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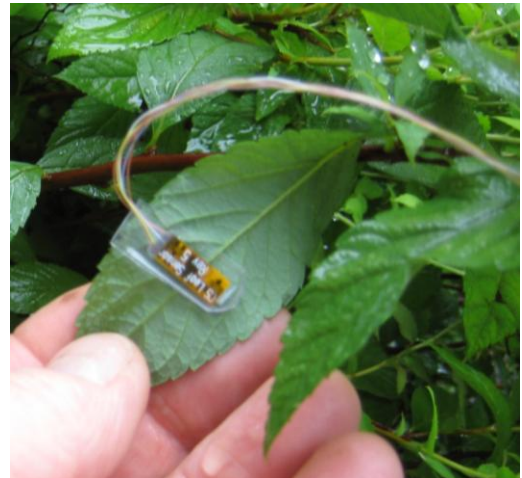<center>**SG-1000 Leaf Sensor™**</center>

<center>**Leaf Sensor Trending & Precision Irrigation Control Software** Rev 1.0</center>

The SG-1000 Leaf Sensor**™ Leaf Sensor Trending & Precision Irrigation Control Software** package uses a propriety modified 14-bit data aquistion module (National Instructments) for the indirect measurement of plant leaf turgidity. It all takes place in real-time. Leaf turgidity (an indirect measurement in micrometers) can be used to control irrigation equipment, fans, lights and other assorted equipment for plant life support.

This unique trending tool can measure up to four individual leaf sensors simulatenously. Also included in the i/o data aquistion module are eight individual output control (0VDC -Low and 5VDC-High) to activate off board relays. *Optional 24VAC Solid Relay Interface Board not included.*

Simply connect the SG-1000 Leaf Sensors**™** and data aquistion module to a computer USB port to monitor plant leaf moisture levels in real time.
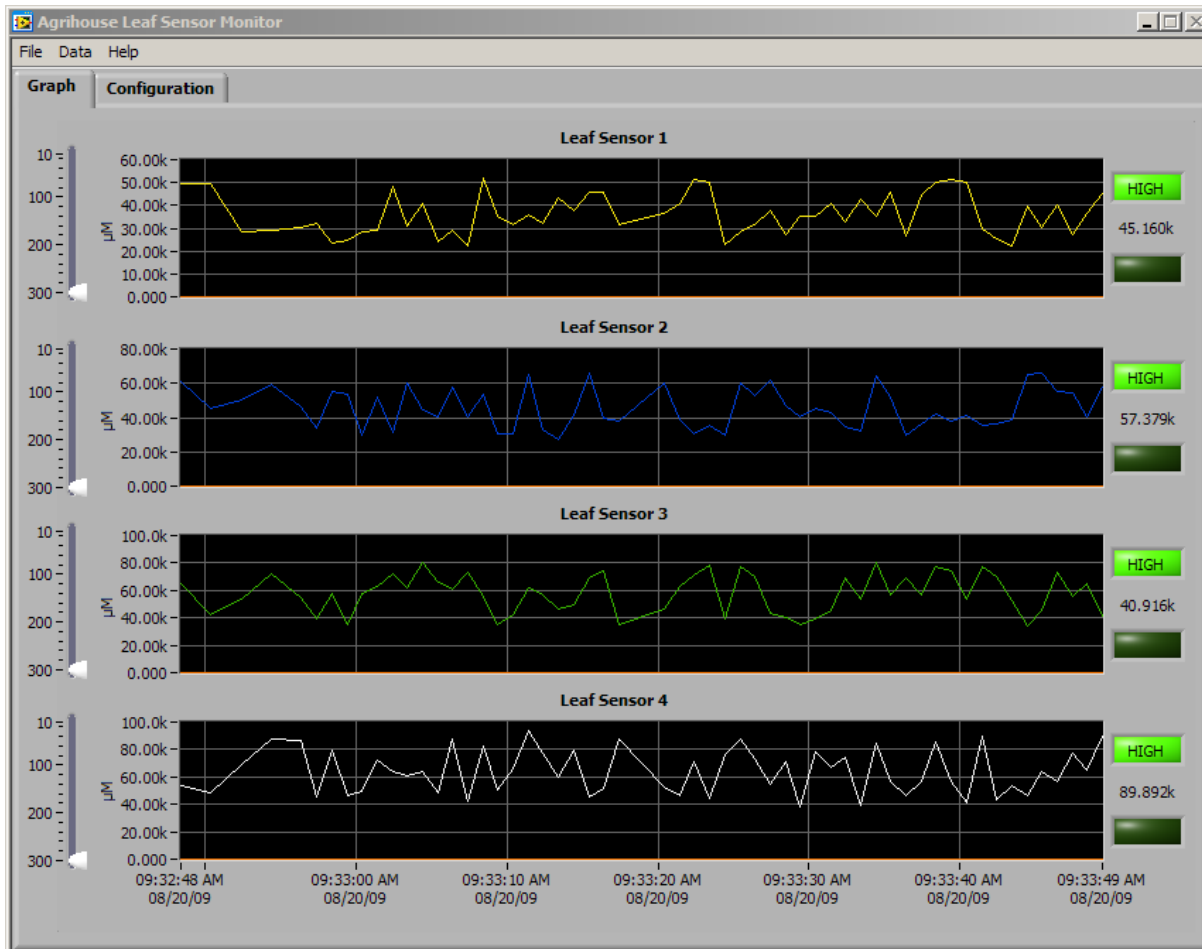
SG-1000 Leaf Sensor™

Features:

- Nonintrusive Construction

- Real-Time monitoring (0-5 volts)

- Water resistant

- Light weight

- Micro-wire w/ Gold Plated Connector

- Slip-fit to any leaf

- Plant Independent

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SG-1000 Leaf Sensor™

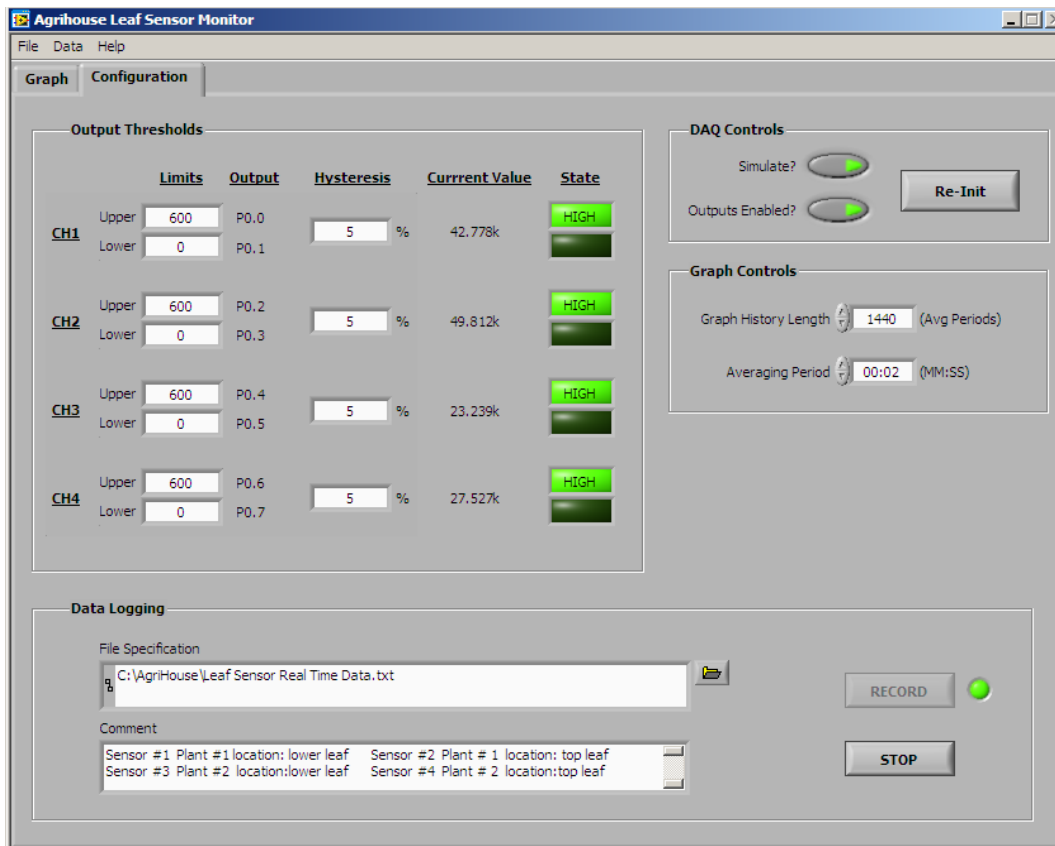## Leaf Sensor Trending & Precision Irrigation Control Software Rev 1.0

Graph Screen (simulation mode shown)

Features

- Monitor four individual leaf sensor in real time

- Zoom Controls (includes settable min /max range)

- Clear Graph Function

- Settable Y-axis Ranges

- Save on Exit

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SG-1000 Leaf Sensor™

Leaf Sensor Trending & Precision Irrigation Control Software Rev 1.0

Configuration Screen

Features

- DAQ Controls for real time monitoring

- 14-bit resolution data logging 24-7

- Graph Controls (History Length and Averaging Period)

- Settable Y-axis Upper & Lower range Thresholds

- Continuous Data Logging to a local file with comments

- Start/Stop Functions including Data Output & Recording control

- Settable Upper and Lower Limits including Hysteresis

- Visual indicators (High and Low) correlates to output control

- Averaging Period Signal Noise Reduction

SG-1000 Leaf Sensor™

Leaf Sensor Trending & Precision Irrigation Control Software Rev 1.0
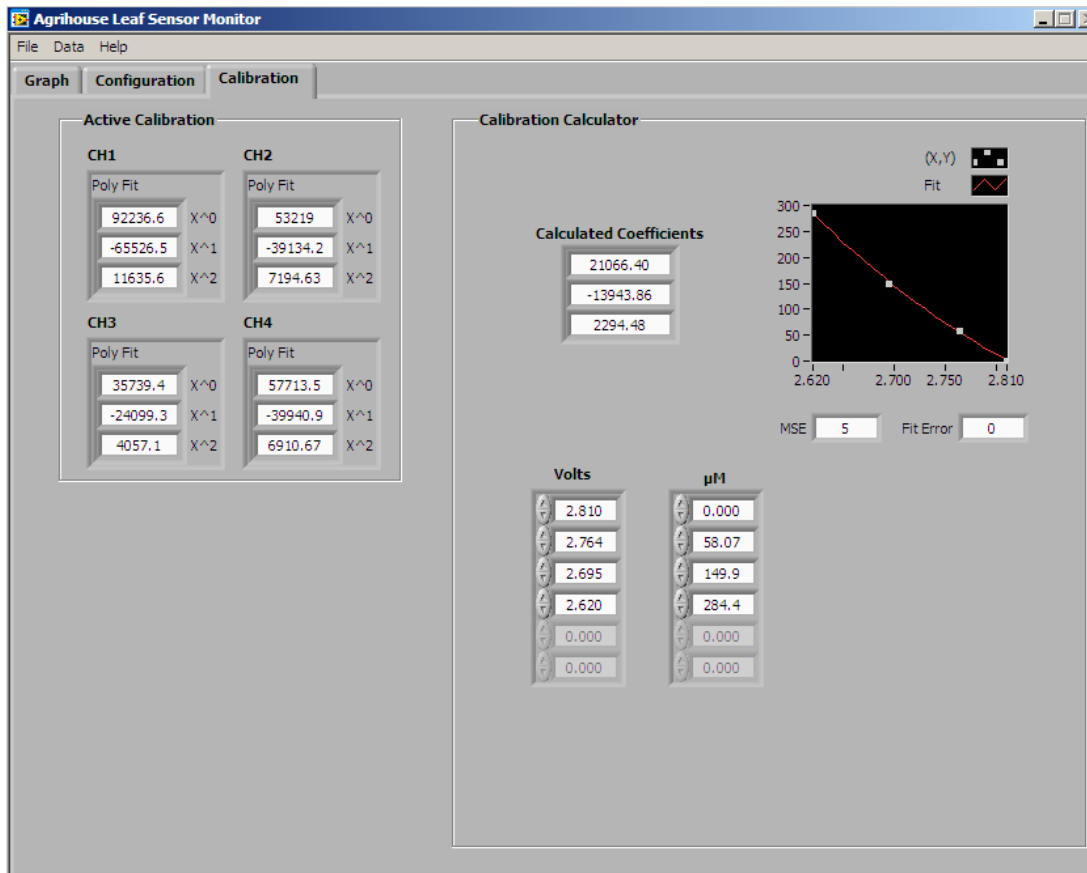
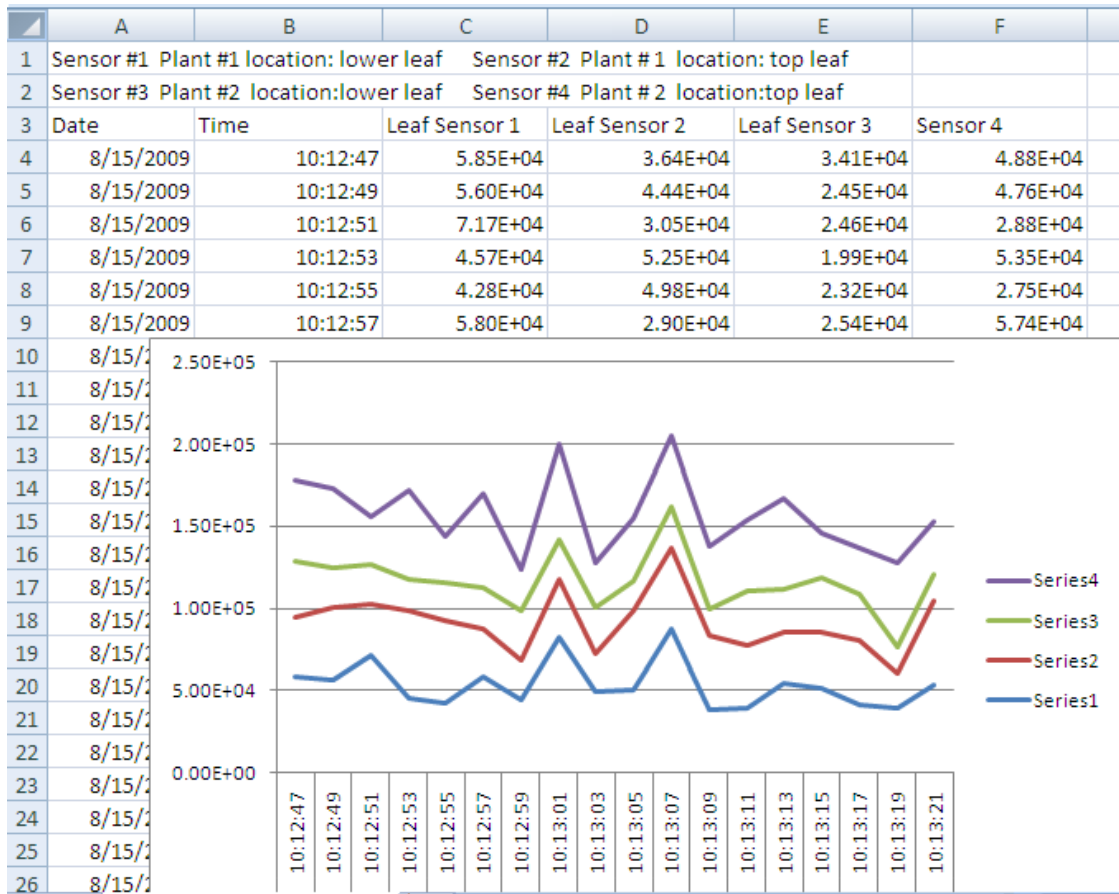**Calibration Screen (simulation mode shown)**

Features:

- Channel 1-4 for individual leaf sensor calibration

- µM Calibration Calculator

- Calibration Standard

- Three Means of Measurement (Voltage, Micrometers and Turgidity-Level)

- Selectable Charting Units

SG-1000 Leaf Sensor™

Leaf Sensor Trending & Precision Irrigation Control Software Rev 1.0

	A	B	C	D	E	F
1	Sensor #1 Plant #1 location: lower leaf		Sensor #2 Plant #1 location: top leaf			
2	Sensor #3 Plant #2 location:lower leaf		Sensor #4 Plant #2 location:top leaf			
3	Date	Time	Leaf Sensor 1	Leaf Sensor 2	Leaf Sensor 3	Sensor 4
4	8/15/2009	10:12:47	5.85E+04	3.64E+04	3.41E+04	4.88E+04
5	8/15/2009	10:12:49	5.60E+04	4.44E+04	2.45E+04	4.76E+04
6	8/15/2009	10:12:51	7.17E+04	3.05E+04	2.46E+04	2.88E+04
7	8/15/2009	10:12:53	4.57E+04	5.25E+04	1.99E+04	5.35E+04
8	8/15/2009	10:12:55	4.28E+04	4.98E+04	2.32E+04	2.75E+04
9	8/15/2009	10:12:57	5.80E+04	2.90E+04	2.54E+04	5.74E+04
10	8/15/2					
11	8/15/2					
12	8/15/2					
13	8/15/2					
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22	8/15/2					
23	8/15/2					
24	8/15/2					
25	8/15/2					
26	8/15/2					

Microsoft Excel Screen (simulated data shown)

Features

- Data Record opens in Microsoft Excel (2000 and 2007)

- Date, Time and Leaf Sensor Data Plotting (channel 1-4)

- Full Excel Data Manipulation & Functionality

SG-1000 Leaf Sensor™

Leaf Sensor Trending & Precision Irrigation Control Software Rev 1.0

Specifications:

SG-1000 Leaf Sensor™

- No. Included: 4 ea.

- Size: 1"L x 1/4"H x 3/8"W

- Weight: 0.55 grams

- 3-Conductor Micro-Wire (w/ connector) Length: 24"

Data Acquisition Module

- NI Model DAQ-6009 (OEM)

- Size: 3.5"L x .6"H x 2.25"W

- Weight: 1 oz.

- Resolution: 14-bit

- Absolute Accuracy (no load): 36.4mV maximum Full Scale

- No. Leaf Sensor Inputs (w/ connector): 4 ea.

- No. Digital Outputs: 8

- Output Voltage: 0-5 VDC

- Available Outputs per Leaf Sensor: 2 ea

- USB interface w/cable

Software & Compatibility

- DVD Content

    - Leaf Sensor Beta Trending Software

    - NI Measurement & Automation Software

    - Drivers

    - Calibration Data

    - User Manual

- Windows XP & Windows 2000

SG-1000 Leaf Sensor™

Leaf Sensor Trending & Precision Irrigation Control Software Rev 1.0

Optional Hardware

- *10' Cables with Gold Plated Connectors*

- *24VAC Solid Relay Interface Board*

- *Calibration Shims*

Limited Warranty
The limited 30-day warranty covers parts and labor. Misuse and damaged parts are not covered under this warranty. All returned items must have a return material authorization (RMA) number clearly written on the shipping label.

Disclaimer
AgriHouse shall not be liable for any labor, damage or other expenses, nor shall AgriHouse or its subsidiaries be liable for any indirect, incidental or consequential damages of any kind incurred by the use or sale of any defective product or part.

Support
The LS Trending Beta Software comes with one-hour free telephone support. Call (970) 532-3554 during business hours. Additional hours of telephone support are available.

Additional Information

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