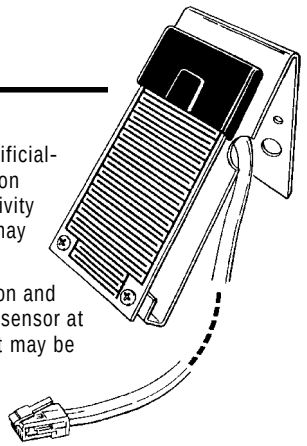
LEAF WETNESS SENSOR, **Standard**



The Leaf Wetness sensor detects the presence of surface moisture. The sensor is an artificial-leaf electrical-resistance type. It consists of a sensing grid, low-voltage bi-polar excitation circuit, and conductivity-sensing circuit. The GroWeather console measures the conductivity across the grid and displays the result as a moisture level, scaled from 0 to 15. The user may select the threshold level at and above which moisture-hour totals are accumulated.

The sensing grid is a gold-plated etched circuit on an epoxy-glass substrate; the excitation and sense circuits are encapsulated in black epoxy. The included mounting bracket holds the sensor at a 45° angle to simulate a typical leaf position and to permit runoff of excess moisture; it may be mounted on a vertical post, pipe, or stake, or on the Sensor Mounting Arm.

Two Leaf Wetness sensors may be connected in parallel by splicing their cables together. When this is done, the reported moisture level will be twice as high as that of an individual sensor, and complete wetness will be reported whenever either sensor is wet.

SPECIFICATIONS

General

- **Sensor Type** . . . . . Artificial leaf electrical resistance
- **Excitation** . . . . . Bipolar (5V nominal) built-in
- **Time Constant** . . . . . 2 seconds
- **Attached Cable Length** . . . . . 40’ (12 m)
- **Cable Type** . . . . . 6-conductor, 26 AWG
- **Connector** . . . . . Modular connector (RJ-11)
- **Recommended Maximum Cable Length** (see Note 1) . . . . . 200’ (61 m)
- **Material**
  - Substrate . . . . . Glass-reinforced, ceramic-filled laminate
  - Grid . . . . . 1 oz. copper, nickel, and 50 µin gold plate
  - Mounting Bracket . . . . . White powder-coated aluminum
- **Dimensions**
  - Leaf Wetness Sensor . . . . . 2" high x 1.5" wide x 0.25" thick (51 mm x 38 mm x 6 mm)
  - Sensor Area . . . . . 4.4 in^2 (28 cm^2)
- **Weight** . . . . . 11 oz. (312 g)

Console Data (These specifications apply to sensor output as converted by Davis Instruments weather station consoles.)

- **Range** . . . . . 0 to 15
- **Resolution** 1
- **Dry/Wet Threshold** . . . . . User-Selectable
- **Sample and Display Update Interval** . . . . . 16 seconds (max)

WeatherLink® Data (These specifications apply to sensor output as logged and displayed by the WeatherLink.)

- **Wetness Value** . . . . . Value at end of archive interval

Input/Output (These specifications apply to the sensor as a separately-sold item.)

- **Supply Voltage and Current** . . . . . 1mA (typical) at +5VDC ±10%
- **Output** . . . . . Variable resistance:>1MOhm (dry) to <130KOhm (wet)
- **Connections**
  - Green & Yellow . . . . . Output
  - Black & Red . . . . . Ground
  - White . . . . . +5VDC
  - Blue . . . . . N/C

NOTES

1. Increasing the cable length above the recommended maximum cable length causes measurement error in the form of lower moisture readings.

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INSTALLATION OPTIONS