BaseStation 3200 Irrigation Controller Shutting Down Irrigation Based on a POC Empty Condition

With Baseline's BaseStation 3200 irrigation controller, you can use water from multiple sources to run your irrigation programs. If one of the water sources has a limited supply, it's important to monitor the quantity of water in order to avoid pumping the source dry.

Note: While this document explains how to shut down one water source on an irrigation system that uses multiple water sources, you can also apply this procedure to a system with a single water source.

If you have configured this reservoir as a specific water source – also known as a point of connection or POC – you can install an event biCoder with a float switch or a biSensor to monitor the water level and stop using that water source when the water drops below a specified level.

Perform the following steps to use a POC empty condition to shut down watering when water drops below a specified level in a reservoir:

Step 1 – Install the monitoring device in the reservoir and wire it to the controller.

Step 2 – Program the controller to recognize the reservoir as a POC.

Step 3 – Program the controller to shut down the POC at a specified moisture reading.

Step 1 – Installing the Monitoring Device in the Reservoir

You can install an event biCoder with a float switch or a biSensor to monitor the water level.

Using an Event biCoder and Float Switch as a Monitoring Device

Purchase a BL-5402 event biCoder from Baseline and any normally closed or normally open irrigation float switch. Connect the red and black wires from the event biCoder to the two-wire path and connect the other wires to the float switch. Install the float switch in the reservoir.

Be sure to use 3M™ DBR/Y-6 or equivalent moisture-resistant connectors.

Take note of the serial number of the event biCoder. You will need this number when you program the controller.

Using a biSensor as a Monitoring Device

Take note of the serial number of the biSensor that you are installing in the reservoir. You will need this number when you program the controller.

For best results, position the biSensor vertically in the reservoir. It doesn't matter which end is up, but mount the sensor so the wires can be routed out of the reservoir. Make sure that some portion of the sensor blade is below the water at the low water level.

IMPORTANT! When mounting the biSensor, do not drill or nail through any part of the biSensor. A perforation in any part of the biSensor will prevent it from working and will void the biSensor warranty. A suggested method for mounting the biSensor is to install a pole in the reservoir and attach the biSensor to the pole with zip ties.

Mount the biSensor securely so it does not move. Variations in the position of the biSensor will result in incorrect readings.

Follow the wiring instructions in the biSensor installation guide to connect the biSensor to the two-wire path or to the biSensor ports on the controller.

Make sure that you maintain polarity on the wire connections.

Fasten the wiring with wire nuts, and then test communication with the controller before you complete the installation with waterproof connectors.
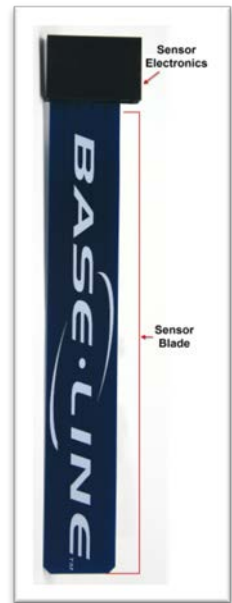
Step 2 – Program the Controller to Recognize the Reservoir as a POC

The BaseStation 3200 supports 8 points of connection (POCs).

If you have a flow device on the output from your reservoir, you can set up flow limits and budgets for this POC, but you can also leave those fields blank. For more information about the fields on the Setup POCs screen, refer to Setting Up a Water Source in the BaseStation 3200 User Manual.

1. Turn the dial to the **Water Sources** position.

2. Press the **Next** button to highlight the **Water Sources (POCs) Setup** option.

3. Press the **Enter** button. The Setup POCs screen displays.

4. In the **Water Source** field, press the **+** button to select the POC that you want to set up.

    Note: If you are a BaseManager user, we recommend that you give a descriptive name to each water source in your irrigation system, so you will be able to recognize it easily.

5. Press the **Next** button to move to the **POC Priority** field, and then press the **+** or **–** button to set the priority as High, Medium, Low, or Off. The system will use the high priority water source first, and then switch to medium, and finally to low.

    Note: When you have multiple POCs on a mainline, the priority setting allows you to use the POC with the lowest cost of water first (high priority), but you can only set priorities when you have a normally closed master valve installed on the POCs. Use the Off setting for POCs that do not have flow meters or master valves.

6. Press the **Next** button to move to the **Design Flow GPM** field, and then press the + or – button to enter the amount of flow in gallons per minute (GPM) that is allowed through this point of connection for the irrigation system.

7. Press the **Next** button to move to the **High Flow Limit GPM** field, and then press the **+** or **–** button to enter the maximum amount of flow in gallons per minute.

8. Press the **Next** button to move to the **Shut Down** field. If you want programs using this POC to be stopped and corresponding MVs shut off when the flow rate exceeds the limit, press the **+** button to enter a **Y** (yes) in the field. If you do not want excessive flow to shut down the system, enter an **N** (no) in the field.

9. Press the **Next** button to move to the **Unscheduled Flow Limit GPM** field, and then press the **+** or **–** button to enter the maximum amount of unscheduled flow in gallons per minute.

10. Press the **Next** button to move to the **Shut Down** field. If you want the associated MVs to turn off when an unscheduled flow exceeds this limit, press the **+** button to enter a **Y** (yes) in the field. If you do not want excessive flow to shut down the system, enter an **N** (no) in the field.

11. Press the **Next** button to move to the **Monthly Budget Gal** field, and then press the **+** or **–** button to enter the maximum amount of water that can be used per month in gallons.

12. Press the **Next** button to move to the **Shut Down** field. If you want the associated MVs to turn off when the amount of water used exceeds this limit, press the **+** button to enter a **Y** (yes) in the field. If you do not want excessive water use to shut down the system, enter an **N** (no) in the field.

13. Press the **Next** button to move to the **Water Rationing** field. To enable water rationing, press the **+** button to display **Enabled** in the field. When you enable water rationing, the system determines the daily water ration by dividing the number of gallons in the Monthly Budget field by the number of days in the month. The system will use only the ration amount for daily watering. If a day is skipped, that water ration is available the next day.

Step 3 – Program the Controller to Shut Down the POC at a Specified Moisture Reading

1. Turn the dial to the **Water Sources** position.

2. Press the **Next** button to highlight the **POC Empty Conditions** option.

3. Press the **Enter** button. The Empty Conditions screen displays.

4. In the **POC** column, press the **+** or **–** button to select the POC that you want to set up the condition for.

5. Press the **Next** button to move to the **Sensor** column, and then press the **+** or **–** button to select the device that you want to monitor the condition.

6. Press the **Next** button to move to the **Use Sensor** field. To enable the sensor to monitor the volume of water in the POC, press the **+** button to display **Enabled** in the field.

7. Press the **Next** button to move to the **Empty** field.

   - If you are using an event switch to monitor the condition, press the **+** button to toggle the value in the field between **Open** and **Closed**.

   - If you are using a soil moisture sensor to monitor the condition, press the **+** or **–** button to enter the moisture reading that indicates when the reservoir is empty.

8. Press the **Next** button to move to the **Wait Time** field, and then press the **+** or **–** button to enter the amount of time that you want the system to wait before reading the sensor again.

9. When you have finished making changes, turn the dial to the **RUN** position. When the empty condition is triggered, the controller will shut down all watering that is associated with that POC, and a message displays on the RUN screen indicating that the POC is out of water.

Additional Points to Consider

The BaseStation 3200 controller supports 8 POCs. By default, all POCs are enabled in the controller. Depending on how many water sources you have connected, your system might continue to water after one water source is shut down.