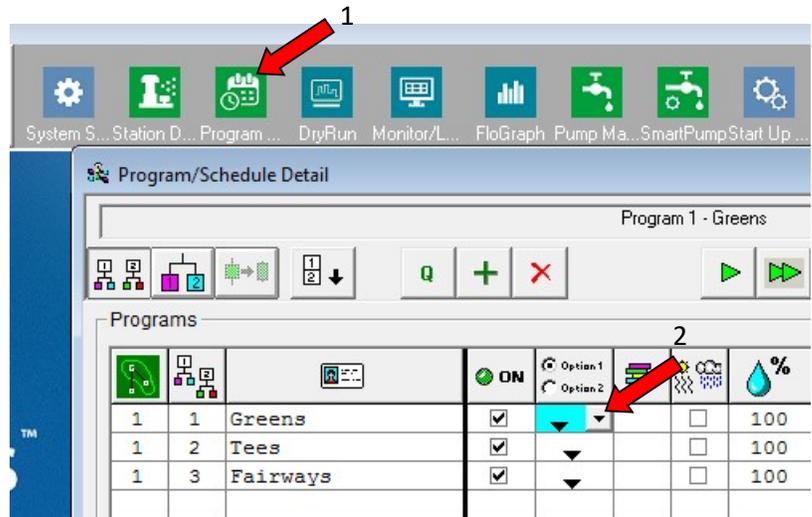


3. Select the Program/Schedule Detail icon (1) on the Front Office.

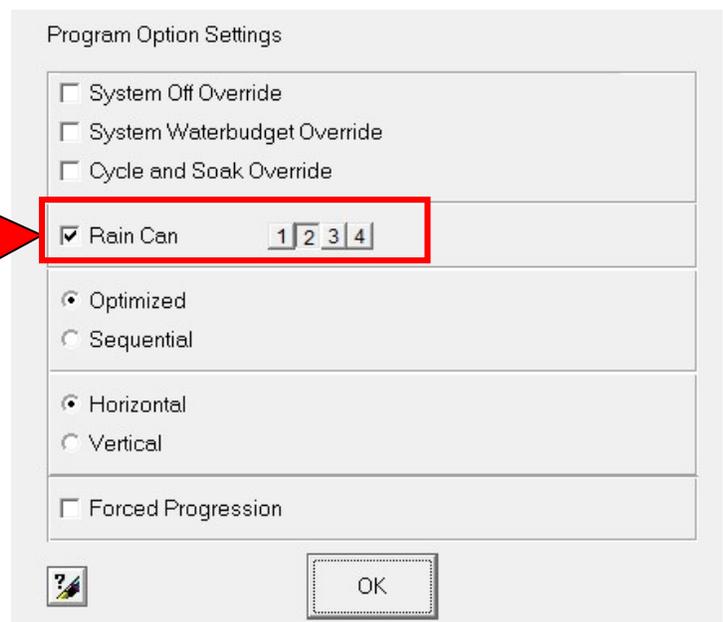
4. Select the desired program and click the drop down arrow under Options (2)

5. In the Program Option Settings window, select the Rain Can in which this program should be affected by (3).

6. Repeat this step for all programs related to each Rain Can.



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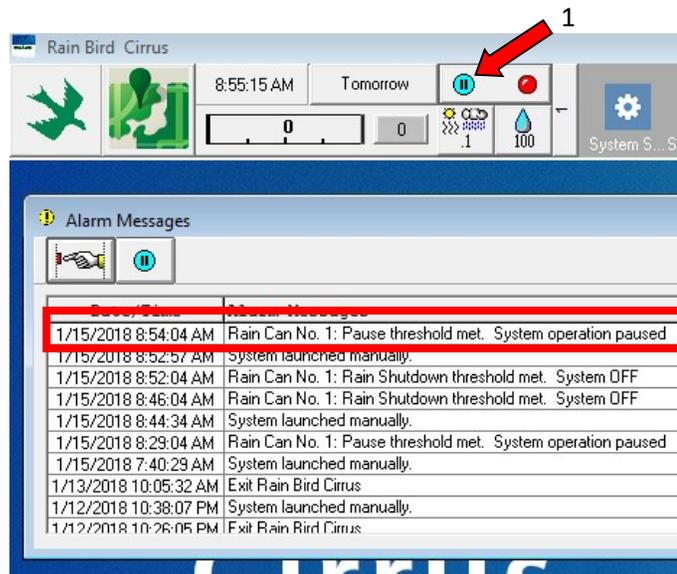


NOTE:

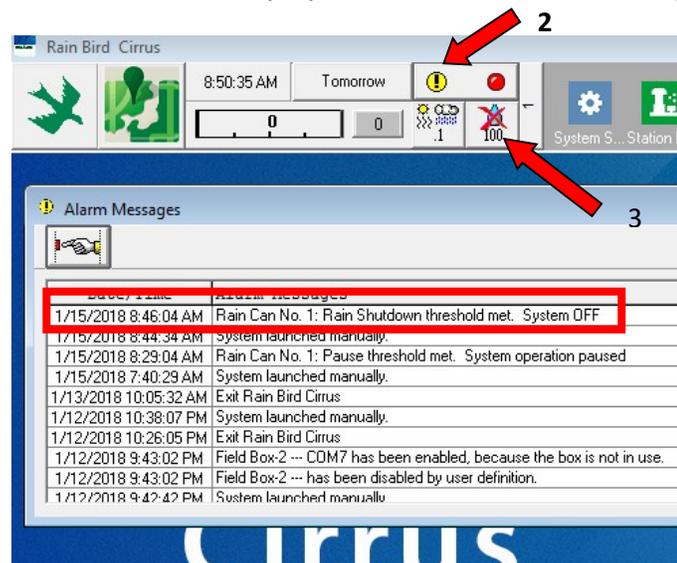
- Rain Watch™ does NOT affect Programs with the "System OFF" override in effect.
- Rain Watch does NOT affect "DMA" (manually) activated stations.

Recognizing Alarms

Once a Rain Can's thresholds have been met, it will take an action. These actions will be displayed in the Alarm Messages window. In a Pause scenario, the System Status Icon will display a blue pause symbol (1).



In a Shutdown scenario, the System Status Icon will display a yellow exclamation point (2). Also, the system off "X" will be displayed in the Water Saver icon (3).





All events, including program response events, will all be recorded in the Alarm Messages log and would typically be reviewed the morning after an overnight irrigation cycle. A pause alarm would generally run its given pause time and resume normal irrigation. If a Shutdown Threshold is met and that Rain Can has been designated for “System Response”, the system will stay in OFF mode until the end of the Rain Shutdown Window, at which time AUTO mode is automatically restored.

To reset a system shutdown manually, select the Water Saver icon.

Select Rain Can response override. This will end the System Shutdown protocol and place the system back in AUTO mode.

If a Rain Can’s Shutdown Threshold is met and is designated for “Program Response”, only the program or programs configured to that Rain Can will be “turned off” and the rest of the system will remain in AUTO mode.

To end a program shutdown, select Rain Can response override for the corresponding Rain Can (1).

