

APPLICATION NOTE: 182

Monitoring temperature and humidity

Monitoring temperature and humidity conditions does not have to be complicated or expensive.

The ThermaViewer is an ideal instrument for monitoring and documenting up to four different areas for temperature and humidity with external wired or wireless sensors.



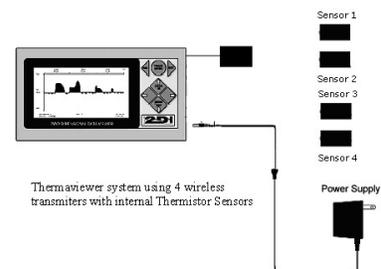
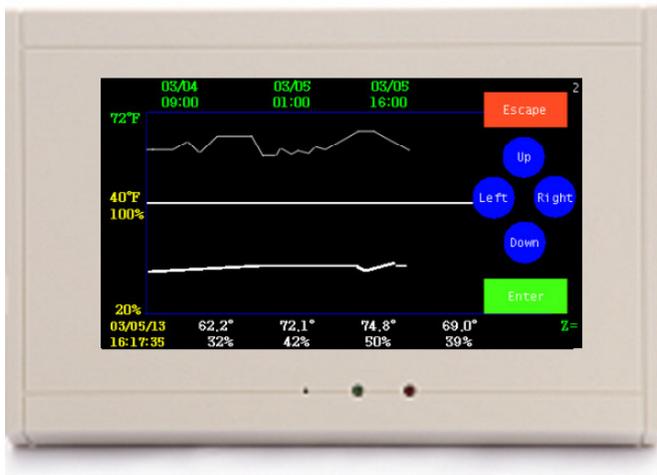
It is the only instrument that monitors, alarms, logs and charts temperature and humidity as a stand-alone device. Although it is a very sophisticated electronic instrument it has a simple user interface. It has a color Easy Touch display which responds to a finger tip touch.

An on-board menu system allows the user to quickly set the display and alarms for any particular application.

Installation is a simple 6-step process:

1. Position the sensor modules in the areas to be monitored.
2. Place a 9 vdc battery in the sensors
3. Plug the TV2 power adaptor into a wall socket.
4. Attach the auto dialer (if purchased).
5. Set the time and monitoring frequency (see below for suggested settings).
6. Set the alarm in needed.

It is accurate and automatic, providing continuous monitoring and indicating trends so that corrective action can be taken. In addition to the display showing the current temperatures as pictured above, if the user touches any of the current readings the display changes to show a chart of the readings. The user can easily see up to nine-months of temperature/humidity history, all of which can be exported to an excel worksheet with the included TView software.





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Installation and setup

Mount the ThermaViewer display unit in the room or near the areas to be monitored. Position each sensor in the area to be monitored with a good line-of-sight to the display if wireless sensors are used .

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

Suggested settings:

Room 1 Sensor	
Sample Data once every 00:10:00 HH:MM:SS	
Type of Averaging Med	
Maximum temperature line	85 °F
Minimum temperature line	60 °F
Maximum RH temperature line	100%
Minimum RH temperature line	0%

Room 2 Sensor	
Sample Data once every 00:10:00 HH:MM:SS	
Type of Averaging Med	
Maximum temperature line	85 °F
Minimum temperature line	60 °F
Maximum RH temperature line	100%
Minimum RH temperature line	0%

Alarm Menu

Sensor 1 Temperature Relay: Enabled¹
 Trigger Relay for 10:00 MM:SS
 If temp is > 80 °F for more than 00:20:00 HH:MM:SS
 If temp is < 65 °F for more than 00:15:00 HH:MM:SS
 If RH is >60% for more than 00:10:00 HH:MM:SS
 If RH is <30% for more than 00:10:00 HH:MM:SS

Sensor 1 Temperature Relay: Enabled¹
 Trigger Relay for 10:00 MM:SS
 If temp is > 80 °F for more than 00:20:00 HH:MM:SS
 If temp is < 65 °F for more than 00:15:00 HH:MM:SS
 If RH is >60% for more than 00:10:00 HH:MM:SS
 If RH is <30% for more than 00:10:00 HH:MM:SS

Setting the sensors to sample data once every ten-minutes with medium averaging will cause the **ThermaViewer** to average the temperature over the ten-minute period. This causes the chart to more accurately reflect the temperature and humidity conditions in the room. Momentary dips and rises of the air temperature or humidity, which can occur when a door is opened or the air handler starts up are not usually enough to affect the internal environment and can safely be averaged over the ten-minute period between readings.

Downloading the collected temperature and humidity data: The ThermaViewer holds over 9 months of temperature and humidity data for each sensor with the settings listed above (10 minute store interval). If you want to store more data you can lengthen the store data interval. An interval of 60 minutes will allow five years of data to be stored for each sensor.

The collected temperature and humidity readings can be copied to a computer with a USB cable or over the Local Area Network with the TView software supplied with the ThermaViewer. In addition to downloading the collected data the TView software can automatically copy the data to a file on a server.

Alarms: The ThermaViewer can be set to trigger an auto dialer or send a text or email message if the temperature or humidity gets too high or low. There is also a power out alarm to notify the appropriate personnel if the power goes out.