



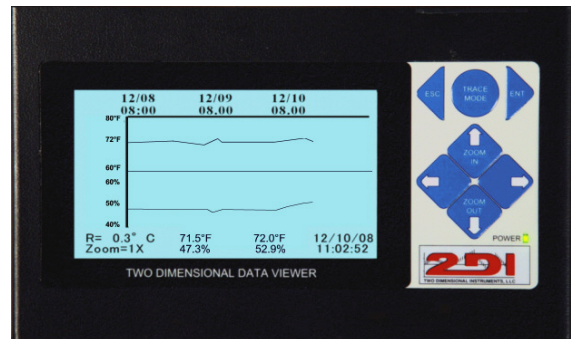
# APPLICATION NOTE: 902

## Wireless Electronic Hygrometer

A Hygrometer is an instrument used for measuring humidity and temperature. A recording hygrometer not only displays the temperature and humidity on a minute by minute basis, it also documents the conditions over time. Traditionally the records were made by marking a paper chart or long strip of paper with a pen. This has gradually given way to data loggers which record the data electronically. However a big drawback of data loggers is that the user has no way of knowing what was recorded until it is downloaded to a computer. The **instant information aspect of the chart recorder is lost with a data logger.**

This electronic Hygrometer, the ThermaViewer, using wireless temperature/humidity sensors has all the advantages of the data logger and a chart recorder in one instrument. It not only shows the current temperature and humidity on its display, it also draws a chart so that the **conditions over time are charted.** The user can view months or even years of temperature/RH history on the display without ever having to download the data to a computer. It can, of course, be downloaded to a computer and a chart printed out, but there is no requirement to do so.

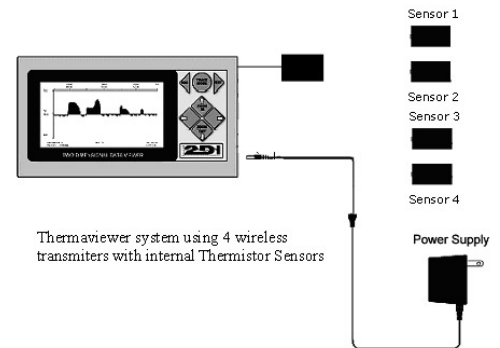
The ThermaViewer is an ideal instrument for monitoring and documenting the temperature and humidity of operating rooms, incubators, laboratories, warehouses, cleanrooms, paint booths, computer rooms, museums, etc... It is equipped with **one or more temperature/RH sensors ( $\pm 0.3^{\circ}\text{C}$  &  $\pm 3\%$ )**, to monitor and document temp/RH in two different rooms or areas. It is accurate and automatic, providing continuous monitoring and indicating trends so that corrective action can be taken. It requires no special skills to read and interpret the data and comes equipped with a dry-contact N/C relay to trigger an alarm or auto dialer if out-of-spec conditions occur.



Using a Wireless Hygrometer is simple, with minimum set-up required.

### Installation of the Wireless hygrometer is a simple 6-step process:

1. **Plug in the Hygrometer with base station attached**
2. **Set the date and time.**
3. **Insure that the sensor is linked to the base station.**
4. **Position the sensor and insure that the signal is good.**
5. **Attach the auto dialer (if purchased).**
6. **Set the Alarm Settings (if used).**



### What to Order:

- Hygrometer w base station, PC cable & software \$ 540.00  
1-4 sensors
- Wireless sensors with internal thermistor and RH sensors \$ 145.00 ea

### Optional Items:

- Auto-dialer with cable \$ 189.00



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## Installation and setup

Mount the Wireless Hygrometer display and base station unit in the room or office area near the area to be monitored. Position each sensor (100 foot clear line-of-sight and attach the auto dialer (if purchased) to the relay connection.

*The following are suggested settings. You should use the settings required by your standards.*

### Suggested settings:

Sensor 1		Sensor 2	
Store Data every	10 minutes	Store Data every	10 minutes
Type of Averaging	Med	Type of Averaging	Med
Relay	Enabled <sup>1</sup>	Relay	Enabled <sup>1</sup>
Activate Relay for	0:10 (min:sec)	Activate Relay for	0:10 (min:sec)
If Temp > 80° for more than	00:30:00 HHMMSS	If Temp > 80° for more than	00:30:00 HHMMSS
If Temp < 60° for more than	00:30:00 HHMMSS	If Temp < 60° for more than	00:30:00 HHMMSS
Humidity > 65% for more than	00:20:00 HHMMSS	Humidity > 65% for more than	00:20:00 HHMMSS
Humidity < 40% for more than	00:30:00 HHMMSS	Humidity < 40% for more than	00:30:00 HHMMSS

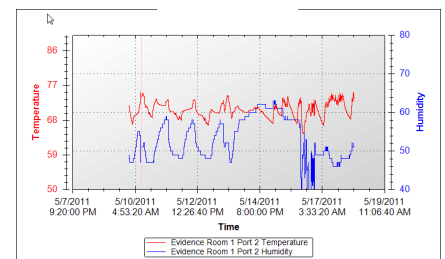
**Averaging temperature:** Setting the sensors to use the 'Med' averaging will cause the sensors to sample data every minute and store data every 10 minutes. If you need to store data more often, set the store data period accordingly. Each sensor will store 30,000 temperature and 30,000 humidity measurements; so if you are storing one every ten minutes, the Wireless Hygrometer will store about 5 months of temperature and humidity history.

**The alarm:** In addition to the temperature and humidity alarm the **power failure alarm** will also sound (if enabled) and trigger the relay if the unit is operating on battery power. The alarm will always sound an audible alarm and trigger the relay even if the unit is operating on battery power. The relay is usually shipped as a N/C relay.

**Calibration:** The Thermistor/humidity sensors can be calibrated and any corrections entered into a three-point calibration table. The calibration data is stored in the base station so if sensors are moved to a different base station it will be necessary to reenter any calibration offsets.

### Downloading data:

The Wireless Hygrometer will hold and chart approximately **5 months of temperature/humidity history** for each sensor with the above settings. A regular schedule for downloading data from the ThermaViewer should be established so that a back up copy of the data is maintained in your computer. You can also print out a copy of the chart with the same program that downloads data to your computer (TView). Access to the unlicensed TView software is provided with the ThermaViewer. It can be installed on multiple computers to download the stored data.



<sup>1</sup> Enable the relay even if you do not have anything wired to the external relay. Enabling the relay also enables the audible and visual alarm.