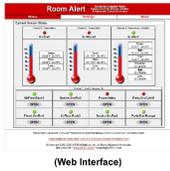


## What Will You Do... When Disaster Strikes Your Data Center?



- Temperature Monitor
- Humidity Monitor
- Power Monitor
- Flood Monitor
- Smoke Monitor
- Room Entry, Air flow, Motion, Dry Contacts, Switch Sensors
- Alerting, Web Interface, SNMP Enabled, Full Support, More
- Easy To Use, Economical, Reliable, Guaranteed



If disaster strikes your data center, how will it impact business? Who will get the blame? Could the situation have been prevented?

There are several powerful, scalable **Room Alert** solutions for 'digital' environment monitoring in the computer room or data center. All arrive assembled with easy to install hardware, cables, sensors, easy-to-use monitoring software, printed documentation, toll free technical support and a '30-Day Satisfaction Guarantee'! Users can install in under 10 minutes, without an electrician!

**Room Alert** monitors critical conditions, alerts staff and takes automatic action. Call us today to order or obtain a quote.

No one knows when or how disaster will strike. We just know the potential is always there. So preparation is critical to minimizing its impact on computers, networks, users and the organizations we serve.

When disasters occur, there are significant costs in areas that go far beyond the simple replacement of damaged hardware. This is because what happens in the data center effects the entire organization.

**888.220.6700**

[www.AVTECH.com](http://www.AVTECH.com)

**Room Alert... The Computer Room Environment Monitor**



# TemPageR™

**Real-Time Temperature Monitor With Data Logging, SNMP & Unlimited Alerting!**



To Order, Call **888.220.6700**  
Or Visit  
[www.AVTECH.com](http://www.AVTECH.com)

Phone  
Fax  
Email  
Web

**888.220.6700**  
**401.847.6701**  
[Info@AVTECH.com](mailto:Info@AVTECH.com)  
[www.AVTECH.com](http://www.AVTECH.com)

**Web Server  
User's Guide &  
Reference Manual**





*Now Included...*

## PageR Enterprise



### Network-Wide Server, Device & Event Monitoring, Alerting & Automatic Corrective Action

*We strongly recommend using our PageR Enterprise software to expand TemPageR's alerting capabilities, allow automatic corrective actions and monitor other issues network-wide.*

*AVTECH Software bundles PageR Enterprise with each TemPageR and Room Alert product it sells. Install PageR Enterprise today via the CD or download... you'll be glad you did.*

#### **Why Is The TemPageR Firmware Update File Not Recognized By The AVTECH Device Discovery Utility?**

When downloading a TemPageR Firmware Update, make sure to specify an 'All Files' type in the 'Save As' dialog box of your web browser. Since a .upd file extension is not a frequently used extension, the web browser that you are using may interpret it as being a different filetype. The extension can also be changed after downloading the file if necessary by simply renaming the file. Be sure that the file name is 'TMPXXXXXX.upd' before uploading it with the AVTECH Device Discovery Utility.

#### **Can I Use Dialout Paging For Alert Notification In The Event That My Email Server Goes Down For Some Reason?**

Absolutely. That's why we include PageR Enterprise with each TemPageR and Room Alert product we sell. With PageR, you can expand the alert notification capabilities to include TAP dial out page, SNPP, email, MSN IM, broadcast, audible alert and more. Automatic corrective actions can be configured to shutdown servers, backup critical files and more. For more information, please refer to the 'Getting Started With PageR Enterprise' manual included with your purchase.



## Frequently Asked Questions (FAQs)

### How Can I Receive An Email Notification When Updates Are Available For TemPageR?

To receive email notification when TemPageR updates are released, go to the AVTECH.com website, click 'Support', click 'TemPageR Product Support' and click 'TemPageR Discussion List' to join the TemPageR Discussion List. Whenever an important update is available, a group notification will be sent by email to the TemPageR Discussion List.

### How Do I Set A Static IP address?

A static IP address can be set using either the 'Set IP' button on the AVTECH Device Discovery Utility or the 'Network' tab in the 'Settings' section of the TemPageR web server interface. If the network does not have DHCP, a static IP address must be set using the 'Set IP' button on the AVTECH Device Discovery Utility.

### How Do I Set More Than Two (2) Email Recipients For A TemPageR ID Box?

The easiest and fastest way to set multiple email recipients for a TemPageR ID Box is to create a distribution list on your email server and to specify the email address for that distribution list in either the 'Email Recipient 1' or 'Email Recipient 2' fields.

AVTECH Software's PageR Enterprise software application can also be used to do this and supports alerting through a modem or network connection to mobile phones, pagers, PDAs, email, MSN IM, logfile, web page and more. For more information about PageR Enterprise, visit the [PageR Enterprise](#) section of the [AVTECH.com](#) website.

### How Do I Monitor The TemPageR ID Box With PageR Enterprise?

The Ethernet version of the TemPageR ID Box is SNMP enabled. To set up PageR to monitor the TemPageR ID Box, you can use the SNMP Trap or SNMP Query monitored object. For more information on setting up PageR Enterprise to monitor a TemPageR ID Box, please refer to the 'Monitor TemPageR 4E With PageR Enterprise' Application Note included with your purchase. If you can not find this Application Note, a link to a pdf version of the file is located on the 'About' screen. For more information about PageR Enterprise, please refer to the 'Getting Started With PageR Enterprise' manual included with your purchase.

## Introduction

### What TemPageR Is

**TemPageR 4E** is AVTECH Software's 'Real-Time Temperature Monitor with Data Logging, SNMP & Unlimited Alerting'. It is designed specifically to monitor 1-4 digital temperature sensors in distributed locations spanning several hundred feet while logging temperature data for historical review and graphing. TemPageR additionally allows unlimited alert notifications via email to devices like computers, phones, pagers and PDAs. Users can set up thresholds for temperatures that are rising or falling and easily work with TemPageR through their favorite web browser. Because each TemPageR ID Box is SNMP enabled, it can easily be monitored by software applications like *PageR Enterprise (PageR)*, *Tivoli*, *OpenView*, *Unicenter*, and others.

TemPageR is designed to easily work with AVTECH Software's [PageR](#) software which is included and will significantly enhance the alert notification capabilities to allow notification to individuals, groups, hierarchies, different people at different sensors/locations, and different people for different times of the day. With PageR, alert notification methods can be expanded to include email, Simple Network Paging Protocol (SNPP), dialout paging (TAP or UCP), web page update, logfile update, pop-up broadcast message, MSN Messenger, audio alert, spoken English text and more.

PageR will also allow automatic corrective actions both on alarm start and resolution. This means that users have the ability to run commands, start executables, run JavaScripts, run Visual Basic (VB) scripts, and the like. If you have not looked at PageR before, take a look because it truly is one of the easiest and most powerful products to use in monitoring servers, devices and events network-wide, regardless of the various operating systems that may be in use across your organization's network.

TemPageR is a natural extension and enhancement to AVTECH Software's [Room Alert](#) product line. There are several powerful Room Alert models designed to monitor environmental conditions in the data center like temperature, humidity, main / UPS power, flood / water, smoke / fire, entry / intruder, air flow and more. All Room Alert models come with a license to run PageR and include a printed copy of the 'Getting Started With PageR Enterprise' manual.

To learn more about PageR, Room Alert or TemPageR please visit AVTECH Software's main website at [www.AVTECH.com](#).

To order products online, visit [www.EnvironmentMonitor.com](#) or call us toll free at 888.220.6700 (outside of U.S. Or Canada call 401.847.6700)

## Benefits Of Using TemPageR

Know immediately when important or critical temperature changes and extremes occur within a computer room, data center or other facility that could lead to expensive down time, damaged equipment, lost worker productivity or denied server access. Providing early warnings about situations that could damage hardware, threaten uptime or block system access allows staff and management to take actions that can avoid or minimize an events' impact on servers, the network, users, recovery insurance and the emergency IT budget.

Give the IT staff and management "peace of mind" by keeping them fully informed of critical temperature changes regardless of where they are, the time of day or day of the week. Temperature extremes place an enormous stress on computer hardware and are normally caused by failure of the main air conditioning system or a loss of power. Extremes for even a short time can create major challenges for the IT staff and their budget.

TemPageR provides dynamic, real-time temperature monitoring of the computer room, data center or other facilities. Some customers use TemPageR to monitor hospital lab refrigerators, incubators, or coolers. Restaurants use it to monitor their coolers, dining room and lounge areas. We even have people who use TemPageR to monitor their personal wine cellars, remote cabins in New England, and water pipes in homes during Winter months. Monitoring of temperatures is possible at up to four (4) locations for each TemPageR box, three (3) of these can be as far as 100 feet away from the TemPageR box.

Notification to an unlimited number of individuals or groups, at unlimited temperature thresholds (too high or too low), and by notification to each users' device of choice. Notifications can be sent by email to computers, mobile phones, pagers, PDAs and more. By having another monitoring application (like AVTECH Software's PageR Enterprise) monitor TemPageR, there are additional options for notification and automatic corrective action to resolve issues and protect equipment.

TemPageR can log temperatures over the short or long term for temperature tracking or identification of critical times of the day where environment conditions may change to consistently cause problems. It can also be exported to Microsoft's Excel by clicking a single button. There, charts, graphs and reports can be prepared for presentation to management or periodic review by the IT staff. This can be useful for justification of new air conditioning equipment, modifying the data center layout or justifying changes like the location of primary servers or the data center.

## Advanced

The 'Advanced' tab is used to configure the time display on the 'Status' screen and in the 'sensors.csv' file and provides a 'Reset Factory Defaults' button. If you wish to modify the time display on the 'Status' screen and in the 'sensors.csv' file to the local time zone, use the drop down box to select your local time zone, check the 'Daylight Savings Time' checkbox if applicable and click 'Save Settings'. The 'Time Server IP' field can be used to manually enter a specific time server to use for the time display if access to the Internet is restricted or not available and a time server is available for use on the local network.

**NOTE:** If Daylight Savings Time is used in your location, be sure to toggle the 'Daylight Savings Time' checkbox when setting your clock forward in the Spring and backward in the Fall.

The 'Reset Factory Defaults' button will reset the TemPageR ID Box to its default factory configuration, clearing any configuration changes made to the TemPageR ID Box. Use this as a last resort if you are experiencing difficulties configuring the TemPageR ID Box.



## History Screen

The TemPageR History Screen displays links to the 'sensors.csv' log file and any archived log files which contain the temperature values recorded from the TemPageR ID Box. To save this file, use the save option from the web browser you are using after accessing the desired log file. Log files on the TemPageR ID Box are supplied in a semi-colon (;) delimited format and can be imported into spreadsheet or database applications for advanced graphing or manipulation. Temperature values from the TemPageR ID Box will be logged according to the value entered in the 'Logging Interval' field of the 'Logging' tab. If logging is enabled, TemPageR will continue to log temperature data until the file size cap of 64KB is reached at which point any current log file data will be archived and logging will continue in a new 'sensors.csv' file.

## Security

The 'Security' tab is used to configure password security for access to the TemPageR Settings Screen. Passwords can ONLY contain the alphanumeric characters '0-9', 'a-z' and 'A-Z'. Spaces, symbols, and punctuation are not supported. Be sure to record the password entered here in a safe place.

## Logging

The 'Logging' tab is used to configure logging on the TemPageR ID Box. To enable logging, check the 'Enable Logging' checkbox, select a logging format (Fahrenheit or Celsius) in the 'Temperature Scale' drop down list and enter a log interval in the 'Log Interval' field. The 'Log Interval' field has a default value of '5 minutes' and can be changed to any number of minutes between '1' and '65,536'. Clicking the 'Clear Logfile Data' button will clear any logged temperature data in the 'sensors.csv' file and delete any archived log files.

## Setting Up TemPageR

### Hardware Installation

The standard TemPageR package comes fully configured and ready for your immediate installation. Typically it takes as little as 5-10 minutes to install. Perhaps the hardest part of the installation is simply deciding where you want to place the sensors for greatest benefit.

A system manager or support technician can typically install TemPageR with ease. There is absolutely no need for an electrician. However, if you are uncertain of what you are doing, read this manual completely and then call our technical support line if needed. This is not usually necessary although whenever in doubt, always lean towards safety.

**WARNING: NEVER CONNECT MAIN POWER TO THE SENSORS OR SENSOR CABLES.**

The recommended order for installation of TemPageR with Ethernet is as follows:

1. Mount sensors where desired and run the sensor cables back to the TemPageR ID Box. The standard external sensor cables can be extended to approximately 100 feet.
2. Connect the TemPageR ID Box to your network via the supplied Ethernet cable and connect the AVTECH power supply to a UPS or Main power source.
3. Install, set up and run the AVTECH Device Discovery Utility software available for download on the AVTECH.com website in the 'Downloads' section under 'TemPageR Software Downloads'.
4. Update the TemPageR Firmware with the 'Update' button located on the top right corner of the AVTECH Device Discovery Utility. The most current TemPageR Firmware is available for download on the AVTECH.com website in the 'Downloads' section under 'TemPageR Software Downloads'.

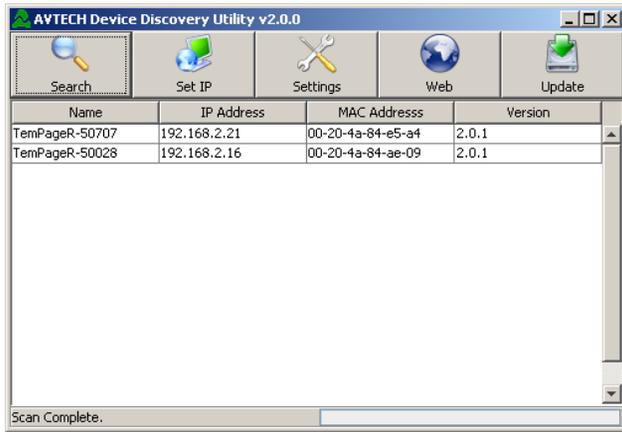
**NOTE:** Your web browser may add a '.zip' extension to the firmware update file. If this occurs, please remove the '.zip' extension and ensure that the file has a '.upd' extension. The firmware must appear as 'TMPXXXXX.upd' in order for the AVTECH Device Discovery Utility to be able to upload it to the TemPageR ID Box.

5. Configure Email, SNMP, Alert, Security, Logging and Advanced settings through the TemPageR web server interface by typing 'http://<IP address>' in your web browser or by clicking the 'Settings' button in the AVTECH Device Discovery Utility.

**NOTE:** TemPageR has a built-in sensor for digital temperature. Additional sensors for digital temperature can be attached externally. Call your Product Specialist if you desire additional sensors.

### Software Installation

By default, TemPageR is configured for DHCP and will obtain a dynamic IP address when powered on and connected to the network. The AVTECH Device Discovery Utility scans the network and locates all TemPageR devices connected to the network. This provides an efficient way to manage large numbers of TemPageR devices from a single host system.



**Search**

Click the 'Search' button to scan the network for TemPageR hardware devices. If a TemPageR ID Box or AVTECH product is physically attached to your network anywhere it will be located in this scan.

**NOTE:** If the AVTECH Device Discovery Utility can not find the TemPageR ID Box, reset the unit by unplugging the power adapter and then plugging it back in. Also, make sure that UDP port '30718' is not restricted on your network by a router, switch, network firewall or software firewall.

**NOTE:** The default DHCP name of the TemPageR ID Box will be 'TemPageR-<5-digit number>'. The 5-digit number will match the 5-digit serial number located on the bottom of the TemPageR ID Box.

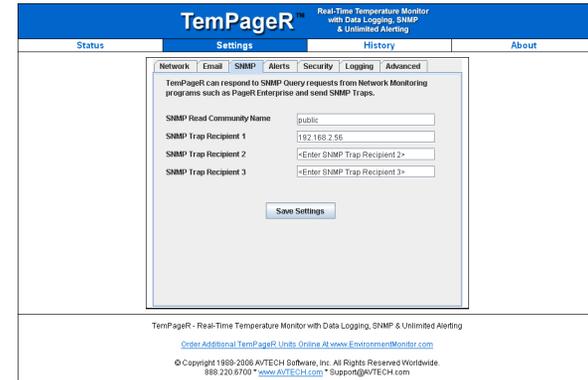
**Set IP**

Click the 'Set IP' button to enter a static IP address, gateway IP address, DNS server IP address and subnet mask for the selected TemPageR ID Box. To configure a dynamic IP address, set the IP to '0.0.0.0'. When configured for a dynamic IP address, TemPageR will attempt to obtain an IP address automatically via DHCP or AutoIP.



**IP Address Assignment for Static Only Networks**

If the network is not configured for DHCP, a static IP address will need to be set before the TemPageR ID Box can be accessed. After discovering the unit, it will be displayed with an IP address of '169.xxx.xxx.xxx'. Click the 'Set

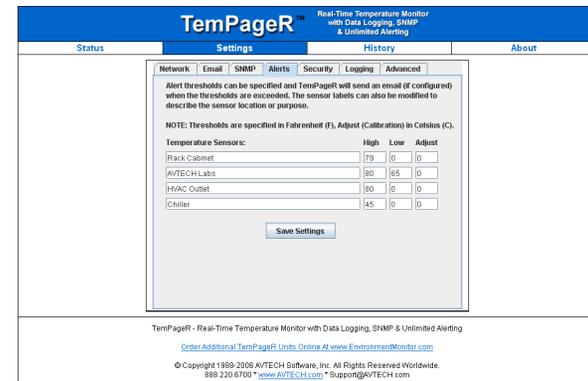


**Alerts**

The 'Alerts' tab is used to configure sensor labels and to set temperature thresholds for when alerts will be generated. Sensor labels can be up to 14 characters in length. AVTECH recommends modifying the sensor labels to reflect the location of the sensor to make it easier to know the temperature of a specific location with a quick glance at the status screen.

High and low thresholds can be defined for each temperature sensor. If the current temperature rises above the high threshold or falls below the low threshold, an alert will be generated. When the temperature returns to a normal state, the alert will clear and a follow-up alert will be sent.

The temperature sensors can be calibrated by entering correction values in the 'Adjust' field for each temperature sensor. Temperature corrections entered here can only be entered in degrees Celsius (i.e. 1° Celsius = 1.8° Fahrenheit). To adjust the temperature down, enter a minus (-) sign before the value (i.e. -5). All alert thresholds must be entered in degrees Fahrenheit.



Enter the mail server address for the mail server you are using in the 'Mail Server Address' field. The address can be entered as either the IP address or the DNS name of your mail server. If you wish to use a DNS name for the 'Mail Server Address' field, you must assign a Static IP address, Gateway IP address, DNS Server IP address, and Subnet Mask on the 'Network' tab.

In the 'Email Recipient 1' and 'Email Recipient 2' fields, you can enter a regular email address, distribution list email address or mobile phone, pager or PDA email address (Email-To-SMS) for email alert when alert thresholds are exceeded.

The 'Return Address (From)' field **MUST** contain an email address for an active account on the mail server specified in the 'Mail Server Address' field. For example, if 'AVTECH.com' is entered in the 'Mail Server Address' field, the 'Return Address (From)' field must contain an email address with the 'AVTECH.com' domain. Contact your email administrator if you require additional assistance.

**NOTE:** Many email servers block SMTP email by default. To use SMTP email with TemPageR, be sure the TemPageR IP address is added to the list of allowed SMTP relay hosts on the email server you are using for email.

## SNMP

The 'SNMP' tab stores settings allowing TemPageR to respond to SNMP Query requests from network monitoring applications like PageR Enterprise, Tivoli, OpenView, Unicenter and others. Enter the 'Community Name' to use for accessing the SNMP data via SNMP Query for the TemPageR sensors. If the SNMP feature of the TemPageR ID Box is used, TemPageR MIB files (required for translation of the SNMP object IDs) are available for download via the AVTECH.com website in the 'Downloads' section under 'TemPageR Software Downloads' or by contacting [Support@AVTECH.com](mailto:Support@AVTECH.com) via email.

TemPageR can also send SNMP Traps in response to alerts. Enter up to three (3) IP addresses on the SNMP tab and TemPageR will send SNMP Traps to these systems for processing by network monitoring applications.

IP' button to assign a static IP address only. After the TemPageR ID Box reboots (i.e. it takes about 4 seconds) with the new IP address, click the 'Search' button on the AVTECH Device Discovery Utility. Next, select the TemPageR ID Box that was just assigned a static IP and then click the 'Set IP' button. Finally, fill in the gateway IP address, DNS server IP address and subnet mask for the selected TemPageR ID Box.

**NOTE:** If you are unsure about the correct IP addresses to use, contact your Network Administrator for assistance.

## Settings

Click the 'Settings' button to open the Settings Applet on the web browser interface for the selected TemPageR ID Box. The Settings Applet can then be used to configure that specific TemPageR ID Box.

## Web

Click the 'Web' button to open the web browser interface for the selected TemPageR ID Box. This is useful for viewing the current sensor status.

## Update

Click the 'Update' button to update the firmware installed on the selected TemPageR ID Box. Updated firmware files provided by AVTECH Software add new features and enhance the web browser interface. These firmware updates are available for download by all users with active Maintenance Support & Update Service from the AVTECH.com website in the 'Downloads' section under 'TemPageR Software Downloads'.



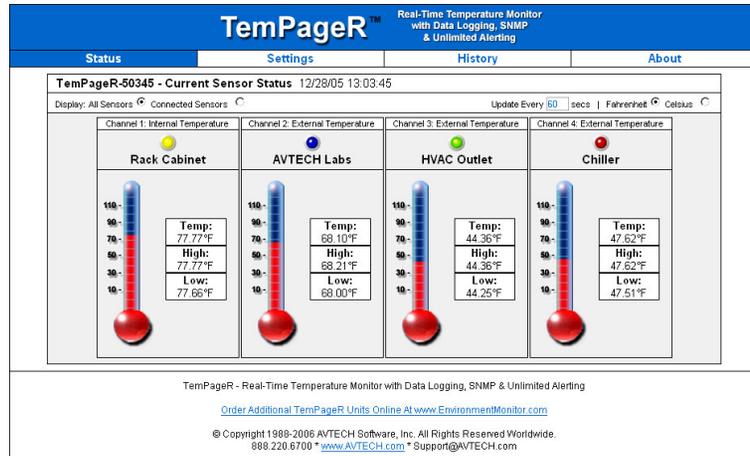
**NOTE:** When obtaining the TemPageR Firmware Update file from the AVTECH.com website, be sure to save the file instead of opening it from a web browser. After downloading the file, right-click the TemPageR Firmware Update file and select 'Properties'. If the TemPageR Firmware Update file has a '.zip' extension, replace '.zip' with '.upd' before uploading the file with the AVTECH Device Discovery Utility.

**NOTE:** Version 2.0.0 or later of the AVTECH Device Discovery Utility provides the ability to perform the action linked to any of the buttons on multiple devices at once. To select multiple devices, hold down the 'SHIFT' key.

## Working With TemPageR

### Status Screen

The TemPageR Status Screen is available through the built-in web server and shows the current status of TemPageR sensors. If high and low alert thresholds are defined for the temperature sensors, the status icon above the sensor label changes color based upon where the temperature is in relation to the established high and low thresholds.



If the temperature is between the high and low thresholds and more than five (5) degrees from the threshold, the status icon will be green. If it is within five (5) degrees of the high threshold, the status icon will be yellow. If it is within five (5) degrees of the low threshold, the status icon will be blue. If the high or low threshold is exceeded, the status icon will be red. If no thresholds are currently defined, the status icon will be gray.

Below the DHCP Name and time display are a number of radio buttons and form fields that allow the display of the TemPageR web server interface to be modified. Changing the 'Display' radio buttons will toggle how inactive sensors are displayed, modifying the 'Update Every' form field will adjust the refresh time of the TemPageR web server interface and selecting the 'Celsius' radio button instead of the 'Fahrenheit' radio button will display sensor values in Celsius.

**NOTE:** Javascript MUST be enabled to view the 'Status' screen.

### Settings Screen

The TemPageR Settings Screen is used to modify the TemPageR configuration. Here users can configure Network, Email, SNMP, Alert, Security, Logging and

Advanced settings. When settings are modified and saved, TemPageR will automatically reset and start with the new configuration.

### Network

The 'Network' tab stores settings to control how TemPageR appears on the local network. Modifying the DHCP name will change how TemPageR reports to the DHCP server when attempting to obtain a dynamic IP address. This label must be unique, so take care when assigning the DHCP Name to ensure that duplicate labels do not appear on the network.

To set a static IP address, uncheck the 'Use DHCP' checkbox and enter the Static IP, Gateway IP, and Subnet Mask.

If you wish to use a DNS name instead of an IP address for the 'Mail Server Address' on the 'Email' tab, enter the IP address of your DNS Server in the 'DNS Server IP' field.

**NOTE:** In many cases, the DNS Server IP address is the same as the IP address entered into the 'Gateway IP' field. If this does not work, please contact your network administrator for further assistance.

TemPageR - Real-Time Temperature Monitor with Data Logging, SNMP & Unlimited Alerting

Order Additional TemPageR Units Online At [www.EnvironmentMonitor.com](http://www.EnvironmentMonitor.com)

© Copyright 1989-2006 AVTECH Software, Inc. All Rights Reserved Worldwide. 888.220.6700 \* [www.AVTECH.com](http://www.AVTECH.com) \* [Support@AVTECH.com](mailto:Support@AVTECH.com)

**NOTE:** If using PageR Enterprise to monitor the TemPageR ID Box, it is STRONGLY recommended that a static IP address be assigned to the device to ensure that PageR can find the unit. The IP address assigned must also be excluded from DHCP assignment to ensure that the IP address of the TemPageR ID Box is NOT given to another device on your network. If you are unsure what this means, please contact your Network Administrator for assistance.

### Email

The 'Email' tab stores settings for TemPageR to send email alert notifications when alert thresholds are exceeded. In order to enable email alerting from the TemPageR web server interface, your mail server must have 'SMTP Relay' enabled for either your network or the IP address of the TemPageR ID Box. Contact your Network Administrator if you need assistance in doing this.