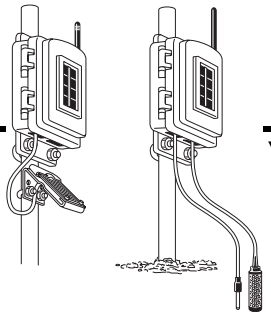
Wireless Leaf & Soil Moisture/Temperature Station



6343

VANTAGE PRO

The Wireless Leaf & Soil Moisture/Temperature Station for Vantage Pro® monitors up to three temperature-compensated soil moisture sensors and two leaf wetness sensors anywhere within transmission range of your wireless Vantage Pro console. The station communicates directly to your Wireless Vantage Pro console/receiver over any one of eight user-selectable DavisTalk™ ID codes, and has a transmitting range of between 100' to 400' (30 to 122 m) depending upon the environment. The station is solar powered, and includes a battery backup. The soil moisture, temperature, and leaf wetness sensors are optional and can be ordered to meet the needs of your application.

Soil Moisture Sensors

The WATERMARK soil moisture sensor is an indirect, calibrated method of measuring soil water. It is an electrical resistance type sensor. The Vantage Pro weather station converts the electrical resistance reading from the sensor into a calibrated reading of centibars of soil water suction. The Multi-Purpose Temperature Probe is a precision platinum wire thermistor that produces a resistance change proportional to temperature. The temperature probe is used by the station to provide temperature compensation for the associated soil moisture reading.

The WATERMARK soil moisture sensor is a product of the Irrometer Company, Inc.

Leaf Wetness 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.

Specifications

General

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating Temperature	-50° to +158°F (-45° to +70°C)
Current Draw	0.07 mA (average), 10 mA (peak) at 4 to 6 VDC power
Battery	CR123A 3-Volt Lithium cell
Battery Life	up to 1 year
Solar Panel	0.25 Watts
Housing Material	UV-resistant ABS plastic
Dimensions	6.25" x 2.25" x 7.875" (158.75 mm x 57.15 mm x 200 mm)
Weight	1.08 lb. (.49 kg) (with battery, without sensors)

Leaf Wetness Sensor (6420)

Sensor Type	Electrical resistance
Cable Type	4-conductor, 26 AWG
Connector	Modular connector (RJ-11)
Maximum Cable Length	200' (61 m) using 4-conductor 26 AWG cable

Watermark Soil Moisture Sensor (6440)

Sensor Type	Electrical resistance
Standard Cable	15' (4.6 m) Watermark standard two-wire, stripped and tinned
Maximum Cable Length	18 AWG: 1000' (UF wire recommended)

Multi-Purpose Temperature Probe (6470)

Sensor Type	Platinum wire thermistor
Standard Cable	15' (4.6m) 22 AWG direct burial cable, stripped and tinned
Maximum Cable Length	24 AWG: 800' (244 m), 22 AWG: 1200' (365 m)

Wireless Communications

Transmit/Receive Frequency	US Models: 916.5 MHz, Overseas Models: 868.35 MHz
ID Codes Available	8
Output Power	916.5 MHz: FCC-certified low power, less than 1 mW, no license required 868.35 MHz: CE-certified, less than 10 mW, no license required
Range	
Line of Sight	up to 400' (122 m)
Through Walls	up to 100' to 200' (30 to 60 m)

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DS6343-00 (Rev A, July 3, 2002)

Sensor Specs

Leaf Wetness

Resolution	1
Range	0 to 15
Dry/Wet Threshold	User-selectable
Accuracy	±0.5
Update Interval	62.5 to 75 seconds
Current Data	Instant Reading; Daily High and Low; Monthly High
Historical Data	Hourly Readings; Daily Highs and Lows; Monthly Highs
Alarms	High and Low Thresholds from Instant Reading

Soil Moisture (Watermark Soil Moisture Sensor)

Resolution	1 cb (centibar)
Range	0 to 200 cb
Update Interval	62.5 to 75 seconds
Current Data	Instant Reading; Daily and Monthly High and Low
Historical Data	Hourly Readings; Daily and Monthly Highs and Lows
Alarms	High and Low Thresholds from Instant Reading

Temperature

Resolution and Units	1°F or 1°C (user-selectable)
Range	-40° to +150°F (-40° to +65° C)
Sensor Accuracy	±1°F (±0.5°C) under 110°F (43°C), ±2°F (±1°C) over 110°F (43°C) (See Chart)
Update Interval	62.5 to 75 seconds
Data	Instant Reading (user adjustable)
Alarms	High and Low Thresholds from Instant Reading

Temperature Accuracy Chart