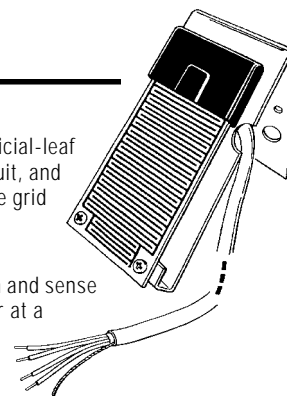


LEAF WETNESS SENSOR, Industrial

7848
SENSORS

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. The 24 AWG shielded cable protects against Electro-magnetic Interference (EMI).



Two Leaf Wetness sensors may be connected in parallel at the Sensor Interface Module. 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 (see Note 1)	2 seconds
Attached Cable Length	16' (5 m)
Cable Type	2-twisted pair, 24 AWG shielded cable with UV-resistant jacket, wires stripped and tinned
Recommended Maximum Cable Length (see Note 1)	
24 AWG Cable (3-conductor)	300' (91 m)
22 AWG 2-Twisted Pair Cable	640' (194 m)
18 AWG Cable (3-conductor)	720' (218 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	8 oz. (227 g)
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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
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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

White	Output
Red	+5V
Black (2 wires)	Ground
Bare	Shield Ground

NOTES

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

INSTALLATION OPTIONS

