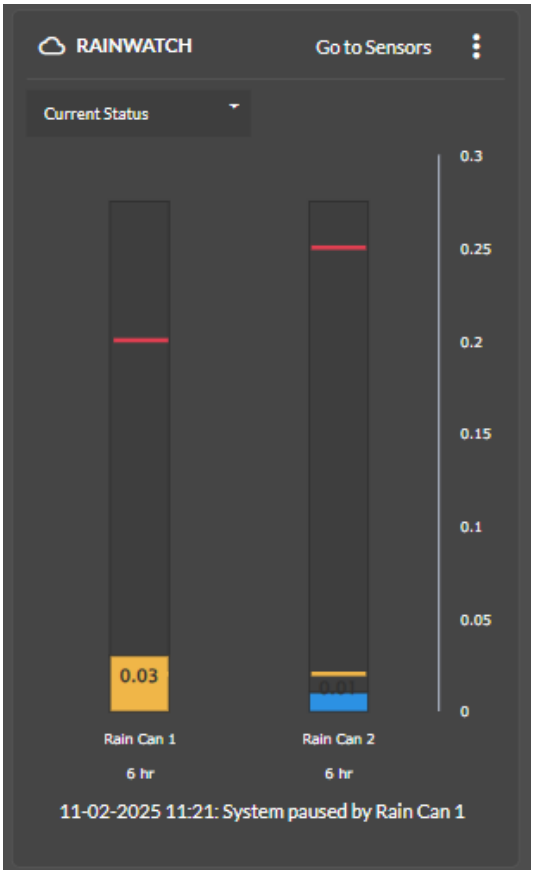
Rain Watch™ - The Complete Guide



July 2025

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Introduction:

Rain Bird introduced Rain Watch to the golf market in 2004. Since then, Rain Watch is still unmatched and is a feature exclusive to our golf central control. When introduced, it was available in all our “Cirrus™ Classic” family of products (Stratus LT™, Stratus II™, Nimbus II™ and Cirrus™). When CirrusPRO™ was introduced in 2021, Rain Watch was an integral part of it and some improvements were included to offer more flexibility and ease of programming. This guide is to help you understand Rain Watch, from hardware requirements to programming, as well as how to specify this unique feature.

What is Rain Watch?

Rain Watch is an interactive rainfall monitoring and reaction system. It helps keep the golf course in optimum playing conditions by making intelligent decisions when a rain event occurs that could have significant impact on the playability of the playing surfaces. Using tipping bucket rain gauges, rainfall is monitored, measured and used as inputs to the Rain Watch algorithm.

Note that for the rest of this document, we will only use “Rain Can” when talking about a tipping bucket rain gauge.

With Rain Watch, CirrusPRO will monitor natural rainfall and adjust the depth of irrigation to prevent over-watering and reduce the water window. The user can define the threshold to pause or cancel irrigation, as well as how long to wait before turning the system back on and resuming irrigation.

If the rainfall received is less than the irrigation amount scheduled, Rain Watch will subtract the rainfall amount from any stations that have not yet run (or ran partially), before resuming irrigation. This prevents over-watering, improves playability, and saves both water and pumping costs.

Here is an example of a sequence of events that highlights how Rain Watch manages rainfall to help provide the best playing conditions possible:

4:00 PM: The superintendent sets his CirrusPRO system to irrigate this evening even if they are expecting some rain, then leaves the property.

5:00 PM: CirrusPRO obtains the ET value from the WatchDog weather station located on the property. The ET value is 0.14” (3.6 mm) of water.

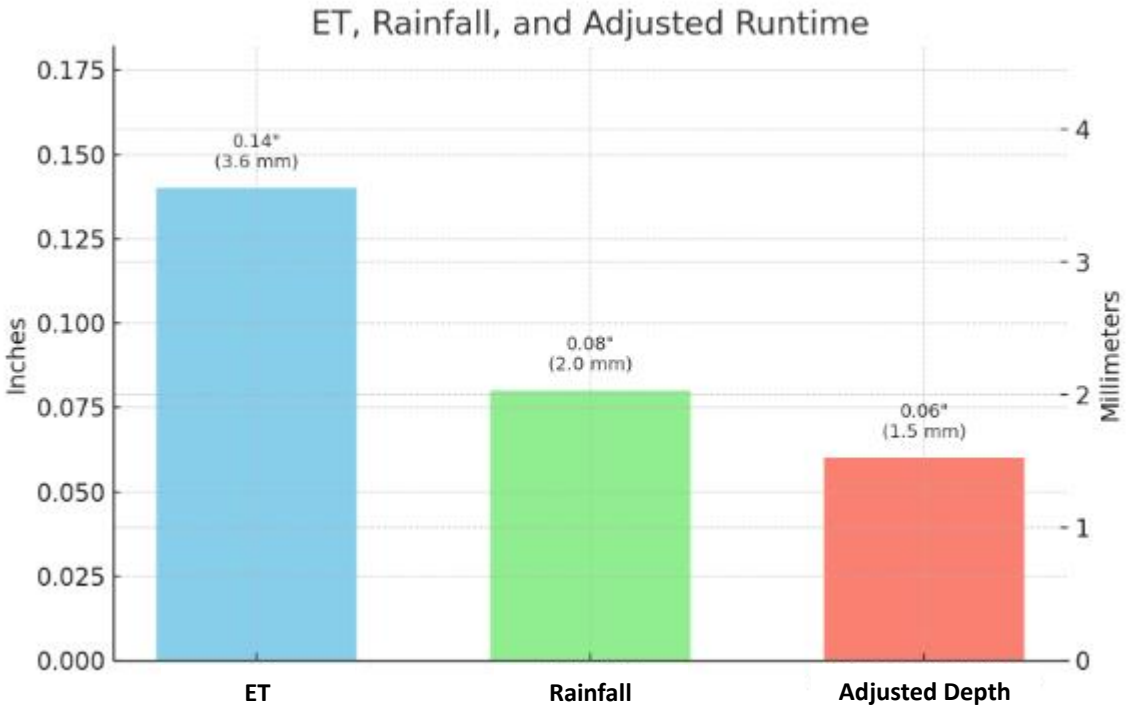
10:00 PM: CirrusPRO starts irrigating the course. The programs are running via ET so the runtimes are calculated to provide 0.14” (3.6 mm).

1:12 AM: It starts to rain. After only 0.02” (0.51 mm) of rain, Rain Watch pauses the system and continues monitoring the rainfall.

2:07 AM: It has been 20 minutes since the last rainfall was registered by Rain Watch. A total of 0.08” (2.03 mm) of rain was recorded by Rain Watch.

As the required amount of water was 0.14”, all the stations that already applied 0.06” (1.52 mm) of water or more, are considered done as they received 0.08” (2.03 mm) from the rain event.

CirrusPRO then recalculates the runtime for all the stations that received less than 0.06” (1.52 mm) prior to the rain event so that their total applied amount of water reaches the desired amount, and resumes irrigation.



Graph depicting the ET value received from the weather station prior to the start of irrigation, the rainfall amount received during the irrigation event, and the adjusted runtime after the rain event.

This example is how Rain Watch would react when the rainfall event supplied less water than what the irrigation event planned on applying. If the rainfall event would provide more water than needed, Rain Watch can be set to not only cancel the irrigation cycle, but it could also put the system in “Off” to prevent any other programs scheduled with a later start time from starting. Rain Watch can also be programmed to turn the system back on after a user defined delay, if that is what the operator desires.

Data required by Rain Watch:

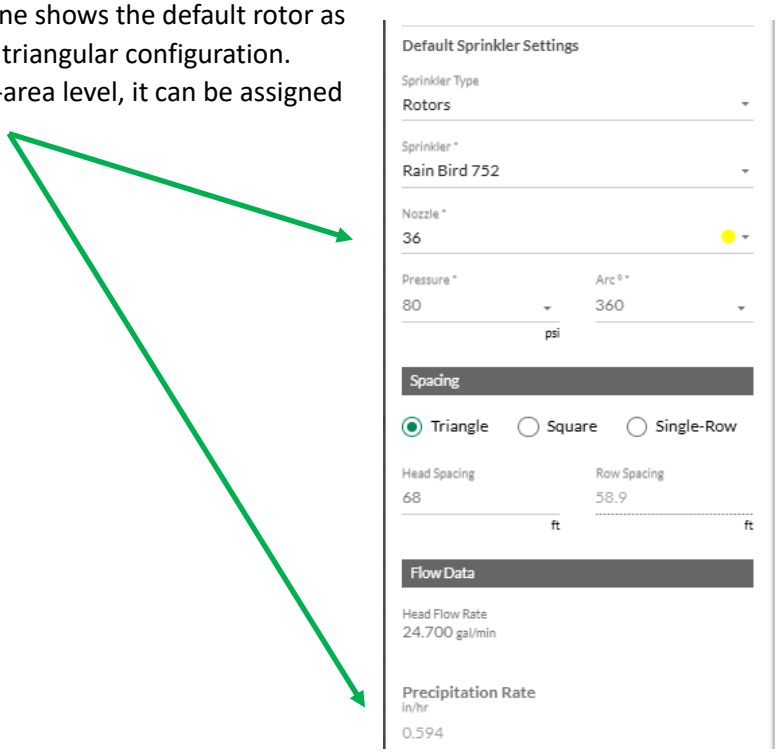
As Rain Watch works by monitoring rainfall as a quantity of water (or depth of water), the CirrusPRO database must include all the necessary information to be able to calculate the precipitation rate of every station. Without this data, Rain Watch will not be able to calculate adjusted run times when there is not enough rainfall to satisfy the irrigation requirement.

You must ensure that all the stations defined in CirrusPRO have a precipitation rate. Any stations without a precipitation rate defined will be paused during rainfall, but their runtime will not be adjusted when irrigation resumes.

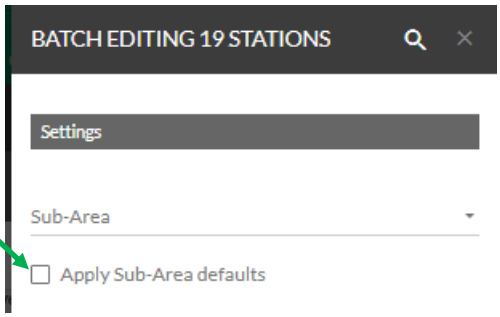
Note that these stations will be cancelled if the rain event reaches the “shutdown” threshold of Rain Watch.

The fastest way to define and assign the precipitation rate to all the stations in CirrusPRO is to create sub-areas that represent the different rotor and spacing configurations of the system and then assign these values to the stations using the batch edit feature.

As an example, this sub-area edit pane shows the default rotor as a Rain Bird 752 with a 36 nozzle in a triangular configuration. When this info is entered at the sub-area level, it can be assigned to all the stations in that sub-area.



Once the sub-areas are defined with the right information, you can select all the rotors under said sub-area and select “Edit”, then select “Sub-Area” and select “Apply Sub-Area defaults” in the following screen.



Please note that if some of the rotors in each sub-area are set to a different angle (Arc), the Arc setting must be adjusted to the correct angle value. Omitting this can greatly impact the precipitation rate for that station (precipitation rate will increase as the Arc setting decreases).

If the arc setting is unique for a station, it is an individual setting and would not require a batch edit. If there are 10 rotors with 135-degree arcs, batch edit can be used to set the arc adjustment, but you will need to set the rotor and nozzle details as well, even if they were already defined.

As a “best practice”, each station should be audited to ensure a high degree of accuracy, resulting in better playing conditions as well as increased water and power savings.

Components required for Rain Watch:

To accurately monitor rainfall, at least one Rain Can (P/N F69400) needs to be connected to CirrusPRO. This unit comes with 50 feet of cable.

Rain Can (F69400)

In CirrusPRO, the Rain Can is defined as a "Weather" sensor in the "Sensors" screen under "System Settings" of the main menu. CirrusPRO can handle as many Rain Cans as required to properly reflect the varying topography of the golf course. Most courses use from 1 to 4 Rain Cans.

> **IMPORTANT:** Rain Cans require periodic maintenance, especially cleaning and ensuring that the tipping mechanism moves freely.

Since a Rain Can is configured as a "sensor" in CirrusPRO, a sensor input device is also required to read and relay the signal to CirrusPRO. The type of sensor input device needed will vary based on the type of field control system hardware the course is using. See details below:

> **INSTALATION GUIDELINES:** It is important to install Rain Cans in a location that provides easy access. It is critical to install any Rain Can with a clear view of the sky, unobstructed by nearby walls, trees or buildings and away from sprinklers. Placing the Rain Can on the roof of a building or structure is not advised as it normally does not provide easy access for regular inspections and cleaning.

1. For the IC System™:

For courses using the IC System, you will need one IC-IN (P/N HS4000) for each Rain Can. The IC-IN can be connected anywhere on one of the wire paths.

The IC-IN is fully watertight and can be installed in a valve box along the wire path using waterproof wire connectors (P/N WC100). The Rain Can may be mounted on a pole or a structure that respects the installation guidelines stated previously.

IC-IN Sensor Input Device

2. For Decoder Systems:

For courses using Decoders, you will need one SD-211 Sensor Decoder (P/N D18711) for each Rain Can. The SD-211 can be connected anywhere on one of the wire paths.

For Rain Cans installed in the field, the SD-211 is fully watertight and can be installed in a valve box along the wire path using waterproof wire connectors (P/N WC100). The Rain Can may be mounted on a pole or a structure that respects the installation guidelines stated previously.

SD-211 Sensor Decoder

3. For hardwired satellite systems:

For courses using hardwired satellites, you will need one "Pulse Decoder" (P/N F69300) for each Rain Can as well as a free channel on the wire path for each Pulse Decoder. The Pulse Decoder can be connected anywhere on the wire paths. In typical installations, the Pulse Decoder is often installed inside a satellite. This allows easy access to the wire path connections and has the added benefit of protecting the Pulse Decoder from surge devices when wired after the MSP-1.

Pulse Decoder

4. For LINK™ satellite systems:

For courses using LINK (radio controlled) satellites, you will need an ESP-SAT-LINK controller (P/N M72900) to provide the sensor input. Note that the ESP-SAT-LINK has two sensor inputs, so a good location is often at the pump house as it can then also be used to report flow to the central. You will also need a radio kit for the ESP-SAT-LINK (H59004 for 900MHz or H41008 for 450-470 MHz), unless you connect to an existing satellite radio via a CAM-LINK (H60300).

ESP-SAT-LINK Controller

5. For Hybrid Systems:

For courses using multiple types of field hardware (Hybrid), then multiple choices are available based on the field control system used at the site. As an example, many "LINK" sites will opt to add a "2-wire Driver Board" (P/N 214111) to their ICI+ as this will allow them to connect an IC-IN as well as

allow them to add IC modules in the future. Please contact your Rain Bird District Sales Manager or Specification Manager if you are uncertain about the best method to connect the Rain Can for Hybrid systems.

6. Grounding requirements:

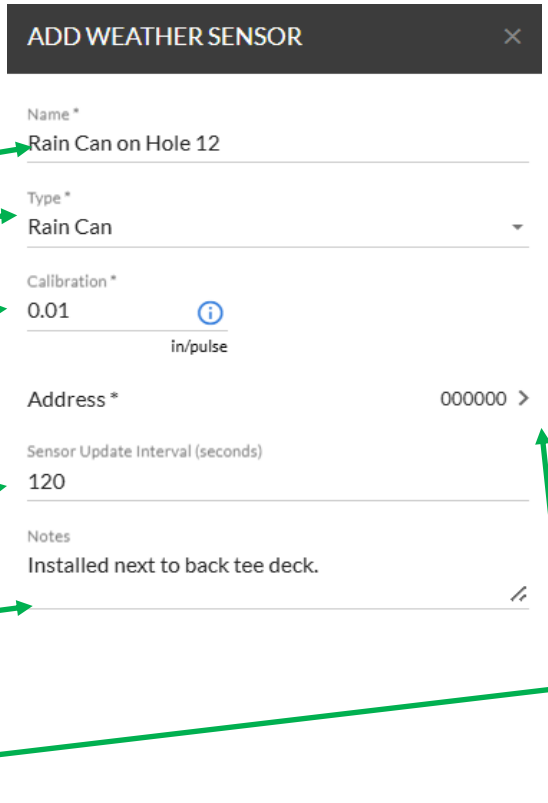
For 2-wire systems such as the IC System and Decoder systems, it is a good practice to install a surge device (ICSD for the IC System – LSP-1 for Decoder systems) where the sensor input device is spliced into the Maxi wire. Each surge device must be connected to a suitable ground rod or ground plate tested at less than 50 ohms or less resistance to earth.

For hardwired satellite systems, when the Pulse Decoder is installed inside the PAR+ES, it is protected by the MSP-1 when wired properly (Pulse Decoder must be connected on the equipment side after the MSP-1). The satellite and MSP-1 must be bonded to a suitable ground of 10 ohms or less resistance to earth.

For LINK satellite systems, the ESP-SAT-LINK controller must be bonded to a suitable ground of 10 ohms or less resistance to earth.

Configuring a Rain Can in CirrusPRO™:

To configure a Rain Can in CirrusPRO, go to “System Settings”, then “Sensors”. Then click on the orange “+” to add a sensor and select “Weather”. The “Add Weather Sensor” screen will be displayed.



Give the Rain Can a name and make sure that “Rain Can” is selected in the “Type” drop down.

The “Calibration” is 0.01” (0.254 mm) for the 4” Rain Can (F69400). If a different device is used, enter its calibration value in units per pulse.

Under “Sensor Update Interval”, enter a value from 60 to 300 seconds.

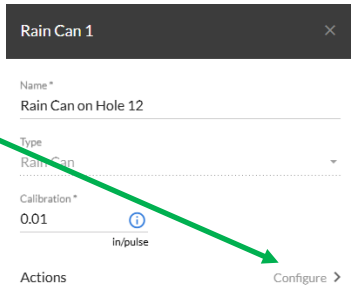
You can also enter “Notes” for the device here.

The last step is to enter the “Address” for the sensor input device. This will vary based on the type of field control. To enter the address, click on the chevron on the right of the address field.

Click “Save” to finalize the setup.

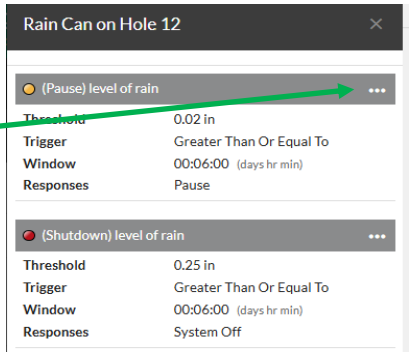
Configuring Rain Watch Actions in CirrusPRO:

Once the Rain Can’s initial configuration is saved, select the Rain Can in the list of sensors and click on “Edit”. You will now see a new configurable item called “Actions”. This is where the different types of actions are set for Rain Watch to react to rainfall. Click on the chevron next to “Configure” to the right of “Actions”.



There are two reactions to be configured to have proper reactions by Rain Watch: The Pause configuration as well as the Shutdown configuration.

To configure each, click on the three dots to the right of the reaction name and select “Edit”.

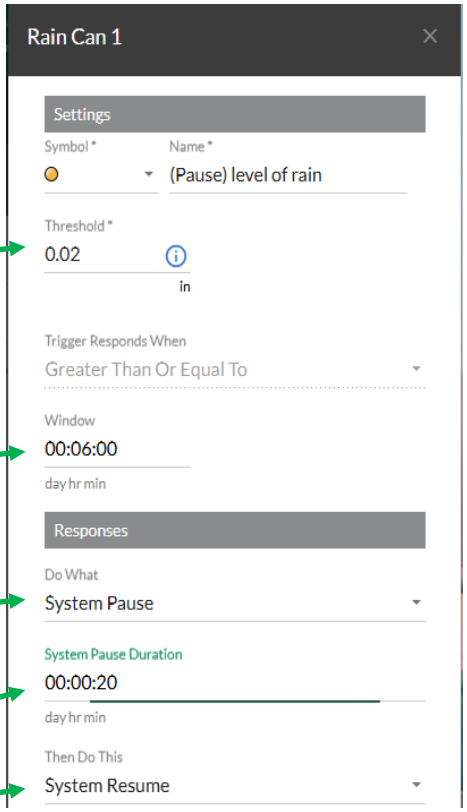


1. Systems with a Single Rain Can:

When the system only has one Rain Can, the “Responses” will normally be set to affect the entire system. For setting up a system with 2 or more Rain Cans, see section 2.

Set the “Pause” level of rain:

These settings should be “standard” for all systems with a single Rain Can.



- Set the pause Threshold
  For maximum water savings and the fastest response time, 0.02” (0.5 mm) is the recommended value. Using 0.01” (0.25 mm) is not recommended as accidental shutdown from dew or leftover water in the tipping bucket from the previous rain event may occur. It may be set higher than 0.02 if preferred.
- Set the Window duration
  This window defines the time after the last tip of the tipping bucket to clear the previous rain event and start a new one. The default is 6 hours.
- Set the “Do What” response
  As this is the “Pause” response and there is only one Rain Can, this should be set at “System Pause”.
- Set the pause duration
  This value represents the amount of time after the last tip that the system will resume irrigation. 20 minutes is what we normally see (see more details in the shutdown section).
- Set the “Then Do This” response
  The logical action is to select “System Resume” when there has not been a tip of the tipping bucket for the pause duration (20 minutes in our example)

Then click “Save” to save your Pause actions.

a) Set the "Shutdown" level of rain:

These settings will most likely vary with each course as the superintendent will consider environmental characteristics such as soil type, slope, climate, time of year, etc. for configuring.

- Set the shutdown Threshold

  Rainfall threshold at which system shutdown will occur. This value will vary for each course. As an example, courses with sandy soil may choose a higher shut down value, or the value may change from summer to fall.

- Set the Window duration

  This window defines the time after the last tip of the tipping bucket to clear the previous rain event and start a new one. The default is 6 hours. So, if 0.20" of rain fell earlier and then it starts to rain again 5 hours later, it will be added to the 0.20". If the rain started 7 hours later, it will be considered a new event.

- Set the "Do What" response

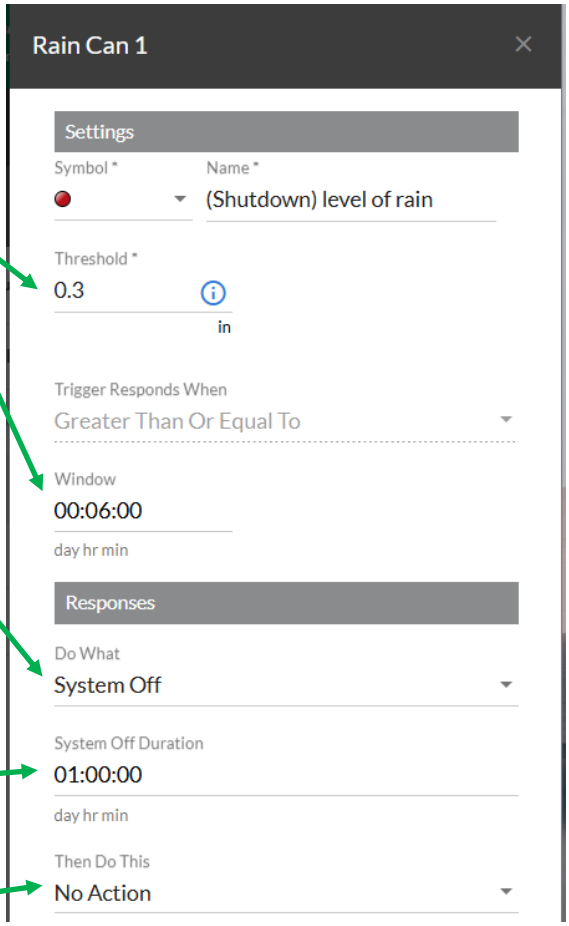
  As this is the "Shutdown" response and there is only one Rain Can, this should be set at "System Off".

- System Off Duration*

  This is where we enter the length of time we want the "Do What" setting to last. The duration should be based on what the "Then Do This" action will be. In our example, we set this to 1 day and then decided to do nothing, meaning that the system will remain "Off" until the Superintendent changes the status back to "On".

- Set the "Then Do This" action

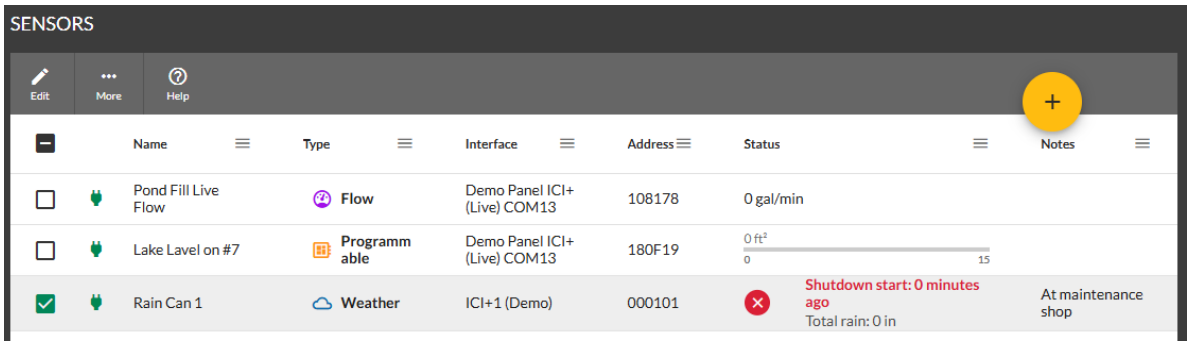
  This action is highly dependent on the previous setting. It defines what to do after reaching the pause duration. As explained under the "system off duration" section, you can decide to remain in Off by selecting "No Action", or you can decide to put the system back to "On". If your choice is to turn it back "On" automatically, it may be advised to set a longer "System Off Duration" than only 1 day.



*It is recommended to set the "System Off Duration" to at least 1 day, even if the "Then Do This" action is set to "No Action". The reason is that if you set this value to 1 hour (as an example), then Rain Watch will reset all its parameters to 0 after just an hour and if it starts to rain again, it will treat this as a new event, ignoring the cumulative effect of the previous rainfall. Also, the Rain Watch widget will not display that the system is in the "Off" state if the Rain Watch data is cleared.

b) Unassign the Rain Can at the Program level:

Since there is only one Rain Can on the system, it is recommended to unassign that Rain Can from any and all of the programs so that no programs are affected by the *state* of the Rain Can. As an example, if your system is manually turned back to "On" after a "Shutdown" event, but the Rain Can is still in a *Shutdown state*, a program assigned to that Rain Can will not be allowed to start until the *Shutdown state* expires or is manually reset.



To unassign all the programs from a Rain Can, go to the Programs screen, select all the programs and select "Edit". Then, check the "Rain Can" option and select "None", then save.

To cancel the S*hutdown state* of a Rain Can Sensor, select the sensor using the check box and then click on "More" and select "Reset".

2. Systems with multiple Rain Cans:

Configuring a system with multiple Rain Cans can be complex. There are many ways to set them up and understanding the different possibilities is important.

As examples, a system can use multiple Rain Cans to reflect different geographical or land characteristics (soil type, ridge, valleys, trees, open areas, etc.), or they could be assigned to different features of the course such as greens, tees & fairways. This manual will cover these two examples; however, other ways to setup Rain Watch are possible.

Configuration based on geographical / land attributes

When configuring systems with multiple Rain Cans based on geographical or land characteristics, it is important to understand that the location of the Rain Cans on the property as well as the size of the section assigned to them will dictate how the programs will need to be created. As an example, if a course has been using a Rain Bird central for years and has Programs defined by "front 9 and back 9" and now the superintendent wants to install 3 Rain Cans to monitor and react to rainfall, they will have to re-write their programs to reflect the sections of the courses that each Rain Can monitors.

In other words, the customer would create 3 greens programs, 3 fairways programs, etc. and assign each individual program to the Rain Can in that section of the course.

For our example, below is a simple design of a 12 hole course with 3 sections separated by a stream.

A Rain Can was installed in each of the 3 sections created by the stream. Below in blue is an example of how programs could be created to result in actions based on these individual Rain Cans.

Greens Program #1: Would include Greens 1, 7, 8, 9, 10, 11, 12

Greens Program #2: Would include Greens 2, 3, 4

Greens Program #3: Would include Greens 5, 6

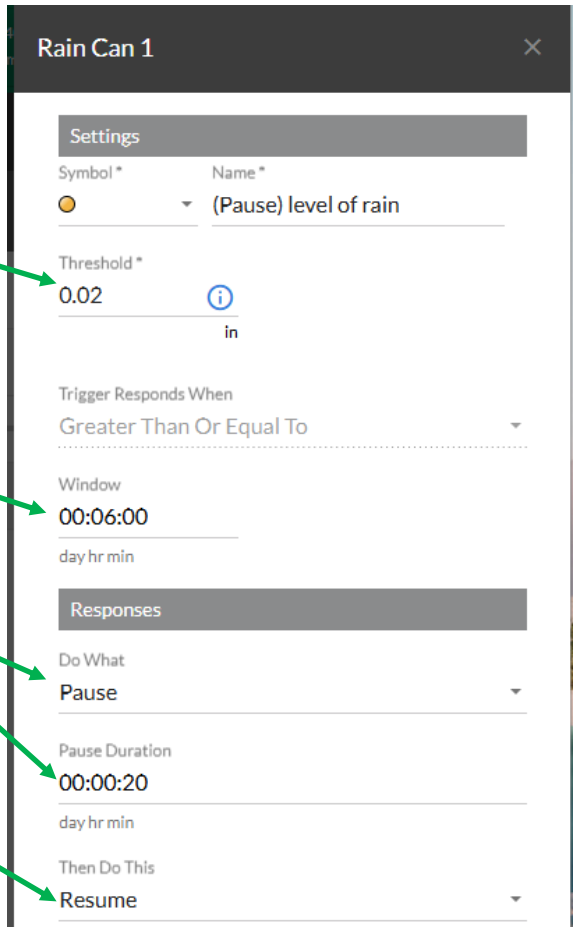
The same would apply in creating the programs for the Tees, Fairways, etc.

Once all the programs are created, then each of these programs must be assigned to the corresponding Rain Can (discussed in section c below).

a) Setting the "Pause" level of rain (multiple Rain Cans):

These settings could vary for each of the Rain Cans. In our example, these settings will be the same for all 3 Rain Cans.

- Set the pause Threshold
  For maximum water savings and the fastest response time, 0.02" (0.5 mm) is the recommended value. Using 0.01" (0.25 mm) is not recommended as accidental shutdown from dew or leftover water in the tipping bucket from the previous rain event may occur. It may be set higher than 0.02 if preferred.
- Set the Window duration
  This window defines the time after the last tip of the tipping bucket to clear the previous rain event and start a new one. The default is 6 hours.
- Set the "Do What" response
  As this is for a multi–Rain Can system, the response should be set at "Pause" (and not "System Pause").
- Set the pause duration
  This value represents the amount of time after the last tip that the system will resume irrigation. 20 minutes is typical (see more details in the shutdown section).
- Set the "Then Do This" response
  The logical action is to select "Resume" when there has not been a tip of the tipping bucket for the pause duration (20 minutes in our example)



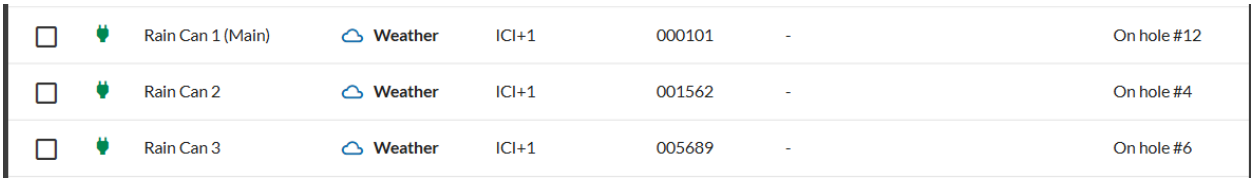
Then click "Save" to save your Pause actions. Repeat these steps for the other 2 Rain Cans.

b) Setting the "Shutdown" level of rain (for a multiple Rain Cans system):

In a multi–Rain Can system, each of the Rain Cans may have different "shutdown" actions based on varying conditions such as soil, slope, shade, etc. However, one of the 3 Rain Cans should be

designated as the “Main” Rain Can. This main Rain Can will act as the overall system shutdown while the other two “Secondary” Rain Cans will only affect their own section of the course. The logical choice for selecting the main Rain Can is to pick the Rain Can in the section of the course that normally requires more water than other sections. Another option is to select the Rain Can located in the section that typically receives the least rainfall per event.

Since CirrusPRO gives you the ability to customize the names of your Rain Cans, it is useful to identify the Rain Can that will be used as the main, such as in the example below:



System with 3 Rain Cans – 1 Main and 2 Secondary

When configuring the “Secondary” Rain Cans, “Cancel” is used instead of “System Off”. This means that the system status will remain “On” and will not interrupt programs managed by other Rain Cans. Each secondary Rain Can will only pause or cancel its assigned programs.

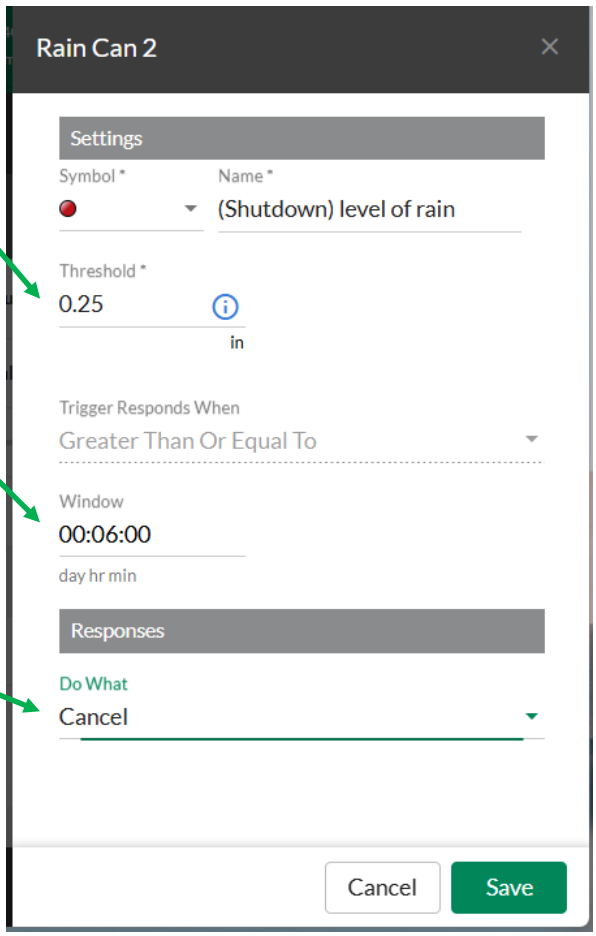
IMPORTANT: If the main Rain Can issues a “System Off” command, and later the operator turns the system back to “On” but does not reset the status of the main Rain Can (which may still be in a “Shutdown” state), it will prevent programs assigned to the main Rain Can from starting automatically until the shutdown state of the main Rain Can is cleared either automatically when the shutdown duration elapses, or manually by resetting the Rain Can from the Sensor screen.

IMPORTANT: The “Cancel” command affects active programs only and not programs scheduled to start after the cancel command was issued.

For this reason, it may be good practice to have all the programs start at the same time so that all the programs assigned to Secondary Rain Cans sections are cancelled when the shutdown threshold is reached. If this is not possible, then the programs that have a start time after the cancel command has been sent will start at the programmed start time but will be stopped by the main Rain Can when it reaches its shutdown threshold.

Configuring the shutdown of "secondary" Rain Cans:

- Set the shutdown Threshold
  This value may vary for each section of the course. As an example, sections with sandy soil may dictate a higher shut down value, or the value may change from summer to fall, etc.
- Set the Window duration
  This window defines the time after the last tip of the tipping bucket to clear the previous rain event and start a new one. The default is 6 hours. So, if 0.20" of rain fell earlier and then it starts to rain again 5 hours later, it will be added to the 0.20". However, if it rains 7 hours later, this would be considered a new event.
- Set the "Do What" response
  To stop the active programs assigned to this Rain Can, "Cancel" should be selected.



Configuring the shutdown of the "main" Rain Can:

To set the "Shutdown" criteria for the "Main" Rain Can, please refer to the instructions for the shutdown of a single Rain Can system (page 12). The shutdown value can be the same as the secondary Rain Cans or set higher if needed.

Note: Since the "Main" Rain Can affects the entire system when "Shutdown" is reached, it can cancel irrigation and put the system in "Off" at any time, whether the secondary Rain Cans have reacted to a rain event or not.

c) Assign Rain Cans at the Program level:

Since there are multiple Rain Cans in the system, and programs have been built to reflect the 3 sections of the course, the last step is to assign the programs to the correct Rain Can.

To assign programs to a Rain Can, go to the Programs screen, select all the programs for a given section and select “Edit”. Then, check the “Rain Can” option, select the correct Rain Can and then save.

Repeat this procedure until all the programs have been assigned to the correct Rain Can.

IMPORTANT: As the “Main” Rain Can controls the shut down for the entire system, it is important to remember that if the customer puts the system back to “On” before the “System Off Duration” is expired, the programs assigned to that Rain Can may not start at their scheduled start time. Clearing the shutdown state of the Main Rain Can may be required.

Configuration based on course features

When configuring systems with multiple Rain Cans based upon course features, the Rain Cans can be installed next to one another as the effect we are looking for is not based on the location of the Rain Can, but on how much water we want the different features of the course to receive. As an example, if you have a limited amount of water and keeping your fairways hard and fast is more important than having them lush and green, then you could use Rain Can #1 to pause your fairways as soon as it starts to rain and have Rain Can #2 wait for more rainfall to accumulate before pausing your greens.

In other words, you could have one Rain Can for greens, one for fairways and one for tees and set the pause thresholds as well as the shutdown thresholds based on how you want to control water for these features.

In this scenario, a fourth Rain Can could be used to act as the “Main” Rain Can, to turn the system “Off” when a certain amount of rainfall is received. It could also control the pause of any other areas that are not greens, tees or fairways.

How to Specify Rain Watch:

Below is the suggested verbiage to use in a specification document. Any text in *italic grey* should be replaced with a numeric value. Only one of the sections in blue should be retained in the specifications. Select which section to use based on the field hardware and delete the other ones.

Specifications:

1.0 Rain Watch™ – Intelligent rainfall monitoring and response system

A Rain Watch intelligent rainfall monitoring and response system shall be installed to provide central control response(s) to rainfall. This rainfall monitoring system shall be able to:

- Pause irrigation as soon as rain is detected based on user selected threshold.
- Monitor rainfall during the rain event with an accuracy of 0.01" (0.254 mm) or less.
- When the rain event stops, either:
    - Resume irrigation by subtracting the quantity of water received during the rain event and re-calculating run times to apply the amount remaining and cancel any stations that received enough water during the rain event. This behavior can repeat itself multiple times during the irrigation cycle.

    or

    - Cancel irrigation if the amount of rain received is higher than the user selected shutdown threshold.

The central control shall allow for the configuration of multiple Rain Cans (P/N F69400) and allow for reactions to be configured for the entire system or by programs.

The quantity of Rain Cans provided shall be (*provide quantity here*). The location for each Rain Can shall be determined by the consultant.

1.1 Installation

Rain Cans may be field installed on an 8' x 1 ¼" galvanized steel pole or 8' x 4" x 4" pressure treated wooden post that is properly lowered into an 8" diameter, 3' deep hole with filled with freshly poured concrete. The final height of the Ran Can shall not exceed 5' from the ground. The Rain Can shall be installed at level and the location shall offer easy access for periodic maintenance. The Rain Can must be far enough from obstructions and located in an area transparent to the sky and away from any overhead

obstructions such as trees, building rooflines, powerlines, etc. The cable provided with the Rain Can shall be spliced directly with the sensor input device and shall not be extended.

For installation in an IC System

For field installation in an IC System, the supplied Rain Can cable must be connected to an IC-IN sensor input device (P/N HS4000). The IC-IN can be located in a valve box along the wire path for easy access. Splice kits shall be UL Listed, direct bury splice kits conforming to "UL 486D-Direct Burial" such as the Rain Bird WC100 connectors. All above-ground wiring shall be in a conduit.

For installation in a hardwired satellite system

For field installation in a hardwired satellite system, the supplied Rain Can cable must be connected to a Pulse Decoder (P/N F69300) located inside the nearest satellite controller or other weather resistant enclosure with a supplied MAXI cable. If installed in a valve box, ensure that the valve box has good drainage. Each Pulse Decoder shall occupy its own Channel number. Splice kits shall be UL Listed, direct bury splice kits conforming to "UL 486D-Direct Burial" such as the Rain Bird WC connectors. All above-ground wiring shall be in a conduit.

For installation in a LINK satellite system

For field installation in a LINK system, the supplied Rain Can cable must be connected to one of the sensor input terminals inside a Rain Bird ESP-SAT-LINK controller (P/N M72900). The ESP-SAT-LINK shall be equipped with its own radio kit (P/N H59004 for 900MHz or H41008 for 450-470 MHz), or shall be connected to the radio kit of an existing PAR+ES satellite via a CAM-LINK (P/N H60300). A radio survey shall be conducted if the ESP-SAT-LINK will be located in an area where radio signal has not been already tested. All above-ground wiring shall be in a conduit.

For installation in a Decoder System

For field installation in a Rain Bird Decoder system, the supplied Rain Can cable must be connected to a SD-211 Sensor Decoder (P/N D18711) located along the wire path in a valve box within 50' of the Rain Can. Splice kits shall be UL Listed, direct bury splice kits conforming to "UL 486D-Direct Burial" such as the Rain Bird WC100. All above-ground wiring shall be in a conduit.

Troubleshooting

This section will address common issues experienced and how to solve them. If you encounter an issue not described in this section, please reach out to your Authorized Golf Distributor, your local Rain Bird Golf representative or our Global Service Plan (GSP) hotline.

Unexpected rainfall values

Unexpected rainfall values can be caused by many different reasons. This section will try to cover as many of them as possible.

Poor Rain Can location

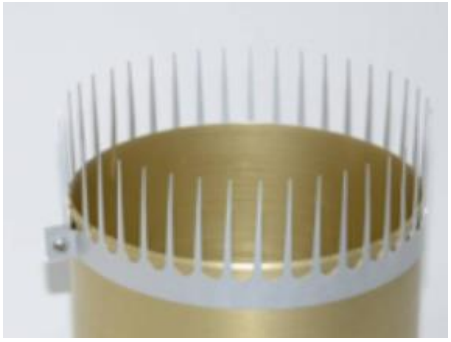
Rain Cans must be installed in areas transparent to the sky and away from any overhead obstructions such as trees, building rooflines, powerlines, etc. Rain Cans must be installed level and plumb, as well as far from any surface where water can bounce and enter the Rain Can or where it might collect water from sprinklers. The Rain Can must be well secured and should not move in any direction, even in high wind.

Dirt, moss, insects and other obstructions

Rain Cans are susceptible to foreign object intrusions causing the mechanism to malfunction. It is important to ensure that the filtering screen is in place and that the tipping bucket mechanism is inspected regularly for proper operation. Regularly remove the collection funnel by loosening the thumb screw and lifting the funnel assembly. Invert the funnel to remove the screen that protects it. Rinse the screen and funnel assembly. Use soapy water if additional cleaning is required.

Spider webs, bugs, and debris can prevent proper movement of the tipping bucket assembly. Verify the tipping bucket is clean and moves freely before reassembly. Verify the drain holes at the bottom of the Rain Can are open and allow water to drain freely.

If bird droppings is an issue, you can always add bird spikes to prevent them from using the Rain Can as a landing platform. You can get this option here: https://texaselectronics.com/product/bird-spikes/



Bird Spikes

Smaller than expected rainfall value

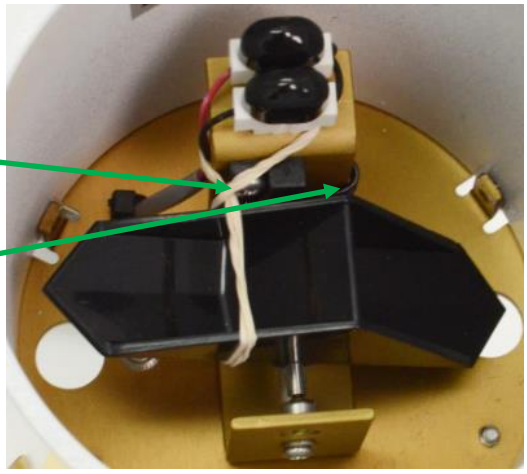
The 4” Rain Can has an accuracy of 0.01” (0.254 mm) and can accurately record rainfall in rain events where the rainfall rate does not exceed 1” (25.4 mm) per hour. In heavy rainfall events, it is possible that the funnel overflows, resulting in recording an amount of rainfall smaller than the actual amount. If the course experiences heavy downpours on a regular basis, it may be suggested to use a 6” Rain Can which is able to record accurate rainfall rates of up to 2” (50.8 mm) per hour.

No rain recorded – physical issues

Ensure that the elastic band placed by the factory to secure the tipping bucket during shipping has been removed.

Also ensure that the small magnet located at the apex of the tipping bucket is in place and not missing.

Ensure that the funnel is not blocked by debris and that water flows well though it.



No rain recorded – communication issues

When the tipping bucket tips, a pulse signal is induced by a small magnet that passes in front of a reed switch. This behavior can be duplicated by briefly touching the wires of the sensor input device (with the Rain Can disconnected). If you touch the wires 4 times (once every two seconds), you should see a rain amount of 0.04” (1.016 mm). Note that it may take 2 to 3 minutes for the value to show up in CirrusPRO based on the type of field hardware being used. If no data shows up in the sensor screen, it is possible that the sensor input device is at fault, or that you have an issue on the wire path.

If the data is displayed in the central, then you may have a faulty Rain Can. To test it, use a multi-meter set to measure resistance.

1. Disconnect the Rain Can lead wires from the sensor input device (IC-IN, Pulse Decoder, etc.).
2. Connect the leads of the multi-meter to the red and black wires from the Rain Can. An open circuit should be detected when the bucket is at rest (Figure 1).

3. Move the tipping bucket to the neutral (balanced) position. The circuit should indicate a short or very low resistance (Figure 2).

Figure 1

Figure 2

If you are not getting these results, then your Rain Can is most likely damaged and need to be replaced.

Conclusion

Since each golf course is unique, providing a complete guide on how to configure Rain Watch is a challenge that this document tried to fulfill. With the wide range of configurable options that Rain Watch offers, it is possible that this guide did not address certain scenarios. If you have any questions about Rain Watch, please do not hesitate to reach out to your Authorized Golf Distributor, your local Rain Bird Golf representative or our Global Service Plan (GSP) hotline.

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