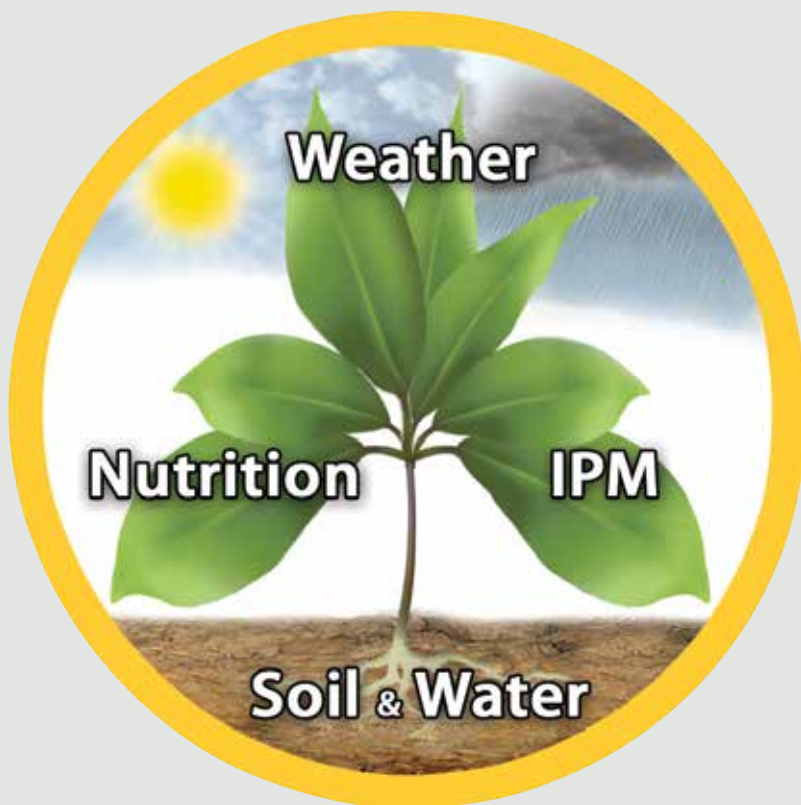


SMARTGROWTH™

TO MEASURE IS TO KNOW™



Spectrum®
Technologies, Inc.

SMARTGROWTH™

Welcome!

As Spectrum enters our 31st year, I can't help but think about the unique journey we've experienced that could not have occurred without the efforts from our valued customers and our dedicated team around the world. We take pride in enhancing the work you do by providing you with the tools needed to make informed crop management decisions.

The Spectrum team often asks, "What do you want to measure?" because we are all about plant and soil measurement. As an innovator, Spectrum continues to develop new products for weather and environmental monitoring, nutrient management, plant health and soil moisture measurement tools.

We are committed to meeting your needs and exceeding your expectations by offering research grade products at affordable prices. Our comprehensive product range combined with proactive customer support provides you the ability to convert real-time data into profitable decisions.

We always welcome your feedback and suggestions.

Sincerely,



Mike Thurow
CEO & Founder
Spectrum Technologies, Inc.



Spectrum®
Technologies, Inc.

EASY ORDERING - REQUEST A QUOTE

 **Online** www.specmeters.com
 **E-mail** info@specmeters.com
 **Phone** **1 (800) 248-8873** (U.S. & Canada)
1 (815) 436-4440
 **Fax** **1 (815) 436-4460**
3600 Thayer Court
Aurora, IL 60504 USA



| | Order Total | Shipping/Handling USA Only |
|---------------------------|--------------------------|-------------------------------|
| Standard | | |
| Ground Delivery: | \$25.01 to \$99.99 | \$18.00 |
| | \$100.00 to \$499.99 | \$22.00 |
| Express Delivery: | \$500.00 to \$999.99 | \$28.00 |
| (Contact for charges) | \$1,000.00 to \$1,999.99 | \$33.00 |
| Canadian Delivery: | \$2,000.00 to \$2,999.99 | \$42.00 |
| (Contact for charges) | \$3,000.00 to \$4,999.99 | \$52.00 |
| | \$5,000.00 or more | Contact for pricing |

ORDERING INFORMATION

Purchase Orders: We accept purchase orders from accredited universities, governments, businesses, and nonprofit organizations. Completed credit application may be required.
Terms: Net 30 days on approved Open Account purchases. A late payment charge of 1.5% per month or the maximum rate permitted by law, whichever is less, will be imposed on amounts unpaid after due date.

International Orders: Call, fax, or e-mail request for quote and terms.

Dealers/Distributors: Call for quantity discounts.

Prices: The pricing highlighted in this catalog is for calendar year 2018.

Min. Order: US: \$25.00 excluding S&H; Canada: \$75.00 excluding S&H

Spectrum Technologies, Inc. reserves the right to change the specifications, features or prices of its products without notice or obligation.

100% MONEY-BACK GUARANTEE

YOUR SATISFACTION IS OUR BUSINESS

Order from Spectrum Technologies with total confidence. If you're not satisfied—for any reason—call our toll-free number for a Return Materials Authorization (RMA). Simply return the item you ordered within 30 days for a prompt refund, excluding shipping & handling. We ask that you return the item in restockable condition with all original packaging, parts, instruction manuals, etc. Failure to meet these conditions may result in a restocking fee.





The AE50 Award recognizes products ranked highest in innovation, significant engineering advancement, and impact on the market served.

Award Winning Products

Since 1987, Spectrum Technologies has received 24 AE50 Awards from the American Society of Agricultural and Biological Engineers, which demonstrates our deep commitment to innovation and quality.

- 2018** FieldScout® TDR 350 Soil Moisture Meter
- 2015** SpecConnect Web Portal
WatchDog® Retriever & Pups Wireless Network
- 2013** FieldScout® GreenIndex+ SmartPhone App
WatchDog® Cellular Alert Stations
- 2012** WaterScout® SMEC 300 Soil Moisture/EC/Temp Sensor
- 2011** WatchDog® 1000 Series Micro Station
LightScout® DLI 100 Light Meter
- 2008** WatchDog® Sprayer Station
SpecMaps™ Web Mapping Utility Software
- 2007** WatchDog® 2000 Series Mini Weather Station
- 2005** SpecWare™ Software
- 2004** FieldScout® Direct Soil EC Probe
FieldScout® TCM 500 Turf Color Meter
WeatherTracker Greenhouse Growth Tracker
- 2003** WatchDog® WeatherTracker
FieldScout® SC 900 Soil Compaction Meter
- 2002** WatchDog® Weather Station
FieldScout® TDR 300 Soil Moisture Meter
- 2001** FieldScout® CM 1000 Chlorophyll Meter
- 2000** WatchDog® Data Logger
- 1999** StarLogger Data Logger
Investigator Soil Compaction Meter
WatchDog® Leaf Wetness/Temperature Logger

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COMPANY OVERVIEW



Spectrum Technologies, Inc. manufactures affordable, leading-edge measurement information technology for the agricultural market throughout the world.



We develop peak plant performance tools for better field output. Using the most advanced plant measurement technology, we provide growers with actionable plant health data that translates into more profitable decisions.



INDUSTRY FUTURE

With consumers demanding higher quality food and environmental conditions, the need for measurement and monitoring technology will continue to grow. The need to conserve resources such as soil and water will drive the need to CREATE more measurement information technology.

PRODUCTS

1

WEATHER

Temperature, Light, Wind, Rain, Relative Humidity and Leaf Wetness Monitoring



2

INTEGRATED PEST MANAGEMENT (IPM) TOOLS

Insect and Disease Models, IPM Scopes



3

SOIL MOISTURE & QUALITY MEASUREMENT

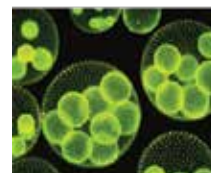
Soil Moisture, Soil Compaction and Water Quality Meters



4

NUTRIENT MANAGEMENT

Nutrient, Chlorophyll, pH, EC and Nitrogen Meters



CUTTING EDGE TECHNOLOGY

We are constantly developing exciting new products while offering our customers an amazing, award winning array of products, every year.

Imagine a meter that can measure light as it hits your plant, or receivers that send information about soil moisture so your crops can be managed on the fly.

We're innovating for you.

Spectrum[®]
Technologies, Inc.



PEAK PLANT PERFORMANCE TOOLS FOR BETTER CROP PRODUCTION

NEW FROM SPECTRUM



P 34

TDR 350 WITH INFRARED
TEMPERATURE SENSOR



WIRELESS RAIN COLLECTOR



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BIRD GUARD



WIRELESS IN-SITU SOIL MOISTURE SENSOR



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ASPIRATED RADIATION SHIELD
WITH DIGITAL TEMP/RH SENSOR



SMART IRRIGATION AUDIT



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TDR SPACER FOR 1/2 AND 1 INCH
SOIL MOISTURE MEASUREMENTS



WIRELESS SOIL MOISTURE SENSOR

SPECCONNECT - DEVICE TO CLOUD

SPECTRUM TO YOU



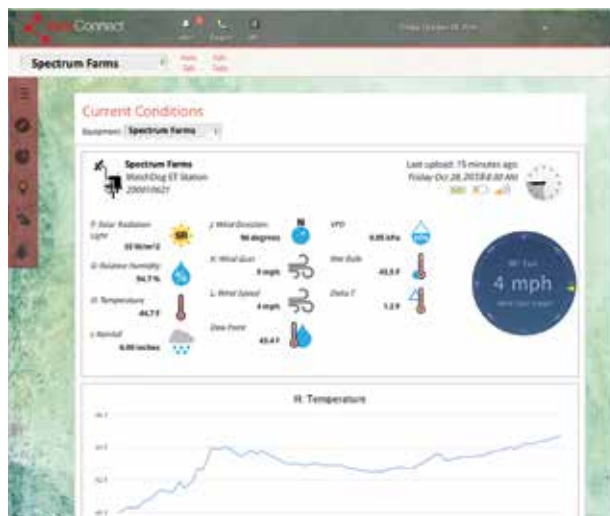
Bluetooth



SpecConnect >

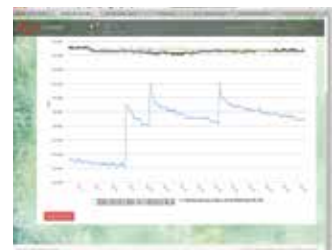
DASHBOARD

YOUR NETWORK



What will you see when using SpecConnect software to monitor your system?

- Customized Alerts
- Current Conditions
- Multi-Sensor Station Report
- Equipment Inventory & Activity
- Area Map with Sensor Placement





- Web Portal connection requires a WatchDog Retriever & Pup network or any 2000 Series Weather Station to collect and log data, and DataScout Modem to send data to the internet
- FieldScout subscriptions require a TDR or TruFirm Meter and the free FieldScout Mobile App
- For more information about the FieldScout Mobile App, see pages 34-35

Pro WatchDog Subscriptions (includes one device)

| | | |
|--------|--|----------|
| 3010US | SpecConnect Pro 1-yr Subscription - Cellular, US/Canada For WatchDog devices, includes cellular plan | \$379.00 |
| 3030 | SpecConnect Pro 1-yr Subscription - WiFi | \$249.00 |
| 3000 | SpecConnect Initial Set Up Fee | \$49.00 |

Additional Devices and Services

| | | |
|--------|---|----------|
| 3045US | Additional WatchDog Device - Cellular (1-yr) Needed per Pup or Station, includes cellular plan | \$175.00 |
| 3046 | Additional WatchDog Device - Low-Cellular (1-yr) (15-60 minutes, internal mean sensor values only) | \$99.00 |
| 3055 | Additional WatchDog Device - WiFi (1-yr) Needed per Pup or Station | \$24.00 |
| 3040 | Additional Login (1-yr) Limit of three users per subscription | \$24.00 |
| 3070 | Alerts Function (1-yr) Needed per device | \$49.00 |
| 3065 | API Service - (one-time-charge) | \$49.00 |

Pro FieldScout Subscriptions (includes one device)

| | | |
|-------|---|----------|
| 3035A | SpecConnect FieldScout Pro (1-yr) 1-3 devices | \$199.00 |
| 3035B | SpecConnect FieldScout Pro (1-yr) 4-7 devices | \$399.00 |
| 3035C | SpecConnect FieldScout Pro (1-yr) 7 or more devices | \$599.00 |

SpecConnect WATCHDOG SUBSCRIPTION FEATURES

| | |
|---|---|
| Customizable Dashboard | ✓ |
| Current Conditions | ✓ |
| Basic Wind Speed/Direction & Temp Gauges | ✓ |
| Advanced Wind Rose | ✓ |
| Data Storage | ✓ |
| Mapping | ✓ |
| Calibration Adjustment | ✓ |
| Disease Models (additional fee) | ✓ |
| Reports | |
| Basic Reporting | ✓ |
| Custom Reporting | ✓ |
| Evapotranspiration (ET) Reports | ✓ |
| Degree Days Reports | ✓ |
| Daily Light Integral (DLI) Reports | ✓ |
| Chill Hours/Units/Portions Reports | ✓ |
| Other | |
| Alerts (additional fee) | ✓ |
| API Service (additional fee) | ✓ |

Disease & Insect Forecast Model Packages

1-YR SUBSCRIPTIONS

Become more proactive in your management of diseases and insects by adding forecast models to your SpecConnect subscription

- Each package uses field-tested and validated algorithms along with your data to forecast the potential for the appearance of your crop's most notorious enemies
- Save money by spraying only when necessary
- Quickly produce the documentation needed to support your IPM decisions
- 1-yr subscriptions

3095APP SpecConnect Apple/Pear Alert Package \$199.00

Required Sensors: Leaf wetness and temperature
Models Included: Apple Scab (Modified Mills, Cornell, UC Davis California)
 Fire Blight (Maryblyt, Cougarblight)
 Sooty Blotch/Flyspeck
 Insect Models

3095CHP SpecConnect Cherry Alert Package \$149.00

Required Sensors: Leaf wetness and temperature
Models Included: Leaf Spot
 Insect Models

3095GAP SpecConnect Grape Alert Package \$199.00

Required Sensors: Leaf wetness, relative humidity, and temperature
Models Included: Powdery Mildew (Thomas-Gubler)
 Black Rot (Spotts)
 Downey Mildew
 Botrytis
 Phomopsis Cane Leaf Spot
 Insect Models

3095POP SpecConnect Potato Alert Package \$199.00

Required Sensors: Temperature, relative humidity, and rain
Models Included: Early Blight
 Late Blight (BliteCast)
 Insect Models

3095TOP SpecConnect Tomato Alert Package \$149.00

Required Sensors: Leaf wetness and temperature
Models Included: Tomcast
 Insect Models

3095TUP SpecConnect Turf Alert Package \$199.00

Required Sensors: Air and soil temperature, relative humidity, and rain
Models Included: Brown Patch (Schumann)
 Pythium (Nutter, Schein)
 Dollar Spot (Hall, Mills/Rockwell)
 Insect Model

3095NUP SpecConnect Nut Alert Package \$199.00

Required Sensors: Temperature, leaf wetness, relative humidity, rain
Models Included: Almond Alternaria Leaf Spot
 Almond Anthracnose
 Pecan Scab
 Pistachio Panicle and Shoot Blight
 Walnut Blight
 Insect Models



THE RETRIEVER & PUPS SYSTEM. LET YOUR PLANTS TALK TO YOU.

GROWERS, WINEMAKERS, FARMERS
AND RESEARCHERS USE IT TO EXPERTLY
MONITOR THEIR FIELDS, GREENHOUSES AND
ORCHARDS WHEN THEY AREN'T AROUND.

Our Retriever & Pups System brings real time
data to your mobile device anywhere you
can access the internet.

Smarter decisions just got easier.

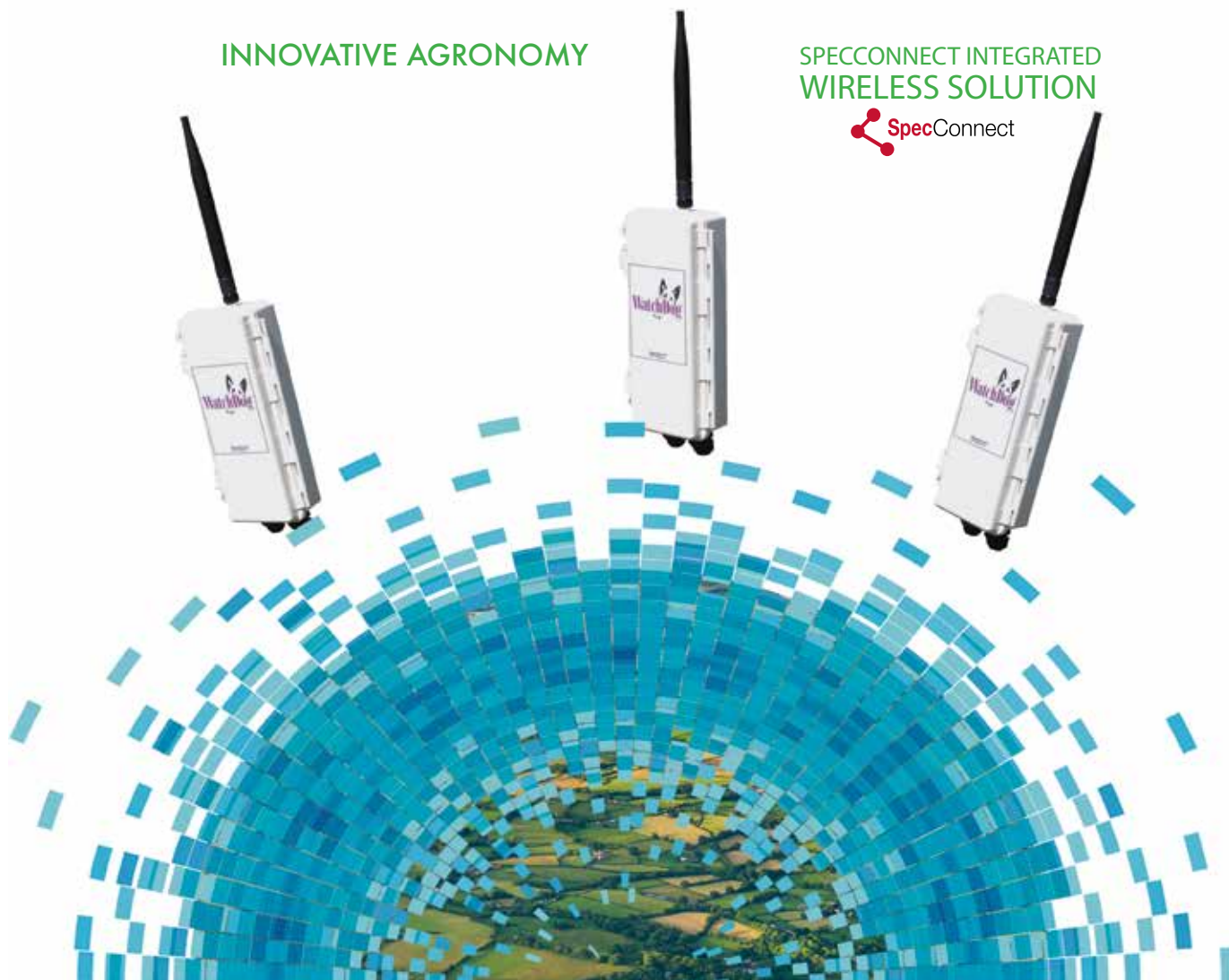
Each Retriever can support up to 16 Pups.
Each Pup can hold four different sensors.
And, you can send threshold alerts!

Our sensors measure everything from moisture to
light, wind, rain, humidity, temperature and more.
We can customize your setup, even add weather
stations, to bring data from every nook and cranny
of your property directly to you.

With SpecConnect Wireless Pups & Retrievers,
send data to your personal dashboard and view
the measurements instantly. Trust the data and
eliminate the guesswork.

INNOVATIVE AGRONOMY

SPECCONNECT INTEGRATED WIRELESS SOLUTION





VINEYARDS & ORCHARDS

Easily spot frost and be alerted of conditions in your crops, monitor and note site-specific conditions for insect and disease pressures, and monitor soil moisture remotely.



IRRIGATION SOLUTIONS

Flexibly monitor both soil moisture and EC in a variety of soil textures for better irrigation decisions.

Connect WatchDog Weather Stations to the network using a Station Pup.



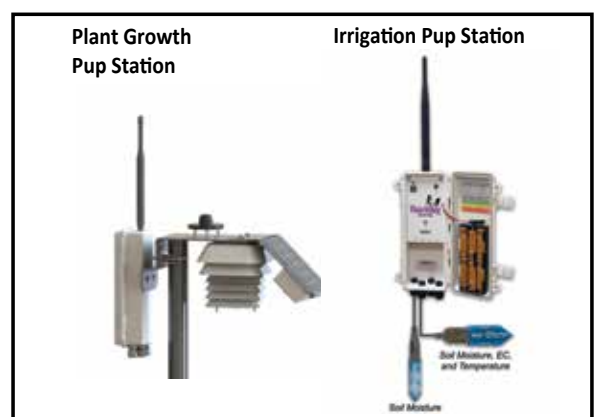
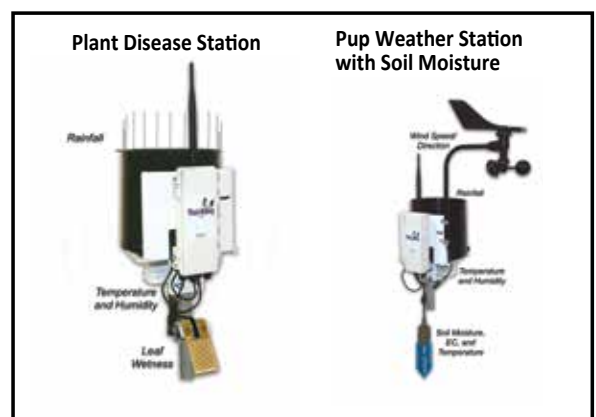
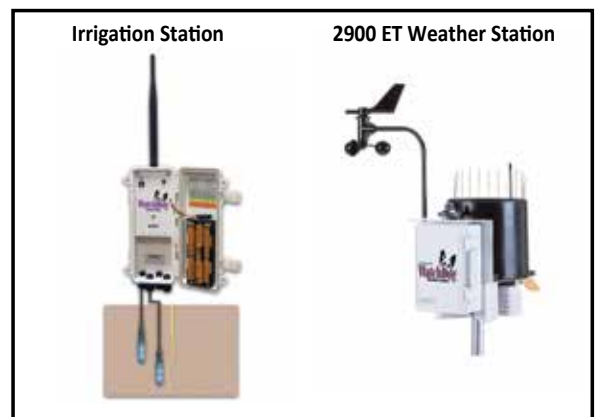
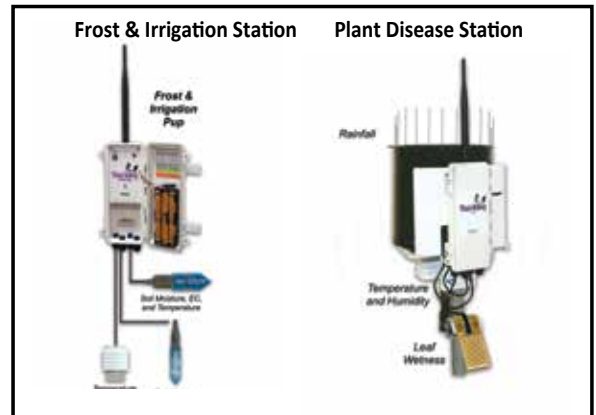
RESEARCH PLOTS/ FARM & GREENHOUSE STUDIES

Capture site-specific conditions remotely for insect and disease pressures, soil moisture monitoring, weather conditions, light and more.



GREENHOUSES & NURSERIES

Measure DLI (Daily Light Integral) and intensity for consistently better plant quality across greenhouse and high-tunnel structures. For outdoor growing, monitor soil moisture, temperature and EC for more efficient irrigation practices.





Pups

SETUP A NETWORK



Multiple Pups with a variety of sensors to choose from give you unlimited measurement options within a single network.

3 models



Sensor Pups
Station Pups
Repeater Pups

- Single button operation: check battery status, signal strength, and join sensor network
- Tri-colored LEDs indicate battery level, signal strength, and data communication status
- Communication range of 2,500 ft (about 1/2 mile), line-of-sight installation between devices
- Pups act as repeaters to get data to the Retriever
- 900 MHz radios in this catalog; 868 MHz and 2.4 GHz also available for international use - Call for details

WatchDog Sensor Pup

- Connect up to 4 external sensor inputs per Pup
- Transmits data to Retriever (directly or via other Pups)
- Includes 6 alkaline non-rechargeable AA batteries (solar-power option below)
- Available as Pre-Packaged Pup Stations, including sensors on facing page

3900

WatchDog Sensor Pup

\$495.00

Most Popular Sensors

Choose what you will measure. Choose up to 4 per Sensor Pup.

| | | |
|----------|--|----------|
| 3613ARS | Temperature/RH Sensor with Aspirated Radiation Shield | \$499.00 |
| 3613THS | Temperature/RH Sensor with Passive Radiation Shield | \$199.00 |
| 3665RD | Digital Rain Collector with Bird Guard | \$299.00 |
| 3305ADD | Digital Anemometer | \$390.00 |
| 6470-20 | WaterScout SMEC 300 Sensor with 20 ft (6.1 m) Cable | \$239.00 |
| 6460-20 | WaterScout SM 100 Sensor with 20 ft (6.1 m) Cable | \$99.00 |
| 6450WD20 | Watermark Sensor with 25 ft (7.6 m) Cable | \$82.00 |
| 3667 | External (Soil) Temperature Sensor with 6 ft (1.8 m) Cable | \$47.00 |
| 3666 | Leaf Wetness Sensor | \$99.00 |
| 3670I | LightScout Silicon Pyranometer | \$257.00 |
| 3668I | LightScout Quantum Light Sensor | \$229.00 |

WatchDog Station Pup

- Connects to WatchDog 2000 Series Full or Mini Weather Stations and transmits all station sensor data to the network
- No external sensors
- Includes 66 alkaline non-rechargeable AA batteries (solar-power option below)

3901

WatchDog Station Pup

\$445.00

WatchDog Repeater Pup

- Serves as "signal booster" to help provide a path for the transmission signal around obstacles or to extend range; no sensor inputs of its own
- Includes 66 alkaline non-rechargeable AA batteries (solar-power option below)

3902

WatchDog Repeater Pup

\$395.00

Retriever



COLLECT THE DATA

WatchDog Retriever

- Receives all data from Pup network, each Retriever supports up to 16 Pups
- Includes USB Flash Drive and USB data cable
- Includes 6 standard non-rechargeable batteries. Can also be powered by DataScout modem, Direct-Connect cable or Solar Power Package

3910

WatchDog Retriever

\$595.00

Solar Power



POWER UP

3999

Solar Power Package for Pups & Retrievers

Includes 5W solar panel and 6V 4.5Ah rechargeable battery

\$200.00





Pre-Packaged >

Sensor Pup Stations

- The most common Sensor Pups and sensors have been bundled together to simplify ordering
- Pup Stations are built on a unique mounting bracket to allow for simple installation
- Pup Stations (except ET Pup) have available sensor ports, allowing for additional/future expansion
- 900 MHz radio; 868 MHz and 2.4 GHz also available for international use - Call for details

**NEW FOR 2018
BIRD GUARD
INCLUDED WITH ALL
RAINFALL SENSORS!**



3900ET

WatchDog ET Pup Station

- Includes Pup and sensors:
 - Rainfall
 - Temperature/RH
 - Solar Light
 - Wind Speed/Direction
- No available sensor ports

3900ET

WatchDog ET Pup Station \$1,725.00

3396TPS

Tripod Mount with Stakes \$107.00



3900WS

WatchDog Pup Weather Station

- Includes Pup and sensors:
 - Rainfall
 - Temperature/RH
 - Wind Speed/Direction
- One available sensor port

3900WS

WatchDog Pup Weather Station \$1,475.00

3396TPS

Tripod Mount with Stakes \$107.00



3900PG

WatchDog Plant Growth Pup Station

- Includes Pup and these sensors:
 - PAR Light
 - Temperature/RH with Aspirated Radiation Shield and solar charging system
- Two available sensor ports

3900PG WatchDog

Plant Growth Pup Station \$1,195.00

3396TPS

Tripod Mount with Stakes \$107.00



3900PD

WatchDog Plant Disease Pup Station

- Includes Pup and these sensors:
 - Rainfall
 - Temperature/RH
 - Leaf Wetness
- One available sensor port

3900PD WatchDog

Plant Disease Pup Station \$1,175.00

3396TPS

Tripod Mount with Stakes \$107.00



100% Customizable

Digital Rain Collector

Digital Anemometer

Pressure Transducer

Irrigation On/Off Sensor

LightScout UV / Solar Radiation / PAR Light Sensors

CO2 Sensor

Barometric Pressure Sensor

LightScout Quantum Sensor Bars

External (Soil) Temperature Sensor

WaterScout SM 100 Soil Moisture Sensor

Temperature (Micro) Sensor

WaterScout SMEC 300 Soil Moisture, EC, and Temperature Sensor

Watermark Soil Moisture Sensor

Leaf Wetness Sensor

Digital Temperature / Humidity Sensor with Passive Radiation Shield

Digital Temperature / Humidity Sensor with Aspirated Radiation Shield

Sensor Specifications on Pages 22-23

WatchDog® Weather Stations & Data Loggers Comparison Chart



Item # Model

2000 Series Weather Stations

| Item # | Model | SpecConnect Compatible | LCD Display | Wireless | Evapotranspiration | Alarm Output-Ready | Air Temperature Sensor | Relative Humidity Sensor | Dew Point | Wind Speed & Direction | Tipping Bucket Rain Collector | Solar Radiation Sensor | Available Sensor Ports | Quantum Light Sensor | Ext. (Soil) Temperature Sensor | Leaf Wetness Sensor | WaterScout Soil Moisture Sensor | WaterScout Soil Moisture/EC/ Temperature Sensor | Digital Sensor Compatible | Radiation Shield (P=Passive or A=Aspirated) |
|---------|--------|------------------------|-------------|----------|--------------------|--------------------|------------------------|--------------------------|-----------|------------------------|-------------------------------|------------------------|------------------------|----------------------|--------------------------------|---------------------|---------------------------------|---|---------------------------|---|
| 3350WD2 | 2900ET | ✓ | ✓ | Opt | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5 | Opt | Opt | Opt | Opt | Opt | | P |
| 3345WD2 | 2800 | ✓ | ✓ | Opt | | ✓ | ✓ | ✓ | ✓ | | Opt | Opt | 9 | Opt | Opt | Opt | Opt | Opt | | |
| 3340WD2 | 2700 | ✓ | ✓ | Opt | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Opt | 6 | Opt | Opt | Opt | Opt | Opt | | P |
| 3320WD2 | 2550 | ✓ | ✓ | Opt | | ✓ | ✓ | ✓ | ✓ | ✓ | | Opt | 6 | Opt | Opt | Opt | Opt | Opt | | P |

2000 Series Mini Station

| | | | | | | | | | | | | | | | | | | | | |
|----------|-----------------------|---|---|-----|--|---|---|---|---|--|-----|-----|---|-----|-----|-----|-----|-----|--|---|
| 3684WDPD | Plant Disease Station | ✓ | ✓ | Opt | | ✓ | ✓ | ✓ | ✓ | | ✓ | | 0 | | | ✓ | | | | P |
| 3686WD | 2475 | ✓ | ✓ | Opt | | ✓ | ✓ | ✓ | ✓ | | Opt | Opt | 1 | ✓ | Opt | Opt | Opt | Opt | | P |
| 3684WD | 2450 | ✓ | ✓ | Opt | | ✓ | ✓ | ✓ | ✓ | | Opt | Opt | 2 | Opt | Opt | Opt | Opt | Opt | | P |
| 3683WD | 2425 | ✓ | ✓ | Opt | | ✓ | ✓ | | | | Opt | Opt | 3 | Opt | Opt | Opt | Opt | Opt | | P |
| 3685WD | 2400 | ✓ | ✓ | Opt | | ✓ | | | | | Opt | Opt | 4 | Opt | Opt | Opt | Opt | Opt | | |

Retriever & Pups Wireless Sensor Network

| | | | | | | | | | | | | | | | | | | | | |
|--------|---------------------------|---|--|---|---|--|-----|-----|--|-----|-----|-----|---|-----|-----|-----|-----|-----|---|---|
| 3900ET | ET Pup Station | ✓ | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | 0 | | | | | | ✓ | P |
| 3900WS | Pup Weather Station | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | Opt | 1 | Opt | Opt | Opt | Opt | Opt | ✓ | P |
| 3900PD | Plant Disease Pup Station | ✓ | | ✓ | | | ✓ | ✓ | | Opt | ✓ | Opt | 3 | Opt | Opt | ✓ | Opt | Opt | ✓ | P |
| 3900PG | Plant Growth Pup Station | ✓ | | ✓ | | | ✓ | ✓ | | Opt | Opt | Opt | 2 | ✓ | Opt | Opt | Opt | Opt | ✓ | A |
| 3900 | Sensor Pup | ✓ | | ✓ | | | Opt | Opt | | Opt | Opt | Opt | 4 | Opt | Opt | Opt | Opt | Opt | ✓ | P |
| 3901 | Station Pup | ✓ | | ✓ | | | | | | | | | 0 | | | | | | | |
| 3902 | Repeater Pup | ✓ | | ✓ | | | | | | | | | 0 | | | | | | | |

1000 Series Micro Stations

| | | | | | | | | | | | | | | | | | | | | |
|----------|-----------------------|--|---|--|--|--|---|---|--|--|-----|-----|---|-----|-----|-----|-------|-----|--|---|
| 3685SM14 | Irrigation Station | | ✓ | | | | | | | | | | 0 | | | | ✓ (4) | | | |
| 3685SM13 | Irrigation Station | | ✓ | | | | | | | | Opt | Opt | 1 | Opt | Opt | Opt | ✓ (3) | Opt | | |
| 3684PD1 | Plant Disease Station | | ✓ | | | | ✓ | ✓ | | | ✓ | | 0 | | | ✓ | | | | P |
| 3684PAR1 | Plant Growth Station | | ✓ | | | | ✓ | ✓ | | | | | 1 | ✓ | Opt | Opt | Opt | Opt | | P |
| 3688WD1 | 1650 | | ✓ | | | | ✓ | ✓ | | | Opt | Opt | 4 | Opt | Opt | Opt | Opt | Opt | | |
| 3687WD1 | 1525 | | ✓ | | | | ✓ | | | | Opt | Opt | 4 | Opt | Opt | Opt | Opt | Opt | | |
| 3684WD1 | 1450 | | ✓ | | | | ✓ | ✓ | | | Opt | Opt | 2 | Opt | Opt | Opt | Opt | Opt | | |
| 3683WD1 | 1425 | | ✓ | | | | ✓ | | | | Opt | Opt | 3 | Opt | Opt | Opt | Opt | Opt | | |
| 3685WD1 | 1400 | | ✓ | | | | | | | | Opt | Opt | 4 | Opt | Opt | Opt | Opt | Opt | | |
| 3682WD1 | 1250 | | ✓ | | | | ✓ | ✓ | | | | | 0 | | | | | | | |
| 3681WD1 | 1225 | | ✓ | | | | ✓ | | | | Opt | Opt | 1 | Opt | Opt | Opt | Opt | | | |
| 3680WD1 | 1200 | | ✓ | | | | | | | | Opt | Opt | 2 | Opt | Opt | Opt | Opt | Opt | | |

A-Series Loggers

| | | | | | | | | | | | | | | | | | | | | |
|---------|------------------------------|--|---|--|--|--|---|---|--|--|--|--|---|--|---|---|--|-------------------|--|---|
| 3611A | A160 Temp/RH/CO ₂ | | ✓ | | | | ✓ | ✓ | | | | | 0 | | | | | ✓ CO ₂ | | |
| 3612A | A150 Temp/RH | | ✓ | | | | ✓ | ✓ | | | | | 0 | | | | | | | |
| 3610A | A130 Leaf Wetness/Temp | | ✓ | | | | ✓ | | | | | | 0 | | | ✓ | | | | |
| 3617ARS | A125 Soil/Air Temp Station | | ✓ | | | | ✓ | | | | | | 0 | | ✓ | | | | | P |
| 3617A | A125 Soil/Air Temp | | ✓ | | | | ✓ | | | | | | 0 | | ✓ | | | | | |
| 3618A | A110 Temperature | | ✓ | | | | ✓ | | | | | | 0 | | | | | | | |

Sprayer Station

| | | | | | | | | | | | | | | | | | | | | |
|----------|------------------------------|--|---|--|--|--|---|---|---|---|--|--|---|--|--|--|--|--|--|--|
| 3349SSCH | Sprayer Station with Console | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | | 0 | | | | | | | |
|----------|------------------------------|--|---|--|--|--|---|---|---|---|--|--|---|--|--|--|--|--|--|--|

REFERENCE:

✓ STANDARD Opt OPTIONAL BLANK NOT AVAILABLE



WatchDog Retriever

- Receives all data from Pup network, each Retriever supports up to 16 Pups
- Includes USB Flash Drive and USB data cable
- Includes alkaline Non-Rechargeable Batteries. Can also be powered by DataScout modem, Direct-Connect cable or Solar Power Package
- Single button operation: switch modes, download data, upload configuration, and check battery status
- Tri-colored LEDs indicate mode, battery level, data communication status, and configuration status
- Non-volatile memory preserves your logged data, even when the batteries are removed
- 900 MHz radios; 868 MHz and 2.4 GHz also available for international use - Call for details

| | | |
|------|--------------------|----------|
| 3910 | WatchDog Retriever | \$595.00 |
|------|--------------------|----------|

Optional Accessories

| | | |
|---------|--|----------|
| 3999 | Solar Power Package Includes 5W solar panel and 6V 4.5Ah rechargeable battery | \$200.00 |
| 3396TPS | Tripod Mount with Stakes | \$107.00 |
| 3925 | Antenna Extension Cable - 10 ft (3 m) Includes Mounting Bracket and Hardware | \$77.00 |
| 3388USB | Replacement USB Flash Drive | \$26.00 |
| 3927C75 | PC Direct Connection Cable - 75 ft Connect your Retriever directly to your PC. Includes power and data cables, AC/DC power adapter, and DC plug adapter <i>Has 9-pin serial connection on PC end, may require USB adapter (Item 366IU9)</i> | \$123.00 |
| 3926 | AC/DC Power Adapter | \$25.00 |

SpecWare Software

- SpecWare Pro software version 9.6 or later may be used to view Pup data on PC
- If using the SpecConnect Web Portal, then all data can be viewed online (SpecWare software not required)

| | | |
|--------|---------------------|----------|
| 3654P9 | Spec 9 Pro Software | \$199.00 |
|--------|---------------------|----------|

Modems



3920 DataScout Wi-Fi Modem

- Communicate data to the web using either a Cellular or Wi-Fi signal
- Single button operation: test communications, pair with station, and check battery status
- Tri-colored LEDs indicate battery level, data communication, and wireless signal/connection status
- Power options: Choose between Solar power package which includes rechargeable battery and 5W solar panel, or the AC/DC power adapter (Max 17VDC)
- Required for connection to SpecConnect, sold separately
- Provides power to attached Watchdog Stations and Retrievers

Compatibility Requirements:

- WatchDog Retriever - Item 3910 WatchDog Retriever (with non-rechargeable batteries). The DataScout Modem and the Retriever will share the power from the solar power package
- 2000 Series Weather Stations - the station must be running firmware version 7.6 or above.
- WatchDog 2000 Series Mini Stations - The station must be running firmware version 4.1 or above.

Cellular Modems

3922 CDMA Cellular Modem (US)

\$995.00

Includes Solar Panel and Rechargeable battery pack

3923 3G HSPA+ Cellular Modem (US, Canada)

\$995.00

Includes solar panel and rechargeable battery pack

GSM 3G HSPA+ Cellular also available for International use - call for details

Wi-Fi Modems

3920 Wi-Fi Modem - AC/DC Powered

\$561.00

Includes 3926 AC/DC Power Cord

3920S WiFi Modem - Solar Powered

\$745.00

Includes solar panel and rechargeable battery pack.

3926 AC/DC Power Adapter

\$25.00



3922 DataScout CDMA Modem

3922 DataScout Modem mounted with a WatchDog Retriever



3923 DataScout Modem mounted with a WatchDog 2000 Series Full Weather Station

What Do You Want To Measure?

You can customize your WatchDog network, using different sensors based on the data you want to collect and analyze for better output performance. See WatchDog Sensors and Accessories, pages 12, 22-23

2000 Series Weather Stations



NEW!
Bird Guard
Included!

Model 2900ET
Shown with
optional Tripod
Mount
(not included)
and 3999WD Solar
Power Package
(not included).

NEW!
Solar Power
Option

**3999WD Solar
Power Package
\$200.00**
Includes 5W
solar panel
and 6V 4.5 AH
rechargeable
battery

Model 2900 ET

- The most powerful package for optimizing your irrigation and IPM decisions
 - Measures wind direction, wind speed, air temperature, relative humidity, dew point, rainfall, solar radiation, evapotranspiration, with 5 available external sensor ports
- 3350WD2 WatchDog® 2900ET
Weather Station \$1,949.00**

Model 2700

- Affordable and versatile solution for growers, researchers, and consultants
 - Measures wind direction, wind speed, air temperature, relative humidity, dew point, rainfall, with 6 available external sensor ports
- 3340WD2 WatchDog® 2700
Weather Station \$1,499.00**

- Our award winner for Innovation in Technology. Manage your crop based on YOUR weather, not the airport's.
- Full-featured weather stations measure temperature, humidity, rainfall, wind, and solar radiation (varies by model). Also calculates degree days and chill hours
 - Customize your station with plug-in sensors to meet your needs
 - Accurate, real-time weather information directly from your field, orchard, vineyard or golf course
 - Monitor, record, and analyze over a dozen important environmental inputs
 - Log your data in fail-safe, non-volatile memory

- Communicate via wireless, cellular, shuttle, or direct connect, also compatible with the new WatchDog Station Pups and DataScout™ Modems
- Powered by four AA batteries - 10 months battery life with alkaline (included), 12 months with lithium
- Requires SpecWare™ Pro software or DataScout Modem and SpecConnect



2550

Model 2550

- Ideal for fast, on-demand deployment without measuring rainfall
 - Measures wind direction, wind speed, air temperature, relative humidity, dew point, with 6 available external sensor ports
- 3320WD2 WatchDog® 2550
Weather Station \$1,231.00**



2800

Model 2800

- Ideal where multiple sensor measurements are required for temperature, soil moisture, crop canopy light, or leaf wetness data
 - Plug in up to 8 external sensors, plus 1 optional rainfall sensor
- 3345WD2 WatchDog® 2800
Weather Station \$922.00**

WATCHDOG 2000 SERIES WEATHER STATION FEATURES

| Sensors | 2900ET | 2700 | 2550 | 2800 | Specifications | Accuracy |
|---|--------|------|------|------|------------------------------------|---------------------------------|
| Wind Direction | ✓ | ✓ | ✓ | | 1° | ±3° |
| Wind Speed | ✓ | ✓ | ✓ | | 0, 1 to 200 mph (0, 1 to 322 km/h) | ±2 mph (±3 km/h) , ±5% |
| Air Temperature | ✓ | ✓ | ✓ | OPT | -40° to 257°F (-40° to 125°C) | ±0.54°F at -40 to 194°C(±0.3°C) |
| Relative Humidity | ✓ | ✓ | ✓ | | 0% to 100% | ±2% at 25°C |
| Dew Point | ✓ | ✓ | ✓ | | -99° to 140°F (-73° to 60°C) | ±4°F (±2°C) |
| Rainfall | ✓ | ✓ | | OPT | 0.01 in (0.25 mm) | ±2% at < 2 in (5 cm) per hour |
| Solar Radiation | ✓ | OPT | OPT | OPT | 0 to 1500 W/m² | ±5% |
| Evapotranspiration | ✓ | | | | | |
| External Sensor Ports | 5 | 6 | 6 | 9 | | |
| Available ports for SMEC 300 Sensors | 1 | 2 | 2 | 2 | | |
| Operating temperature range: -22 to 130°F (-30 to 55°C) | | | | | | |

WatchDog® 2000 Series Mini Stations



2000 Series Mini Stations

Monitor microclimates with up to 4 external sensor channels.

- Same power, flexibility, and accuracy as the 2000 Series Weather Stations
- Measure temperature, humidity, quantum light, and more (varies by model).
- Customize your Mini Station with 1 to 4 plug-in sensors to meet your needs
- Custom measurement intervals
- Reliable NEMA-4 type IP 66 enclosure and weatherproof connectors
- Communicate via wireless, cellular, shuttle, or direct connect. Also compatible with the new WatchDog® Station Pups, DataScout™ Modems
- 12-month battery power source (four AA alkaline batteries included)
- Requires SpecWare™ Basic or Pro software, or DataScout™ Modem and SpecConnect

What Do You Want To Measure?

You can customize your WatchDog network, using different sensors based on the data you want to collect and analyze for optimal system performance.



Model 2475 Plant Growth Station

- Ideal for greenhouses - includes sensors for quantum (PAR) light, air temperature, relative humidity, with 1 available external sensor port
- Computes and displays Daily Light Integral (DLI), dew point and degree days; live display of current light and cumulative light over the day
- Computes and displays DIF – Average day/night temperatures differences
- Computes and displays VPD – Vapor Pressure Deficit

3686WD Model 2475
WatchDog® Weather Station \$922.00

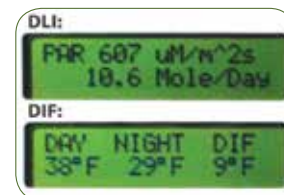


Model 2400 External Sensor Station

- Ideal where multiple sensor measurements are required for temperature, soil moisture, crop canopy light, or leaf wetness data
- Plug in up to 4 external sensors

3685WD Model 2400
WatchDog® Weather Station \$582.00

LCD display on all 2000 Series Mini Stations



- Use the LCD display to check current and daily high/low readings without a PC

Model 2425 Temperature Station

- Measures air temperature with 3 available external sensor ports
- Plug in up to 3 external sensors

3683WD Model 2425
WatchDog® Weather Station \$633.00

Model 2450 Temperature/RH Station

- Measures air temperature, relative humidity, with 2 available external sensor ports
- Computes and displays dew point

3684WD Model 2450
WatchDog® Weather Station \$739.00

WATCHDOG® 2000 SERIES MINI WEATHER STATION FEATURES

| Sensors | 2475 | 2450 | 2425 | 2400 | Specifications | Accuracy |
|---|------|------|------|------|---|-----------------------------|
| Air Temperature | ✓ | ✓ | ✓ | OPT | -25° to 212°F (-32° to 100°C) | ±1°F (±0.5°C) |
| Relative Humidity | ✓ | ✓ | | | 10% to 100% | ±3% at 20% to 100% and 25°C |
| Dew Point | ✓ | ✓ | | | -99° to 140°F (-73° to 60°C) | ±4°F (±2°C) |
| Quantum Light (PAR) | ✓ | OPT | OPT | OPT | 0 to 2500 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ | ±5% |
| External Sensor Ports | 1 | 2 | 3 | 4 | | |
| Available ports for SMEC 300 Sensors | 1 | 2 | 3 | 4 | | |
| Operating temperature range: -22 to 130°F (-30 to 55°C) | | | | | | |





Pre-Packaged Stations



NEW FOR 2018
BIRD GUARD INCLUDED
WITH ALL RAINFALL
SENSORS!



WatchDog® 2000 Series Plant Disease Station

- Includes WatchDog Mini Station Model 2450, leaf wetness sensor and rainfall sensor
- View current conditions on LCD screen, as well as track severity indicators from onboard plant disease models
- Requires SpecWare™ Pro software or a DataScout Modem and SpecConnect
- University published disease models (sold

separately) can be added to Specware or SpecConnect (**Pro version required**) for more accurate disease and pest monitoring

- Optional Wireless communication allows you to receive real-time conditions and send condition alarms to your PC

• Buy this station as a package and save \$20.00

3684WDPD WatchDog® 2000 Series Plant Disease Station
\$1,007.00



WatchDog® 1000 Series Plant Disease Micro Station

- Includes Watchdog Model 1450 Micro Station, leaf wetness sensor, tipping bucket rain gauge, and radiation shield
- Data log current conditions and historical plant disease severity indicators
- Requires SpecWare™ Basic or Pro software

• University published disease models (sold separately-**requires SpecWare 9 Pro**) can be added for more accurate disease and insect monitoring

- Buy this station as a package and save \$20.00

3684PD1 WatchDog® Plant Disease Micro Station
\$736.00



Soil/Air Temperature Station

- Study soil and air temperature trends across multiple microclimates
- Includes Model A125 Data Logger, external

temperature sensor and radiation shield

- SpecWare 9 Basic or Pro and the A-Series PC Connection Cable are required

3617ARS Soil/Air Temperature Station
\$220.00



Plant Growth Micro Stations

- Includes a WatchDog Model 1450 Micro Station, Quantum/PAR light sensor and radiation shield
- Monitor conditions crucial to growing

high quality plants

- Requires SpecWare 9 Basic or Pro software
- Buy this station as a package and save \$20.00

3684PAR1 WatchDog® Plant Growth Micro Station
\$677.00

WatchDog® 1000 Series Micro Stations



1000 Series Micro Stations

Micro Stations offer a cost-effective way to record multiple environmental conditions.

- Internal sensors can include temperature and humidity (radiation shield required)
- Up to 4 external sensor ports
- Up to 8 sensor values with the Model 1650 using the WaterScout® SMEC 300 Soil Moisture/EC/Temperature Sensor
- LCD displays sensor readings and battery level
- Select measurement intervals from 1 to 60 minutes
- Log 10,584 (8,064 with SMEC 300) intervals (220 days at 30 minute intervals)
- Water-resistant case (radiation shield or enclosure recommended for outdoor use)
- 12-month battery life (CR2450, included)
- Transfer data with a PC cable (supplied with SpecWare) or Data Shuttle
- Requires SpecWare™ 9 Basic or Pro software



| DESCRIPTION | INTERNAL SENSOR | EXTERNAL PORTS | MAX. NUMBER OF SMEC 300 SENSORS | PRICE |
|-----------------------------------|---|----------------|---------------------------------|----------|
| MODEL 1650 Item 3688WD1 | TEMPERATURE RELATIVE HUMIDITY | 4 | 2 | \$458.00 |
| MODEL 1525 Item 3687WD1 | TEMPERATURE | 4 | 2 | \$371.00 |
| MODEL 1450 Item 3684WD1 | TEMPERATURE RELATIVE HUMIDITY | 2 | 1 | \$381.00 |
| MODEL 1425 Item 3683WD1 | TEMPERATURE | 3 | 1 | \$335.00 |
| MODEL 1400 Item 3685WD1 | NONE (EXTERNAL ONLY) | 4 | 2 | \$319.00 |
| MODEL 1250 Item 3682WD1 | TEMPERATURE RELATIVE HUMIDITY | NONE | 0 | \$309.00 |
| MODEL 1225 Item 3681WD1 | TEMPERATURE | 1 | 0 | \$263.00 |
| MODEL 1200 Item 3680WD1 | NONE (EXTERNAL ONLY) | 2 | 1 | \$247.00 |
| MODEL 1120 Item 3554WD1 | RAINFALL (SEE BELOW FOR DETAILS) | NONE | 0 | \$395.00 |
| MODEL 1115 Item 3635WD1 | REQUIRES EXTERNAL RAINFALL (SEE WEBSITE FOR DETAILS) | 1 | 0 | \$205.00 |

NEW IN '18
BIRD GUARD
INCLUDED!



1120 Data-Logging Rain Gauge

High accuracy, low-maintenance tipping bucket rain collector

- Meets NWS guidelines with an 8 in (20.5 cm) diameter collector
- The included data logger can log up to 10,584 intervals
- Select intervals from 1 to 60 minutes [maximum 10.23 in (26.0 cm) per interval]
- Rain collector mounting bracket and hardware included
- Record rainfall in either metric (mm) or US (in) units
- Accuracy: $\pm 2\%$ at < 2 in (5 cm) per hour
- Requires SpecWare 9 Basic or Pro
- Includes Bird Guard to reduce maintenance



3554WD1

Data-Logging Rain Gauge

\$395.00

WatchDog® A-Series and B-Series Data Loggers



A-Series Data Loggers

The most affordable way to track environmental conditions for analysis.

- Measure temperature, humidity, leaf wetness and CO₂
- LCD display confirms logger operation and displays last sensor readings
- Select measurement intervals from 1 to 120 minutes
- Log 4,000 to 8,000 intervals in fail-safe EEPROM data memory
- Water-resistant case (IP65 for A150 and A110, IP54 for A125 and A130); A160 is for indoor use only and must be protected from moisture
- Removable soft caps keep ports clear of debris

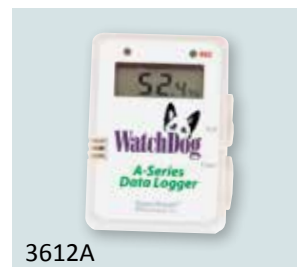
- Includes CR2 battery, 12-month life (except A160, which requires AC power; international adapter included)
- SpecWare™ 9 Basic or Pro (Page 24) and the A-Series PC Connection Cable are required (see below)

Operating temperature range: -22 to 140°F (-30 to 60°C); A160: 32 to 122°F (0 to 50°C)
 Temperature range: -40 to 185°F (-40 to 85°C); A160: 14 to 140°F (-10 to 60°C)
 Accuracy: ±1.1°F (±0.6°C) at -4 to 122°F (-20 to 50°C), else ±2.2°F (±1.2°C); A160: ±1.0°F (±0.6°C) at 77°F (25°C), else ±5%
 RH range: 0 to 100%, Accuracy: ±3% from 10-90% at 77°F (25°C), else ±5%
 CO₂ range: 0 to 9999 ppm, Accuracy: ±50 ppm ±5% of reading (0 to 2000 ppm), else unspecified

| DESCRIPTION | INTERNAL SENSOR | INTERVALS | RADIATION SHIELD | PRICE |
|-----------------------------------|--|-----------|--|-----------------|
| MODEL A160 3611A | AIR TEMPERATURE RH, CO ₂ | 5,333 | INDOOR USE ONLY (NO SHIELD AVAILABLE) | \$359.00 |
| MODEL A150 3612A | AIR TEMPERATURE RELATIVE HUMIDITY | 5,333 | OPTIONAL | \$174.00 |
| MODEL A130 3610A | AIR TEMPERATURE EXTERNAL LEAF WETNESS | 4,000 | INCLUDED | \$308.00 |
| MODEL A125 3617A | AIR TEMPERATURE EXTERNAL TEMPERATURE | 4,000 | RECOMMENDED | \$133.00 |
| MODEL A110 3618A | AIR TEMPERATURE | 8,000 | OPTIONAL | \$76.00 |



3611A



3612A



3617A

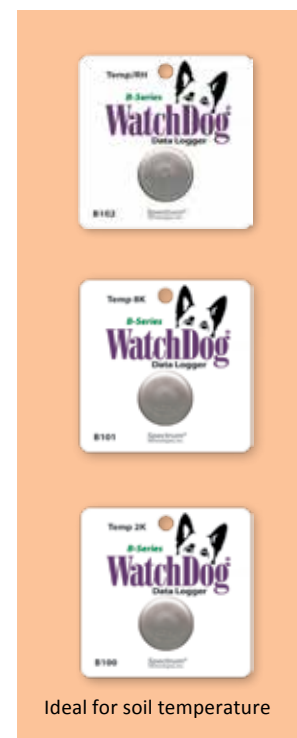
| | | |
|--------------|--|----------------|
| 3661A | WatchDog A-Series PC Connection Cable - USB | \$30.00 |
| 3663A | Radiation Shield (needed for outdoor use) | \$87.00 |

B-Series Data Loggers

Space efficient and inexpensive logging technology.

- Ideal for shipping containers or situations where multiple areas need to be monitored
- Choose from temperature-only or temperature/humidity models
- Water resistant (IP56) stainless steel case
- Select measurement intervals from 1 to 120 minutes
- Log 2,000 to 8,000 intervals
- Integral non-replaceable battery
- SpecWare Basic or Pro software and the B-Series Docking Station are required

| DESCRIPTION | INTERNAL SENSOR | INTERVALS | LCD DISPLAY | PRICE |
|---|----------------------------------|-----------|-------------|-----------------|
| MODEL B102 T/RH 3621WD Temp Range: -4 to 185°F (-20 to 85°C) Temp Accuracy: ±1.1°F from 5 to 149°F (±0.6°C from -15 to 65°C) Humidity: 0 to 100%, ±5% | TEMPERATURE RELATIVE HUMIDITY | 4000 | NO | \$211.00 |
| MODEL B101 8K 3620WD Range: -40 to 185°F (-40 to 85°C) Accuracy: ±1.1°F from 5 to 149°F (±0.6°C from -15 to 65°C) | TEMPERATURE | 8000 | NO | \$112.00 |
| MODEL B100 2K 3619WD Range: -40 to 185°F (-40 to 85°C) Accuracy: ±1.8°F from -22 to 158°F (±1.0°C from -30 to 70°C) <i>Use included plastic bag when measuring soil temperature</i> | TEMPERATURE | 2000 | NO | \$61.00 |



Ideal for soil temperature

Docking Station

| | | |
|---------------|--|-----------------|
| 3655K1 | WatchDog B-Series Docking Station - USB | \$153.00 |
|---------------|--|-----------------|

WatchDog® Accessories & Communication Options

Accessories



Tripod Mount

Rugged galvanized steel folding tripod and 3 ft (1 m) pole
3396TPS **Tripod Mount with Ground Stakes**

\$107.00

Bird Guard

Reduce debris and maintenance. Improve accuracy. Adjustable to fit 8" diameter rain collectors
3665BG **Bird Guard**

\$25.00

Radiation Shield

Protect your Micro Station or logger from rain and measurement-distorting solar radiation. Compatible with 1000 Series Micro Stations and A-Series Data Loggers

3663A **Radiation Shield**

\$87.00

Sliding Enclosure

Water resistant - mounts to pole or post. Compatible with 1000 Series Micro Stations

3658A **Sliding Enclosure**

\$40.00

Waterproof Enclosure

Clamshell enclosure. Compatible with 1000 Series Micro Stations (Models 1400 or 1200, plus soil sensors)

3659WD1 **Waterproof Enclosure**

\$92.00

Alarm Output Module

Triggers an external device based on a sensor reading. Compatible with WatchDog 2000 Series Stations (Full and Mini)

3672 **Alarm Output Module**

\$205.00

Communication Options



3679WD1

Mid Range Wireless Communications - up to 2 mi (3 km)

Experience the advantages of real-time weather information by connecting your 2000 Series Remote Weather Stations to a PC up to 2 mi (3 km) away (requires line of sight from Station to Base). Base station features a weatherproof case and 50 ft (15 m) cable (terminating in a 9-pin serial connection) to allow high mounting for the greatest range. Remotes include whip antenna, solar panel, and rechargeable batteries. 900 MHz

3393B **Mid Range Wireless Base Station**

\$464.00

3393W **Mid Range Wireless for Remote Station**

\$438.00

Optional Yagi antennas increase line of sight range to 7 mi (11 km); see website for details

WatchDog® 1000/2000 Series Data Shuttle

Transport weather data from your 2000 Series Stations or 1000 Series Micro Stations to your host PC. Holds data for multiple stations (up to 5 Full, 10 Mini, or 12 Micro Stations). Includes soft-sided case (also available separately as Item 7500, see page 39). Requires SpecWare 9 Basic or Pro or greater (page 24).

3679WD1 **WatchDog 1000/2000 Data Shuttle**

\$340.00

Cables & Adapters



3660-75SP

Short Range Modem Pair

Use short-range modems to maintain signal on wired connections up to 4,000 ft (1.2 km). Has 9-pin serial connection on PC end.

3365WD2 **Short Range Modem Pair**

\$349.00

Direct Connect Cables for Weather Stations

Connect your WatchDog Weather Station directly to your PC with a 75 ft (22.8 m) cable. Has 9-pin serial connection on PC end, may require USB adapter (Item 3661USB or 3661U9)

3660-75SP **75 ft (22.8 m) Direct Connect Cable**

\$99.00

Includes surge protectors for both ends of the cable connection

3660DP **75 ft (22.8 m) Powered Direct Connect Cable**

\$123.00

Includes AC adapter; no surge protectors

USB-to-3.5mm-Stereo-Plug Adapter

Connect WatchDog and FieldScout® devices directly to your computer's USB port

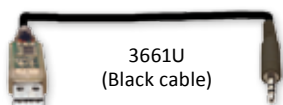
3661U **USB-to-3.5mm-Stereo-Plug Adapter**

\$61.00

USB-to-9-Pin-Serial Adapter

Connect 9-pin Serial cables (such as Item 3660-75SP) directly to your computer's USB port. **3661U9 USB-to-9-Pin-Serial Adapter**

\$59.00



3661U
(Black cable)



3661U9
(White cable)

Soil Sensors



6470-6



6460



6450WD



3667



3669



6451

WaterScout® SMEC 300 Soil Moisture/EC/Temperature Sensor

Measures soil moisture (Volumetric Water Content), EC, and temperature. Range: VWC: 0 to saturation (typically 50%), Accuracy: $\pm 3\%$; EC: 0 to 10 mS/cm, Accuracy: $\pm 2\%$. May require WaterScout Calibration Device. See page 39 for more information. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|-----------|---|----------|
| 6470-6 | WaterScout SMEC 300 Sensor with 6 ft (1.8 m) Cable | \$229.00 |
| 6470-20 | WaterScout SMEC 300 Sensor with 20 ft (6.1 m) Cable | \$239.00 |
| 6470CAL3V | WaterScout Calibration Device | \$72.00 |
| 2251 | Conductivity Standard, 1.41 mS/cm, 250 mL | \$22.00 |

WaterScout® SM 100 Soil Moisture Sensor

Measures soil moisture (Volumetric Water Content) with little or no disturbance to the root zone. Range: 0 to saturation (typically 50%), Accuracy: $\pm 3\%$. Optional WaterScout Calibration Device. See page 38 for more information. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|-----------|---|---------|
| 6460 | WaterScout SM 100 Sensor with 6 ft (1.8 m) Cable | \$89.00 |
| 6460-20 | WaterScout SM 100 Sensor with 20 ft (6.1 m) Cable | \$99.00 |
| 6470CAL3V | WaterScout Calibration Device | \$72.00 |

Watermark Soil Moisture Sensor

Measures soil moisture tension from 0 to 200 centibars. May require Watermark Adapter to connect original Watermarks to stations. See page 43 for more information. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|----------|---|---------|
| 6450WD | Watermark Sensor with 11 ft (3.3 m) Cable | \$72.00 |
| 6450WD20 | Watermark Sensor with 25 ft (7.6 m) Cable | \$82.00 |

External (Soil) Temperature Sensor

Measure soil, air, or water temperature with a resistance-based sensor. Range: -25 to 212°F (-32 to 100°C). Accuracy: $\pm 1^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$). Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|---------|---|---------|
| 3667 | External (Soil) Temperature Sensor with 6 ft (1.8 m) Cable | \$47.00 |
| 3667-20 | External (Soil) Temperature Sensor with 20 ft (6.1 m) Cable | \$57.00 |

Pressure Transducer

Adapts to Irrrometer tensiometers and utilizes the dial gauge for measurements. See page 41 for more information. Accuracy: $\pm 2\%$. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|------|---------------------|----------|
| 3669 | Pressure Transducer | \$277.00 |
|------|---------------------|----------|

Irrigation On/Off Sensor

Record and analyze relationships between irrigation periods and soil moisture. Does not control irrigation system, but monitors on/off periods. Range: On at 5psi. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|------|--------------------------|----------|
| 6451 | Irrigation On/Off Sensor | \$189.00 |
|------|--------------------------|----------|

Light Sensors



3668I / 3676I



3668I6

LightScout® Silicon Pyranometer

Measure solar radiation between 300 and 1100 nanometers. Range: 2000 Series & Pups: 0 to 1500 W/m^2 , Accuracy: $\pm 5\%$; Micro Stations: 0 to 1250 W/m^2 , Accuracy: $\pm 5\%$. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|-------|--------------------------------|----------|
| 3670I | LightScout Silicon Pyranometer | \$257.00 |
|-------|--------------------------------|----------|

LightScout® UV Light Sensor

Measure UV radiation between 250 and 400 nanometers.. Range: 0 to $200 \mu\text{mol m}^{-2} \text{ s}^{-1}$, Accuracy: $\pm 5\%$ Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|-------|----------------------------|----------|
| 3676I | LightScout UV Light Sensor | \$256.00 |
|-------|----------------------------|----------|

LightScout® Quantum Light Sensors

Measure PAR light between 400 and 700 nanometers. Sensor bars average PAR light readings to minimize the effects of small shadows. Sensor bars are 19 in (48 cm) long and include mounting brackets. Range: 2000 Series & Pups: 0 to $3000 \mu\text{mol m}^{-2} \text{ s}^{-1}$, Accuracy: $\pm 5\%$; Micro Stations: 0 to $2500 \mu\text{mol m}^{-2} \text{ s}^{-1}$, Accuracy: $\pm 5\%$. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

| | | |
|--------|---------------------------------------|----------|
| 3668I | LightScout Quantum Light Sensor | \$229.00 |
| 3668I3 | LightScout Quantum 3 Light Sensor Bar | \$315.00 |
| 3668I6 | LightScout Quantum 6 Light Sensor Bar | \$385.00 |

Environmental Sensors

Temperature (Micro) Sensor

Measure surface temperature of leaves, buds, and other tiny mediums.

Range: -25 to 212°F (-32 to 100°C). Accuracy: ± 1°F (±0.5 °C). Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups



3667S

3667S **Temperature (Micro) Sensor** **\$79.00**

Tipping Bucket Rain Collector

Measure rainfall in 1/100 inch increments. Self-emptying and freeze resistant. Range: 0.01", 0.25 mm, Accuracy: ±2% at < 2 in (5 cm) per hour. Compatible with WatchDog 2000 Series Stations (Full and Mini) and 1000 Series Micro Stations



3665R

3665R **Tipping Bucket Rain Collector** **\$189.00**

Leaf Wetness Sensor

Measure leaf wetness with a resistance-based sensor designed to replicate a leaf. Range: 0 (dry) to 15 (wet). Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups



3666

3666 **Leaf Wetness Sensor** **\$99.00**

Barometric Pressure Sensor

Measure atmospheric pressure. Range: Standard Sensor: 26 to 32 inHg, 880-1080 hPa, Accuracy: ±0.05 inHg, ±1.7 hPa; High Altitude Sensor: 18.75 to 33.1 inHg, 635-1121 hPa, Accuracy: ±0.057 inHg, ±1.9 hPa

Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups



3671

3671 **Barometric Pressure Sensor - Standard** **\$246.00**



2655

3671M **Barometric Pressure Sensor - High Altitude** **\$246.00**

CO₂ Sensor

Measure CO₂ levels in ppm using NDIR technology. Requires AC power. Not waterproof. Range: 0 to 4000 ppm, Accuracy: ±5% or 50 ppm. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

2655 **CO2 Sensor** **\$699.00**

Miscellaneous Cables



3664

Sensor Extension Cable

20 ft (6 m) extension for all sensors (except digital sensors), connect up to 3 cables per sensor

3664 **Sensor Extension Cable** **\$26.00**



3673

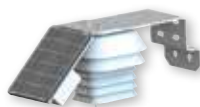
General Input Cables

Connect non-WatchDog sensors to your WatchDog Station. (Item 3673) Range: 0 to 3v, Accuracy: ±0.005V. (Item 3674) Range: 0 to 20.1 mA, Accuracy: ±1%. Compatible with WatchDog 2000 Series Stations (Full and Mini), 1000 Series Micro Stations, and Pups

3673 **0-3V Input Cable** **\$21.00**

3674 **4-20mA Input Cable** **\$31.00**

Digital Sensors (for Pups only)



3613ARS

Digital Temperature/RH Sensor with Aspirated Radiation Shield

Digital temperature and RH sensor with 6 ft (2 m) cable, includes solar charging system to power internal fan. Range: -40 to 212°F (-40 to 100°C), 0 to 100% RH, Accuracy: ±0.54°F from 50 to 131°F (0.3°C from 10 to 55°C), ±2.5% RH Compatible with WatchDog Pups only. Operating temperature 14 to 140°F (-10 to 60°C)

3613ARS **Temperature/RH Sensor with Aspirated Radiation Shield** **\$499.00**



3613THS

Digital Temperature/RH Sensor with Passive Radiation Shield

Digital temperature and RH sensor with 6 ft (2 m) cable. Range: -40 to 212°F (-40 to 100°C), 0 to 100% RH, Accuracy: ±0.54°F from 50 to 131°F (0.3°C from 10 to 55°C), ±2.5% RH Compatible with WatchDog Pups only

3613THS **Temperature/RH Sensor with Passive Radiation Shield** **\$199.00**

Digital Rain Collector

Measure rainfall in 1/100 inch increments. Self-emptying and freeze resistant. Range: 0.01", 0.25 mm, Accuracy: ±2% at < 2 in (5 cm) per hour. 6 ft cable. Compatible with WatchDog Pups only



3665RD

3665RD **Digital Rain Collector** **\$299.00**

3665DC **Digital Cable - 6 ft** **\$123.00**

Cable with tinned wire termination - for Pup connection to existing rain collectors only

Digital Anemometer

Measure wind speed and direction. 40 ft cable. Range: 0 - 359°, Accuracy: ±3°, Range: 0, 1 to 200 mph (0, 1 to 322 km/h, Accuracy: ±2 mph (±3 km/h), ±5%. Compatible with WatchDog Pups only



3305ADD

3305ADD **Digital Anemometer** **\$390.00**

NEW IN '18
BIRD GUARD
INCLUDED!

NEW IN '18
BIRD GUARD
INCLUDED!

SpecConnect



- Monitor your crops from wherever you are with the SpecConnect cloud solution
- See real-time conditions on your computer, smart phone, or tablet
- View current conditions with a mapped view of your stations
- Set custom thresholds to send alerts via text message and/or email
- Configure your equipment network from your computer
- Choose among a wide selection of standard reports for your weather data
- Create your own customized reports
- Proactively manage disease and insects using forecast models (optional subscription)
- Easily export data and reports to share or import to other applications
- For SpecConnect details, see pages 6-7



SpecWare 9 Basic



- Easily download, analyze, and produce basic reports from the weather data collected on your WatchDog® Micro Stations and data loggers
- Eliminate valuable time exporting the data and performing calculations in tedious spreadsheet programs
- Spec 9 Basic automatically assigns each WatchDog Data Logger Station to its own "logger location" directory, which is appended every time you download new data
- Includes USB cable and manual
- Download the software from specmeters.com (activation required)

Spec 9 Basic does not support disease models, or the 2000 Series Full or Mini Weather Stations, or Retriever & Pups

| | | |
|---------|----------------------------------|---------|
| 3654B9 | Spec 9 Basic Software | \$99.00 |
| 3654B9X | Spec 9 Basic Extra User License | \$69.00 |
| 3654B9U | Spec 9 Basic Upgrade* | \$40.00 |
| 3661U | USB-to-3.5mm-Stereo-Plug Adapter | \$61.00 |

* Does not include USB cable

SpecWare 9 Pro



Powerful analysis tools that are easy to use.

- Graph on-the-fly with an interactive graphing window
- Build, customize, and save your most important report formats or choose from 15 standard reports
- Add optional insect and disease models to forecast pest pressures and reduce pesticide costs; produce reports with graphs for each pest
- Set a frost alarm that will call your phone at frost temperatures or other sensor conditions
- Automate logger downloads with wireless or directly connected stations
- Generate scheduled log files for data-to-web applications or create an XML file that can be posted on the web
- Find and use data easily with an open file management system - all logger data is stored in one file per month, simplifying data sharing and exporting
- Import data files from other applications
- International features include handling date, time, and numbers with regional formats and Metric or US measurements
- Includes USB cable and manual
- Download the software from specmeters.com (activation required)

| | | |
|---------|----------------------------------|----------|
| 3654P9 | Spec 9 Pro Software | \$199.00 |
| 3654P9X | Spec 9 Pro Extra User License | \$99.00 |
| 3654P9U | Spec 9 Pro Upgrade* | \$77.00 |
| 3661U | USB-to-3.5mm-Stereo-Plug Adapter | \$61.00 |

* Does not include USB cable

BASIC VS. PRO

COMPARING SPEC 9 BASIC TO SPEC 9 PRO

| | Basic | Pro |
|----------------------------|-------|-----|
| View Data | | |
| On-demand graphing | ✓ | ✓ |
| Manage Data | | |
| Calibration adjustment | ✓ | ✓ |
| Automatic data append | ✓ | ✓ |
| Single file per logger | ✓ | ✓ |
| International data format | ✓ | ✓ |
| Reports | | |
| Standard reports | ✓ | ✓ |
| Custom reports | | ✓ |
| Disease & Insect models | | OPT |
| "Pest Alert" report models | | OPT |
| Communications | | |
| Direct connect or modem | ✓ | ✓ |
| Wireless capability | | ✓ |
| Cellular or wi-fi modem | | ✓ |
| Auto download | | ✓ |
| Supported Products | | |
| 2000 Series Full Stations | | ✓ |
| 2000 Series Mini Stations | | ✓ |
| Retriever & Pups | | ✓ |
| 1000 Series Micro Stations | ✓ | ✓ |
| A-Series & B-Series | ✓ | ✓ |

SpecWare™ 9 software is compatible with Windows XP and later.

GO TO SPECMETERS.COM/UPDATES TO ENSURE YOUR SOFTWARE VERSION IS COMPATIBLE WITH OUR NEWEST WATCHDOG MODELS.

Disease & Insect Models

Become more proactive in your management of disease and insects by adding forecast modules to your Spec 9 Pro software.

Each package uses field-tested and validated algorithms along with your data to forecast the potential for the appearance of your crop's most notorious enemies.

Quickly produce the documentation needed to support your IPM decisions.

Forecast Model Packages for SpecWare Pro

3656AP Apple/Pear Alert Package \$295.00

Required Sensors: Leaf wetness and temperature
Models Included: Apple Scab* (Modified Mills, Cornell, Washington State)
 Fire Blight (Maryblyt, Cougarblight)
 Sooty Blotch/Flyspeck*
 Insect Models

3656CH Cherry Alert Package \$199.00

Required Sensors: Leaf wetness and temperature
Models Included: Leaf Spot
 Insect Models

3656GA Grape Alert Package \$295.00

Required Sensors: Leaf wetness, relative humidity, and temperature
Models Included: Powdery Mildew* (Thomas-Gubler)
 Black Rot* (Spotts)
 Downy Mildew
 Botrytis
 Phomopsis Cane Leaf Spot
 Insect Models

3656PO Potato Alert Package \$295.00

Required Sensors: Temperature, relative humidity, and rain
Models Included: Early Blight
 Late Blight (BliteCast)
 Insect Models

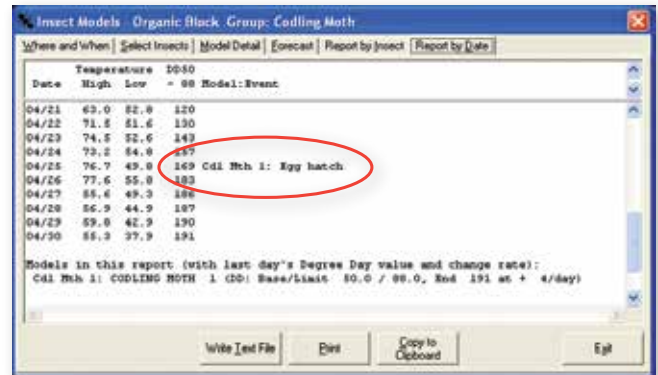
3656TO Tomato Alert Package \$199.00

Required Sensors: Leaf wetness and temperature
Models Included: Tomcast*
 Insect Models

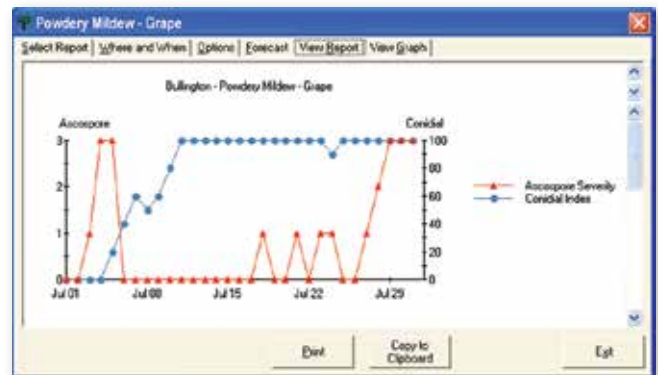
3656TU Turf Alert Package \$249.00

Required Sensors: Air and soil temperature, relative humidity, and rain
Models Included: Brown Patch (Schumann)
 Pythium (Nutter, Schein)
 Dollar Spot (Hall, Mills/Rockwell)
 Insect Models

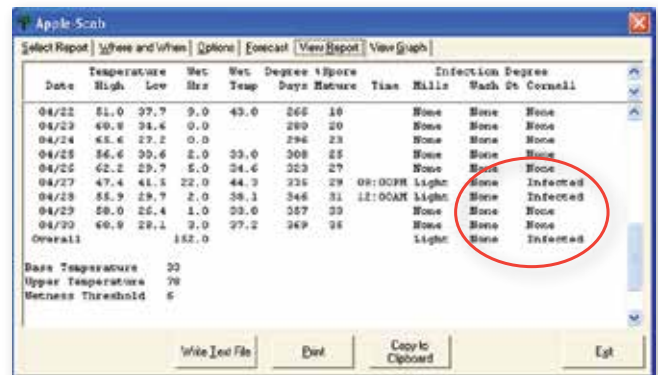
*Can be displayed on WatchDog® 2000 Series Mini Stations



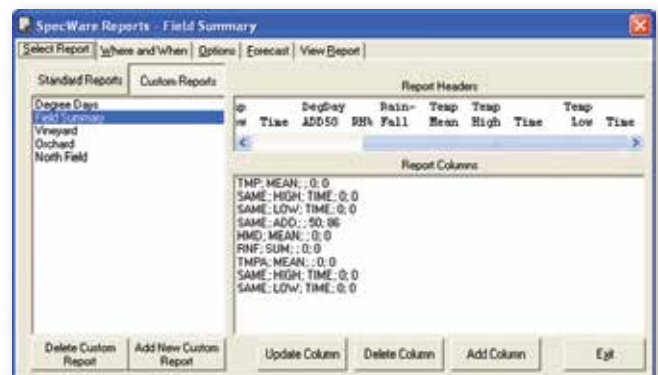
Codling Moth Insect Model



Powdery Mildew Report for Grapes



Apple Scab Report



Custom Reports



GO-TO STRATEGY

KEEP SPRAY WHERE IT BELONGS
FOR SAFE, PRECISE CHEMICAL
APPLICATION

Reduce pesticide drift complaints and monitor your current weather conditions. Mount it right on your equipment or vehicle!

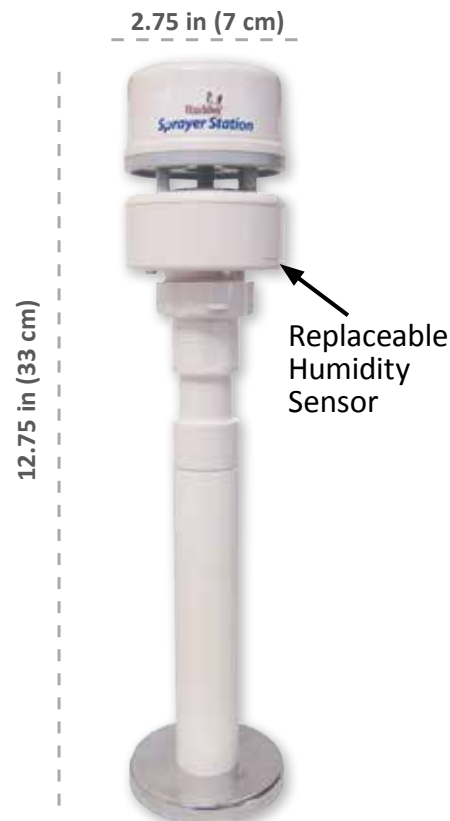
Pesticide drift is increasingly important to commercial applicators. Now you can monitor wind speed and direction and log weather conditions with the ultrasonic WatchDog® Sprayer Station. Accurate data helps pesticide applicators make important decisions regarding weather conditions that affect safety, drift, and proper pesticide application. User-controlled data logging of weather conditions provides evidence of suitable conditions for pesticide application.

Weather uncertainty will never be an issue for you with this tool.

- This all-in-one weather station measures air temperature, humidity, dew point, wind chill, barometric pressure and apparent wind speed and direction
- Station uses an internal compass and GPS to adjust the wind sensor values by subtracting the vehicle speed and direction to compute the true values
- Field replaceable humidity sensor
- Handles adverse conditions with a UV-stabilized, compact housing that is fully waterproof and resistant to chemicals
- Reliability is enhanced by eliminating moving parts: the traditional wind vane and cups have been replaced with ultrasonic transducers
- Continuously log your weather parameters at a user-selectable rate or hit the snapshot button to capture current conditions at a specific moment



WatchDog® Sprayer Station Console



WatchDog® Sprayer Station



Integrates with Raven® Envio Pro, Viper Pro and Viper 4

Sprayer Station

| | | |
|-----------------|---|-------------------|
| 3349SSCH | WatchDog® Sprayer Station with Console Save \$50.00 by purchasing the Station and Console together | \$2,490.00 |
| 3349SSH | WatchDog® Sprayer Station Includes sensor unit with magnetic base, 21 ft (7 m) cable with vehicle power and 9-pin serial connectors, and display/logging program for Windows Mobile PDA or Windows Laptop | \$1,995.00 |
| 3349CN | WatchDog® Sprayer Station Console Includes console with built-in data logger, USB-to-3.5mm stereo cable, and software CD | \$582.00 |
| 3349H | Replacement Humidity Sensor | \$201.00 |
| 3661U9 | USB-to-9-Pin-Serial Adapter | \$59.00 |

SPECIFICATIONS FOR SPRAYER STATION

| |
|--|
| Wind Resolution - Speed: 0.1 mph (0.2 km/h); Direction 1° |
| Wind Speed Range: 0 to 90 mph (0 to 145 km/h) |
| Wind Speed Accuracy: <12 mph (19 km/h): ±1.1 mph (1.7 km/h) ±10%; >12 mph (19 km/h): ±2.3 mph (3.7 km/h) or ±5% |
| Wind Direction Accuracy: 4 to 11 mph (6 to 18 km/h): ±5°; >12 mph (19 km/h): ±2° |
| Wind Accuracy Temperature Range: 32° to 131°F (0° to 55°C) |
| Operating Temperature: -13° to 131°F (-25° to 55°C) |
| Temperature Accuracy: ±2°F (±1.1°C) with wind above 4.6 mph (7.4 km/h) |
| Relative Humidity Range: 10 to 95% |
| Relative Humidity Accuracy: ±5% with wind above 4.6 mph (7.4 km/h) |
| Barometric Pressure Range: 24 to 33 in-Hg (800 to 1100 hPa) |
| Barometric Pressure Accuracy: ±0.029 in-Hg (±1 hPa) |
| Power Supply Voltage: 9 to 40 VDC; Current: <90 mA@12VDC |



WeatherTrackers

Monitor weather conditions without the need for a computer.

- Record and display conditions in your orchard, vineyard or greenhouse that can alert you to insect and plant disease pressure
- Values are calculated based on sensor readings taken every 15 minutes

Degree days:

- Program up to three degree-day memories and one chill-hour memory
- Solar radiation shield and 15-minute degree-day data point intervals result in exceptionally accurate degree-day calculations

Built-in Data Logger:

- Store your events in fail-safe, non-volatile memory
- Replace the batteries without losing valuable weather data
- More than enough memory for a complete growing season

LCD display:

- Displays the current conditions in addition to the daily high/low temperature readings, degree days, leaf wetness hours*, disease pressure*, DLI/DIF (Daily Light Integral and day/night temperature difference)*
- Recall the last 30 days of detail data, as well as 12 months of summaries
- Current readings are updated every 15 seconds

* on applicable models

Battery powered:

- 8-month battery power source (9V battery included) means no solar panels to purchase or maintain

**NO PC
NEEDED!**



3501PAR



3512

SPECIFICATIONS FOR WEATHERTRACKERS

| Item # | Model # | Air Temp | Quantum Light | Leaf Wetness | Disease Forecast | Price |
|---|---------|----------|---------------|--------------|-----------------------------|-----------------|
| Greenhouse Growth Tracker 3501PAR | 305 | Yes | Yes | No | No | \$649.00 |
| Degree Day Tracker 3500 | 300 | Yes | No | No | No | \$469.00 |
| Apple/Pear Pest Alert 3504 | 320 | Yes | No | Yes | Apple Scab Sooty Blotch | \$499.00 |
| Grape Pest Alert 3512 | 330 | Yes | No | Yes | Powdery Mildew Black Rot | \$499.00 |

80°F F AVG 79°F F
3520h 6.6h/DAY

Greenhouse Growth Tracker Monitor both current and cumulative light levels

APPLE SCAB
INFECT = NONE

Apple/Pear Pest Alert

DD#1 50-860 18
SINCE 04/12 0377

All Models Show current degree days

POWDERY MILDEW
ASC=NONE CON=70

Grape Pest Alert
Built-in disease models allow you to make adjustments as soon as it is needed.

Vantage Pro 2

Economical weather station

- Innovative, integrated sensor suite combines a rain collector, temperature/humidity sensor, and an anemometer into one package, allowing for easy setup and improved performance and reliability
- Temperature and humidity sensors are housed inside a radiation shield for improved accuracy
- Also measures barometric pressure and dew point, and user-set audible alarms for frost
- Forecasting, on-screen graphing, and much more
- Quick view icons show the forecast at a glance while a moving ticker-tape display gives details
- Transmits wirelessly up to 1,000 ft (300 m)
- Cabled station includes 100 ft (30 m) cable from console to sensor suite

| | | |
|----------|------------------------|----------|
| 3340CVP2 | Vantage Pro 2 Cabled | \$595.00 |
| 3340WVP2 | Vantage Pro 2 Wireless | \$650.00 |



| VANTAGE PRO 2 AND VUE SPECIFICATIONS | |
|---|-------------------------|
| | Accuracy |
| Wind: Direction: 1° | ±3° |
| Speed: 1 to 180 mph (1 to 290 km/h) | ±5% |
| Wind Chill: -134° to 140°F, -92° to 60°C | ±4°F, ±2°C |
| Humidity: Inside: 0% to 100% | ±3% |
| Outside: 0% to 100% | ±2% |
| Barometer: 16 in to 32.50 in Hg (410 to 820 mm Hg) | ±0.03 in Hg, ±1.3 mm Hg |
| Temperature: Inside: 32° to 140°F, 0° to 60°C | ±1°F, ±0.5°C |
| Outside: -40°F to 150°F, -40° to 65.5°C | ±1°F, ±0.5°C |
| Rainfall: Daily: 0 to 199.99 in (0 to 6553 mm) | ±5, <5in/w(127mwh) |
| Accumulation: 0 to 199.99 in (0 to 6553 mm) | ±4% |
| Time & Date: 12 or 24 Hour Clock, Time Alarm and Date | |

Vantage Vue

Basic weather station

- Compact, self-contained, and easy to install
- Combines a rain collector, temperature/humidity sensor, and an anemometer into one package
- Also measures barometric pressure and dew point, and user-set audible alarms for frost
- Transmits wirelessly up to 1,000 ft (300 m)
- Includes console

| | | |
|--------|-------------|----------|
| 3340VV | Vantage Vue | \$395.00 |
|--------|-------------|----------|

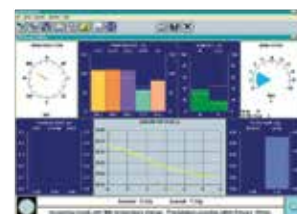


WeatherLink – Windows version

Upgrade your Vantage Pro 2 or Vantage Vue Station to track and record weather history on your PC.

- The included data logger fits neatly into the weather station console, storing weather data at user-defined intervals, even when it's not connected to your PC
- Download the data and create graphs, generate summaries, and more
- Plot daily, weekly, monthly, and annual data, as well as track degree-days (Item N0006 required for degree-days)
- Depending on the logging interval, store up to six months of data
- One WeatherLink required for each console connected to a PC
- Includes USB or serial port adapter, 8 ft (2 m) cable, software, and manual

| | | |
|----------|---------------------------------------|----------|
| 3362VP2 | WeatherLink for Vantage - USB | \$165.00 |
| 3362VP2S | WeatherLink for Vantage - Serial Port | \$165.00 |
| N0006 | Growing Degree Day Software Upgrade | \$95.00 |





Frost Cellular Alert

Ideal for temperature-sensitive fruits and vegetables - be alerted when frost conditions are near.

- LCD display (current settings, signal strength, etc.)
- Key pad for user set up: user-defined thresholds, system test operation
- Relay terminal connections to control an external device
- NEMA 4 (IP66) enclosure
- GSM 3G/HSPA+ cellular module included (user provides SIM card and service plan —Pay-As-You-Go recommended)
- CDMA model for Verizon Wireless (service plan required)
- Set a second limit to periodically send texts with current conditions
- Makes voice call or sends text message (or both) to up to 4 phone numbers
- Makes voice call again, if calls go unanswered
- Requires 6-volt lantern battery (not included)
- Includes 6 ft (1.8 m) external temperature sensor

Temperature range: -22 to 130°F (-30 to 55°C)

Accuracy: $\pm 1.1^{\circ}\text{F}$ ($\pm 0.6^{\circ}\text{C}$) at -4 to 122°F (-20 to 50°C), else $\pm 2.2^{\circ}\text{F}$ ($\pm 1.2^{\circ}\text{C}$)

3453 WatchDog® Frost Cellular Alert Pro - GSM 3G HSPA+ **\$1,129.00**
3452 WatchDog® Frost Cellular Alert Pro - CDMA **\$1,179.00**



Visual Frost Alert

Spot frost conditions easily in your vineyard or orchard.

- When temperatures approach freezing, the high-powered LED light (visible from about two miles) changes flash frequency and pattern to indicate temperature conditions at a glance
- Sensor cable is 6 ft (1.8 m) long for ease of placement
- Requires 3 AAA lithium batteries (not included)

3435 WatchDog® Visual Frost Alert **\$99.00**
3435PK3 **BUY TWO GET ONE FREE!** **3/\$198.00**



Color Frost Alert

Protect your high-value crops.

- Easy visual signal for helicopter pilots or distance viewing
- When temperatures approach freezing, the high-powered LED light (visible from about two miles) changes color and flash frequency to indicate temperature conditions at-a-glance
- Shuts off above 37°F (2.8°C) to conserve power
- Requires 6V lantern battery (not included)

3430 WatchDog® Color Frost Alert **\$249.00**

| Temperature | Interval | Flashes per Interval |
|------------------------|------------|----------------------|
| Above 37°F (3°C) | 30 Seconds | 1 |
| 34 to 37°F (1 to 3°C) | 30 Seconds | 2 |
| 32 to 34°F (0 to 1°C) | 15 Seconds | 3 |
| 30 to 32°F (-1 to 0°C) | 5 Seconds | 4 |
| Below 30°F (-1°C) | 1 Second | 1 |

Color Frost Alert Warning Colors

Lights will warn you of falling temperatures and risk of frost.



Green – Above 34°F (1°C)
 White – 32° to 34°F (0-1°C)
 Red – Below 32°F (0°C)
 Flashing Red – Below 30°F (-1°C)



IPM Scope

Portable digital microscope at an affordable price.

The IPM Scope combines a digital camera, precision optics, and LED lighting into a powerful handheld microscope that connects to your computer via USB

- 40x and 140x magnification
- View magnified image right on your computer screen
- Included software allows you to customize your images with labels, markers, time stamps, and measurement scales
- Archive still images or send files via e-mail
- Requires computer connection to operate, includes software
- Video software upgrade provides the ability to capture live videos and time lapse sequences of insect movement

| | | |
|---------|-----------------------------|----------|
| 2860 | IPM Scope | \$359.00 |
| 2860V | Video Software Upgrade | \$50.00 |
| 2860UV | IPM Scope-Ultra Violet | \$509.00 |
| 2860MP | IPM Scope-Mega Pixel | \$869.00 |
| 2860HS | Plastic Horseshoe-3D images | \$26.00 |
| 2860MAC | Software for Mac Computers | \$36.00 |

Go to www.specmeters.com for more models and accessories



IPM Scope shown with optional Plastic Horseshoe to view 3D images

| SPECIFICATIONS FOR IPM SCOPE | | | |
|----------------------------------|--|---------------------------------|--|
| Image Sensor: 1/3 in CMOS | | Pixels: 640 x 480 | |
| Power: USB Port | | Light Source: Super-bright LEDs | |
| Field of View: @40x: 7.5 x 10 mm | | Resolution: 4 microns | |
| | | | |
| @140x: 1.8 x 2.5 mm | | | |



Image taken by IPM Scope - Mega Pixel



Image taken by IPM Scope

Macroscopes

Identify pests and diseases up close.

- Macroscope 25 provides 25X magnification over a wide 5 mm (3/16 in) field of view
- Macroscope 45 provides 45X magnification over a wide 3 mm (2/16 in) field of view
- Positionally correct image includes an interchangeable scale
- Incorporates a measuring scale providing measurements in inches or millimeters
- Can be used for distance viewing when close-up lens is removed

| | | |
|------|---------------------------------------|----------|
| 2851 | Macroscope 25 with hard carrying case | \$232.00 |
| 2852 | Macroscope 45 with hard carrying case | \$278.00 |



photo courtesy of Derek Settle

Sunlight >How much or how little?



Put as many as you like anywhere you like to find out exactly what light is available in that precise location. A simple way to measure how much sunlight even a shaded area really gets. Stick it in a pot, in your turf or anywhere!

Growers can position the meters throughout the greenhouse, as well as outside, to compare differences in light levels and the effect on plant growth and quality.



Works Everywhere!

LIGHTSCOUT® DLI 100 Light Meter

Greenhouse and Turf Models
Measure the light “falling” on your plants.

- Measures PAR light (Photosynthetically Active Radiation)
- Meter runs for 24 hours to calculate the Daily Light Integral (DLI)
- Real-time intensity levels are shown in $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ every 4 seconds
- Greenhouse and Turf models available - each model provides greater resolution where it's needed most
- Helps you make decisions to increase plant growth and quality
- Simultaneously compare light between multiple locations
- Simple, one button operation
- Affordable, first step in measuring light
- Battery included

3405G3 LightScout® DLI 100 Meter - Greenhouse (set of 3) **BUY TWO GET ONE FREE \$168.00**

3405G LightScout DLI 100 Meter - Greenhouse (1 unit) **\$84.00**

3405T3 LightScout® DLI 100 Meter - Turf (set of 3) **BUY TWO GET ONE FREE \$168.00**

3405T LightScout DLI 100 Meter - Turf (1 unit) **\$84.00**



“Measuring DLI inside the greenhouse can be very revealing, since growers usually rely on their eyes to determine the light levels and the human eye is a terrible light sensor because it is so effective at adjusting to different light environments.”

James E. Faust
Associate Professor of Horticulture
Clemson University

GENERALIZED PLANT RESPONSES TO DIFFERENT LIGHT LEVELS

| Relative Light Level | DLI* - Daily Light Integral | Light Intensity** at Noon | Generalized Plant Growth Response |
|----------------------|-----------------------------|---------------------------|-----------------------------------|
| Very Low | 2 to 5 | 100 to 200 | Poor quality |
| Low | 5 to 10 | 200 to 400 | Minimum acceptable |
| Medium | 10 to 20 | 400 to 800 | Good quality |
| High | 20 to 30 | 800 to 1,200 | Excellent quality |
| Very High | 30 to 60 | 1,200 to 2,000 | Excellent quality |

* Moles
** Micromoles ($\mu\text{mol}/\text{m}^2\cdot\text{s}$)

Note: It is not possible to make a direct conversion between an instantaneous light measurement and the Daily Light Integral. Also, temperature is a key factor in plant quality and growth. Source: Hamrick, Debbie, ed. *Ball Red Book*. Batavia, IL: Ball Publishing, 2003.



3412

LIGHTSCOUT® Red/Far-Red Meter

Red/Far-Red light ratio helps plants determine their proximity to each other, which affects how tall or full they grow.

- Cost-effective Red/Far-Red measurement
- Displays the Red/Far-Red ratio on the LCD screen
- Press a button to display 660 nm and 730 nm readings
- Includes soft-sided case (also available separately as Item 7500)

3412 **LightScout® Red/Far-Red Meter** **\$945.00**



3414F

LIGHTSCOUT® UV Meter

Handheld meter monitors critical UV radiation (250-400 nm).

- Determine UV filtering capacity of greenhouse shades and glass barriers
- Range is 0 to 200.0 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ (full sunlight)

3414F **LightScout® UV Meter** **\$329.00**
7500 **Soft-Sided Carrying Case** **\$36.00**



3415FXSE

LIGHTSCOUT® Quantum/PAR Meters

Measure the light used for plant growth - PAR is a more valuable measurement than foot-candles, as it measures only the light used by plants for photosynthesis.

- Measures photosynthetically active radiation (PAR) from 400 to 700 nm
- Range of 0 to 2,000 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$
- Available in a variety of configurations for your convenience

3415F **LightScout® Quantum Meter** **\$205.00**
3415FSE **LightScout® Dual Solar/Electric Quantum Meter** **\$261.00**
3415FXSE **LightScout® Dual Solar/Electric Quantum Meter - External Sensor** **\$339.00**
3415FQF **LightScout® Quantum and Foot-Candle Meter** **\$308.00**
7500 **Soft-Sided Carrying Case** **\$36.00**

LIGHTSCOUT® Foot-Candle Meter

Displays immediate light level in units of foot-candles.

- An affordable light measurement solution
- Precision photodiode with cosine correction

3413F **LightScout® Foot-Candle Meter** **\$259.00**
7500 **Soft-Sided Carrying Case** **\$36.00**

LIGHTSCOUT[®] External Light Sensor Reader

Reads any of Spectrum's external light sensors.

- Plug in a sensor, choose it on the LCD, and start measuring UV, Quantum Light, or Solar Radiation
- Sensors can also be used with WatchDog[®] Weather, Mini, and Micro Stations
- LightScout[®] External Light Sensor Reader includes soft-sided case (also available separately as Item 7500)

| | | |
|--------|--|----------|
| 3415FX | LightScout [®] External Light Sensor Reader | \$349.00 |
| 3668I | LightScout [®] Quantum Light Sensor (PAR Light) | \$229.00 |
| 3668I3 | LightScout [®] Quantum Light 3 Sensor Bar | \$315.00 |
| 3668I6 | LightScout [®] Quantum Light 6 Sensor Bar | \$385.00 |
| 3670I | LightScout [®] Silicon Pyranometer Sensor (Solar Radiation) | \$257.00 |
| 3676I | LightScout [®] UV Sensor | \$256.00 |



3415FX



3670I



3668I6

WatchDog[®] Model 2475 Plant Growth Station

Ideal for Greenhouses - monitor microclimates with four sensor channels.

- Computes and displays Daily Light Integral (DLI), current light levels, dew point, degree day models, and chill hours
- Computes and displays DIF – Average day/night temperature difference
- Computes and displays VPD – Vapor Pressure Deficit
- Measure temperature, humidity and light conditions, plus 1 additional sensor port
- Check current conditions or 12 months of historical data on the LCD display
- Requires SpecWare[™] software



| | | |
|--------|---|----------|
| 3686WD | WatchDog [®] Model 2475 Plant Growth Station | \$922.00 |
|--------|---|----------|

Plant Growth Report

| Templine: Plant Growth (DIF/DLI) w/VPD | | | | | | | Equipment | North - Aspatial |
|--|------|---------|-------|----------|---------------|-----------------|-----------|------------------|
| Timestamp | VPD | PAR Hrs | DLI | Temp DIF | Day Mean Temp | Night Mean Temp | High | Low |
| 8/1/2017 | 1.11 | 12.25 | 21.88 | 11.68 | 80.56 | 68.86 | 91.00 | 64.40 |
| 8/2/2017 | .81 | 12.75 | 34.32 | 10.76 | 78.62 | 67.86 | 89.70 | 60.40 |
| 8/3/2017 | .78 | 13.00 | 38.82 | 9.39 | 77.96 | 68.66 | 90.90 | 61.30 |
| 8/4/2017 | .65 | 12.75 | 17.02 | 7.10 | 77.48 | 70.38 | 84.20 | 66.60 |
| 8/5/2017 | .55 | 12.00 | 18.80 | 5.54 | 76.94 | 71.40 | 86.00 | 69.60 |
| 8/6/2017 | .77 | 12.25 | 29.72 | 7.85 | 77.32 | 69.97 | 86.90 | 68.20 |
| 8/7/2017 | .69 | 12.50 | 35.55 | 8.51 | 71.94 | 69.43 | 80.70 | 62.90 |
| 8/8/2017 | .56 | 11.50 | 20.55 | 5.58 | 72.30 | 68.71 | 83.00 | 64.10 |
| 8/9/2017 | .74 | 12.00 | 32.88 | 8.32 | 77.45 | 68.13 | 87.60 | 65.60 |
| 8/10/2017 | .71 | 13.00 | 32.82 | 8.51 | 78.05 | 68.54 | 89.40 | 65.60 |

SpecWare plant growth report

WatchDog[®] WeatherTracker Model 305 Greenhouse Growth Tracker

No computer necessary! Stand-alone device - LCD Display - no PC interface!

- Temperature sensor tracks degree-days without a computer
- Quantum light sensor measures your plants' light exposure over time (in moles/day) - displays current and cumulative DLI (Daily Light Integral)
- Computes and displays DIF – average day/night temperature difference
- Comprehensive tool to assess physiological maturity of your plants
- Stand-alone device – all information is shown on the LCD display
- One-button review of 30 days of values and 12 months of summaries
- 9V battery with 8-month life; memory protection in case of power loss

| | | |
|---------|---|----------|
| 3501PAR | WeatherTracker [®] Model 305 Greenhouse Growth | \$649.00 |
|---------|---|----------|



Displays Daily Light Integral (DLI) and Day/Night Temperature Difference on the LCD

FieldScout® TDR 150 & TDR 350 Soil Moisture Meter



Offering the proven time-domain measurement technology, the TDR 350 accurately measures soil moisture across the full range of soil conditions. Improved ergonomic design provides quick and easy measurements. Validate your cultural practices with hands free data collection integrated with Bluetooth and GPS.

- Measures soil moisture (Volumetric Water Content), Electrical Conductivity, and Turf Surface Temperature
- Integrated Bluetooth and GPS
- Industry exclusive backlit display
- Improved shaft-mounted probe with telescoping tubular frame
- Transfer data with USB flash drive - no PC connection needed
- Powered by 4 AA batteries (lithium included)
- Compatible with SpecConnect and FieldScout Mobile App
- Optional IR sensor to measure turf surface temperature



| | | |
|---|---|-------------------|
| 6435 | TDR 350 | \$1,495.00 |
| Includes carrying case. Rods required and sold separately (Pg 36) | | |
| Note: Rods are required for TDRs to function | | |
| 6435TS | Infrared Temperature Sensor for TDR350 (Pg 36) | \$299.00 |
| 6435SP | Rod Spacer for 0.5" and 1" depths (Pg 36) | \$49.00 |

SPECIFICATIONS FOR TDR SOIL MOISTURE METERS

VWC Range: 0% to saturation, Resolution: 0.1%, Accuracy: $\pm 3.0\%$ VWC

EC Range: 0 to 5 mS/cm, Resolution: 0.01 mS/cm, Accuracy: ± 0.1 mS/cm

Temperature Range: -22° to 140°F (-30° to 60°C), Resolution: 0.1°, Accuracy: $\pm 1.8^\circ\text{F}$ (1°C)

IR Temperature Range: 32° to 140°F (0° to 60°C), Resolution: 0.2°F (0.1°C), Accuracy: $\pm 0.2^\circ\text{F}$ (0.1°C)

SpecConnect Web Portal
showing TDR 350 data



SMART IRRIGATION:

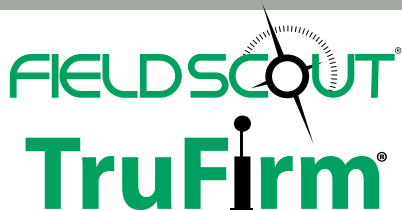
Maximize Irrigation Audits with TDR



FIELDSCOUT MOBILE APP

Capture and analyze measurements on your turf using Bluetooth wireless technology on our FieldScout TDRs 350, 300, 150 and TruFirm.

- Visualize field readings in real time and e-mail relevant information
- Upload to SpecConnect Web Portal and view your entire course's data at once and export for further analysis (Pro Features)
- Color-coded to represent a scale of turf firmness, moisture, surface temperature and EC
- Free download from App store or Google Play
- Works on iOS and Android devices


LOWER PRICE

Based on technology developed by the United States Golf Association (USGA), the FieldScout® TruFirm® offers a quick, easy, and affordable method to measure the firmness of turf, bunker sands, and other playing surfaces. Data acquired from the device allows researchers and turf management professionals to measure the relationship between the compaction of the soil and the moisture level, in order to quantify playing conditions.

- View measurement on LCD Display
- Evaluate trends and monitor sections of turf relative to one another
- With FieldScout® Mobile App, instantly see your data on your smartphone or tablet
- The lower the value, the firmer the turf or surface
- Measures depth of travel in inches (range 0.1 in-1.5 in)
- Logged data can be sent via Bluetooth to a iOS or Android device for plotting specific greens or other surfaces
- Includes soft-sided carrying case

6490S **FieldScout® TruFirm® Turf Firmness Meter** **PRICE REDUCTION** **\$695.00**
with Bluetooth LE



SPECIFICATIONS FOR TRUFIRM

Range: 0.1 in - 1.5 in (2.54 mm - 38.1 mm)

Resolution: 0.01 in at 1.00 in - 1.50 in (0.25 mm at 25.4 mm - 38.1 mm)

0.003 in at 0.00 in - 0.999 in (0.076 mm at 0 mm - 25.4 mm)

Diameter of Hammer: 1.68 in (4.45 cm)

Height: 27 in (69 cm)

Weight: 4.3 lb (1.95 kg)

Measurement Units: Depth of travel (inches)

Power: 2 AA batteries (included)

FieldScout Mobile App

FREE

| | | | |
|--------|--|-------------|----------|
| 3035A | SpecConnect FieldScout Pro Subscription (1-yr) | 1-3 Devices | \$199.00 |
| 3035B | SpecConnect FieldScout Pro Subscription (1-yr) | 4-7 Devices | \$399.00 |
| 3035C | SpecConnect FieldScout Pro Subscription (1-yr) | 7+ Devices | \$599.99 |
| 6453BT | FieldScout Bluetooth Device for TDR 300 | | \$99.00 |



FIELDSCOUT MOBILE APP BASIC vs. PRO

| | Basic | Pro |
|--|-------|-----|
| Basic Grid of Zones | ✓ | ✓ |
| Change Number of Zones | ✓ | ✓ |
| Customizable Google Map Image | | ✓ |
| Saves the Average Measurement by Zone | ✓ | ✓ |
| Email the Map/Results View | ✓ | ✓ |
| Freeform Notes | | ✓ |
| Freeform Mode | | ✓ |
| Guided Mode (Auto-Advancing through Zones) | | ✓ |
| SpecConnect Data Sharing | | ✓ |
| Auto-Upload to SpecConnect | | ✓ |
| Add User Note or Comment to Individual Reading or Zone | | ✓ |
| Irrigation/Soil Moisture Audit | | ✓ |

FIELDSCOUT® TDR 150 Soil Moisture Meters

Portable soil moisture meter allows you to obtain readings on the go at the press of a button. Variable rod length options provide soil moisture measurements at your ideal root zone. With new enhancements, the TDR 150 provides significant improvements in performance and measurement accuracy for optimal turf and soil environments.

- Increased accuracy of soil moisture (Volumetric Water Content)
- Measures EC (Electrical Conductivity)
- Measures Turf Surface Temperature
- Option to add on Bluetooth and GPS
- Data logger records approximately 50,000 measurements
- Industry exclusive backlit display
- Data collected with USB flash drive
- Powered by 4 AA lithium batteries, (lithium included)
- Ideal for measuring containers on benches
- Optional IR Temp sensor to measure canopy or turf temperature

Note: Rods are required for TDRs to function

| | | |
|----------------|--|-----------------|
| 6445 | TDR 150 | \$895.00 |
| | Includes carrying case. Rods sold separately (below) | |
| 6445TS | Infrared Temperature Sensor-TDR 150 | \$299.00 |
| 6435SP | TDR Rod Spacer (1" & 1/2" depth) | \$49.00 |
| 6445GBU | Bluetooth and GPS Upgrade | \$299.00 |
| 6445S | Replacement TDR 150 Probe Block | \$448.00 |

TDR Rods

Multiple depth options for varying root zones.

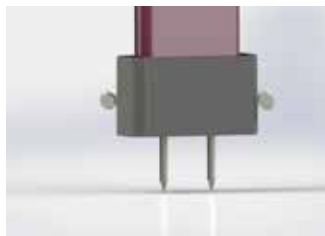
- Sturdy stainless-steel construction
- Field replaceable

NOTE: Required for TDRs to function. Must be fully inserted for valid measurements.

| | | |
|----------------|--|----------------|
| 6428FS4 | Two 1.5 inch (3.8 cm) Rods | \$59.00 |
| 6429FS4 | Two 3 inch (7.5 cm) Rods | \$59.00 |
| 6431FS4 | Two 4.8 inch (12 cm) Rods | \$59.00 |
| 6432FS4 | Two 8 inch (20 cm) Rods | \$59.00 |
| 6430PH | Pilot Hole Maker for TDR Meters | \$70.00 |
| | Includes two 3 inch (7.5 cm) rods | |

TDR Spacers - NEW!

- Measure Soil Moisture at 0.5 " to 1"
- Expand the measurement range of our FieldScout TDR Soil moisture probes
- Using 1.5" (3.9 cm) rods, the TDR Rod Spacer enables easy measurement of 0.5" and 1" depths
- Flip to switch between the two depths
- Easily attach and detach from any Spectrum TDR meters



FOR TDR350/TDR150

6435SP Rod Spacer **\$49.00**

FOR TDR300/TDR 100 with serial numbers 20000 or greater (firmware v7.0 and later)

6430SP Rod Spacer and Software Activation **\$59.00**

FOR TDR300/TDR100 with serial numbers less than 20000 (firmware v6.9 and earlier)

6430SPU Rod Spacer and Activation Processor **\$75.00**



Field View
Approx 6"

Infrared Temperature Sensor

| | | |
|---------------|---|-----------------|
| 6435TS | Infrared Temperature Sensor for TDR350 | \$299.00 |
| 6445TS | Infrared Temperature Sensor for TDR150 | \$299.00 |

- Predict turf wilt with higher accuracy
- Easily correct a moisture deficit earlier and reduce heat stress to the green
- Quickly and accurately monitor canopy and soil temperatures
- Use IR temperature real-time
- Easy installation to our FieldScout TDR350 and TDR150

FIELDSCOUT® SC 900 Soil Compaction Meter



Help make decisions regarding areas of the field that require tillage, changes to crop rotation, and planting of cover crops.

- Includes 1/2 in and 3/4 in cone tip
- Takes compaction readings every inch from 0 to 18 in (45 cm)
- Exclusive ultrasonic depth sensor captures readings in 1 in (2.5 cm) increments
- Penetration resistance measured by internal load cell
- Compaction data is displayed in PSI or kPa (1 psi = 6.9 kPa)
- Connects to any GPS receiver that has a serial output option*
- Equipped with internal data logger and RS-232 port
- Configure and download meter with FieldScout® software (included)**
- Upload your data to Spec Connect for maps of compaction by depth, or depth to hard pan layer. See pages 6-7 & 34-35 for SpecConnect FieldScout subscriptions.
- Includes USB cable, carrying case, and depth target

* GPS interface requires two cables. The GPS/DGPS cable (item 2950CV5) is available from Spectrum.

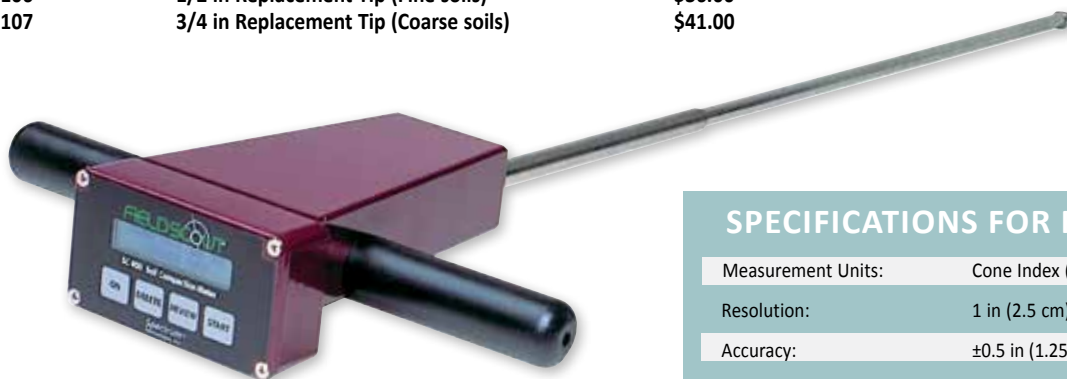
A PC serial interface cable supplied by the manufacturer of the GPS receiver is also required.

** PC cable connects to a computer USB port. See our website for other cable connection options.

| | | |
|---------|--|------------|
| 6110FS | FieldScout® SC 900 Soil Compaction Meter | \$1,849.00 |
| 2950CV5 | GPS/DGPS Cable | \$39.00 |
| 7250 | GPS Unit Mounting Bracket | \$153.00 |
| 6110FST | Replacement Depth Target | \$31.00 |
| 6106 | 1/2 in Replacement Tip (Fine soils) | \$36.00 |
| 6107 | 3/4 in Replacement Tip (Coarse soils) | \$41.00 |



FieldScout SC 900



SPECIFICATIONS FOR FIELDSCOUT SC 900

| | |
|-----------------------|--|
| Measurement Units: | Cone Index (PSI or kPa) |
| Resolution: | 1 in (2.5 cm), 5 PSI (35 kPa) |
| Accuracy: | ±0.5 in (1.25 cm) Depth, ±15 PSI (103 kPa) Pressure |
| Range: | 0 to 18 in (0 to 45 cm), 0 to 1,000 PSI (0 to 7,000 kPa) |
| Battery/Life: | 4 AAA alkaline batteries; approximately 12-month life |
| Data Logger Capacity: | 772 profiles without GPS; 579 profiles with GPS |

Soil Compaction Tester

Economical way to measure soil compaction with analog read out.

- Large and small tip included with convenient storage in tester housing
- 24 in stainless steel rod with adjustable shock collar to prevent damage to the gauge during transport or storage
- Easy to read, color-coded, stainless steel dial that is liquid filled to reduce shock
- Durable molded housing with rubber grip handles
- Penetration Depth: Up to 24 in (60 cm) in 3 in (7.6 cm) increments

| | | |
|------|---------------------------------------|----------|
| 6120 | Soil Compaction Tester | \$242.00 |
| 6121 | 1/2 in Replacement Tip (Fine Soils) | \$23.00 |
| 6122 | 3/4 in Replacement Tip (Coarse Soils) | \$30.00 |





Actual size



SM 100 Soil Moisture Sensor

Place at multiple depths to help determine both when and how much to water.

- Measures Volumetric Water Content (VWC) of soil
- Capacitance-type sensor responds immediately to changes in soil moisture content for better irrigation decisions
- Calibrated for mineral soils or soilless media
- Installs easily into 3/4 in (1.9 cm) hole
- Install permanently or use to take spot measurements
- Can be read with the FieldScout® Soil Sensor Reader (Item 6466) or WatchDog® 2000, 1000 Series Stations, and WatchDog Pups
- Connect up to 8 sensors to one station
- WaterScout Calibration Device can be used to reset the baseline reading

| | | |
|-----------|--|---------|
| 6460 | WaterScout® SM 100 Sensor - 6 ft (1.8 m) | \$89.00 |
| 6460-20 | WaterScout SM 100 Sensor - 20 ft (6 m) | \$99.00 |
| 6470CAL3V | WaterScout Calibration Device | \$72.00 |

SPECIFICATIONS FOR WATERSCOUT SM 100 SENSOR

Standard Interface: WatchDog weather station, Pups, and FieldScout soil moisture reader

Range: 0% VWC to saturation

Power Requirements: 3 to 5V @ 6 to 10 mA

Output: Analog voltage 0.5 - 1.5V for a 3V excitation (ratiometric for other excitation voltages)

Resolution: 0.1% VWC

Cable Length: 6 ft (1.8 m) and 20 ft (6 m) standard, extendable up to 50 ft (15 m)

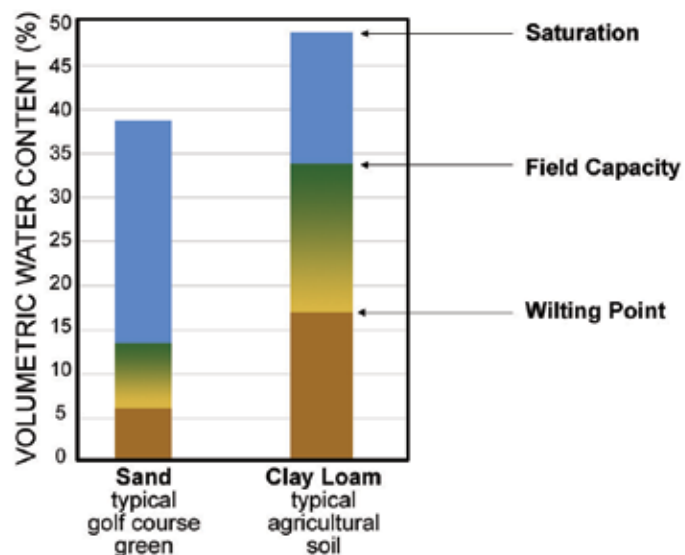
Accuracy: 3% VWC @ EC < 8 mS/cm

Sensing Area: 2.4 in (6 cm) x 0.8 in (2 cm)



Shown measuring in soilless media mode to gather immediate data

Water Holding Capacity By Soil Type





SMEC 300 Soil Moisture/EC/Temperature Sensor

Identify situations where soil salinity is an issue or where certain moisture and temperature conditions facilitate soil-borne diseases.

- Capacitance-type soil moisture sensor
- Carbon ink electrodes provide large measuring surface for electrical conductivity (EC)
- Easy, 1-step EC calibration process
- Can be read with the FieldScout® Soil Sensor Reader (Item 6466) or WatchDog® 2000, 1000 Series Stations, and WatchDog Pups
- Connect up to 4 sensors per station
- Recommended placement of sensors is 10 feet separation to prevent EC interference when in the same medium
- WaterScout® Calibration Device required unless using Soil Sensor Reader (Item 6466)

WatchDog Stations sold prior to 2012 must be upgraded (Contact for support)

| | | |
|-----------|---|----------|
| 6470-6 | WaterScout SMEC 300 Sensor - 6 ft (1.8 m) | \$229.00 |
| 6470-20 | WaterScout SMEC 300 Sensor - 20 ft (6 m) | \$239.00 |
| 6470CAL3V | WaterScout Calibration Device | \$72.00 |
| 2251 | Conductivity Standard, 1.41 mS/cm, 250 mL | \$22.00 |



Actual size

SPECIFICATIONS FOR WATERSCOUT SMEC 300

Standard Interface: WatchDog weather station, Pups, and FieldScout soil moisture reader

Range: VWC: 0% VWC to saturation, EC: 0 to 10 mS/cm, Temp: 33 - 175°F (0.5 - 80°C)

Resolution: VWC: 0.1%, EC: 0.01 mS/cm, Temp: 0.1°F (0.1°C)

Accuracy: VWC: 3%, EC: ±2%, Temp: ±1°F (0.6°C)

Cable Length: 6 ft (1.8 m) and 20 ft (6 m) standard, extendable up to 50 ft (15 m)

Power Requirements: 3V @ 6 to 10 mA

Output: Analog voltage, time division multiplexed

Sensing Area: 2.25 in. x 0.75 in. (5.7 x 2 cm)

FIELDSCOUT® Soil Sensor Reader

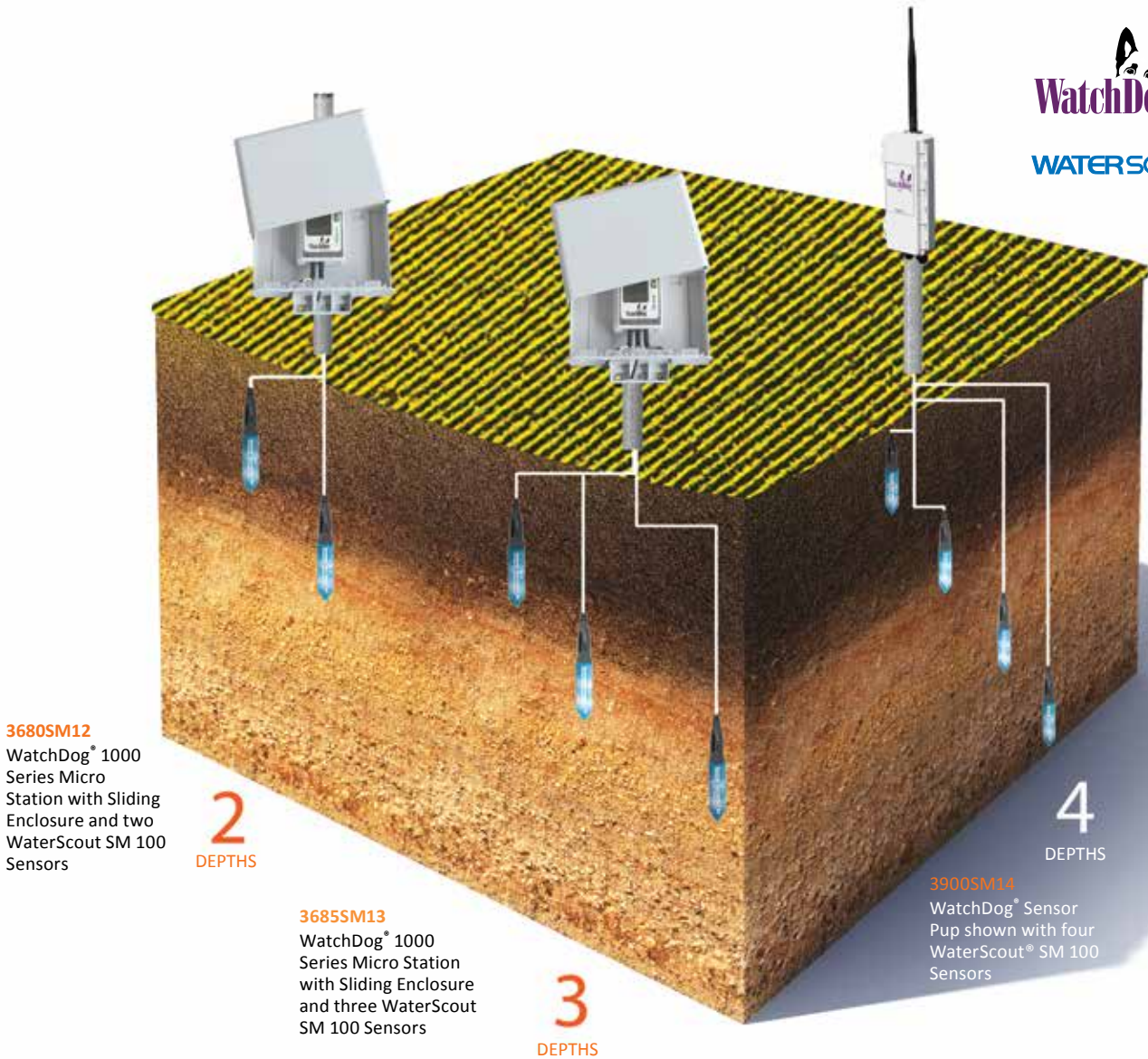
Spot-check WaterScout SM 100 and SMEC 300 sensors in the field.

- Also reads Watermark sensors (page 41) (requires separate adapter)
- Includes soft-sided case (also available separately)

| | | |
|------------|--|----------|
| 6466 | FieldScout® Soil Sensor Reader | \$289.00 |
| 6450FSADPT | Watermark Adapter for Soil Sensor Reader | \$38.00 |
| 7500 | Soft-Sided Carrying Case* | \$36.00 |

* Item 7500 will also fit the WatchDog 1000/2000 Series Data Shuttle (Item 3679WD), LightScout Red/Far-Red Meter (Item 3412), LightScout Quantum Light Meters (four models) and the LightScout External Light Sensor Reader (Item 3415FX)





3680SM12
WatchDog® 1000
Series Micro
Station with Sliding
Enclosure and two
WaterScout SM 100
Sensors

2
DEPTHS

3685SM13
WatchDog® 1000
Series Micro Station
with Sliding Enclosure
and three WaterScout
SM 100 Sensors

3
DEPTHS

3900SM14
WatchDog® Sensor
Pup shown with four
WaterScout® SM 100
Sensors

4
DEPTHS

**WatchDog® Irrigation Stations with
WaterScout® Sensors and Watermark Sensors**

Affordably monitor, compare and evaluate soil moisture levels from two, three, or four user-defined soil depths.

- Includes WatchDog® Station and WaterScout® Sensors with 20 ft (6 m) cables - save money when purchased as a system

- Micro Stations also include the Protective Sliding Enclosure
- Watermark Stations include Watermark Soil Moisture Sensors with 11 ft (3.3 m) cables
- Add soil moisture sensors to your WatchDog Pup network and see your data on SpecConnect.net
- Add a WaterScout® SMEC 300 Soil Moisture/EC/Temp Sensor (Item 6470-20) and monitor soil temperature and EC levels
- Requires SpecConnect, SpecWare 9 Basic or Pro software
- Buy these stations as packages and save 5%

| | MODEL 1200 MICRO STATION | MODEL 1400 MICRO STATION | SENSOR PUP IRRIGATION STATION |
|--|-----------------------------|-----------------------------|----------------------------------|
| 2 WaterScout SM 100 Soil Moisture Sensors | 3680SM12 \$460.00 | 3685SM12 \$529.00 | 3900SM12 \$658.00 |
| 3 WaterScout SM 100 Soil Moisture Sensors | | 3685SM13 \$623.00 | 3900SM13 \$752.00 |
| 4 WaterScout SM 100 Soil Moisture Sensors | | 3685SM14 \$717.00 | 3900SM14 \$846.00 |

| | MODEL 1200 MICRO STATION | MODEL 1400 MICRO STATION |
|--------------------------------------|-----------------------------|-----------------------------|
| 2 Watermark Soil Moisture Sensors | 3680WM12 \$409.00 | 3685WM12 \$477.00 |
| 3 Watermark Soil Moisture Sensors | | 3685WM13 \$546.00 |
| 4 Watermark Soil Moisture Sensors | | 3685WM14 \$614.00 |



6450

Watermark Soil Moisture Sensor

Economical way to measure soil moisture tension.

- Works with FieldScout® Soil Sensor Reader (Item 6466, page 39)
- Reads moisture tension from 0 (saturated) to 200 (dry) centibars

| | | |
|------------|--|---------|
| 6450 | Watermark Sensor with 5 ft (1.5 m) cable | \$41.00 |
| 6450FSADPT | Watermark Adapter for Soil Sensor Reader | \$38.00 |

Watermark Sensors for WatchDog® Weather Stations

| | | |
|----------|---|---------|
| 6450WD | Watermark Sensor for WatchDog® Stations & Pups with 11 ft (3.3 m) cable | \$72.00 |
| 6450WD20 | Watermark Sensor for WatchDog® Stations & Pups with 25 ft (7.6 m) cable | \$82.00 |
| 6450AH | Watermark Adapter for WatchDog® Stations & Pups | \$43.00 |



6421

Irrrometer Tensiometers

Schedule irrigation based on how hard plant roots are working to draw water from the soil.

- “R” models (items 6419 thru 6423) are for general use with field or tree crops
- Low Tension (LT) models (see www.specmeters.com) are for coarse soils or soilless media
- Portable models for specialized applications (see www.specmeters.com)
- Can be connected to WatchDog® Data Loggers and Stations with Pressure Transducer (Item 3669)
- Pressure gauge has a quarter inch pipe thread
- Service kit required (Item 6425)

| | | |
|------|-----------------------------|----------|
| 6425 | Service Kit - Required | \$65.00 |
| 6419 | R Model 6 in (15 cm) Depth | \$84.00 |
| 6420 | R Model 12 in (30 cm) Depth | \$97.00 |
| 6421 | R Model 18 in (45 cm) Depth | \$95.00 |
| 6422 | R Model 24 in (60 cm) Depth | \$97.00 |
| 6423 | R Model 36 in (90 cm) Depth | \$102.00 |

- Connect your “R” model (Items 6419 thru 6423) tensiometer to your weather station. The Pressure Transducer adapts to Irrrometer tensiometers and allows use of the dial gauge for in-field measurements

| | | |
|------|---------------------|----------|
| 3669 | Pressure Transducer | \$277.00 |
|------|---------------------|----------|



6400

Economy Soil Moisture Tester

Analog soil moisture meter measures any type of soil with just one calibration.

- Resistance-type sensor located at the tip of the shaft
- Provides instant results ranging from 0 (dry) to 10 (saturated)
- 3-month warranty

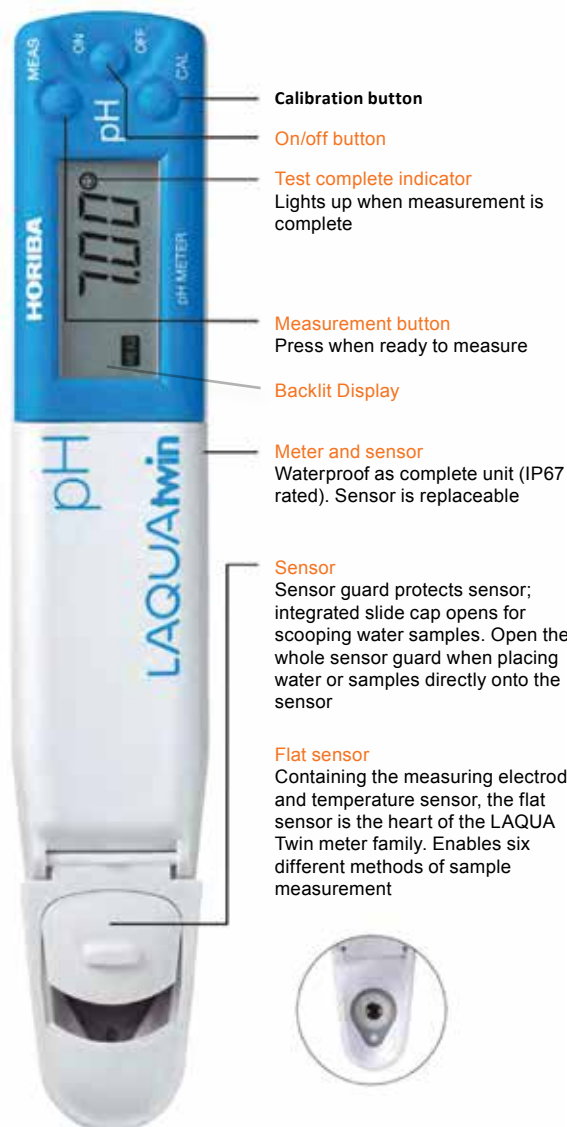
| | | |
|------|------------------------------------|----------|
| 6400 | 9 in (22 cm) Soil Moisture Tester | \$119.00 |
| 6405 | 24 in (60 cm) Soil Moisture Tester | \$129.00 |

LAQUA twin



Put the power of a laboratory right in your hands.

- Professional grade meters
- Measure samples in nutrient solutions, water, soils, and tissue sap (Two plant sap press options available on page 44)
- Waterproof pocket-sized meter with digital calibration
- Sensors store dry and are field replaceable
- Accuracy correlates well with laboratory analysis
- Unique flat sensor allows you to conveniently and accurately measure samples as small as 0.3 ml
- Automatic temperature compensation, waterproof, auto power-off
- Includes two CR2032 batteries, case and calibration standards



LAQUA Twin pH Meter

Ideal for testing irrigation water, leachate, pesticides, or dairy rumen pH.

| | | |
|----------------|--|-----------------|
| 2103ALP | LAQUA Twin pH meter Includes case, batteries, and pH 4 & 7 standards | \$196.00 |
| 2110 | Refill Solutions - pH 4 and 7, 60 mL ea. | \$35.00 |
| 2143L | LAQUA Twin pH Replacement Sensor | \$129.00 |
| 2135L | Sampling Sheets - 100 pieces | \$83.00 |

LAQUA Twin EC Meter

Ideal for water quality and greenhouse applications.

| | | |
|---------------|---|-----------------|
| 2205LP | LAQUA Twin EC Meter Includes case, batteries, and calibration standards | \$196.00 |
| 2210L | Conductivity Standard, 1.41 mS/cm (6 - 14 mL bottles) | \$57.00 |
| 2242L | Replacement Sensor | \$129.00 |



pH Conductivity (EC) Sodium Potassium Nitrate Calcium

| | | | | | | |
|--------------------------------|---|-------------------|-----------------------|-----------------------|----------------------|-----------------------|
| Measurement Principle: | Glass electrode method | 2 AC bipolar | Ion electrode method | Ion electrode method | Ion electrode method | Ion electrode method |
| Sample Volume Required: | 0.1 mL to 2.0 mL | 0.12 mL to 2.0 mL | 0.3 mL to 2.0 mL | 0.3 mL to 2.0 mL | 0.3 mL to 2.0 mL | 0.3 mL to 2.0 mL |
| Measurement Range: | 2 to 12 pH | 0 to 19.9 mS/cm | 23 to 2300 ppm | 39 to 3900 ppm | 62 to 6200 ppm | 40 to 4,000 ppm |
| Calibration: | pH 4 and pH 7 | 1.41 mS/cm | 150 ppm and 2000 ppm* | 150 ppm and 2000 ppm* | 34 ppm and 450 ppm* | 150 ppm and 2000 ppm* |
| Reproducibility: | ± 0.1 pH | ± 2% | ± 10% or ± 10 ppm | ± 10% or ± 10 ppm | ± 10% or ± 10 ppm | ± 20% or ± 20 ppm |
| Display: | 4-digit digital LCD display with Backlight (New) | | | | | |
| Power: | CR2032 coin batteries (x2) | | | | | |
| Battery Life: | 400 hours continuous operation with Backlight Off (New) | | | | | |
| Operating Range: | 40°F (5°C) to 105°F (40°C), 85% relative humidity | | | | | |
| Dimensions: | 164mm x 29mm x 20mm | | | | | |

* High and low calibration points can be changed (customer must provide custom solutions)

LAQUA Twin Sodium Na⁺

| | | |
|--------|--|----------|
| 2500GL | LAQUA Twin Sodium (Na ⁺) Meter | \$435.00 |
| | Includes case, batteries, and calibration standards | |
| 2540L | Replacement Sodium Sensor | \$191.00 |
| 2514L | 150 ppm Na ⁺ Standard, 6 - 14 mL bottles | \$57.00 |
| 2518L | 2000 ppm Na ⁺ Standard, 6 - 14 mL bottles | \$57.00 |
| 2535 | Na ⁺ Soil Test Kit w/30 Samples | \$42.00 |
| | Includes filter paper, cups, and soil scoop | |
| 2135L | Sampling Sheets - 100 pieces | \$83.00 |

LAQUA Twin Potassium K⁺

| | | |
|--------|---|----------|
| 2400GL | LAQUA Twin Potassium (K ⁺) Meter | \$435.00 |
| | Includes case, batteries, and calibration standards | |
| 2440L | Replacement Potassium Sensor | \$197.00 |
| 2414L | 150 ppm K ⁺ DI Standard, 6 - 14 mL bottles | \$57.00 |
| 2418L | 2,000 ppm K ⁺ DI Standard, 6 - 14 mL bottles | \$57.00 |
| 2434 | K ⁺ Soil Test Kit w/30 Samples | \$45.00 |
| | Includes solutions, filter paper, cups, and soil scoop | |
| 2135L | Sampling Sheets - 100 pieces | \$83.00 |



LAQUA Twin Nitrate NO₃⁻

| | | |
|--------|---|----------|
| 2305GL | LAQUA Twin Nitrate (NO ₃ ⁻) Meter | \$435.00 |
| | Includes case, batteries, and calibration standards | |
| 2345L | Replacement Nitrate Sensor | \$199.00 |
| 2311 | 450 ppm NO ₃ ⁻ -N Standard, 6 - 14 mL bottles | \$57.00 |
| 2312 | 34 ppm NO ₃ ⁻ -N Standard, 6 - 14 mL bottles | \$57.00 |
| 2330 | NO ₃ ⁻ Soil Test Kit w/30 Samples | \$61.00 |
| | Includes solutions, filter paper, cups, and soil scoop | |
| 2135L | Sampling Sheets - 100 pieces | \$83.00 |



LAQUA Twin Calcium Ca²⁺

| | | |
|-------|---|----------|
| 2450L | LAQUA Twin Calcium (Ca ²⁺) Meter | \$495.00 |
| | Includes case, batteries, and calibration standards | |
| 2455L | Replacement Calcium Sensor | \$199.00 |
| 2460L | 150 ppm Ca ²⁺ Standard, 6 - 14 mL bottles | \$57.00 |
| 2461L | 2000 ppm Ca ²⁺ Standard, 6 - 14 mL bottles | \$57.00 |
| 2135L | Sampling Sheets - 100 pieces | \$83.00 |



2726

Handheld Plant Sap Press

- Use with LAQUA Twin meters or Brix meters (see below) for on-site testing
- Made of high quality, non-corrosive metal
- Includes cleaning device

| | | |
|-------------|----------------------------------|----------------|
| 2726 | Hand Held Plant Sap Press | \$23.00 |
|-------------|----------------------------------|----------------|



2720

Hydraulic Plant Sap Press

- Speed up collection of large or less succulent samples
- Hydraulic press extracts sap into a collection vial
- Includes plunger, grate, cylinder, expeller rod and six collection vials

| | | |
|-------------|----------------------------------|-----------------|
| 2720 | Hydraulic Plant Sap Press | \$495.00 |
|-------------|----------------------------------|-----------------|



2812

Digital Refractometer

Easy and convenient way to measure Brix.

- Small sensor area allows measurement of minute samples
- Measures Brix from 0 to 53.0% (Accuracy $\pm 0.2\%$)
- Automatic temperature compensation
- Large digital display of Brix and temperature
- Operates on two AAA batteries (included)

| | | |
|-------------|------------------------------|-----------------|
| 2812 | Digital Refractometer | \$399.00 |
|-------------|------------------------------|-----------------|



Handheld Refractometers

Compact meter ideal for field or lab use.

- Measures Brix from 0 to 32.0% (Accuracy $\pm 0.2\%$)
- Place a couple drops of sample on the scale and read the results in Brix through the shaded area on the eyepiece
- Available with or without automatic temperature compensation
- Includes case and instructions

| | | |
|-------------|---------------------------------|----------------|
| 2801 | Refractometer 0–32% Brix | \$89.00 |
|-------------|---------------------------------|----------------|

| | | |
|-------------|--|-----------------|
| 2806 | Refractometer 0–32% with Automatic Temperature Compensation | \$109.00 |
|-------------|--|-----------------|



SoilStik pH Meter

Easy to use and cost-efficient meter.

- Flat surface electrode measures pH in soils, semi-solids, solids, and liquids
- RENEW indicator tells you when it's time to replace your electrode - eliminates guesswork
- CAL alert tells you it's time to recalibrate to ensure accuracy
- Memory records and recalls 15 sequentially tagged readings, allowing detection of changes over time
- 1- or 2-point calibration: automatically recognizes buffer solutions
- Automatic temperature compensation
- Simultaneous display of pH and temperature
- Display indicates when the reading has stabilized
- Data Hold, auto power off, and low battery indication
- Water resistant design (IP57) floats in water and protects the meter in wet environments
- Includes protective sensor cap, rinse bottle, two CR2032 batteries, pH 4 & 7 standard solutions, and soft case

| | | |
|------|--|----------|
| 2105 | FieldScout® SoilStik pH Meter | \$164.00 |
| 2106 | Flat Sensor, Replacement | \$69.00 |
| 2110 | Refill Solutions - pH 4 and 7, 60 mL ea. | \$35.00 |



SoilStik shown in use with Item 6510
Model HC Soil Sampler (available online)

SPECIFICATIONS FOR SOILSTIK pH METER

pH: 0.00 to 14.00 pH

Temperature: 23°F to 194°F (-5°C to 90°C)

Resolution: 0.01 pH, 0.1°

Accuracy: ±0.01 pH, ±1.8°F/±1°C

Dimensions: 1.4 x 6.8 x 1.6 in (35.6 x 172.7 x 40.6mm)

Weight: 3.8 oz (110 g)



Measuring the pH of the pesticide spray solution or fertilizers is important to ensure performance.



Flat end electrode works in liquids, semi-solids, and soils



pH 400 and 600 Meters

Fast, easy and accurate “direct” soil pH measurement.

Modern User Interface

- The FieldScout pH 400 & 600 Meters have a modern, intuitive, and user friendly interface that allows users to quickly access the meter’s advanced features and settings
- Temperature and pH data remain visible, so monitoring does not stop when settings are changed or options are selected
- Large backlit 3.2” LCD color display ensures measurement values and menu options are easy to read

Rugged and Ergonomic Design

- Both the FieldScout pH 400 & 600 Meters are lightweight, and their compact design makes them highly suitable for field use and handheld applications.
- Dust and splash resistant – IP65 rating
- Meters are fitted with a rubber boot to help absorb shock
- The USB port is protected by a tightly sealed cover and the casing and battery door are fitted with rubber seals
- 1 year warranty on meter

ISFET (Ion Sensitive Field Effect Transistor) Probes

Glass Free and Durable Probe - 2 Options to Fit Your Needs

- Unlike glass electrodes, the FieldScout 400 and 600 pH Meters feature ISFET pH electrodes that will not shatter. Neither model requires wet storage
- Both come with a 6-month warranty
- Spectrum ISFET probes are made of high quality materials such as PEEK, ABS, and PVC
- Sample directly in plug trays, pots, containers, solutions, and soilless media

| | | |
|------|---|----------|
| 2107 | FieldScout pH 400 Meter | \$729.00 |
| | Meter includes case, batteries, AC adapter, brush, and pH 4 & 7 standards | |
| | *Does not include pH Probe - order separately below | |
| 2108 | FieldScout pH 600 Meter | \$999.00 |
| | Meter includes case, batteries, AC adapter, brush, and pH 4 & 7 standards | |
| | *Does not include pH Probe - order separately below | |
| 2127 | FieldScout pH Meter Blunt Tip ISFET Probe | \$434.00 |
| 2128 | FieldScout pH Meter Pin Point Tip ISFET Probe | \$549.00 |
| 2110 | Refill Solutions - pH 4 and 7, 60 mL each | \$35.00 |



Robust probe design makes it easy to go from sample to sample



pH 400

- Professional grade quality
- Intelligent calibration wizard simplifies the calibration process
- Supports 1-and 2-point calibration
- Powered by 3 rechargeable AA-batteries (AC adapter included)



pH 600

Includes all features of the FieldScout pH 400 Meter, plus...

- Internal storage of measured data points, up to 65,000 measurements
- Ability to query both momentary pH value and temperature
- Supports up to 5-point calibration



Pin Point Tip ISFET Probe

- Uses patented non-glass ISFET technology for the smallest pH measurement
- Sharp and to the point for pH measurement of materials that need to be penetrated
- Eliminates clogging from dirty samples or semi-solids



Blunt Tip ISFET Probe

- Uses patented non-glass ISFET technology for general purpose pH measurement
- Ideal for liquids, hydroponics, and soilless media



Direct Soil EC Meter

Instant and accurate direct EC and temperature measurements.

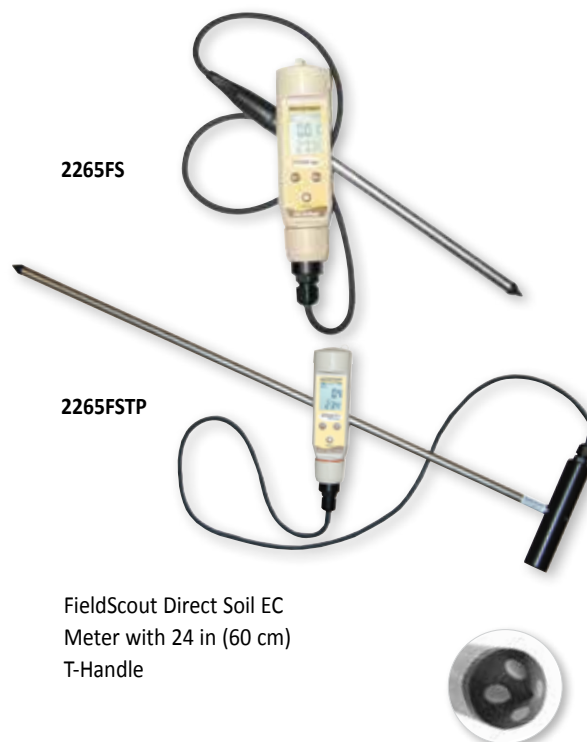
- Professional-grade meter - Patented
- No need to prepare samples - simply sample through the profile
- Patented paired sensor tip provides maximum soil-sensor contact and higher accuracy
- Sample directly in plug trays, pots, containers, solutions, or ground soils
- 0 to 19.9 mS/cm (Accuracy $\pm 1\%$, resolution 0.01 mS/cm)
- Automatic temperature compensation, long lasting, and waterproof
- Includes battery and EC calibration standard

8 in (20 cm) Probe Option

| | | |
|-----------|--|----------|
| 2265FS | FieldScout® Direct Soil EC Meter w/ 8 in Probe Includes Carrying Case and 2.76 Standard | \$429.00 |
| 2265PROBE | FieldScout EC 8 in Probe (Replacement) | \$263.00 |
| 2254 | Conductivity Standard, 2.76 mS/cm, 250 mL | \$22.00 |
| 2251 | Conductivity Standard, 1.41 mS/cm, 250 mL | \$22.00 |

24 in (60 cm) Probe Option

| | | |
|------------|--|----------|
| 2265FSTP | FieldScout Direct Soil EC Meter w/ 24 in T-Handle Probe and Replaceable Tip | \$595.00 |
| 2265FST24P | FieldScout T-Handle EC 24 in Probe w/ Replaceable Tip | \$389.00 |
| 2266 | Replaceable Tip For T-Handle EC Probe | \$109.00 |
| 2254 | Conductivity Standard, 2.76 mS/cm, 250 mL | \$22.00 |
| 2251 | Conductivity Standard, 1.41 mS/cm, 250 mL | \$22.00 |



FieldScout Direct Soil EC
Meter with 24 in (60 cm)
T-Handle



Exclusive Paired Sensor

Waterproof



Waterproof EC Meter

Economic meter for measuring salinity.

- Measures four parameters; conductivity, TDS, salinity, and temperature
- 6 units of measurement: $\mu\text{S}/\text{cm}$, mS/cm , ppm, ppt, mg/L , and g/L
- Internal memory stores up to 15 labeled readings for easy recall
- Adjustable conductivity-to-TDS ratio factor (0.4 to 1.0)
- Accuracy: $\pm 2\%$
- Automatic temperature compensation
- Measurement ranges:
 - Conductivity: 0.00 to 199 $\mu\text{S}/\text{cm}$, 200 to 1,999 $\mu\text{S}/\text{cm}$, or 2.00 to 19.99 mS/cm
 - TDS: 0 to 99.9 mg/L , 100 to 999 mg/L , or 1.00 to 9.99 g/L
 - Salinity (fixed ratio of 0.5): 0 to 99.9 ppm, 100 to 999 ppm, or 1.00 to 9.99 ppt
 - Temperature: 32 to 194°F (0.0 to 90.0°C)
- Includes conductivity cell, protective sensor cap, sample cup with cap, four SR44W button batteries, and 48 in (1.2 m) neckstrap
- Calibration standard sold separately

| | | |
|------------|---|-----------------|
| 2246 | Waterproof EC Meter | \$123.00 |
| 2246SENSOR | Replacement Sensor | \$51.00 |
| 2251 | Conductivity Standard, 1.41 mS/cm, 250 mL | \$22.00 |

Economical



Economy pH/EC Meter

Affordable way to monitor pH and EC levels in any liquid.

- Combination pH and electrical conductivity (EC) probe
- 150-hour battery life
- Automatic temperature compensation
- 0.68 TDS ratio calculation
- Accuracy: ± 0.2 pH and 2% EC scale
- Range: 0 - 6 mS/cm
- Includes handheld meter, probe, calibration solutions, and carrying case

| | | |
|-------|---|-----------------|
| 2182A | Economy pH/EC Meter | \$289.00 |
| 2183A | Replacement pH/EC Probe | \$113.00 |
| 2110 | Refill Solutions - pH 4 and 7, 60 mL ea. | \$35.00 |
| 2251 | Conductivity Standard, 1.41 mS/cm, 250 mL | \$22.00 |

Green = Nitrogen > Chlorophyll Meters

Research supports the correlation between SPAD measurements and the nitrogen in your leaf. Support and defend the health of your plants.

SPAD 502 Plus Chlorophyll Meter

Quantifies the health of your crops.

- Instantly measures chlorophyll content or “greenness” of your plants on a scale of -9.9 to 199
- Non-invasive, non-destructive measurement
- Trend graph stores and displays up to 30 measurements
- Water resistant design (IPX4)
- Compare in-field SPAD readings to university guidelines
- Research shows a strong correlation between SPAD measurements and leaf N content
- Available with or without a built-in data logger
- Includes hard carrying case and batteries

Data-Logging Model (2900PDL)

- Connects to any GPS receiver that has a serial output option*
- Equipped with internal data logger and RS-232 port
- Records 4,096 measurements (1,488 with added GPS/DGPS option)
- Configure and download meter with FieldScout® software (included)**

* GPS interface requires two cables. The GPS/DGPS cable (item 2950CV5) is available from Spectrum. A PC serial interface cable supplied by the manufacturer of the GPS receiver is also required.

** PC cable connects to a computer USB port. See our website for other cable connection options.

| | | |
|-----------------|--|-------------------|
| 2900PDL | Minolta SPAD 502DL Plus Chlorophyll Meter with RS-232 Data Port and Built-In Data Logger (includes software and USB PC cable) | \$2,776.00 |
| 2900P | Minolta SPAD 502 Plus Chlorophyll Meter Basic version, no Data Logger | \$2,363.00 |
| 2950CV5 | GPS/DGPS Cable | \$39.00 |
| 2900CASE | Hard Carrying Case | \$34.00 |

SPECIFICATIONS FOR SPAD 502 PLUS

Optical Density Difference at two wavelengths: 650 nm and 940 nm

Measurement Area: 2 mm x 3 mm (Approximately 3/32 in x 1/8 in)

Light Source: 2 LEDs

Receptor: Silicon Photodiode

Power Source: 2 AA alkaline batteries (1.5V)

Repeatability: Within ± 0.3 SPAD unit

SPAD Value: Index of relative chlorophyll content; -9.9 to 199



Non-invasive measurement with readings in less than 2 seconds

CM 1000 Chlorophyll Meter

“Point-and-shoot” technology to instantly measure relative chlorophyll content.

- Detects stress earlier than visual monitoring
- Technology based on an exclusive patent license from NASA
- Laser guides outline the edges of the measured sample area
- Calculates and displays a running average for multiple readings
- Connects to any GPS receiver that has a serial output option*
- Equipped with internal data logger and RS-232 port
- Records 3,250 measurements (1,350 with added GPS/DGPS option)
- Configure and download meter with FieldScout® software (not included)**
- Includes hard carrying case and batteries

* GPS interface requires two cables. The GPS/DGPS cable (item 2950CV5) is available from Spectrum.

A PC serial interface cable supplied by the manufacturer of the GPS receiver is also required.

** PC cable connects to a computer USB port. See our website for other cable connection options.

| | | |
|----------------|---|-------------------|
| 2950 | FieldScout CM 1000 Chlorophyll Meter | \$2,945.00 |
| 2950S | Software To Activate Data Logger | \$249.00 |
| | (includes PC cable) | |
| 2950CV5 | GPS/DGPS Cable | \$39.00 |



2950



CM 1000 NDVI Meter

“Point-and-shoot” technology to instantly measure red (660 nm) and near infrared (840 nm) spectral bands.

- Detects stress earlier than visual monitoring
- Computes Normalized Difference Vegetative Index (NDVI)
- Laser guides outline the edges of the measured sample area
- Calculates and displays a running average for multiple readings
- Connects to any GPS receiver that has a serial output option*
- Equipped with internal data logger and RS-232 port
- Records 3,250 measurements (1,350 with added GPS/DGPS option)
- Configure and download meter with FieldScout® software (included)**
- Includes hard carrying case and batteries

* GPS interface requires two cables. The GPS/DGPS cable (item 2950CV5) is available from Spectrum.

A PC serial interface cable supplied by the manufacturer of the GPS receiver is also required.

** PC cable connects to a computer USB port. See our website for other cable connection options.

| | | |
|----------------|--------------------------------------|-------------------|
| 2953 | FieldScout CM 1000 NDVI Meter | \$3,195.00 |
| 2950CV5 | GPS/DGPS Cable | \$39.00 |



2953



FIELDSCOUT® TCM 500 NDVI Turf Color Meter

Helps diagnose plant health based on color.

- Measures reflected light from approximately a 3 inch (7.6 cm) diameter section of turfgrass
- Uses an internal light source to negate the effect of sunny versus cloudy conditions
- Measures reflectance in the red (660 nm) and near infrared (850 nm) spectral bands
- Displays result as NDVI, percent reflectance, or as a user-adjustable grass index from 1 to 9
- Connects to any GPS receiver that has a serial output option*
- Equipped with internal data logger and RS-232 port
- Records 3,250 measurements (1,350 with added GPS/DGPS option)
- Configure and download meter with FieldScout® software (included)**
- Includes hard carrying case, batteries, and TCM 500 T-Handle (item 2975H)

* GPS interface requires two cables. The GPS/DGPS cable (item 2950CV5) is available from Spectrum. A PC serial interface cable supplied by the manufacturer of the GPS receiver is also required.

** PC cable connects to a computer USB port. See our website for other cable connection options.

| | | |
|----------|---|----------|
| 2975NDVI | FieldScout TCM 500 NDVI Turf Color Meter Includes TCM 500 T-Handle | \$899.00 |
| 2975H | FieldScout TCM 500 Replacement T-Handle | \$145.00 |
| 2950CV5 | GPS/DGPS Cable | \$39.00 |



SPECIFICATIONS FOR TCM 500

Measurement Sample: Turf grass canopy

Measurement System: Reflectance of red (660 nm) and NIR (850 nm) light

Measurement Area: Approx. 3.0 in (7.6 cm)

Measurement Units: Percent reflectance (0.0 to 99.9) of Red and NIR

NDVI (0.000 to 1.000)

Grass Index (1.00 to 9.00)

Power Source: 1 9 V alkaline battery (included); approx. 3,000 measurements

Repeatability: \pm 5% of measurement



Displays Turf Color Index
and NDVI on the LCD

Spectrum[®]
Technologies, Inc.

3600 Thayer Court
Aurora, Illinois 60504

Toll Free: (800) 248-8873
Phone: (815) 436-4440
Fax: (815) 436-4460
E-mail: info@specmeters.com
www.specmeters.com

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View real-time rain activity on your smartphone.

www.specmeters.com

