

Precip Sensor with Decoder

BL-5407 Kit

Thank you for purchasing the Baseline Precip Sensor.

The Precip Sensor is a rainfall sensor that connects to your two-wire irrigation system. Inside the device is a small bucket that collects rainfall. When full, the bucket tips over, emptying accumulated rainfall. The bucket automatically turns upright again, so more rainfall can be measured. Each tip of the rain bucket will cause the decoder LED to blink. Each tip of the rain bucket is equal to 0.01 of an inch of rain. The process triggers a notification to your irrigation controller to adjust or stop irrigation.

The Precip Sensor is compatible with the BaseStation 3200 and the SubStation.



Materials Provided

- Tipping Bucket Rain Gauge
- BL-5407 Rain Bucket Decoder
- IP68 Waterproof Splice Kit
- (2) DBRY-6 Waterproof Gel Tubes

Tools and Materials Needed

- Phillips Screwdriver
- Wire Strippers
- Micro Screwdriver

Overview

The installation process consists of mounting the Precip Sensor and configuring it with the controller. Please read through this entire set of instructions before beginning.

Customer Support

If you have any questions about the installation and set-up process, please contact Baseline Customer Support at 866-294-5847 or by email at support@baselinesystems.com

Part 1: Mounting the Precip Sensor

1

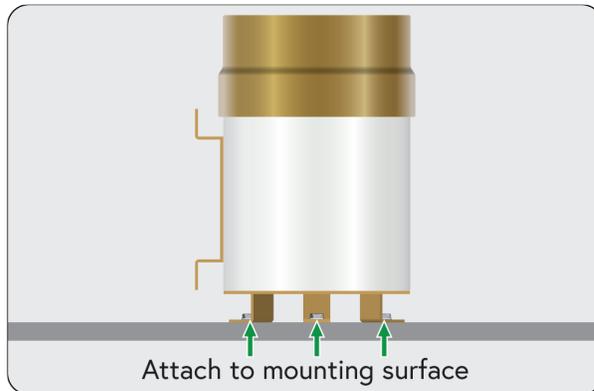
Select an Installation Location

Select a location that is clear and unobstructed. The Precip Sensor can be installed onto a platform or mast. Choose an installation method and follow the instructions below.

2

Platform Mounting

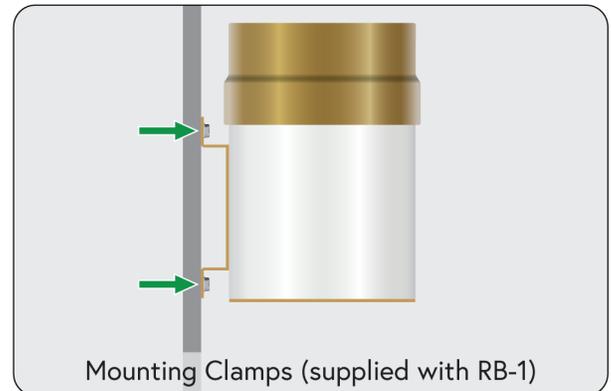
Place the Precip Sensor onto a platform and securely attach the 3 support legs to the platform.



Mast Mounting

Using a Phillips screwdriver, remove the platform mounting legs from the Tipping Bucket Rain Gauge. Set the legs aside as they are not needed for mast mounts.

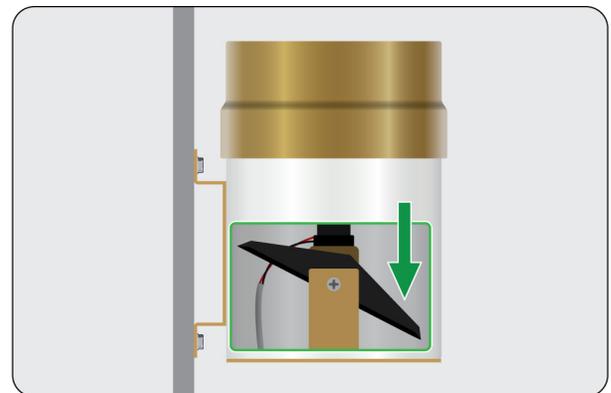
Use the supplied side bracket to secure the Precip Sensor to a stable vertical surface.



3

Verify Installation

1. Remove the rubber band that secures the interior bucket in place during shipping.
2. After mounting the Precip Sensor, it is important that you verify the position of the black tipping bucket inside the chamber. Observe the black tipping bucket. It should NOT be in a centered position. Press either end of the bucket down against the stop to be sure that it is not centered.



Part 2: Wiring the Precip Sensor

1

Power Off the Two-Wire

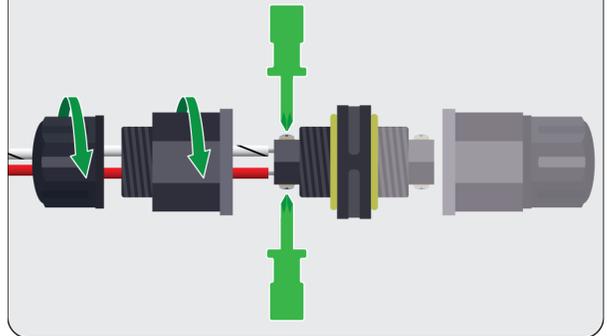
1. Power off the two-wire before the installation of any two-wire device.

2

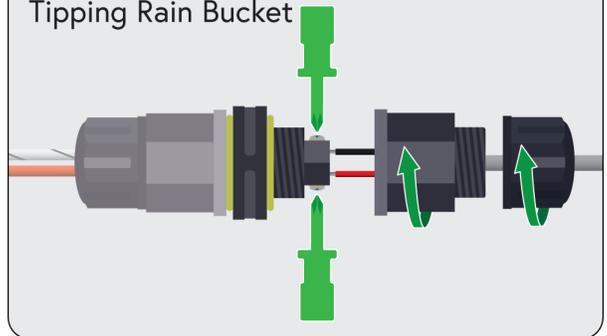
Connect the Precip Sensor

1. Slip the ends from the wires coming from the decoders.
2. Disassemble the connector.
3. Thread one strain relief through the red/black and white/black striped wires, followed by the feeding through barrel then the junction box. The orientation of the junction box does not matter.
4. Thread the other strain relief through the wire coming from the Precip Sensor side.
5. Using a micro screwdriver, connect red to red with black stripe and black to white with black stripe. Check connections to make sure they are secure.
6. Slide the junction box into the barrel.
7. Tighten one strain relief nut until the gasket is compressed.
8. Repeat on the other side.

Wires from decoder



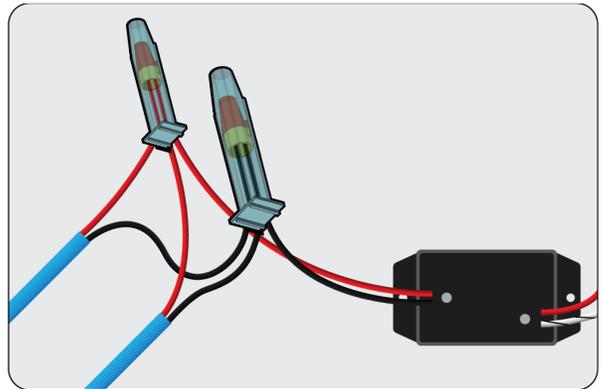
Wires from Tipping Rain Bucket



3

Connect the Decoder to the Two-Wire Path

1. Connect the red and black wires from the decoder to the red and black wires from the two-wire field. Be sure to maintain polarity by connecting red to red and black to black.
2. Use 3M™ DBR/Y-6 or equivalent moisture-resistant connectors for these connections. Leave 24 to 36 inches of slack on the two-wire to allow for easy installation and maintenance.



Part 3: Configuring the Precip Sensor

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1. Turn the dial to the Assign position.
2. Press the Next or Previous button to move to the option for the BL-5407 decoder and its serial number starting with TRG..
3. Press the + or – button to select Search in the left column of the Assign screen.
4. Press the Enter button to search for devices. The search may take several minutes to complete. You will see a status screen like the one shown here while the search is in progress. The display shows the number of devices found and the number of ports or addresses available. **Note:** To cancel a search in progress, press the Back button.
5. After the search has finished and the device serial numbers display in the left column, press the + or – button to select any unassigned device serial number.
6. Press the Next or Previous button to move to the Assignments column and select an available number.
7. Press the Enter button to assign the selected device to that number.
8. When you have finished making changes, turn the dial to the RUN position.

Assign		Top Menu	
biCoders [minus plus]		Rain Assignments [previous next]	
-		7	-
Help		8	-
Search	Press ENTR To Search for Devices	1	BRO0000
Unassign		2	-
-		3	-
-		4	-
-			

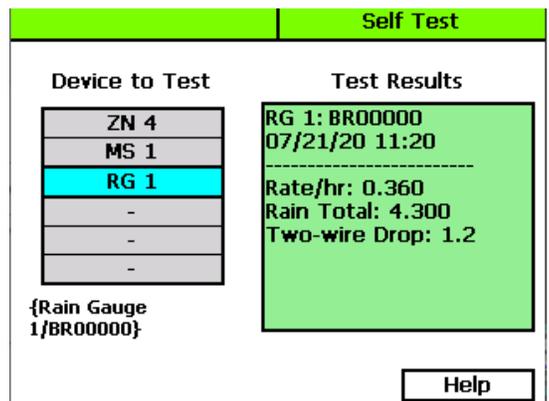
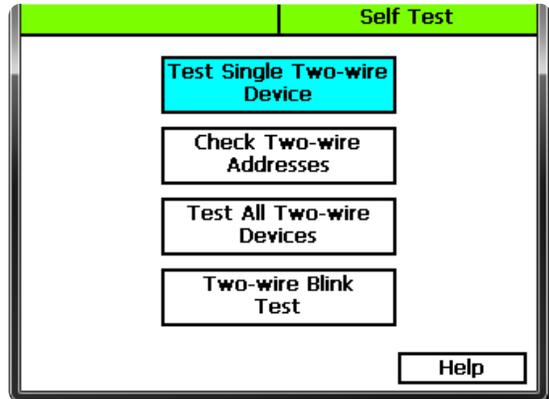
Part 4: Test the Precip Sensor

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Test the Precip Sensor

After installation and configuration, it is important to test the Precip Sensor. When you test a two-wire device, the controller verifies the communication between the controller and the device. The controller activates the device and measures the current and voltage. It deactivates the device, and measures the voltage drop between the controller and the device.

1. Turn the dial to the Self Test position.
2. Press the Next or Previous button to select Test Single Two-wire Device, and then press the Enter button.
3. In the Device to Test column, press the + or – button to select the device that you want to test.
4. Press the Enter button to test the device.
5. The device will activate for less than a second to measure the voltage and current through the device. This test will return information related to the type of device that was tested.
6. When you have finished viewing the test results, turn the dial to the RUN position.



Optional: Initiating a Start, Stop, or Pause Condition

1

You can assign the Precip Sensor to initiate a Start, Stop or Pause condition based on real-time rain data. Follow the instructions below to get started.

1. Turn the dial to the Start, Stop, Pause position.
2. Press the Next or Previous button to select the Device Start, Stop, or Pause Condition option.
3. Press the Enter button. The selected screen displays, and the Program column is active.
4. In the Program column, press the + button to select the program that you want to setup the start, stop or pause condition for.
5. Press the Next button to move to the Devices column.
6. Find the abbreviation and number of the device that you want to use for the start condition in the Devices column. Press the + button to select the device (RG1), and then press the Enter button.
7. When you have finished making changes, turn the dial to the RUN position.

A note about the R-Rate

The default R-rate (rain rate) on the 3200 controller is 100. This means that for each tip of the bucket 0.01 inches of precipitation is measured. If the R-rate is changed (for example to 1) then each tip of the rain bucket would equal 1-inch. Please note that if this happens, the accumulation and rate displayed on the controller will be much higher. In this example, the R-rate would be 100 times higher than expected.

Device Start	Start,Stop,Pause	
Program	1	
Device	RG 1	0.000 in
R-Value	100	pulses/in.
Enabled	X	1 of 8
Limit	0.25 in	
Trigger	Hourly	
{Program 1}		
Rain Gauge 1/BR00000		
Help		

Device Stop	Start,Stop,Pause	
Program	All	
Device	RG 1	0.000 in
R-Value	100	pulses/in.
Enabled	X	1 of 8
Limit	0.25 in	
Trigger	Hourly	
{B53200 3K90009} TRG0001		
Rain Gauge 1/BR00000		
Help		

Device Pause	Start,Stop,Pause	
Program	All	
Device	RG 1	0.000 in
R-Value	100	pulses/in.
Enabled	X	1 of 8
Limit	0.25 in	
Trigger	Hourly	
Pause Time	1:00	
{B53200 3K90009}		
Rain Gauge 1/BR00000		
Help		



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