DaVIS

LEAF WETNESS SENSOR

STANDARD & INDUSTRIAL INSTALLATION MANUAL

The leaf wetness sensor enables the GroWeather™ to detect the presence of surface moisture on foliage and calculate the duration of wetness. When moisture is present, the sensor detects an electrical resistance change between the gold-plated elements of the grid. This is displayed by the GroWeather console as a value between 0 (dry) and 15 (wet). Using the GroWeatherLink® software, you may select your own wetness threshold; the software will then calculate leaf-wet hours.
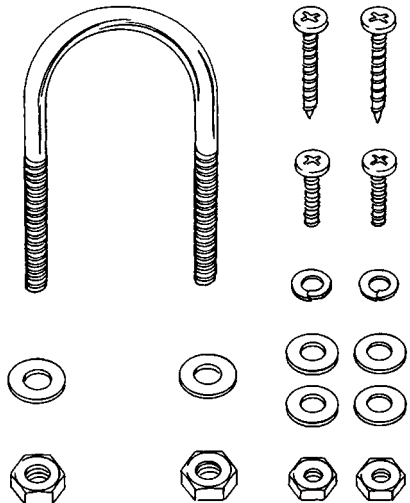
COMPONENTS

The leaf wetness sensor includes the following components. Please make sure you have all listed components before continuing.

❖ **Leaf Wetness Sensor with attached mounting bracket**
The standard version of the sensor includes an attached 40' (12 m) cable. The industrial version includes a 16' (5 m) cable.

❖ **Installation Hardware Kit**
   ❖ One 1-1/2" U-Bolt
   ❖ Two 1/4" Flat Washers
   ❖ Two 1/4" Hex Nuts
   ❖ Two #8 Wood Screws
   ❖ Two #8 x 3/4" Machine Screws
   ❖ Four # 8 Flat Washers
   ❖ Two # 8 Lock Washers
   ❖ Two # 8 Hex Nuts

TOOLS AND MATERIALS NEEDED

You may need some of the following tools and materials in order to complete your installation. Please be sure you have everything you need before beginning.

- ❖ **Medium Phillips Screwdriver**

- ❖ **Wrench**

- ❖ **Drill with 7/32" (5.5 mm) Drill Bit**
  To drill holes in the Sensor Mounting Arm (SMA) if installing on an older version of the SMA.

- ❖ **7/16" Wrench or Adjustable Wrench**
  To tighten hex nuts if installing on a pipe.

TESTING THE SENSOR

You may test the sensor before you install it or you may test it after installing it. The instructions below provide a quick description of the suggested test procedure.
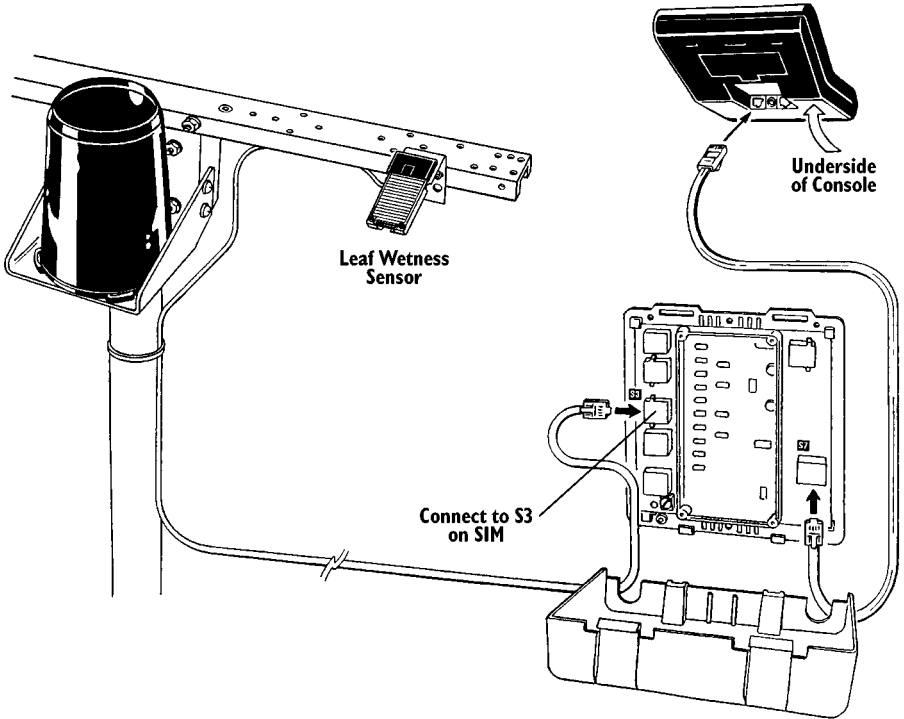
1. **Attach the sensor cable to the connector S3 on the sensor interface module (SIM).**
   Consult the installation manual for instructions

2. **Press the appropriate key(s) to make sure you are getting a leaf wetness reading on the console.**
   Consult the GroWeather manual for instructions on displaying leaf wetness.

3. **Drop or spray water onto the sensor and make sure the reading changes.**

INSTALLING THE SENSOR

Follow the instructions in this section to install your sensor. Before you begin, consult the System Installation manual for instructions on labeling the leaf wetness sensor cable.
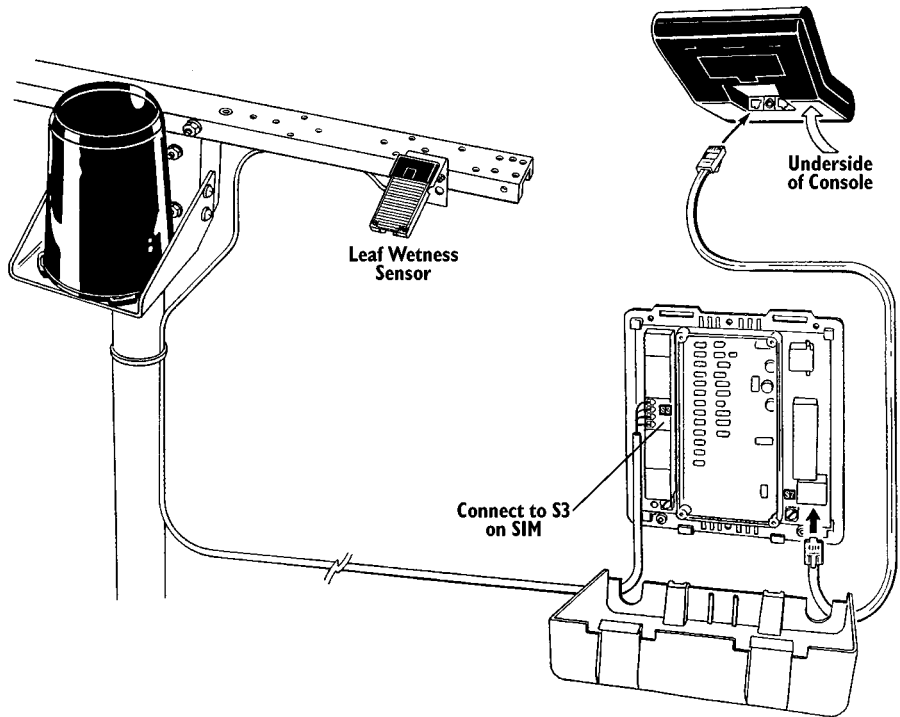
Typical Standard Installation

The illustration below shows typical standard leaf wetness installation. The sensor cable attaches to connector S3 on the sensor interface module (SIM).

Leaf Wetness Sensor

Underside of Console

Connect to S3 on SIM

TYPICAL STANDARD INSTALLATION

Typical Industrial Installation

The illustration below shows typical industrial leaf wetness installation. The sensor cable attaches to connector S3 on the sensor interface module (SIM).
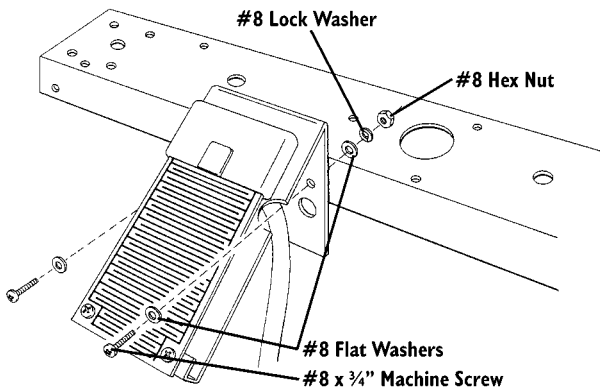

Underside of Console

Leaf Wetness Sensor

Connect to S3 on SIM

TYPICAL INDUSTRIAL INSTALLATION

Mounting the Sensor on the Sensor Mounting Arm

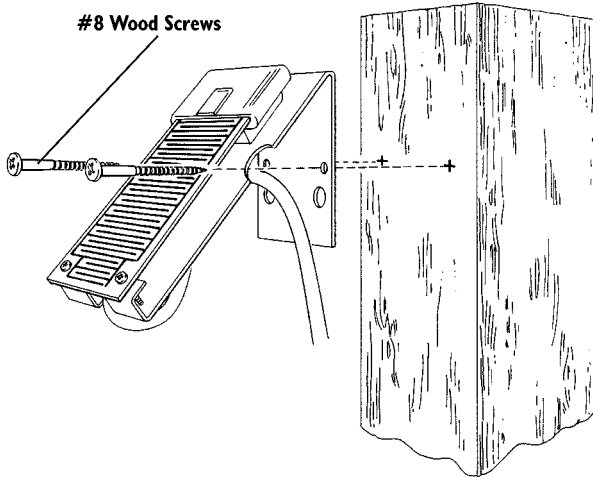Follow the instructions below to mount the sensor on the Sensor Mounting Arm (SMA).

1. If no holes exist on the side of the mounting arm, you need to mark the location of the two holes on the mounting bracket and drill holes through the SMA in these locations using a 7/32" (5.5 mm) drill bit. If you are not using the Sensor Tilting Bracket, you may use one of the holes designated for the bracket for the leaf wetness sensor.

   Early versions of the SMA did not include holes for the leaf wetness sensor. If your SMA includes holes for the leaf wetness sensor, you may skip this step.

2. Attach the leaf wetness sensor to the SMA using the #8 x 3/4" machine screws, # 8 flat washers, # 8 lock washers, and # 8 hex nuts as shown below.

MOUNTING ON THE SENSOR MOUNTING ARM
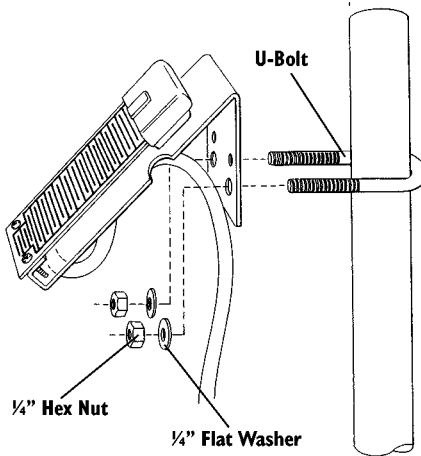
Mounting the Sensor Against a Wooden Surface

To mount the sensor against a wooden surface, secure the sensor to the surface using the #8 wood screws as shown below.

MOUNTING ON A WOODEN SURFACE

Mounting the Sensor on a Pipe

To mount the sensor on a pipe, stake, or pole with outside diameter between 1" and 1-1/4" (25 mm and 31 mm), secure the sensor to the pipe using the 1-1/2" U-bolts, 1/4" flat washers, and 1/4" hex nuts as shown below. Use a 7/16" wrench or adjustable wrench to tighten the hex nuts.

MOUNTING ON A PIPE

TECHNICAL SUPPORT

Before calling Technical Support (1-510-732-7814), carefully check all cable connections from the sensor to the console. Cable connections account for a large portion of the potential problems. Connections should be firmly seated in the jacks and plugged in straight. If you think a connection may be faulty, try jiggling the cable while looking at the display. If a reading appears intermittently on the display as you jiggle the cable, the connection is faulty.

Product Numbers: 7846 & 7848

Davis Instruments Part Number: 7395-110
Leaf Wetness Sensor, Standard and Industrial
Rev. D Manual (7/7/99)

This product complies with the essential protection requirements of the EC EMC
Directive 89/336/EC.

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