

# ENVIROMONITOR<sup>®</sup>

DAVIS<sup>®</sup>

MEASURE • MONITOR • MANAGE



2018 CATALOG-GLOBAL

**DAVIS<sup>®</sup>**  
**Davis Instruments**

WWW.DAVISNET.COM  
ISO 9001 CERTIFIED COMPANY

# Measure, Monitor, and

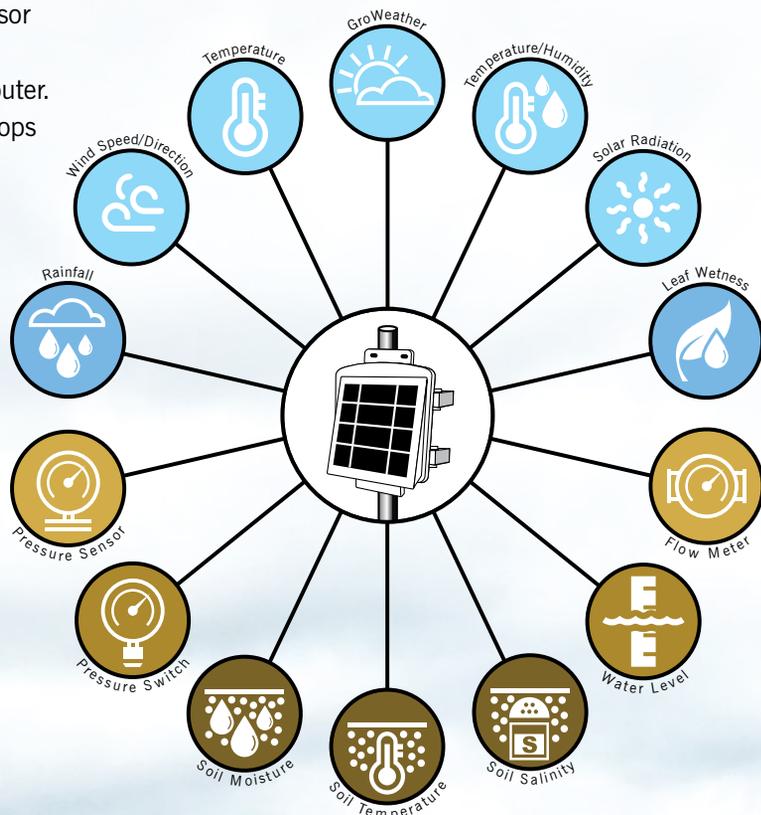
EnviroMonitor is a simple and cost effective way to get the sensor data you want seamlessly transmitted from your fields to any internet-connected device like your smartphone, tablet or computer. Get the timely and meaningful information you need to keep crops healthy while efficiently using water, fertilizer, fungicides and pesticides. This saves you money and reduces risk.

## Sensors

Multiple sensors can be installed on each Node in the EnviroMonitor system. Adding new sensors as needed is a breeze. While Davis offers many sensor options, EnviroMonitor allows you to connect several top-tier, third-party sensors as well. (See page 7 for details.)

**Our ever-growing list of supported sensor types includes:**

- GroWeather® Sensor Suite
- Soil Moisture
- Soil Temperature
- Soil Salinity
- Temperature
- Temperature/Humidity
- Wind Speed/Direction
- Rainfall
- Leaf Wetness
- Pressure Switches
- Pressure Sensors
- Flow Meters
- Water Level
- Solar Radiation



## EnviroMonitor Nodes

Nodes connect over a self-optimizing mesh network and transmit critical sensor data to the EnviroMonitor Gateway. Every Node is a self-contained, weather-resistant, solar-powered unit that comes with mounting hardware. Each EnviroMonitor network can host 20 or more nodes.

Nodes communicate with each other to allow complete network flexibility around barriers and across distances.

### 6810 EnviroMonitor Node

#### Node Features

- Connect up to 4 sensors to each Node
- Communication range: Up to 4,000 ft. (1200 m), Node to Node
- Note: Range varies due to terrain and environment
- 3-watt solar panel
- Configure using a smartphone
- Rechargeable lithium-ion battery powers the unit at night (included)
- 4 D-cell batteries provide backup (not included)



EnviroMonitor  
Node

# Manage In-field Data

## EnviroMonitor Gateway

The EnviroMonitor Gateway collects all essential data from the Nodes and pushes it securely to the Cloud server using cellular connectivity. From there the data can be accessed on your internet-connected devices like smartphones, tablets and computers. The solar-powered, cellular Gateway includes a rechargeable 6-volt backup battery encased in a weather-resistant housing and it comes with mounting hardware. Requires an annual service plan and one-time activation fee. (See Annual Service Plans on page 6 for details.)

## 6801 EnviroMonitor Gateway

Partner the Gateway with an optional cabled sensor suite to get all the benefits of a complete weather station. These rugged sensor suites are available with solar and/or UV sensors and a variety of radiation shield options. (See sensor suite options on page 8.)

### Sensor Suites provide:

- Temperature
- Humidity
- Dew Point
- Rainfall
- Wind Chill & Heat Index
- Rain Rate
- Wind Direction
- Wind Speed
- Evapotranspiration
- Solar Radiation

Note: Barometric pressure is measured via the Gateway.

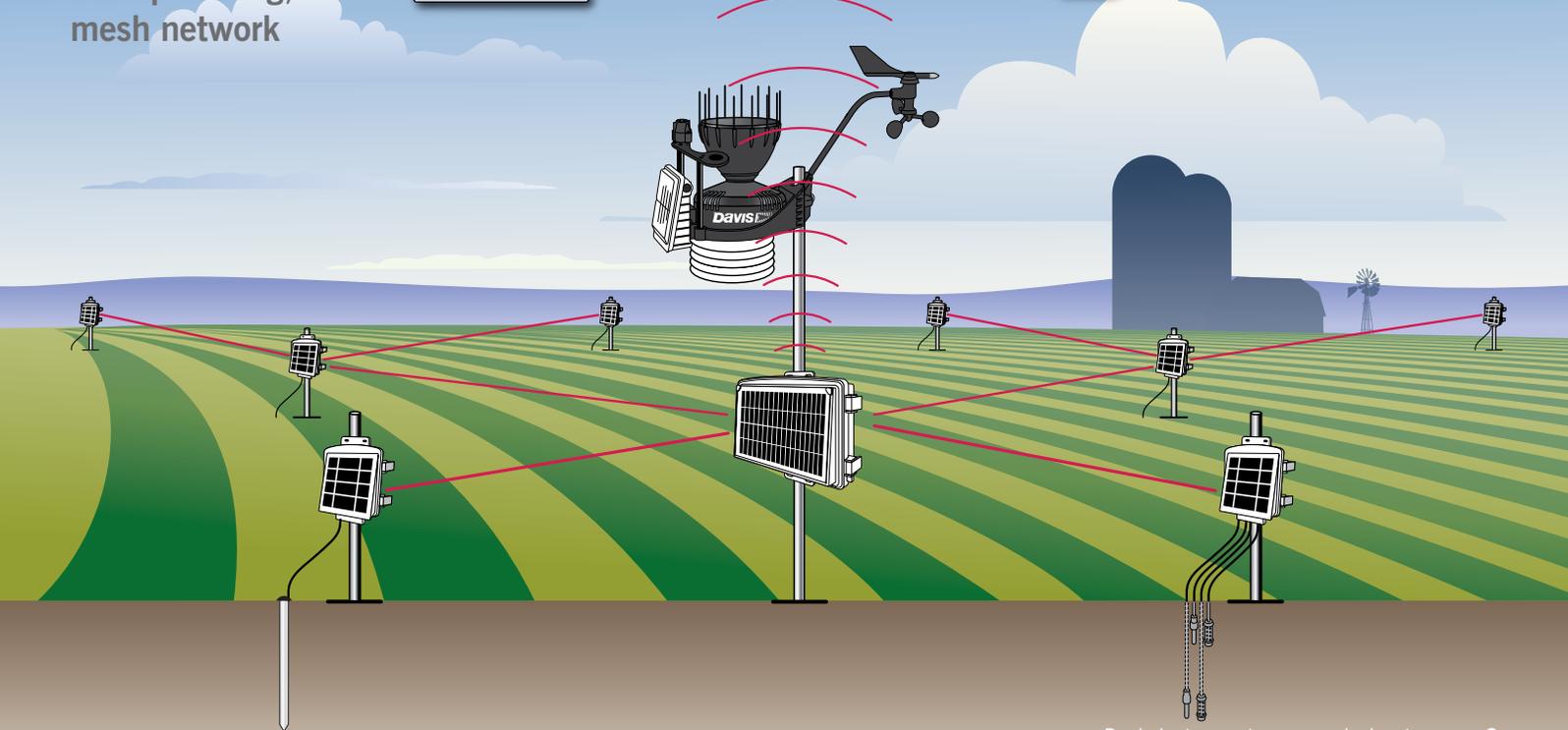


EnviroMonitor Gateway



GroWeather Sensor Suite

EnviroMonitor communicates through a secure, self-optimizing, mesh network



# EnviroMonitor: The easy-to-use, affordable, in-field monitoring system

Use real-time data to make well-informed decisions on key issues including:

- 🌿 Irrigation Management
- 🌿 Frost Conditions
- 🌿 Crop Management
- 🌿 Soil Conditions
- 🌿 Weather Events



## Information for what matters most



### Smart Irrigation

Determine irrigation requirements based on:

- Soil moisture data
- Evapotranspiration (ET)
- Customized alerts
- Irrigation audits



### Frost Protection

Predict frost using:

- Frost forecasting
- Real-time alerts
- Sensors in critical areas



### Crop Management

Track crop development by:

- Monitoring plant growth stages through Growing Degree Days
- Leveraging 7-day forecasts
- Tracking chilling requirements



# Effortless configuration

The EnviroMonitor app provides easy installation, monitoring and interaction with your EnviroMonitor hardware and sensor systems. Bluetooth® in your smartphone communicates directly with the Gateway and the Node.

Once your system is set up, you can provide access to anyone on your team, while still maintaining managerial control. You will be notified of any system issues so they can be addressed promptly to avoid losing important environmental data.



# Mobilize: Critical in-field data delivered in-hand

Mobilize is an intuitive, user-friendly, decision-making app with some of the latest advancements in agronomy incorporated in its architecture. You can easily customize screen views. Quickly browse sensor data to track specific conditions based on changes in parameters related to weather, irrigation, growth cycle and more. Mobilize generates a seven-day forecast for growing degree-days and frost likelihood.

## Powerful alarms and alerts

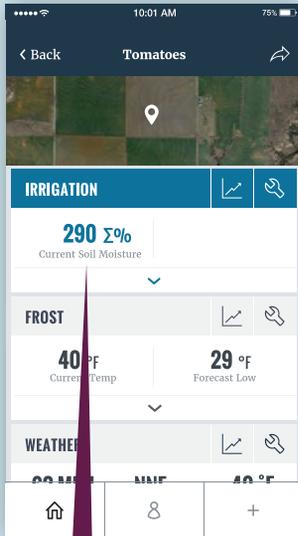
Create custom alerts based on your sensors and have them sent to people you designate.

## Common alerts include:

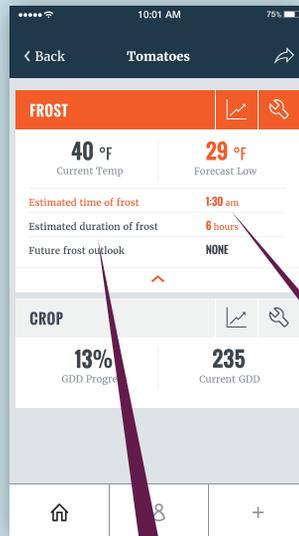
- Frost or freezing conditions
- Soil moisture levels
- Extreme heat
- Rainfall amount
- Wind speed



Notifications are ranked by severity so you know what needs your attention



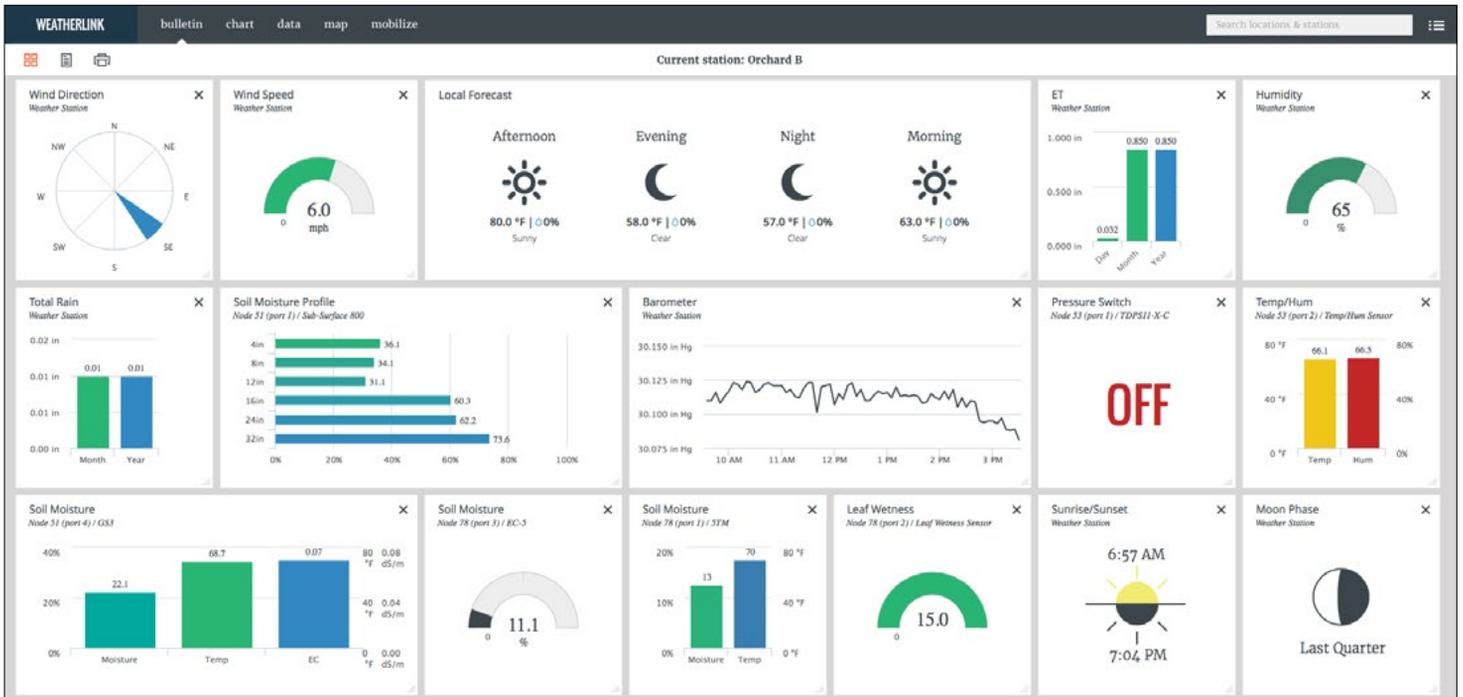
Know the soil moisture level and know when, where and the amount to irrigate



Get the critical data you need to make informed decisions

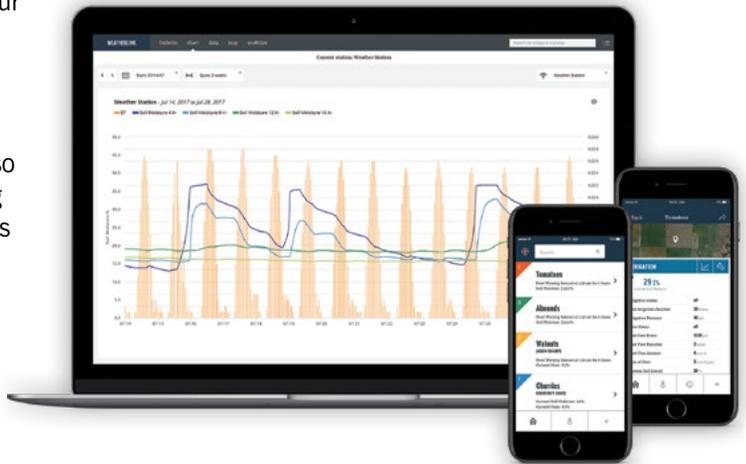
Precise forecasting allows you to stay ahead of critical conditions

# Manage your site anywhere anytime.



EnviroMonitor provides key data in an easy-to-use format that works across all of your devices. The data is accessible through our FREE Mobilize app (available for iPhone® and Android™ devices) and via WeatherLink.com, a secure site dedicated to displaying current conditions and status of sensors. You can customize the dashboard to your personal preferences. Display the information that's important to you and hide what's not. WeatherLink.com also stores historical data. You can perform in-depth analyses by using our powerful data visualization tools to generate charts and graphs based on daily, weekly and annual time frames. You can also export the data.

Integrated Pest Management Modules (IPM) are tools that help you protect your crops from pest damage (sold separately). To learn more about our IPM modules (Grapes, Apples & Pears, Stone Fruits, Nut Trees), visit [www.davisnet.com/ipm](http://www.davisnet.com/ipm).



## Annual Service Plans

Each Gateway and each Node requires an Annual Service Plan. Annual subscriber fees depend on the frequency of your update interval. Choose one of three update intervals. A Gateway requires a one-time activation fee (#6645).

CHOOSE YOUR PLAN	Update Interval	Annual Service Charge/ Product Number		Annual Service Charge/ Product Number	
		Per Gateway		Per Node	
	5 minutes	Call	6892	Call	6882
15 minutes	Call	6894	Call	6884	
60 minutes	Call	6896	Call	6886	

System requirements: Internet connection and a major browser. iPhone® and Android™ compatible. Running WeatherLink software requires: Windows 7 and above. Not compatible with Mac. Contact us directly for annual service plan information and availability for customers outside the US.

Watch a Demo Video



Scan the QR code with your smart device

# Which Davis sensors can you use with EnviroMonitor?

Function	Model/Part Number	USA Units			Metric Units			Except for rainfall, all variables are measured in US units of measure and rounded to the nearest metric unit shown in the Resolution column.
		RESOLUTION	RANGE	ACCURACY ±	RESOLUTION**	RANGE	ACCURACY ±	
ENVIRONMENTAL MONITORING	✓ Outside Temperature	GroWeather® Sensor Suite 6820C*	0.1°F	-40° to +150°F	0.5°F	0,1°C	-40° to +65°C	0,3°C
	✓ Outside Humidity		1%	1% to 100%	2%	1%	1% to 100%	2%
	✓ Rainfall		0.01"	0 to 199.99"	4%	0,2 mm	0 to 6553 mm	4%
	✓ Wind Direction		1°	0° to 360°	3°	1°	0° to 360°	3°
	✓ Wind Speed		1 mph 1 knot	1 to 200 mph 1 to 174 knots	5%	0,1 m/s 1 km/hr	1 to 80 m/s 1 to 320 km/hr	5%
	✓ Solar Radiation		1 W/m2	0 to 1800 W/m2	5%	1 W/m2	0 to 1800 W/m2	5%
	Barometric Pressure (Elevation range: -999' to +15,000'; -600 to +4570 m)	Integrated in EnviroMonitor Gateway 6801	0.01" Hg	16" to 32.5" Hg	0.03" Hg	0,1 mm Hg 0,1 mb	410 to 820 mm Hg 540 to 1100 mb or hPa	0,8 mm Hg 1,0 mb or hPa
Solar Radiation	6450	1 W/m2	0 to 1800 W/m2	5%	1 W/m2	0 to 1800 W/m2	5%	
TEMPERATURE/HUMIDITY	Temperature/Humidity with Radiation Shield	6830, 6832	T: 0.1°F H: 1%	-40° to +150°F	0.5°F 2%	0,1°C	-40° to +65°C	0,3°C 2%
	Stainless Steel Temperature Probe	6470	0.1°F	-40° to +150°F	1°F	0.1°C	-40° to +65°C	1°C
	Temperature Probe	6477	0.1°F	-40° to +150°F	1°F	0.1°C	-40° to +65°C	1°C
MOISTURE	Soil Moisture	6440	0.1 cb	0 to 200 cb		0.1 cb	0 to 200 cb	
	Leaf Wetness	6420	1	0 to 15	0.5	1	0 to 15	0.5
	Rain Collector	6465	0.01"	0 to 199.99"	4%	0,2 mm	0 to 6553 mm	4%
WIND	Wind Direction	Anemometer 6410	1°	0° to 360°	3°	1°	0° to 360°	3°
	Wind Speed		1 mph 1 knot	1 to 200 mph 1 to 174 knots	5%	0,1 m/s 1 km/hr	1 to 80 m/s 1 to 320 km/hr	5%

\* See additional sensor suites compatible with EnviroMonitor on page 8.

For complete specifications, visit our website at [www.davisnet.com](http://www.davisnet.com).

\*\*Resolution refers to the number of digits or decimal places displayed on EnviroMonitor Mobilize and WeatherLink.com. All weather variables (except rainfall) are measured and accumulated in US units of measure, which are then converted to metric units for display purposes. Our rain collector measures in true 0.01" or 0,2 mm increments.

# Which third-party sensors can you use with EnviroMonitor?



Pressure Sensor



Pressure Switch



Soil Moisture



Soil Temperature



Soil Salinity



Water Level



Flow Meter

See the entire list of supported sensors: [www.davisnet.com/em-sensors](http://www.davisnet.com/em-sensors)

EnviroMonitor is an open sensor platform that is compatible with hundreds of industry leading third-party sensors from the manufacturers you know and trust. EnviroMonitor is compatible with SDI-12, analog voltage (i.e. 0-3V; 0-5V; 0-12V), contact closure, pulse, and I<sup>2</sup>C. We are consistently integrating new sensors to expand the capabilities of the EnviroMonitor platform and software. For the latest list of supported sensors, please visit our website at [www.davisnet.com/em-sensors](http://www.davisnet.com/em-sensors).

**Note: Please contact us directly if a desired sensor is not on the list.**



# Choose the sensor suite that is right for you



Connect a cabled sensor suite to an EnviroMonitor Gateway to collect critical environmental data.	<b>6322C Vantage Pro2 Cabled</b>	<b>6820C GroWeather Cabled</b> (with Solar Radiation Sensor)
<b>SENSOR SUITE</b>		
Rain collector, temperature and humidity sensors, detachable anemometer with 40' (12 m) cable	•	•
Solar Radiation Sensor	Optional	•
UV Sensor	Optional	Optional
<b>DATA TRANSFER</b>		
100' (30 m) cable	•	•
<b>RADIATION SHIELD</b>		
Standard Radiation Shield	•	•
Daytime Fan-Aspirated Radiation Shield	Optional	Optional

## Other precision weather instruments from Davis



**Vantage Vue®**

Perfect for the home weather-watcher, the Vantage Vue weather station provides accurate, reliable weather monitoring in a self-contained, easy-to-install system.



**Vantage Connect®**

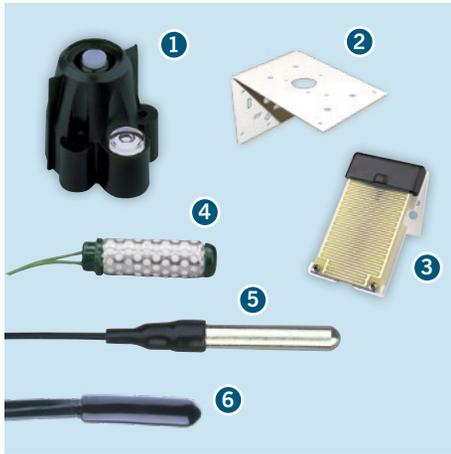
Vantage Connect allows you to track weather data from any remote location that has cellular coverage. It's solar-powered, self-contained and reports data from multiple Davis station configurations.



**Vantage Pro2™**

Professional and rugged, the Vantage Pro2 and Vantage Pro2 Plus offer the professional weather observer or home weather enthusiast robust performance with a wide range of customizable options and sensors.

# EnviroMonitor Sensors and Components



## 1. Solar Radiation Sensor\*

Measures the intensity of solar irradiance, enabling display of incident power (Watts per square meter) and cumulative energy (Langleys). Diffuser element and housing are designed specifically for accurate cosine response. Silicon photo diode provides a good match to solar spectrum. To mount next to a rain collector use the Sensor Mounting Shelf. Use the Universal Mounting Bracket for other applications. Includes 2 ft. (0,6 m) cable.

**6450 Solar Radiation Sensor**

## 2. Universal Mounting Bracket

For mounting a solar radiation sensor, a UV sensor, or a radiation shield. Bracket is pre-drilled for easy mounting. Includes mounting hardware.

**6670 Universal Mounting Bracket**

## 3. Leaf Wetness Sensor\*

Use to monitor the amount of surface moisture on foliage, with range from 0 (completely dry) to 15 (saturated). Includes 40 ft. (12 m) cable.

**6420 Leaf Wetness Sensor**

## 4. Soil Moisture Sensor

This Watermark sensor measures the moisture level of the soil. Simply bury at the desired depth, then monitor moisture levels throughout the season. Add up to four sensors to a single Node. Includes 15 ft. (4,6 m) cable (2-wire termination).

**6440 Soil Moisture Sensor**

## 5. Stainless Steel Temperature Probe

Multi-purpose temperature probe with 2.5" (64 mm) long stainless steel housing. Use to measure temperature of air, soil or water. Includes 15 ft. (4,6 m) direct-burial cable (2-wire termination).

**6470 Stainless Steel Temperature Probe**

## 6. Temperature Probe\*

Multi-purpose temperature probe with durable plastic housing. Use to measure temperature of air, soil or water. Includes 25 ft. (7,6 m) cable.

**6477 Temperature Probe**

Visit [www.davisnet.com/em-sensors](http://www.davisnet.com/em-sensors) for the latest list of third-party supported sensors.



## 7. Anemometer\*

Includes both wind speed and wind direction sensors. Rugged components stand up to hurricane-force winds, yet are sensitive to the lightest breeze. Wind-tunnel tested to speeds in excess of 200 miles per hour. Sealed stainless steel ball bearings for long life. Comes complete with mounting hardware. Includes 40 ft. (12 m) cable.

**6410 Anemometer**

## 8. AeroCone® Rain Collector with Mountable Base

Uses the GroWeather base for easy mounting on a pole, post or flat surface. Meets the guidelines of the World Meteorological Organization. Measures in 0.01" or 0,2 mm increments. Includes mounting hardware and 40 ft. (12 m) cable, bird spikes and debris screen.

**6465 Rain Collector with Mountable Base**

## 9. Temperature/Humidity Sensor with Radiation Shield\*

Features both temperature and humidity sensors inside a passive radiation shield, which protects the sensors from solar radiation and other sources of radiated and reflected heat. Includes mounting hardware and 25 ft. (7,6 m) cable.

**6830 Temperature/Humidity Sensor with Radiation Shield**

## 10. Temperature/Humidity Sensor with 24-hour Fan-Aspirated Radiation Shield\*

Features both temperature and humidity sensors inside the 24-hour fan-aspirated radiation shield, which protects the sensors from solar radiation and other sources of radiated and reflected heat. Includes a solar panel and backup batteries to power the motor-driven fan, mounting hardware and 25 ft. (7,6 m) cable.

**6832 Temperature/Humidity Sensor with 24-hour Fan-Aspirated Radiation Shield**

## 11. RJ Connector Node Adaptor

Connect sensors with RJ connectors to your EnviroMonitor Node with this adaptor.

**6860 RJ Connector Node Adaptor**



## 12. Extra Solar Panel Kit

Provides additional charging power to the battery in your EnviroMonitor Gateway for installations where sunlight is limited. The 5-watt solar panel is mounted on a weather-resistant shelter. Includes 5-watt solar panel, weather-resistant shelter, mounting hardware and a 4 ft. (1,2 m) cable.

**6616 Extra Solar Panel Kit**

## 13. Shelter Angle Bracket

Changes solar panel's angle from 5 degrees to 30 degrees. Increases solar panel's efficiency at lower latitudes. Includes mounting hardware.

**6671 Shelter Angle Bracket**

## 14. A/C Charger Kit

Charges the battery in an EnviroMonitor Gateway where sunlight is too low to use solar. Includes 5.5 ft. (1,6 m) cable.

**6710 A/C Charger Kit**

## 15. Mounting Tripod

Includes 2 galvanized steel poles and tripod with tilting brackets on the base for roof mounting or uneven surface. Poles measure 36.38" (0,92 m). Assemble the 2 together to make a single 70" (1,8 m) pole. Three 18" (0,5 m) lag bolts offered for ground installation.

**7716 Mounting Tripod**

**7716A Mounting Tripod with Lag Bolts**

## 16. Mounting Pole Kit

Includes 2 galvanized steel poles, connector and mounting hardware. Poles measure 19.5" (0,50 m) and 21" (0,53 m) long. Assemble the 2 together to make a single 37.5" (0,9 m) long pole. Outside diameter is 1.3" (33 mm).

**7717 Mounting Pole Kit**

\*Sensor comes with RJ connector and requires RJ Connector Node Adaptor part #6860.

COMPONENTS NOT SHOWN TO SCALE

# A flexible solution for any application



## Vineyard

Set up sensors to trigger alerts when frost is a threat; stay on top of irrigation needs with soil moisture sensors and flow meters.

## Center Pivot

Irrigation is what matters most. Soil moisture sensors throughout the farm will help determine when and how much to irrigate.

**Easily  
configure a  
system to  
monitor what  
matters to  
you**



## Greenhouse

Monitor the weather conditions on your site. Measure temperature and humidity inside each of the greenhouses to take a holistic approach to decision-making.

## Row Crops

Monitoring soil moisture and soil temperature is crucial to effective and economic irrigation. Add precise current weather data to make proactive decisions that promote overall plant health.

# Davis VS the Competition

EnviroMonitor is less expensive, easier to install, and provides more data than our competition! Compare for yourself:

Comparison	EnviroMonitor	Competition
Gateway		
Gateway Activation Fee		
Node		
Annual Service Charge		
Weather Station Sensor Suite		
Alerts	<b>INCLUDED</b>	
Additional Log-ins	<b>INCLUDED</b>	
Ability to Integrate Third-Party Sensors	<b>YES</b>	
1 <sup>st</sup> Year Initial Cost of System*		

\*This system includes 1 Gateway, 4 Nodes, 1 weather station and a Service Plan with updates every 15 minutes.

## Things to consider when buying an in-field monitoring system

### 1. IS IT SCALABLE AND FLEXIBLE?

EnviroMonitor is a highly scalable and flexible system. The reach of EnviroMonitor can be expanded to the most remote areas of the largest farms in the world. In fact, thanks to the Cloud architecture, EnviroMonitor can even connect farms that are geographically separated. The system can be scaled as your needs expand. You can start with just a Gateway and a GroWeather station, then continue to add sensors and Nodes as your needs grow.

### 2. WILL IT DELIVER A POSITIVE RETURN ON INVESTMENT (ROI)?

Unlike complex IT based systems that take years to deliver value, EnviroMonitor starts delivering positive ROI in a very short time. It is easy to use and intuitively designed so you don't need to spend days learning the system. Actionable intelligence is delivered based on the conditions you set. It is as easy as using your Apple® or Android™ smartphone.

### 3. HOW EASY IS IT TO SHARE AND COLLABORATE?

Once the system is set up, sharing information with your team is as simple as a few clicks. This allows you to get the best advice from those you trust the most.

### 4. WHAT IS THE ACCURACY, RESOLUTION AND RANGE?

Davis weather stations beat our competition in accuracy, resolution and range. It can be difficult to find the specs for competing stations. We are proud to publish our specs in our catalog and on our website, and stand behind them 100%.

### 5. IS IT AFFORDABLE?

Davis Instruments prides itself in building systems that are affordable. With that in mind, our systems offer some of the lowest total cost of ownership.

### 6. IS IT DURABLE?

Our products will last for years. We proudly design, engineer and assemble our products in-house. Every station goes through at least 15 tests. Our components undergo rigorous environmental testing including extreme UV, corrosion resistance and on-going real time endurance monitoring.

### 7. IS IT RELIABLE?

With uptimes of over 99.9% for WeatherLink.com, you can be assured that every alert will be delivered at the speed of internet connectivity.

### 8. HOW LONG HAS THE COMPANY BEEN IN BUSINESS?

Established in 1963, Davis Instruments has been making world-class, reliable, accurate and affordable weather stations for the last three decades. We are located right here in Hayward, California, where we have a full staff giving the best customer service and aftermarket support in the business. In addition, Davis Instruments Quality Management System is ISO 9001 certified.

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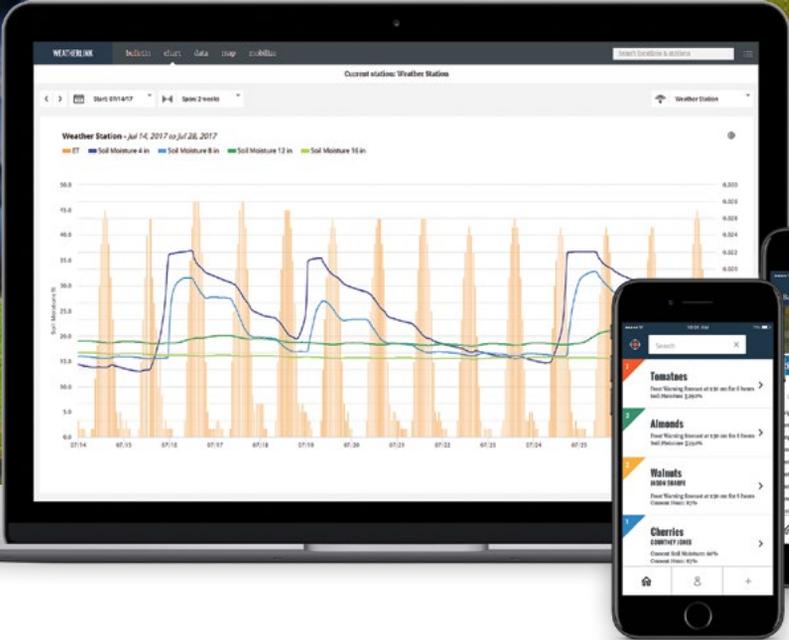
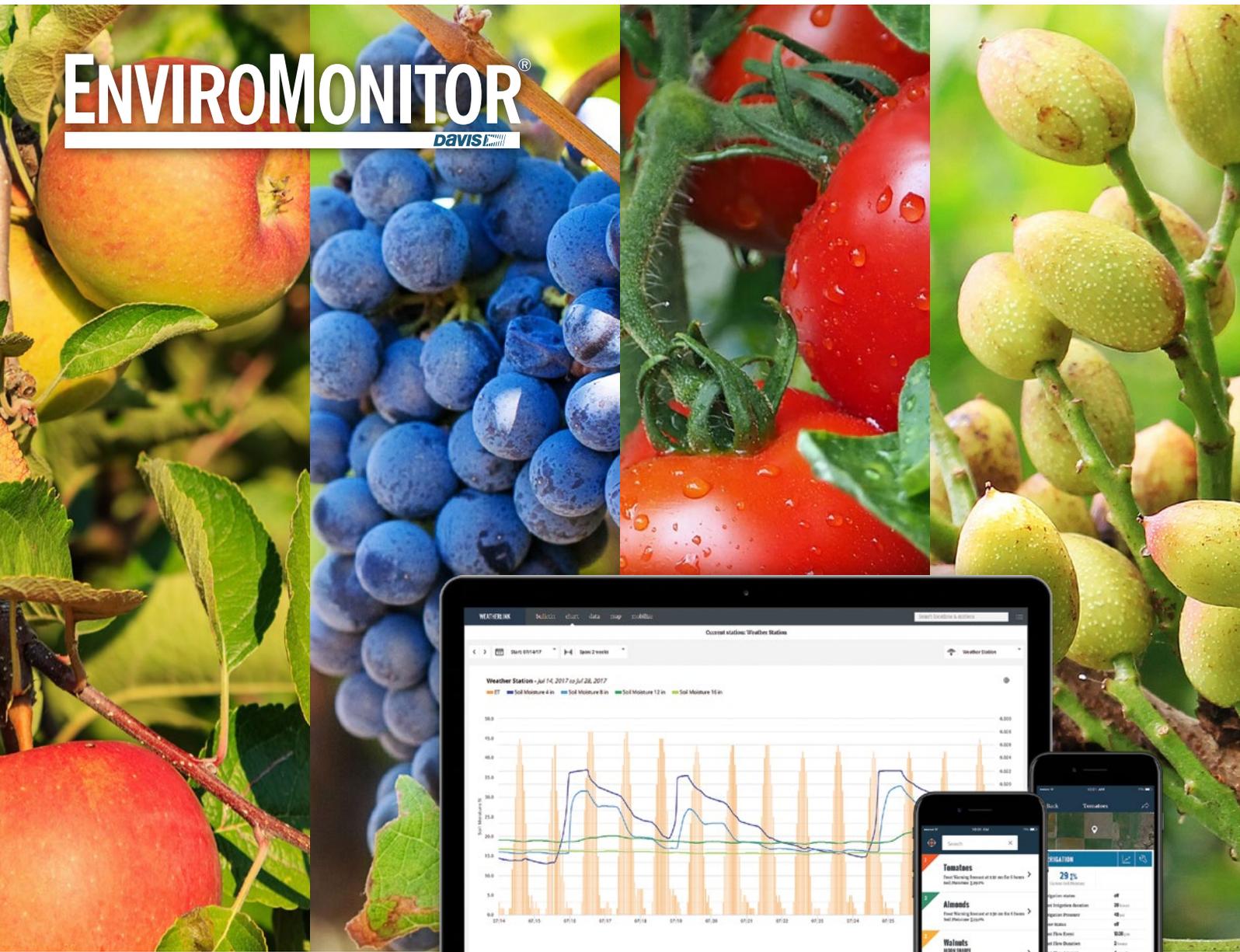
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