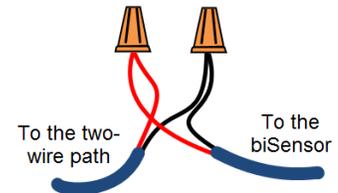


# BL-5311 biSensor™ Installation Guide

## Baseline's Compact Soil Moisture/Temperature Sensor

### Connecting the biSensor to the Irrigation System

1. Power off the two-wire when installing devices.
2. The sensor comes with 50ft of wire. If additional length is needed, use polyethylene double-jacketed or UF-B UL PVC double-jacketed two-conductor solid core wire designed for direct burial systems to connect the biSensor to the two-wire path.
3. Strip the outer insulation from the two-wire and the biSensor wire 1½".
4. Strip the red and black wires on the two-wire and the biSensor wire ½".
5. Fasten the two red wires together with the wire nut, then the two black wires with a wire nut, ensuring that polarity is maintained.
6. Verify communications with the BaseStation before proceeding. Refer to the Configuring section on the next page.
7. Complete the installation of the 3M™ DBR/Y-6 moisture-resistant connectors by positioning each wire, with the wire nut, into the gel and firmly snapping the connector closed.



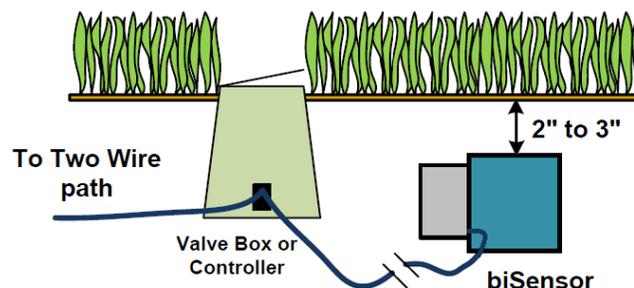
### Burying the Compact biSensor (see other side for biSensor placement information)

Baseline's compact biSensor is ideally suited for green roof, green wall, and container applications. Follow the instructions below to bury the biSensor for these uses. The compact biSensor can also be used for in-ground applications. In this case, we recommend that you follow the instructions found in the BL-5315B biSensor Installation Guide. This document is available on Baseline's web site.

1. If the growing media at the installation site is loose, you can push the compact biSensor into position; however, if the growing media is compacted, use a trowel or a small shovel to cut a slit for the biSensor. Widen the slit with a back and forth motion.
2. Place the biSensor in the slit horizontally or vertically.
  - Depending on the depth of the growing media, position the top of the biSensor 2" to 3" deep.
  - Position the sensor in the top third of the plants' root zone.
3. Remove any rocks or gravel touching the biSensor to ensure there are no air pockets. Firmly repack the soil around the sensor.

**Note:** The perlite found in growing media does not affect the sensor.

4. Using a bucket of water, saturate the soil surrounding the biSensor. Make sure that the soil around the sensor is firmly compacted.



# BL-5311 biSensor™ Installation Guide

## Baseline's Compact Soil Moisture/Temperature Sensor

### Configuring the Compact biSensor in the BaseStation Irrigation Controller

After the biSensor is installed in the field, you need to configure it in the controller. Refer to the instructions in your controller's user manual.

Test the biSensor from the controller to ensure that it is communicating. After you have saturated the soil surrounding the biSensor, test the biSensor again to verify the moisture readings.

### biSensor Placement

- The sensor needs to be placed in the effective root zone of the plant it is monitoring. Usually the sensor will be making the irrigation decision for many plants or even multiple zones of plants with similar water needs, so it should be placed in the effective root zone of a representative plant.
- Always install the sensor vertically or horizontally. If it is flat, water can pool on the sensor blade, and this will cause inaccurate readings.
- Place the sensor in an average to slightly dry area.
- Place the sensor midway between two emitters.

#### Greenroofs

- ◇ When you evaluate the placement of compact biSensors on a greenroof, consider the depth of the growing media, the groupings of plants, and the exposure across the roof. If there is quite a bit of variation in these factors, group the areas that are similar, and then install a sensor for each group.

#### Greenwalls

- ◇ You will need to install a sensor in the upper, the middle, and the lower section of the greenwall. Use the lower threshold watering strategy. Refer to the instructions in your BaseStation irrigation controller's user manual for setting up the watering strategy.

#### Containers

- ◇ If you have multiple containers with similar plants, similar growing media, and similar exposure, you may be able to install a sensor in one container and use it to monitor the irrigation for all of the containers. However, when there is variation, you will need to use multiple sensors to monitor the various conditions.

### Notes

- Do not bury the biSensor too deep!
- If adjustments or repairs are made, make sure they do not affect the proper application of water to the biSensor.
- Poor distribution will cause brown spots, or wet spots. You cannot compensate for distribution problems with sensor-based watering.

For an in-depth look at soil moisture sensor technology and soil science, read **Watering with Soil Moisture Sensors** on Baseline's web site:

[http://www.baselinesystems.com/mediafiles/pdf/watering\\_with\\_SMS.pdf](http://www.baselinesystems.com/mediafiles/pdf/watering_with_SMS.pdf)

