



Protimeter HygroTrac
Remote Wireless Monitoring System

Instruction Manual



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Instruction Manual

INS9000DE

January 2008

HygroTrac is a Protimeter product. Protimeter has joined other GE high-technology businesses under a new name—GE Sensing.



Service Agreement

GE Sensing and its partner will provide access to the GE Sensing HygroTrac website, and the Subscriber will utilize GE Sensing's service according to the following terms and conditions:

- Service
- Technical Support
- Equipment Utilities
- Cancellation
- Termination by GE Sensing
- Termination by Subscriber
- Data Indemnification
- Limited Warranty
- Limitation of Liability
- Compliance with Law
- Law
- Notice
- Pricing
- Fees, Payment Method

The above terms and conditions are described below in detail.

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Subscriber will select either pricing option 1 or option 2. The base fee will be charged at the beginning of each month. Subscriber authorizes charges for base fees and usage fees to be made to the identified credit card each month for the duration of this agreement. Notice of charges against Subscriber's credit card shall be made as provided in section entitled "*Notice*" on page vi above. Billing of business subscribers may be made by direct invoicing rather than debiting a credit card. GE Sensing may change any fee, rate, or package upon thirty days Notice. Insufficient or invalid credit card details may result in the service being suspended.

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Equipment Utilities

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To cancel your account, you must notify GE Sensing in the following manner and with the following:

- By telephone at (800) 321-4878. You must provide your name, username, e-mail address and phone number on the account for verification purposes in order for the cancellation to be valid. Or,
- In writing by postal mail to GE Sensing - HygroTrac, 1100 Technology Park Drive, Billerica, MA 01810, USA. Or,
- By Faxing to GE Sensing - HygroTrac at (978) 437-1031. Or
- By electronic mail to meters@ge.com.

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Data Indemnification

Subscriber understands and agrees that the Internet is a conglomeration of on-line data bases operated by distinct entities having no business or legal relationship to GE Sensing. GE Sensing has no input whatsoever as to the content of Internet data accessed via the Service. Subscriber is solely responsible for any value or reliance it places on information obtained via the Internet. GE Sensing does not monitor nor control any information on the Internet. It does not warrant the information is appropriate for families nor does it warrant that the information available on the Internet does not violate copyright, libel or privacy laws. Subscriber is liable for his/her users of the Internet and will hold GE Sensing harmless from any liability arising because of the subscriber's use of the Internet.

Limited Warranty

GE Sensing warrants only that it shall, subject to the terms and conditions of this Agreement, provide Subscriber access to the Internet.

GE SENSING MAKES NO OTHER WARRANTIES AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR AGAINST INFRINGEMENT. GE SENSING FURTHER DISCLAIMS ANY WARRANTY OR REPRESENTATION AS TO THE INTERNET AND INFORMATION THEREFROM.

Limitation of Liability

GE Sensing shall not be liable to Subscribers for more than the monthly fee for any single month during which any claim arose. GE Sensing shall have no liability for incidental, consequential, or punitive damages.

Compliance with Law

Subscriber agrees to use the Service in compliance with all applicable laws and to upload and/or download files:

- Only with the consent of the copyright or patent owner
- Only if such files do not violate anyone's right to privacy
- Only if such files do not contain any defamatory material.

Law

This Agreement shall be construed under the laws of the State of Massachusetts. Massachusetts courts shall have jurisdiction over this Agreement and all litigation under this agreement shall be in Massachusetts.

Notice

Notices to either party may be given via e-mail using the e-mail ID assigned to the parties by GE Sensing. Notice shall be effective upon first access under that ID number after the notice is posted.

Table of Contents

Chapter 1: HygroTrac Overview

System Components	1-1
HygroTrac Applications	1-3
Temporary Installations	1-3
Permanent Installations	1-3
Preliminary Installation Steps	1-4
Communicating with the Customer	1-4
Sensor Placement Guidelines	1-5
Installing the Wireless Sensors	1-8
Data Acquisition Gateway	1-10
Gateway Activation and Site Creation	1-10
Gateway Installation Guidelines	1-11
Location Preparation	1-11
Power	1-11
Antenna	1-11
Location and Mounting	1-11
Rear Panel LEDs	1-12
Connecting Gateway to an Ethernet LAN	1-13
Connecting Gateway Using a Modem	1-14
Troubleshooting	1-16
Technical Specifications	1-18
Wireless Sensor	1-18
%RH/Temperature Sensor	1-18
Moisture Sensor	1-18
Data Acquisition Gateway	1-19
Certification	1-19

Table of Contents (cont.)

Chapter 2: Using the HygroTrac Web Site

Introduction	2-1
Creating a New Account.....	2-1
Accessing the Web Data Service.....	2-3
Adding an Existing Site	2-4
Creating a New Site and Adding a Gateway	2-5
Viewing the Job Sites Screen	2-8
Looking Up Job Sites Quickly	2-10
Viewing and Graphing Sensor Measurements	2-11
Deactivating and Reactivating Sensors.....	2-13
Understanding Inactive Sensors	2-13
Plotting Sensor Measurements	2-13
Updating the User List for a Site	2-15
Generating a Record of Drying Conditions (RDC)	2-16
Downloading Specific Site Data.....	2-17
Generating a Site Report	2-18
Viewing and Setting Alarm Thresholds	2-20
How Thresholds Function.....	2-20
Setting Up Thresholds	2-21
Updating Site Data.....	2-23
Accessing My Account Screen	2-24
Adding, Updating, or Deleting Users.....	2-25
Maintaining Company Information.....	2-28
Accessing the Equipment Pull-Down Menu	2-30
Viewing All Gateways.....	2-30
Viewing All Sensors.....	2-31
Finding Support and Help	2-33
Exiting the HygroTrac Web Site	2-34

Table of Contents (cont.)

Appendix A: Glossary

Appendix B: Configuring the Gateway in Specific Situations

Configuring the LAN Connection	B-1
Connecting a Gateway Using Proxy Servers	B-1
Configuring Dialup Information	B-2
Other Dialup Settings	B-2
Accessing the Gateway Configuration Menu	B-2
Using an Ethernet Port to Access the Configuration Menu	B-3
Using an RS-232 Port to Access the Configuration Menu	B-6

HygroTrac Overview

The *Protimeter HygroTrac* is a simple and cost effective system for remotely monitoring moisture and temperature levels in buildings. The Protimeter HygroTrac system measures and logs parameters such as GPP or g/kg, dew point temperature, relative humidity, air temperature and % moisture in wood.

To set up the system, HygroTrac *wireless sensors* are placed in the building. Sensor readings are transmitted to a *Data Acquisition Gateway*, which is connected to a dedicated and secure web server via either an Ethernet or telephone line connection. The measurements can then be viewed at www.gehygrotrac.com, using a secure password to access the data.

System Components

The *Protimeter HygroTrac* kit comprises a carrying case containing the components detailed in Table 1-1 below. The illustration on the next page shows a typical **BLD9000** kit.

Table 1-1: Protimeter HygroTrac Kit (BLD9000)

Description
Hard Carry Case with Custom Foam Insert
Data Acquisition Gateway* (BLD9010)
Detachable Antenna w/RP-SMA connector
10 Wireless Sensors w/Lithium Batteries* (BLD9050)
20 Conductive Mounting Screws
20 Split Washers
3.3v Power Supply
Ethernet Cable (RJ 45)
Telephone Cable (RJ 11)
Instruction Manual (INS9000)
*Additional sensors (BLD9050) and gateways (BLD9010) are available. For European use, append “-EU” to the part numbers.

Note: *Batteries must be replaced with 3.6V ER14505 Lithium Thionyl Chloride batteries.*

System Components (cont.)



IMPORTANT: *The external power supply included in your HygroTrac BLD9000 kit is fitted with an AC plug suitable for the country of destination. If you require a different plug, please contact GE Sensing for assistance.*

IMPORTANT: *See the Declaration of Conformity at the end of this manual for HygroTrac certification information.*

HygroTrac Applications

Temporary Installations

The Protimeter HygroTrac system can be used in restoration projects to reduce costly regular visits to take moisture and humidity measurements when drying a building after water damage. The system allows technicians to constantly monitor atmospheric conditions and material moisture levels, to ensure continual progress in restorative drying. It instantly flags such changes as recurring water sources, tripped breakers, and equipment changes by occupants. HygroTrac may be used to:

- automatically produce detailed professional reports
- get output readings from dehumidifiers
- provide early warnings of targets reached and potential problems through e-mail alerts and cellular text messages
- provide constant access to temperature, humidity and moisture content readings
- increase accuracy of temperature, humidity and moisture content readings with fixed sensing locations

Permanent Installations

The Protimeter HygroTrac system provides warnings of potential moisture-related problems that can lead to property damage or health risks. This makes it ideal for locations such as heritage and historic buildings, museums, food storage and apartment buildings.

Preliminary Installation Steps

A complete installation of your Protimeter HygroTrac system includes the wireless sensors, the data acquisition gateway and website access. In addition to the BLD9000 kit, technicians require several tools for installation:

- A cordless drill with Philips® bit attachment (with extension) or a cordless screwdriver
- Zip Ties® for mounting
- A power strip with surge protector

Other supplies may also be necessary, depending on job circumstances:

- A 12-foot phone cord
- A 12-foot LAN cable
- An in-wall phone jack splitter
- Additional #10 wood stainless steel coarse thread screws (with a variety of lengths)
- Additional helical spring or split-style lock washers (#12, 18-8 steel, 3/8 in. O.D., 3/4-in. I.D.)

Communicating with the Customer

Before installation, explain to the customer that the HygroTrac system provides constant information to the contractor on wood moisture, temperature and humidity in the areas being restored. It enables technicians to respond to any changes or to insufficient progress. (If the question arises, reassure the customers that the sensors do not invade their privacy in any way.) For households with small children or pets, ask the customer which locations will be safest from interference.

If you are using a modem connection, you must explain to the customer that HygroTrac will transfer the data over the customer's telephone line once every 12 hours, and that the transfer may take up to 6 minutes. While the customer will be unable to use the phone line during the transmission, the transmission will not interrupt an active call. (See page 1-14.)

Sensor Placement Guidelines

HygroTrac sensors can measure moisture in many different materials: subfloor, carpet, pad, sill plates, walls, wall insulation, hard woods and other structure materials. They pick up the *highest*, rather than the average, reading in the material. You can install the sensors to focus on materials with the greatest degree of saturation, or on those materials that have the greatest drying challenges. Several guidelines are useful for sensor installation:

- Place sensors within 150 feet of the gateway.
- Attach or mount sensors in areas where they will not create a safety or tripping hazard.
- Use the perimeter of the room or stationary building contents to protect the sensor from occupant tampering.
- Sensors intended to monitor air space should be installed away from wet surfaces or materials.
- Unless you specifically intend to monitor these areas, ensure during installation that the sensors are not influenced by the following items:
 - HVAC registers
 - Dehumidifier air streams
 - Open windows or doors
 - Direct sunlight
 - Appliances (washer, dryer, or kitchen appliances) in use
- Be sure that the mounting screw completely penetrates the affected portion of the material.
- Choose a location that presents the best option for repairing the material surface once it is completely dry.

IMPORTANT: *WME (moisture content) readings are obtained by the mounting screw², while humidity and temperature readings are obtained by the black dot on the bottom of the sensor housing. Ensure that this black dot is in the air stream of any air targeted for humidity and temperature monitoring.*

Placing the Sensors for Best Results

In the Affected Area:

- Assign at least one sensor to monitor the temperature and humidity in the affected area. Mount it in a location that represents the ambient air surrounding the affected materials.
- If possible, mount the sensor at least two feet above wet flooring materials.
- You can secure the sensor to a picture hook on the wall (with a zip tie), to a curtain rod, an unused table lamp, or in an inaccessible spot such as the top of a bookcase.

In an Unaffected Area:

- Assign at least one sensor in a nearby unaffected area (room). Mount it in a location that represents the majority of the air circulating in the area, and so that it is inaccessible to the occupants.

Outdoors:

- Assign one sensor outside the monitored structure.
- Do not install in an area that receives exposure to rain, extended direct sunlight, or passersby.
- Some possible outdoor sites include an unused storm door, a covered porch railing, or a mailbox on the front of the house.

Mechanical Systems:

- Install one sensor to monitor the air exiting from any mechanical system that controls or changes humidity and/or temperature (e.g., a dehumidifier output, air conditioner, or furnace). The black dot on the underside of the sensor must be in the air stream from the unit.
- For an HVAC supply, secure the sensor to the grate of a supply vent (supply register) in such a way that the black dot is directly in the air stream. Otherwise, if the sensor is moved, it will provide incorrect temperature and humidity readings. On a floor vent, place the sensor down into a register to ensure placement in the air flow.

Installing the Wireless Sensors

A photograph of a HygroTrac wireless sensor appears at the right. To install your wireless sensors, complete the following steps:

1. To help determine the best locations for the sensors, use a standard moisture meter such as the *Protimeter SurveyMaster* to establish the existing moisture conditions within the building.
2. Select sensor locations that are within 150 ft (46 m) of the planned location of the data acquisition gateway.



Note: *The maximum sensor transmission distance varies with the building construction materials. You may also need additional gateways if your sensors are out of the sensor RF transmission range due to distance or building construction materials. Up to 600 sensors can report to a single gateway.*

Caution!

If it becomes necessary to replace a sensor battery, use only a LISUN #ER14505 lithium battery and be sure to install it with the correct polarity. Use of any other battery or installation of the battery with the incorrect polarity will void your sensor warranty.

3. When mounting the sensors, observe the following precautions:
 - a. If you use a powered screwdriver, be careful not to overtighten the screws. The screws should be just tight enough to ensure good contact between the material and the sensor.
 - b. Avoid placing sensors in locations where they could be stepped on or in locations where they might interfere with working machinery.
 - c. Do not mount sensors in areas where water could enter the electronic components.

Installing the Wireless Sensors (cont.)

4. Fix each HygroTrac wireless sensor at its chosen location using two of the supplied *conductive mounting screws*. As the mounting screws are also the terminals for the moisture sensor, the HygroTrac moisture reading is taken at the depth of the screw in the material. For measurements deeper in the material, you can substitute longer screws obtained from a local supplier. However, the screws must be made from stainless steel. The photograph at the right shows a sensor mounted to the wall above a doorway.



IMPORTANT: *You must be sure to use a spring washer with each mounting screw to maintain the integrity of the connection, as the material expands and contracts with moisture changes.*

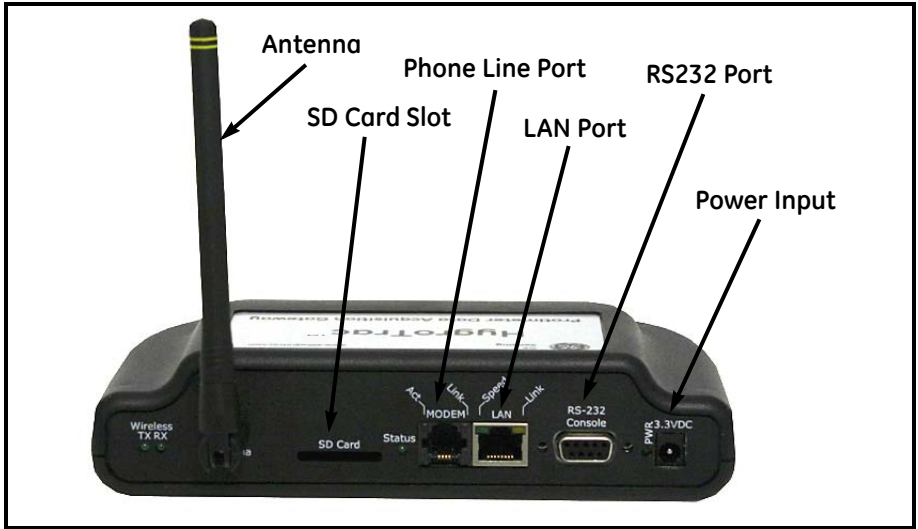
5. Record the *ID number* and *location* of all installed sensors, as well as the atmospheric type for each sensor. The sensors have bar-coded ID numbers for use with bar-code readers when installing large numbers of sensors. Each 8-digit ID number consists of letters and numbers. A record is necessary to associate each sensor on the web site with its location in the restoration project. The template shown below is available at www.gehygrotrac.com; click the support link.



Sensor Installation Worksheet				
GE Sensing HygroTrac®				
Job Name:		Gateway ID (s):		
Date:		Technician:		
Sensor ID	Sensor Description	Material Notes	Atmospheric Notes	Threshold / Alarm Notes
A1234567	Moisture content	Drywall		Dry Std 11%
B12345678	RH and T		Dehumidifier output	none

Data Acquisition Gateway

To install your Data Acquisition Gateway, refer to the picture below and proceed to the instructions on the next page.



Gateway Activation and Site Creation

A gateway sends all the data it collects to the HygroTrac Database Web Server (HDS), discussed in Chapter 2. Users can then access this data at www.gehygrotrac.com To store and access data, users must first activate the gateway and assign it to a user-created “site” at www.gehygrotrac.com When sensors send data through a gateway assigned to a site, those sensors are automatically assigned to that site as well.

Note: *Users must first register as subscribers at www.gehygrotrac.com, as discussed in Chapter 2. Subscribers can then create sites by logging into their account at www.gehygrotrac.com and using information that describes the site to be monitored (customer name, address, email, etc.)*

Record the gateway ID which is on the ID label located on the bottom of the gateway. You will need this ID in order to assign your gateway to a job site.

Gateway Installation Guidelines

Location Preparation

When planning your installation, remember that the gateway requires an AC power source and either a LAN or modem Internet connection. Also, position the gateway within 150 feet of the planned sensor locations.

Power

The gateway requires 3.3 VDC, provided by the supplied AC adapter. Connect the adapter to an AC power source and plug the jack into the “3.3VDC” receptacle on the gateway rear panel. When power is active, the *PWR LED* will glow a constant green.

Antenna

The antenna supplied with your gateway connects to the “Antenna” connector on the gateway rear panel. It should be screwed on “finger tight.” The antenna is designed to swivel in all directions and must be pointed “skyward,” or vertically oriented, for best wireless performance.

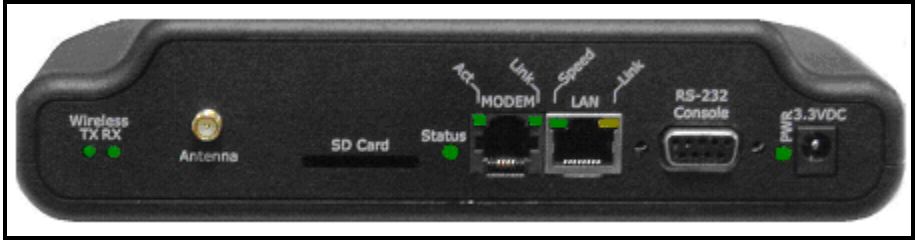
Location and Mounting

The gateway can either be wall mounted using the built in teardrop shaped mounting holes on the bottom of the case (screws not supplied) or it can be placed on any horizontal surface. In either case, be sure the antenna is pointed skyward. For best system wireless coverage, locate the gateway central to where the sensors are to be installed. Do not locate the gateway close to large metal obstructions such as filing cabinets or refrigerators.



Rear Panel LEDs

The gateway rear panel, shown in the figure below, contains several LEDs which provide useful information on the status of the gateway.



The LEDs indicate the following information:

Wireless

- *TX LED* – consistent rapid green flashing indicates normal transmitter operation.
- *RX LED* – flashes briefly while the gateway is receiving data over the wireless link. The activity of this LED depends on the number of sensors in your system and the sensor reporting interval.
- *Status LED* – glows a constant green when gateway is communicating normally with the HygroTrac Web Server.

Modem

- *Link LED* – flashes to indicate modem is attempting to dial out; steady light indicates modem is connected to far side modem
- *Act LED* – when lit, indicates gateway has successfully logged in to your ISP; flashes to indicate sending and receiving of packets

LAN

- *Speed LED* – always off, indicating 10 Mb/s link speed
- *Link LED* – Ethernet link is active; flashes orange to indicate transmission or receipt of packets
- *PWR* – when lit, indicates power is on

Connecting Gateway to an Ethernet LAN

Using the supplied Ethernet cable, connect the gateway's "LAN" port to an available and active data port on your LAN network. Power on the gateway, and the *Link LED* should go on within 1-2 seconds. If it does not, see the troubleshooting chart on page 1-16.



6. Testing the LAN connection

If the *Status LED* lights up, the LAN connection is working. If the *Status LED* does not light up, the LAN connection is not working (see *Troubleshooting* on page 1-16).

Connecting Gateway Using a Modem

You must have a working dialup account in order to use the modem. Find an ISP with either local or toll-free access numbers. See Appendix B for setup and configuration.

1. Connecting Gateway to Phone Jack

Connect the gateway to an active analog telephone jack using the supplied RJ-11 phone cable or a similar phone cable as shown below. Residential phone lines are typically analog, while office lines are digital. In an office you should use a phone line that can support a fax/modem. Use a phone line splitter if it is necessary to share the line.



Note: *The modem interface is surge protected by a non-replaceable non-resetting slow-blow fuse. If you use a phone line that experiences frequent surges or lightning strikes, you should put a surge protector in line with the phone line to protect the modem from damage.*

2. Testing Your Modem Connection

First, power up the gateway. If the LAN cable is disconnected or if you have manually configured the gateway to the “Use MODEM Connection” option, the gateway will always attempt to dial up the configured ISP such that you can get immediate confirmation at the time of installation that the modem connection is working. If the Status LED lights up, and you must watch it carefully as in most cases it will only stay on for a few seconds, the modem connection is working. See the *Troubleshooting* section (page 1-16) if you do not see the Status LED go on.

Caution!

Use only the GE Sensing power supply provided with your HygroTrac kit. The use of non-factory power supplies may damage the equipment and will void your warranty.

3. Connect one end of the *power supply* to your data acquisition gateway, and plug the other end into a suitable AC outlet. As the gateway does not have an ON/OFF switch, connection and plugging in will immediately power up the gateway.

Note: *The gateway includes onboard flash data storage that is sufficient for one year of data, with ten sensors each reporting every hour. To upload data from the internal flash storage, bring the gateway to a location where you can make a connection to your Internet account. GE Sensing recommends the use of an SD Card only if your data storage needs exceed the capacity of the onboard flash storage.*

Troubleshooting

Table 1-2 covers possible problems and their solutions.

Table 1-2: Troubleshooting the LAN/Ethernet Connection

Problem	Cause	Solution
LAN Link LED is on, but Status LED never goes on	The LAN connection that the Gateway is using does not have Internet access because Internet connection is down or does not exist.	Verify the LAN port you are using can access the Internet.
	The LAN connection that the Gateway is using does not have direct Internet access because network uses a proxy server.	See Appendix B on operating with a proxy server.
LAN Link LED does not go on	The LAN Ethernet port you are using is not active.	Make sure the Ethernet jack you are using is active; check with another computer or laptop.
	The Ethernet cable is not plugged in.	Check the Ethernet cable connections and make sure they “click” when the plugs are pushed in.
	The LAN Ethernet port you are using is configured as a client.	Use an Ethernet crossover cable.
	The Ethernet cable is bad.	Replace the Ethernet cable.
Status LED is ON, but when I log on to the website, I do not see my data	Gateway out of range of sensors.	Place gateway closer to sensors, or add an additional gateway, closer to the sensors that are out of range.

Table 1-2: Troubleshooting the LAN/Ethernet Connection (cont.)

Problem	Cause	Solution
Not all of my sensors are Active on the website	Gateway out of range of sensors.	Relocate gateway close to sensors or add additional gateway(s) to expand wireless coverage.
MODEM Link LED goes solidly on, but Act LED never flashes	Bad username and/or password	Verify username and password are correct.
MODEM Link LED goes solid	No dial tone	Verify phone line has dial tone; move to line that has a tone.
	Bad dialup phone number	Verify dialup phone number is correct
	Missing <i>DSL</i> filter	Assuming your phone line is used for DSL service, add DSL filter to the line.

If the light to the left of the MODEM input does not glow a constant green, the HygroTrac is not properly connected. Complete the following steps:

- Check all cable connections.
- Power cycle (turn off) the gateway; unplug it, wait a few seconds, and plug it back in.

Technical Specifications

Wireless Sensor

*Transmission Distance**: 150 ft (46 m) nominal

Transmission Frequency: 902.2 - 907.8 MHz;
868.2, 868.4, 869 MHz (EU)

Size (l x w x h): 2.25 x 1.5 x 2.25 in. (60 x 30 x 60 mm)

Weight: 2.42 oz (68 g)

*Transmission distance varies with many factors, including the presence of obstacles such as concrete walls and interference from other electronic equipment.

%RH/Temperature Sensor

Range: 0 to 100% (non-condensing)

Accuracy: 10 to 90% $\pm 2.5\%$

Temperature Range: -40 to 185°F (-40 to 85°C)

Temperature Accuracy: $\pm 1^\circ\text{F}$ ($\pm 0.5^\circ\text{C}$) at 77°F (25°C)

Battery Life: 15 years nominal, when reporting hourly

Moisture Sensor

Resistance: pin type

Range: 0 to 40%

Accuracy: $\pm 1\%$ in wood, 10 to 25% subject to adjustments for species and temperature

Calibration Temperature: 68°F (20°C)

Data Acquisition Gateway

Maximum Inputs: 600 sensors

Data Transmission: to secure Internet via
10 Mb/s Ethernet output or
dial on-demand telephone modem

Onboard Data Storage: approximately 1 year of data
with 10 sensors each reporting hourly

Additional Data Storage: up to 2 GB on SD card (not supplied)

Size (l x w x h): 7.5 x 4.9 x 1.6 in. (190 x 125 x 40 mm)

Weight: 10.8 oz. (305 g)

Power Input: 3.3 VDC external power supply (included)

Certification

See the *Declaration of Conformity* at the end of this manual.

The information contained in this manual is given in good faith. As the method of use of the instrument (and its accessories) and the interpretation of the readings are beyond the control of the manufacturers, they cannot accept responsibility for any loss, consequential or otherwise, resulting from its use.

Using the HygroTrac Web Site

Introduction

Before using the web site, be sure that you have installed the Protimeter HygroTrac system, configured the gateway, and powered up the system until the status light is solid green, as discussed in Chapter 1.

Creating a New Account

HygroTrac data is stored on a dedicated and secure web server. To access your data from a remote location, complete the following steps:

IMPORTANT: *There is a monthly fee for the HygroTrac service account. You cannot log in to your account or site unless your company has previously established a HygroTrac service account with GE Sensing, and received an authorized user ID and password.*

1. Using your existing internet connection, go to the following URL:

www.gehygrotrac.com

2. You will see the “GE Sensing Remote Sensor Network” screen on the GE HygroTrac home page (Figure 2-1 below). Click on Log-in.



Figure 2-1: GE Sensing Remote Sensor Network Screen

Accessing the Web Data Service

1. Open <http://www.gehygrotrac.com> on your web browser. In the upper right corner of the screen, click on Log-in. The Log-in window, shown in Figure 2-3 below, opens.

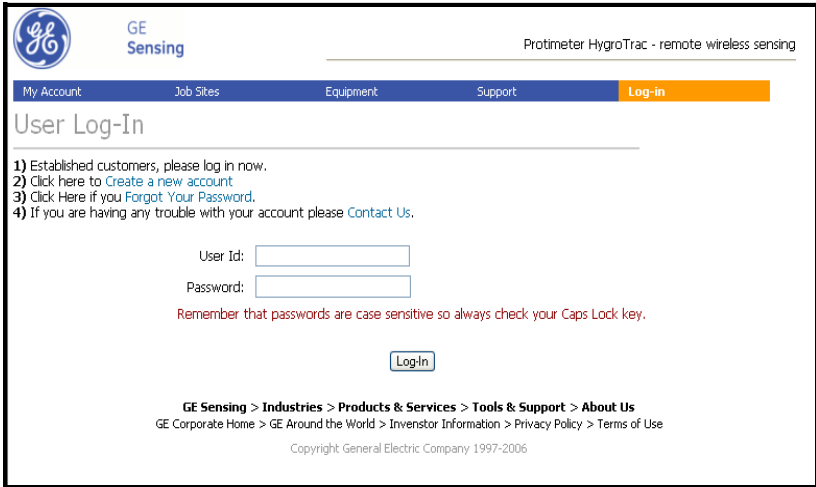


Figure 2-3: HygroTrac Log-in Screen

2. Enter your GE-confirmed user ID and password, and click [Log-In].

Note: *If you have any difficulty logging in, click on Contact Us on the screen to contact GE Sensing. If you forgot your password, click on Forgot Your Password. Enter your e-mail address and click [Submit]. GE Sensing will e-mail your password.*

3. Since you have recently created your account, there are no sites on file for you. You are now at the initial Job Sites screen, shown in Figure 2-4 below. You can associate a job site to your account through two ways
 - Add an existing site that your company has already created. See page 2-4.
 - Create a new site and new gateway from the HygroTrac hardware you recently installed. See page 2-5.

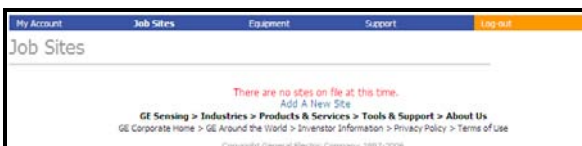


Figure 2-4: Initial Job Site Screen

Adding an Existing Site

If you want to add an existing job site that your company has already established, follow these instructions.

Note: *Please see the section titled “Adding, Updating, or Deleting Users” on page 2-25 for further details.*

1. Click **My Account** from the blue menu bar.
2. Click **Company User Maintenance**.
3. Scroll down until you find your User ID and click the corresponding link for Sites.
4. Place a check mark in the box on the left side of the Site Name you want to access. Confirm by clicking [Update User Profile] at the bottom of the screen.

Creating a New Site and Adding a Gateway

If you want to create a new job site and add a new gateway, follow these instructions:

1. From the blue menu bar, pull-down the Job Sites menu and click **Add a New Site**. The Add a New Site screen, shown in Figure 2-5 below, opens.

The screenshot shows the 'Add a New Site' form with the following fields and labels:

- GE Sensing logo and address: 2100 Technology Park Drive, Billerica, MA 01821, (800) 321-4878
- Navigation bar: My Account, Job Sites, Equipment, Support, Log out
- Title: Add a New Site
- Required Fields section:
 - *Site Name: [text input]
 - *Address: [text input]
 - *City: [text input]
 - *State: [dropdown menu: Please Select One]
 - *Postal Code: [text input] Enter 0 if no ZIP/Postal Code
 - *Country: [dropdown menu: United States]
 - *Contact Name: [text input]
 - *Phone Nbr: [text input]
 - Fax Nbr: [text input]
 - Insurance Claim Nbr: [text input]
 - Site Contact E-mail: [text input]
 - *Alarm Notification E-mail: [text input]
 - Alarm Notification Text Message E-Mail: [text input]
- Required For Alternate Contact section:
 - *Alt Contact Name: [text input]

Figure 2-5: Add a New Site Screen

2. Fill in all the Required Fields (denoted with a “*”) on this screen and click **[Save]** to create a new job site.
 - Alarm Notification Email: An alarm is generated if any sensor becomes inactive or if readings exceed user-defined thresholds. To receive e-mail notification of alarms, enter your e-mail address in this field. Multiple e-mail addresses may be separated by a semicolon.

Creating a New Site and Adding a Gateway (cont.)

- Alarm Notification Text Message Email: You can create a mobile device e-mail address by following the guidelines below. Multiple addresses may be separated with a semicolon. Please note this service is only available in the US and Canada.
 - AT&T (new) – 1231234567@txt.att.net
 - AT&T (legacy) – 1231234567@mmode.com
 - Cingular – 1231234567@txt.att.net, or 1231234567@cingularme.com, or 1231234567@mobile.mycingular.com
 - Nextel – 1231234567@messaging.nextel.com
 - Rogers – 1231234567@pcs.rogers.com
 - Sprint – 1231234567@messaging.sprintpcs.com
 - T-Mobile – 1231234567@tmomail.net
 - Verizon – 1231234567@vtext.com
 - Virgin Mobile (USA) – 1231234567@vmobl.com
 - Please contact your mobile phone carrier if not listed above.
3. Associate a gateway with the new site. Add the gateway by selecting the text **click here** as shown in Figure 2-6 below.



Figure 2-6: Add a New Gateway Screen

Creating a New Site and Adding a Gateway (cont.)

4. Enter the eight digit alphanumeric Gateway ID found on the underside of the gateway and describe the location of the gateway, as shown in Figure 2-7 below. Click **[Save]**.

My Account Job Sites Equipment Support Log-out

Required Fields: *

*Gateway Id:

Gateway Description:

Save Reset Cancel

GE Sensing > Industries > Products & Services > Tools & Support > About Us
GE Corporate Home > GE Around the World > Investor Information > Privacy Policy > Terms of Use

Figure 2-7: Enter Gateway ID Screen

The gateway should now appear in the Gateways screen shown in Figure 2-8 below.

My Account Job Sites Equipment Support Log-out

Gateways

1) To Add A New Gateway please click here.

Gateway Id	Description	Network Id	Status	Last Activity
12345678	User's Guide Demo Gateway		A	

GE Sensing > Industries > Products & Services > Tools & Support > About Us
GE Corporate Home > GE Around the World > Investor Information > Privacy Policy > Terms of Use
Copyright General Electric Company 1997-2006

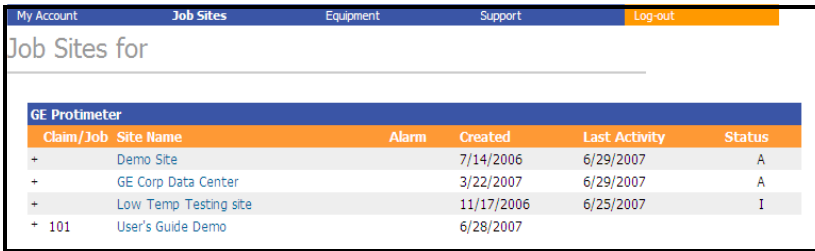
Figure 2-8: Populated Gateway Screen

5. If this site has multiple gateways, add the additional gateways by repeating steps 3 and 4 as necessary.

Viewing the Job Sites Screen

The Job Sites screen is the main screen that allows you to monitor, graph, and download sensor data.

1. You can access the Job Sites screen in either of two ways:
 - From the blue menu bar, select the pull-down menu for Job Sites and select View Existing Sites. The screen shown in Figure 2-9 below will appear.
 - From any screen in the HygroTrac web site, click on the logo in the upper left corner to return to the Job Sites screen. This logo may say “GE Sensing” or may be customized for your company. The screen shown in Figure 2-9 below will appear.



The screenshot shows the 'Job Sites for' page with a table of sensor data. The table has columns for Claim/Job, Site Name, Alarm, Created, Last Activity, and Status. The data rows are as follows:

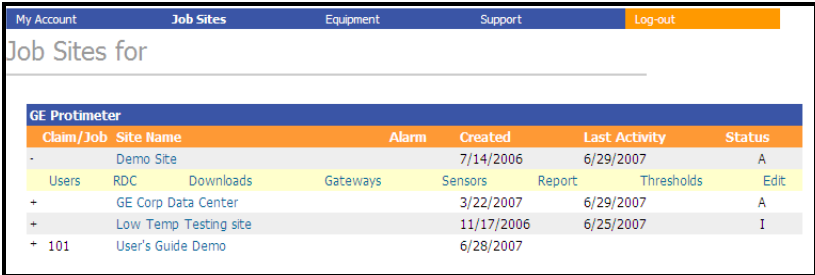
GE Protimeter					
Claim/Job	Site Name	Alarm	Created	Last Activity	Status
+	Demo Site		7/14/2006	6/29/2007	A
+	GE Corp Data Center		3/22/2007	6/29/2007	A
+	Low Temp Testing site		11/17/2006	6/25/2007	I
+ 101	User's Guide Demo		6/28/2007		

Figure 2-9: Job Sites Screen

2. You can now navigate through the Job Sites screen.
 - Single clicking on the column headers in orange will sort the data by that column in ascending order; double clicking will sort in descending order.
 - The Claim/Job column shows the Claim Number or Job Number if one was entered in the Add a New Site screen.
 - Clicking on a Site Name shows the details about that site.
 - The Alarm column shows “A” if an alarm is present for a sensor under that gateway. Details on setting alarms appear on page 2-20.
 - The Created and Last Activity columns show the date and time the site was created and the most recent transmission.
 - The Status column shows “A” for active gateways if at least one sensor is active, “I” for inactive gateways, and blank if no data has been taken.

Viewing the Job Sites Screen (cont.)

3. Click on the “+” sign to the left of any site to expand the choices as shown in Figure 2-10 below. The expanded menu allows access to temperature, humidity, and moisture data in multiple formats.



GE Protimeter								
Claim/Job	Site Name	Alarm	Created	Last Activity	Status			
-	Demo Site		7/14/2006	6/29/2007	A			
+	Users	RDC	Downloads	Gateways	Sensors	Report	Thresholds	Edit
+		GE Corp Data Center		3/22/2007	6/29/2007	A		
+		Low Temp Testing site		11/17/2006	6/25/2007	I		
+ 101		User's Guide Demo		6/28/2007				

Figure 2-10: Expanded Job Sites

Looking Up Job Sites Quickly

The Lookup Job Site menu is a quick way to find a known job site. View the menu by following these instructions.

1. From the blue menu bar, select the pull-down menu for Job Sites and select Lookup Job Site. The screen shown in Figure 2-11 below will appear.

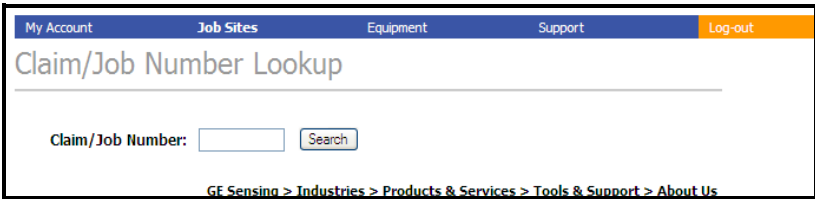


Figure 2-11: Job Site Search

2. Enter the Claim/Job Number in the field and click **[Search]**. The search results will appear as shown in Figure 2-12 below.

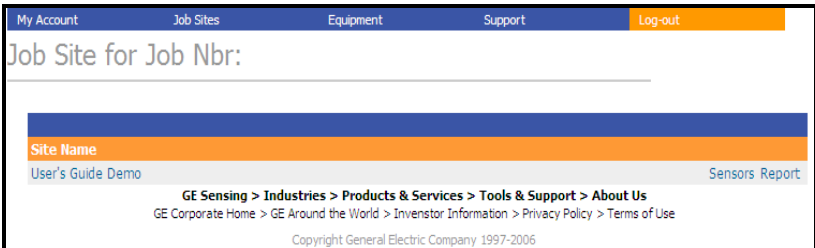


Figure 2-12: Job Site Search Results

3. Select **Sensors** or **Report** to continue.

Viewing and Graphing Sensor Measurements

The Sensors screen enables you to view current measurements for a specific site, such as temperature, relative humidity and other parameters.

- You can access the Sensors screen in two ways:
 - From the Job Sites screen, click on the “+” sign for the desired site and select the Sensors option (as shown in Figure 2-10 on page 2-9). This method shows the sensors for that job site.
 - Pull down the Equipment menu at the top of the screen and click on **Sensors**. This method shows every sensor at every job site.
- The Sensors screen, shown in Figure 2-13 below, lists the IDs, status and most recent activity of the sensors linked to the site.

Sensor Id	Description	Last Activity	Sts	Temp	RH%	%WME	GPP	Dew Pnt
0C8F0102	Logger Cal Room / plexiglass door	03/02.11:31	A	24.5	23.8	---	31.70	2.5
0C8F0751	Bank 1 & 2	03/02.11:32	A	24.2	24.1	8.2	31.60	2.5
0C8F0788	Pana Conv.	03/02.11:32	A	21.4	21.9	8.5	24.10	-1.3
0C8F0823	Logger Cal room above door	03/02.11:32	A	20.7	27.6	8.5	29.30	1.4
0C8F088C	Wall near Optica Cal System	03/02.11:30	A	21.3	28.5	---	31.40	2.4
0D11030C	repairs drybox near flow	03/02.11:33	A	21.3	15.2	8.6	16.70	-6.2
0D110415	Outside front Entrance - under Irr. box	03/02.11:29	A	3.1	93.8	9.4	31.10	2.3
0D110426	Outside Probe Lab / elevators	03/02.11:31	A	22.2	21.5	8.5	25.00	-0.8
0D1104DE	Pole in Optica test area.	03/02.11:32	A	23.8	22.6	8.6	28.80	1.2
0D1104E8	Wall near HygroTrace	03/02.11:30	A	21.5	25.4	8.5	28.30	1.0
0D1104F8	Bank 6	03/02.11:31	A	22.0	25.2	8.5	29.00	1.3
0D110E80	Bank 3	03/02.11:31	A	22.4	24.7	8.4	29.00	1.3
0D111011	Probe Cabinets	03/02.11:33	A	22.7	23.2	8.4	27.70	0.7
0D1110F6	sensor humidor top chamber	01/24.09:57	I	23.0	4.7	8.4	5.70	-19.3
0D1110FD	humidor drybox matt morales	03/02.11:28	A	21.8	22.4	8.5	25.50	-0.5
0D111100	sensor humidor bottom chamber	03/02.11:29	A	22.1	19.2	8.5	22.10	-2.5

Figure 2-13: The Sensors Screen

- By default, the sensor screen shows all sensors for a particular site. To Only Show Sensors with Active Alarms, select **[Yes]** in the upper left corner.
- You can sort columns by clicking on the column heading— one click for ascending and two clicks for descending.
- To view sensor details, click on its Sensor ID at the left. From this screen you can only view sensor information and cannot change any information.

Viewing and Graphing Sensor Measurements (cont.)

6. You can update information about a sensor from the Sensors screen. Click on the **Description** for a particular sensor. A window similar to Figure 2-14 below will open. You can update a sensor in three ways:
 - Change the Sensors Description (for example, when a sensor is moved)
 - Change the Atmosphere Type surrounding the sensor. You must define this field for measurements to display in the RDC, described later.
 - Deactivate the sensor, as discussed in “Deactivating and Reactivating Sensors” below.
7. Click **[Save]** to confirm the new sensor information, **[Reset]** to clear the fields, **[Delete]** to delete the sensor description and atmospheric type, or **[Cancel]** to return to the previous menu.

The screenshot shows a web application interface for updating a sensor. At the top, there is a navigation bar with links for 'My Account', 'Job Sites', 'Equipment', 'Support', and 'Log-out'. The main heading is 'Update A Sensor'. Below the heading, the 'Sensor Id' is displayed as '0C8F033B'. There are three input fields: 'Sensor Description' (a text box), 'Atmospheric Type' (a dropdown menu currently showing 'None'), and 'Reason for Sensor Deactivation' (a text area). Below these fields are four buttons: 'Save', 'Reset', 'Delete', and 'Cancel'. At the bottom of the text area is a 'Deactivate' button.

Figure 2-14: Sensor Update Window

Deactivating and Reactivating Sensors

When you deactivate a sensor, it no longer transmits data to the HygroTrac. The sensor will remain on the Sensors screen for the job site, though the Status column will show “D”.

To deactivate a sensor:

From the Sensors screen, click on the Description for a particular sensor and a window similar to Figure 2-14 on the previous page will open. Type a reason for sensor deactivation in the large field and click **[Deactivate]**.

To reactivate a sensor:

From the Sensors screen, click on the Description for a deactivated sensor. A new window will appear, similar to Figure 2-14 on the previous page. Then click **[Activate]** to reactivate the sensor.

Understanding Inactive Sensors

If a sensor has not successfully transmitted for 24 hours, it enters inactive status. The HygroTrac web site will send an email and text message stating that the sensor has become inactive. In addition, the sensor will show up with a status “I” on the Sensors screen.

Plotting Sensor Measurements

To plot the most recent sensor measurements for a given parameter, click on the actual measurement value in the Sensors screen. A new window opens, similar to Figure 2-15 on the next page, displaying the most recent activity in graphical form. If you need to view sensor activity over a different time period, click on one of the periods (Last Day, Last Week, Last Month, Last 3 or 6 Months, Last Year, or All Readings). The screen refreshes with data from the newly selected period.

Plotting Sensor Measurements (cont.)

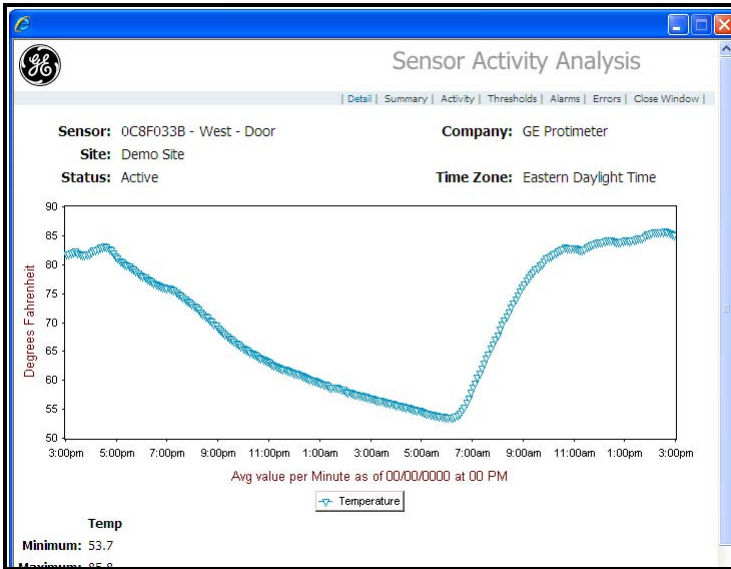


Figure 2-15: Sensor Activity Analysis Screen

Updating the User List for a Site

You can review and update the list of users for a particular job site via the Users option.

1. From the Job Sites screen, click on the “+” sign for the desired site, and then on the Users option. The Update Users for [the site] screen opens, displaying a list of users at your company.
2. To revise this list, check the box to the right of each user you wish to keep on the list. When you have completed checking and unchecking boxes, click **[Update Site]** at the bottom of the screen. The Job Sites screen reopens.

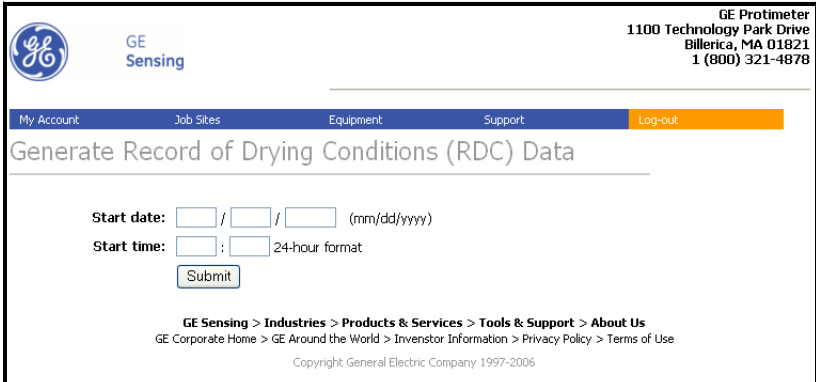
Note: *To add or update users, you must have an appropriate security level assigned to your account. Otherwise, you will not be able to access these sites.*

3. You can manage access to your web site by adding additional users with different access levels. To add a new user, refer to “Adding, Updating, or Deleting Users” on page 2-25.

Generating a Record of Drying Conditions (RDC)

If you need to access a record of drying conditions (RDC) for a particular site from a specific day and time to the present, you can obtain this information in text format. To generate the report, complete the following steps:

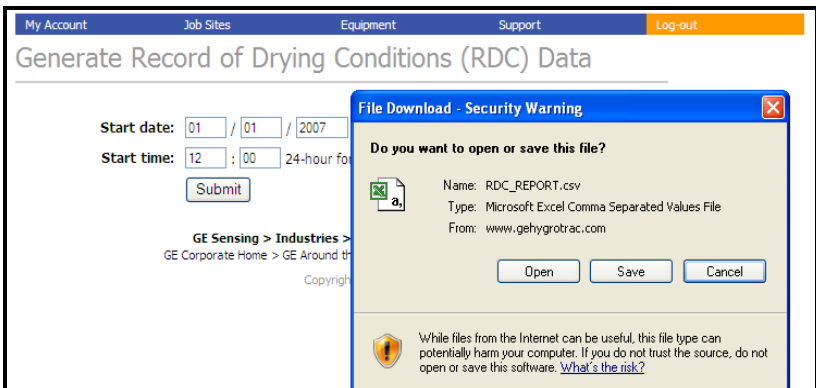
1. On the Job Sites screen (Figure 2-10 on page 2-9), click on the **RDC** option in the menu for the site. The Generate a Record of Drying Conditions window opens, shown in Figure 2-16 below.



The screenshot shows the GE Sensing website interface. At the top right, it says "GE Protimeter 1100 Technology Park Drive Billerica, MA 01821 1 (800) 321-4878". Below this is a navigation bar with "My Account", "Job Sites", "Equipment", "Support", and "Log-out". The main heading is "Generate Record of Drying Conditions (RDC) Data". There are two input fields: "Start date:" with a date picker showing "mm/dd/yyyy" and "Start time:" with a 24-hour format. A "Submit" button is below the time field. At the bottom, there is a breadcrumb trail: "GE Sensing > Industries > Products & Services > Tools & Support > About Us" and a copyright notice: "Copyright General Electric Company 1997-2006".

Figure 2-16: Request to Generate a Record of Drying Conditions

2. Enter the date from which you want the record to start (in mm/dd/yyyy format) and the time (in 24-hour format), and click [Submit].
3. A window will appear, asking, “Do you want to open or save this file?” as shown in Figure 2-17 below. Clicking [Open] will open the file using a spreadsheet program; clicking [Save] will save the file to your computer.



The screenshot shows the same "Generate Record of Drying Conditions (RDC) Data" page as Figure 2-16, but with a "File Download - Security Warning" dialog box open. The dialog box asks "Do you want to open or save this file?". It shows a file icon for "RDC_REPORT.csv" with a type of "Microsoft Excel Comma Separated Values File" and a source of "www.gehygrotrac.com". There are "Open", "Save", and "Cancel" buttons. At the bottom of the dialog, there is a warning icon and text: "While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not open or save this software. [What's the risk?](#)".

Figure 2-17: Open or Save RDC Screen

Downloading Specific Site Data

Instead of a general record, you might need measurements from a site, sensor, data acquisition gateway, or network, over a specific time period. To download data, follow these instructions:

1. On the Job Sites screen (Figure 2-10 on page 2-9), click on the “+” sign for the desired site, and then on the **Downloads** option to the right of the particular site. The Request a Download screen, shown in Figure 2-18 below, opens.

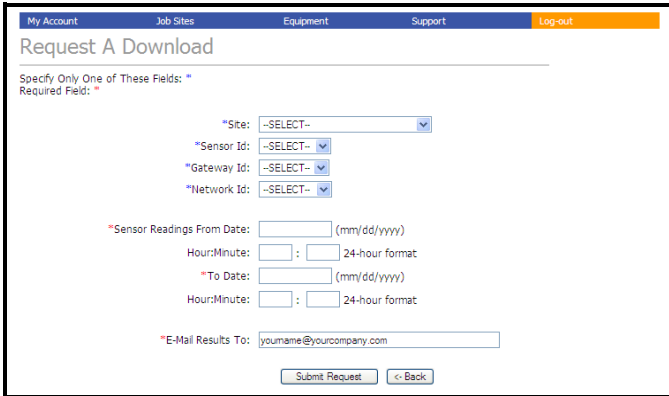
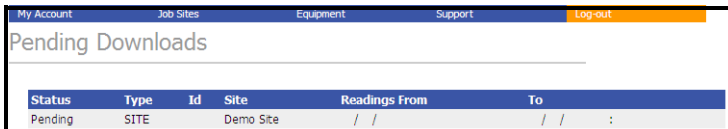


Figure 2-18: The Download Request Screen

2. From the pull-down menus, click on a specific **Site**, **Sensor ID**, **Gateway ID** or **Network ID**. You can select only one of these parameters.
3. Enter the date on which you want the report to start (in mm/dd/yyyy format) and the time (in 24-hour format).
4. Enter the date on which you want the report to end (in mm/dd/yyyy format) and the time (in 24-hour format)
5. Enter the e-mail address for the user who should receive the report.
6. When you have finished entering data, click [Submit Request]. The Pending Downloads screen opens, as shown in Figure 2-19 below.



Status	Type	Id	Site	Readings From	To
Pending	SITE	Demo Site		/ /	/ /

Figure 2-19: Pending Downloads

7. Wait a few minutes, then check your e-mail. The download file is attached to the e-mail.

Generating a Site Report

The Report screen enables you to view, in graphical format, selected measurements for a given site over a specific period. To generate a report, complete the following steps:

1. On the Job Sites screen (Figure 2-10 on page 2-9), click on the “+” sign for the desired site, and then on the **Report** option. The Create Site Report screen opens, as shown in Figure 2-20 below.

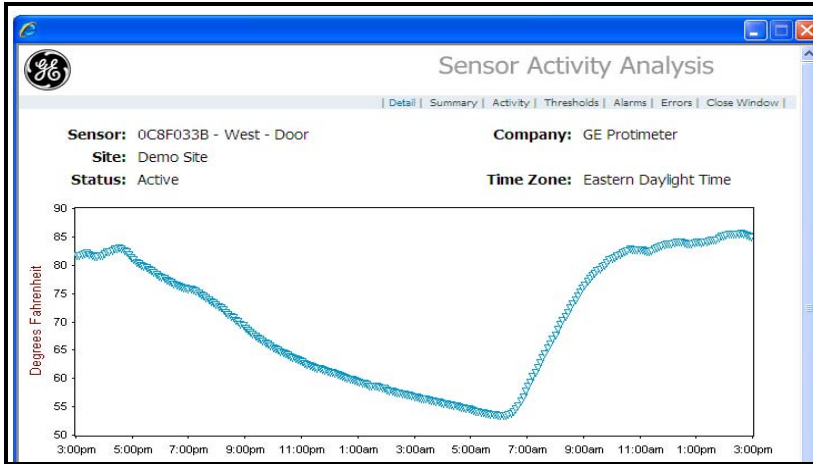


Figure 2-20: The Create Site Report Screen

2. First specify the Time Interval (from one hour up to one year, or all readings) and the starting time (in mm/dd/yyyy and 24-hour format) at which you want the report to begin.
3. Click on the box to the left of the specific sensor for which you require data. The function creates reports for one sensor at a time.
4. Then click on the boxes to the right for each measurement (temperature, humidity, WME, GPP or dew point) you need in the report.
5. Finally, click the button **[Generate Report]** to create the report. The Sensor Activity Analysis Report window opens, shown in Figure 2-21 on the next page.

Generating a Site Report (cont.)

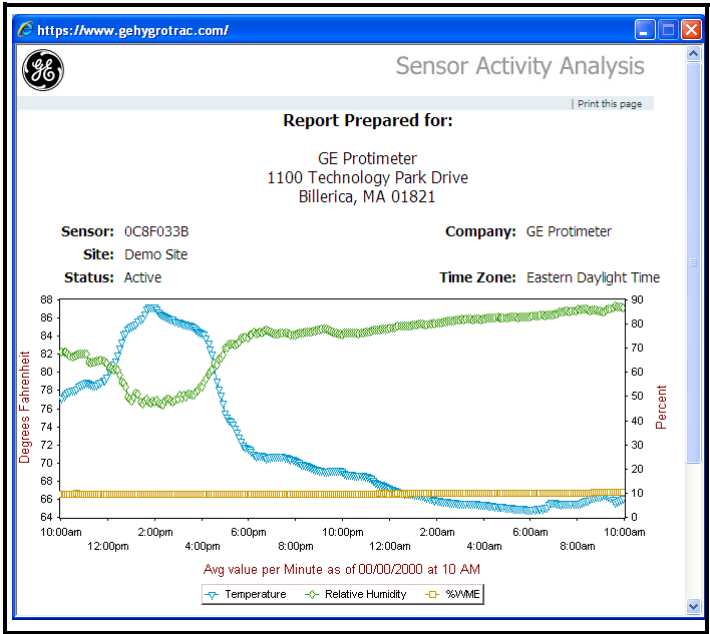


Figure 2-21: Sensor Activity Analysis Report

Viewing and Setting Alarm Thresholds

If you want to receive an e-mail or text-message alarm when a particular measurement goes above or below certain parameters, you must enter those parameters as thresholds in your HygroTrac settings. Figure 2-22 below illustrates how thresholds function. You can set various types of alarms, such as:

- Dehumidifiers (RH threshold to show if unit not working)
- Affected Area (RH threshold to ensure system working properly)
- Structural Material Moisture (WME) (set WME at your target dry standard)
- Unaffected Area (Set for normal humidity to ensure humidity is not causing secondary damages in unaffected area)

How Thresholds Function

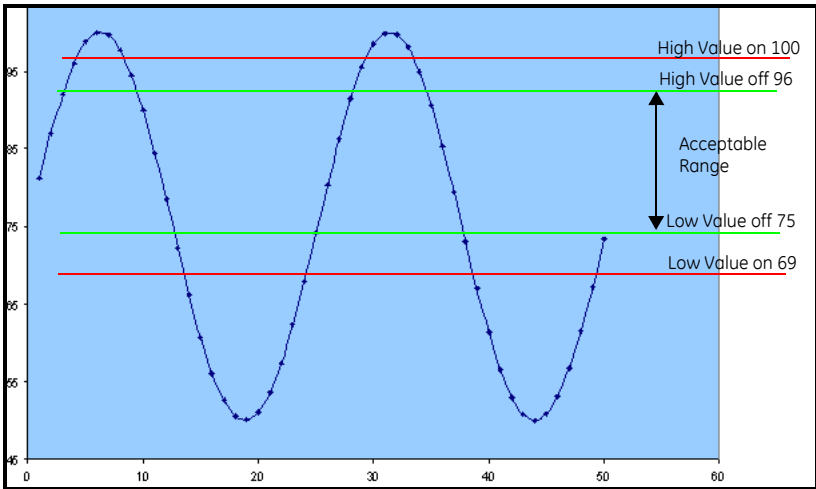


Figure 2-22: Measurement Range with Thresholds

- In the example shown above for the high value, you will receive an e-mail alarm when the temperature reaches 100°F. When the temperature drops below 95°F, you will receive another e-mail indicating that the HygroTrac has returned to the acceptable range.
- For the low value, you will receive an e-mail alarm when the temperature reaches 69°F. When the temperature rises to 75°F, you will receive another e-mail to indicate HygroTrac has returned to the acceptable range.

How Thresholds Function (cont.)

Note: To receive e-mail and text message alarms, you must enter your e-mail and cell e-mail into the Job Sites information page. See “Updating Site Data” on page 2-23 for more information.

Setting Up Thresholds

To enter or change a threshold:

1. On the Job Sites screen (Figure 2-10 on page 2-9), click on the “+” sign for the desired site, and then on the **Thresholds** option in the menu for the specific site. The Thresholds window opens, as shown in Figure 2-23 below.



Figure 2-23: The Thresholds Screen

2. If thresholds exist for this sensor, click the Sensor ID to see threshold information or click Edit to update the threshold. If you wish to add a new threshold, click on **Add a New Threshold**. The Add a New Threshold screen opens, as shown in Figure 2-24 below.

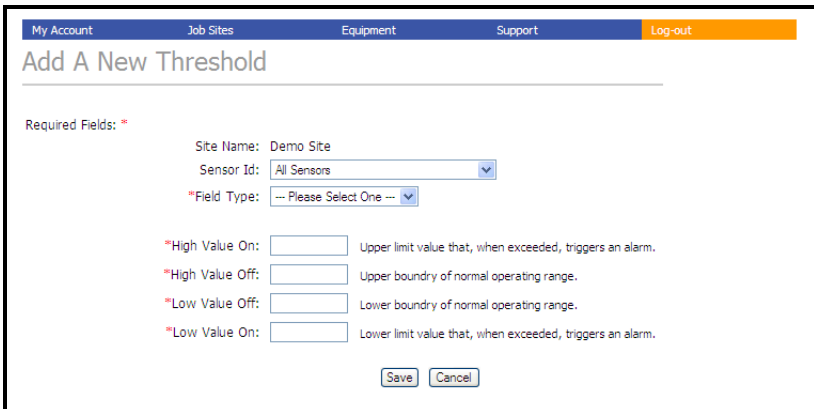


Figure 2-24: Add a New Threshold Screen

Setting Up Thresholds (cont.)

3. From the Sensor ID pull-down menu, select the sensor for which you want to add a threshold or select “All Sensors”.
4. Then select the parameter to which you need to apply the threshold: Temperature, Relative Humidity, Wood Moisture Equivalent (WME), GPP (grains per pound), or Dew Point.
5. In the appropriate text boxes, enter the values that mark the boundaries of the acceptable range (Low and High Value Off) and the values that will prompt an e-mail alarm (Low and High Value On.)

Note: *The input for High Value On must be greater than the input for High Value Off. The input for Low Value On must be less than the input for Low Value Off.*

6. When you have completed entering values, click **[Save]**. The program returns to the Threshold screen. Add more thresholds if necessary.

Updating Site Data

If you need to update information on a specific job site, you can enter the new data via the Edit option by following these steps:

1. On the Job Sites screen (Figure 2-10 on page 2-9), click on the “+” sign for the desired site, and then on the **Edit** option in the menu for the specific site. The Update a Site window opens, as shown in Figure 2-25 below.

My Account Job Sites Equipment Support Log-out

Update A Site

Required Fields: *

*Site Name: GE Sensing Boston Centre

*Address: Billerica

*City: Billerica

*State: Massachusetts

*Postal Code: 01821 Enter 0 if no ZIP/Postal Code

*Country: United States

*Contact Name:

*Phone Nbr: 9784371000

Fax Nbr:

Job Nbr:

Site Contact E-mail:

*Alarm Notification E-mail:

Alarm Notification Text Message E-Mail:

Required For Alternate Contact: *

*Alt Contact Name:

Figure 2-25: The Update a Site Window

2. Enter the revised information in the appropriate text boxes or drop-down menus.
3. When you have completed entering data, you have four options
 - Click **[Save]** to save your options and return to the Job Sites window.
 - Click **[Reset]** to clear the newly entered data.
 - Click **[Delete]** to delete the entire site from the web site.

Note: *The program will not delete a site if it detects an active gateway.*

- Click **[Cancel]** to leave the window without saving data.

Accessing My Account Screen

The My Account section of the HygroTrac web site allows you to perform account maintenance activities. Click **My Account** from the blue menu bar. My Account is a link (rather than a pull-down menu) to the main My Account page, shown in Figure 2-26 below.

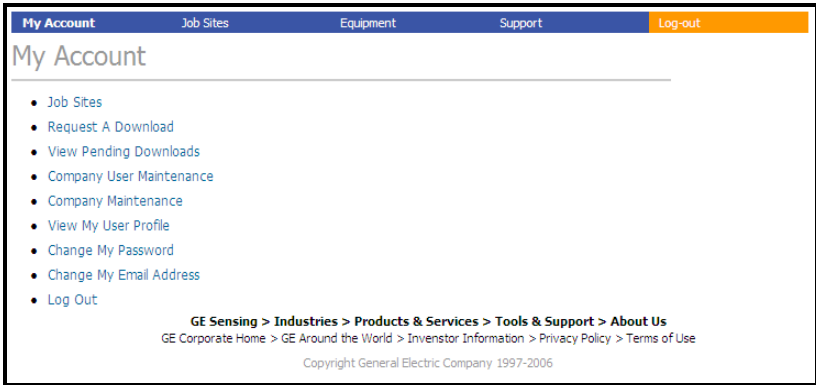


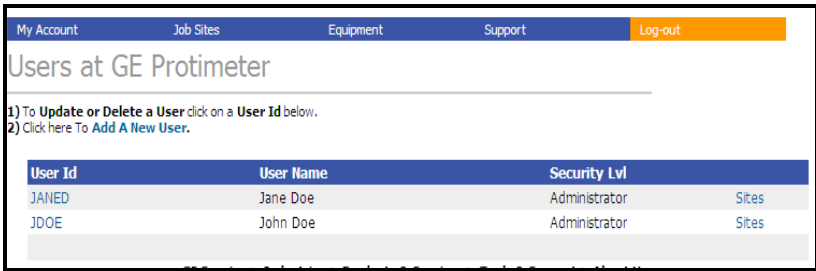
Figure 2-26: My Account Screen

- From the My Account screen, click **Job Sites** to open the Job Sites page. This page is also accessible by selecting Job Sites from the blue menu bar and then selecting View Existing Sites.
- From the My Account screen, click **Request A Download** to open the Request a Download page. This page is also accessible from the link Downloads under the expanded Job Sites page. See “Downloading Specific Site Data” on page 2-17 for more information.
- From the My Account screen, click **View Pending Downloads** to view any files in process of downloading. For further information on downloading, review the “Downloading Specific Site Data” section on page 2-17.

Adding, Updating, or Deleting Users

If you have access privileges at the level of Administrator or Manager, you can add, update, and delete user accounts under the Company User Maintenance link.

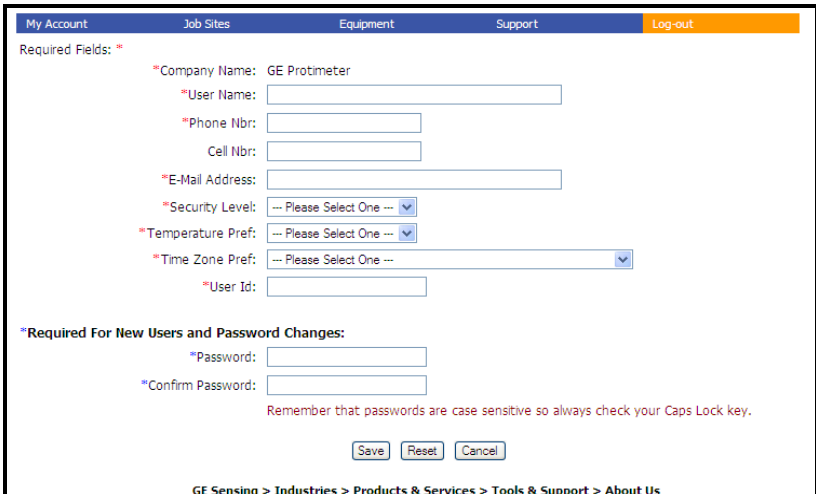
1. From the My Account screen (Figure 2-26 on page 2-24), click **Company User Maintenance** to see a list of all users within your company as shown in Figure 2-27 below.



User Id	User Name	Security Lvl	
JANED	Jane Doe	Administrator	Sites
JDOE	John Doe	Administrator	Sites

Figure 2-27: Users Screen

2. To create a new user account, click **Add A New User** near the top left of the page. Enter all required information into the fields shown in Figure 2-28 below and click **[Save]** to save, **[Reset]** to clear all the fields, or **[Cancel]** to return to the previous screen. The functions listed in Table 2-1 on the next page are allowed per security level.



Required Fields: *

*Company Name: GE Protimeter

*User Name:

*Phone Nbr:

Cell Nbr:

*E-Mail Address:

*Security Level: --- Please Select One ---

*Temperature Pref: --- Please Select One ---

*Time Zone Pref: --- Please Select One ---

*User Id:

*Required For New Users and Password Changes:

*Password:

*Confirm Password:

Remember that passwords are case sensitive so always check your Caps Lock key.

GE Sensing > Industries > Products & Services > Tools & Support > About Us

Figure 2-28: User Information

Adding, Updating, or Deleting Users (cont.)

Table 2-1: Functions for Security Levels

Function	Basic	Manager	Administrator
Add Gateway		Yes	Yes
Add New Site		Yes	Yes
Add Sites		Yes	Yes
Add Users		Yes	Yes
Delete Gateways From Sites		Yes	Yes
Delete Site			Yes
Delete/Deactivate Sensors			Yes
Edit Gateway Name			Yes
Edit Own User E-mail Address	Yes	Yes	Yes
Edit Own User Password	Yes	Yes	Yes
Edit Sensor Description		Yes	Yes
Edit Sensor Information		Yes	Yes
Edit Site		Yes	Yes
Manage Users		Yes	Yes
Print Reports	Yes	Yes	Yes
Request A Download		Yes	Yes
View All Gateways For Company		Yes	Yes
View All Sensors		Yes	Yes
View Pending Downloads		Yes	Yes
View User Profile		Yes	Yes

- To update or delete an existing user account, click on its User ID. Change any fields and click **[Save]** or delete the user by clicking **[Delete]**.
- To control a user's access to different job sites, click on Sites for the appropriate user. Grant or prevent access to any job site by placing or removing a check mark in the box to the left of the job site name, as shown in Figure 2-29 on the next page.

Adding, Updating, or Deleting Users (cont.)

My Account Job Sites Equipment Support Log-out

Update Sites for Jane Doe

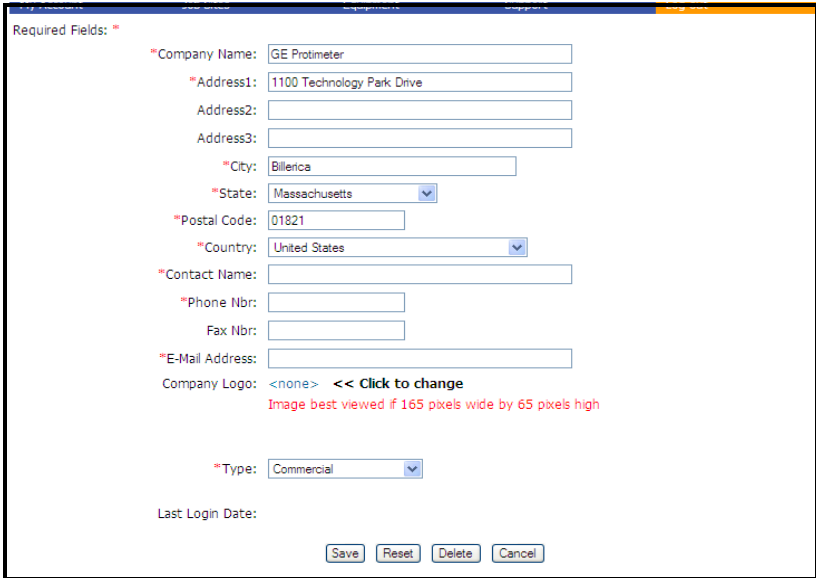
Site Name	City, State
<input checked="" type="checkbox"/> GE Protimeter	
<input checked="" type="checkbox"/> BC Probe Lab	Billerica, MA
<input checked="" type="checkbox"/> Demo Site	Andover, MA

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GE Corporate Home > GE Around the World > Investor Information > Privacy Policy > Terms of Use
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Figure 2-29: Update User Site Access

Maintaining Company Information

1. From the My Account screen (Figure 2-26 on page 2-24), click **Company Maintenance** to see company details as shown in Figure 2-30 below.



Required Fields: *

*Company Name: GE Protimeter

*Address1: 1100 Technology Park Drive

Address2:

Address3:

*City: Billerica

*State: Massachusetts

*Postal Code: 01821

*Country: United States

*Contact Name:

*Phone Nbr:

Fax Nbr:

*E-Mail Address:

Company Logo: <none> << Click to change
Image best viewed if 165 pixels wide by 65 pixels high

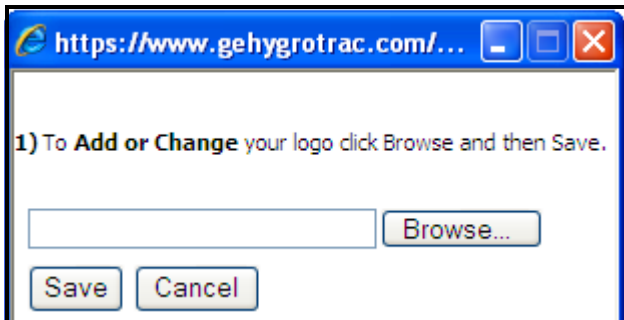
*Type: Commercial

Last Login Date:

Save Reset Delete Cancel

Figure 2-30: Company Maintenance

2. Edit company address and contact information as necessary.
3. The HygroTrac web software allows you to display your company logo in the upper left corner of your HygroTrac web site. To change or add the logo, click on the artwork or **<none>** if none is present. Browse to the correct path for your logo file and click **[Save]** as shown below.



https://www.gehygrotrac.com/...

1) To **Add or Change** your logo click Browse and then Save.

Input field: []

Browse...

Save Cancel

Figure 2-31: Browse For New Logo Screen

4. Once you have finished editing the fields:

Maintaining Company Information (cont.)

- Click **[Save]** to save the revised data.
- Click **[Reset]** to erase any changes and remain in the window.
- Click **[Delete]** to remove the company. Note that you cannot delete the company if any job sites exist.
- Click **[Cancel]** to cancel any changes and return to the My Account screen.

Viewing/Changing Your Profile, Password, and Email

- From the My Account screen, click **View My User Profile** to review your personal profile. You cannot make any changes to this information. Click **[Back to My Account]** to return.
- From the My Account screen, click **Change My Password** to update your web site password. Type the password again to confirm and click **[Change]** to accept, **[Reset]** to erase the fields, or **[Cancel]** to return to the previous screen.
- From the My Account screen, click **Change My Email Address** to update your email address. Click **[Change]** to accept, **[Reset]** to erase the fields, or **[Cancel]** to return to the previous screen.

Accessing the Equipment Pull-Down Menu

From the Equipment pull-down menu, you can review data on all accessible gateways and sensors.

Viewing All Gateways

1. From the blue menu bar, select Equipment and then Gateways. This screen provides a full list of all gateways you can access. Figure 2-32 shown below shows a sample gateway screen.

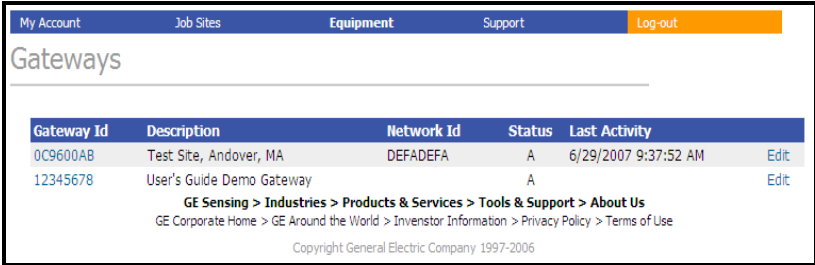


Figure 2-32: All Gateways Screen

2. Click on any Gateway ID to see details about that gateway. Note that you cannot change any gateway information in this screen.
 - The Status column shows “A” for active gateways if at least one sensor is active, “I” for inactive gateways, and blank if no data has been taken.
 - The Last Activity column shows when the most recent sensor readings were taken.
 - Select Edit to change the gateway description.

Viewing All Sensors

1. From the blue menu bar, select Equipment and then Sensors. This screen, shown in Figure 2-33 below, provides a complete list of every sensor you can view, regardless of alarm status.

Sensor Id	Description	Last Activity	Sts	Temp	RH%	%WME	GPP	Dew Pnt.
0C8F033B*	Porch West - Door	06/29.09:48	A	73.40	53.4	9.0	65.80	55.60
0C8F0662*	Basement Wall - Wine Storage	06/29.09:49	A	72.80	65.5	14.1	79.10	60.70
0C8F0668*	Humidor	06/29.09:46	A	76.90	76.8	---	107.20	69.20
0C8F0848*	Lounge Air - Shelf North	06/29.09:49	A	76.20	46.9	---	63.40	54.60
0C8F0899*	Basement Beam	06/29.09:50	A	75.00	56.4	10.8	73.30	58.60
0C8F08FD	NW	06/29.09:46	A	78.40	46.7	---	68.00	56.50
0C8F09FC	Roof Space	06/29.09:46	A	78.70	42.8	8.4	62.60	54.30
0C8F0A3E	Inside Air Dinning Room	06/29.09:48	A	77.50	46.3	8.2	65.40	55.50
0C8F0A4C	Refrigerator Kitchen	06/29.09:47	A	40.10	45.6	8.6	16.60	20.80
0C8F0CE1*	Basement West Wall	06/29.09:50	A	74.40	58.6	8.3	74.70	59.10
0C8FD000*	Thermostat	06/29.09:49	A	77.10	45.9	8.2	63.80	54.80
0C8FD0C4	Furnace Room	06/29.09:46	A	73.60	58.0	13.0	72.00	58.10
0C8FD0CF	Humidity Box	06/29.09:46	A	69.40	86.1	8.5	93.10	65.20
0C8F0E06*	Shed Roof - 150ft from Gateway	06/29.09:50	A	64.00	62.2	13.8	55.30	51.00

Figure 2-33: All Sensors Screen

2. To view only sensors with threshold alarms (Figure 2-34 below), set Only Show Sensors With Active Alarms to **[Yes]**.

Sensor Id	Description	Last Activity	Sts	Temp	RH%	%WME	GPP	Dew Pnt.
0C8F033B*	Porch West - Door	06/29.09:48	A	73.40	53.4	9.0	65.80	55.60
0C8F0662*	Basement Wall - Wine Storage	06/29.09:49	A	72.80	65.5	14.1	79.10	60.70
0C8F0668*	Humidor	06/29.09:51	A	76.80	76.8	---	107.00	69.20
0C8F0848*	Lounge Air - Shelf North	06/29.09:49	A	76.20	46.9	---	63.40	54.60
0C8F0899*	Basement Beam	06/29.09:50	A	75.00	56.4	10.8	73.30	58.60
0C8F0CE1*	Basement West Wall	06/29.09:50	A	74.40	58.6	8.3	74.70	59.10
0C8FD000*	Thermostat	06/29.09:49	A	77.10	45.9	8.2	63.80	54.80
0C8F0E06*	Shed Roof - 150ft from Gateway	06/29.09:50	A	64.00	62.2	13.8	55.30	51.00

Figure 2-34: Only Sensors With Alarms Screen

3. If you select **Equipment** from the top menu bar, then hover the mouse over **Sensors**, and then click on **Alarms**, you will see a list of only sensors with current alarms.

Viewing All Sensors (cont.)

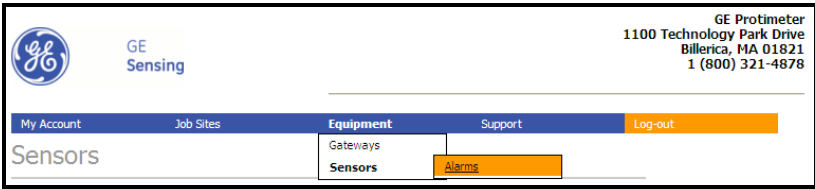


Figure 2-35: Selecting Only Sensors With Alarms

4. Navigate this Sensors screen as described in “Viewing and Graphing Sensor Measurements” on page 2-11.

Exiting the HygroTrac Web Site

There are two methods to exit the HygroTrac web site.

- From the My Accounts screen, click **Log Out**.
- From the menu bar, click the orange **Log-out**.

The screen shown in Figure 2-37 below indicates that you have successfully logged out of the HygroTrac web site.



Figure 2-37: Successful Exit Screen

Glossary

DSL	Digital Subscriber Line -- a technology that enables computers to send data over copper wire telephone lines at greatly increased speeds
ISP	Internet Service Provider — a company that supplies Internet access)
LAN	Local area network — a group of computers and devices that share a common communications wire or wireless link
Proxy Server	A computer or program that forwards requests to other servers

Configuring the Gateway in Specific Situations

Configuring the LAN Connection

The gateway is shipped from the factory to plug and play with most common LAN (local area network) environments, but from time to time you may need to change the settings to be compatible with “non-standard” LAN environments. Some possible LAN configurations include:

- Setting a non-zero “LAN static IP”, “LAN default gateway IP” and “LAN subnet mask”

Note: *You should use a static IP address only if instructed to do so by your network administrator.*

- Setting the “LAN Static IP” to 000.000.000.000 (this is the factory default), which forces the gateway to use DHCP to acquire an IP address from your network’s DHCP server.

Note: *If no DHCP server is found, the gateway will default to an auto-assigned IP address of 169.254.1.1 and will continue to try to get a DHCP assigned address as well.*

Connecting a Gateway Using Proxy Servers

Some networks, especially large corporate networks, block users from direct access to the Internet. Instead, users must access the Internet through a *proxy server*. The gateway can operate with proxy servers; you must set the gateway’s “Remote Server IP” to the IP address of the network’s proxy server. If you do not know the proxy server IP address, contact your network administrator. To set your gateway back for use in a standard (i.e., no proxy server) network environment, set the “Remote Server IP” to 12.156.76.36.

Configuring Dialup Information

The gateway requires your Internet Service Provider (*ISP*) phone number, user name, and password. You must set these parameters using the New Customer Registration menu. In most cases, one ISP account can support many gateways and, in the event your ISP only allows a single login at a time, the gateway will continue to attempt to login until it reaches the maximum number of retries.

Other Dialup Settings

In most office environments, you will need to dial 9 for an outside line, in which case you should change the dialup number on the configuration menu to include a dialing prefix of “9,”. For example:

“Set dialup number(9,18666633679)”

Be sure to include the comma, as it instructs the modem to pause before dialing the next number, and the pause is required to wait for a dial tone from the outside line.

You can also configure the time between server connection attempts and the maximum number of dialup retries used during a connection attempt. By limiting the number of dialup retries, you can prevent the modem from monopolizing the phone line in the event your ISP is not responding.

The gateway configuration menu also has a configuration option to allow you to specify a “Modem Custom AT command string”. Rarely used, this string permits operating the modem outside of North America.

Accessing the Gateway Configuration Menu

Note: *For LAN connections, no configuration changes are usually necessary. For modem connections, ISP login, password, and phone number are necessary.*

To change the gateway configuration, users must enter the configuration menu. You can access this menu via either the Ethernet port connection or the RS-232 port connection, using a standard RS232 serial port cable with DB-9 connectors (not supplied). Either connection provides access to the same menu settings.

Using an Ethernet Port to Access the Configuration Menu

Use the following steps to access the configuration menu via the LAN connection:

1. Disable and disconnect ALL network connections on your laptop/PC *except* for the LAN connection, and then reboot your PC so that the LAN connection will use an Auto Assigned IP Address.
2. Connect the gateway to your laptop or PC using supplied Ethernet cable.
3. Apply power to the gateway, and verify that the LAN Link LED is lit and/or flashes orange.

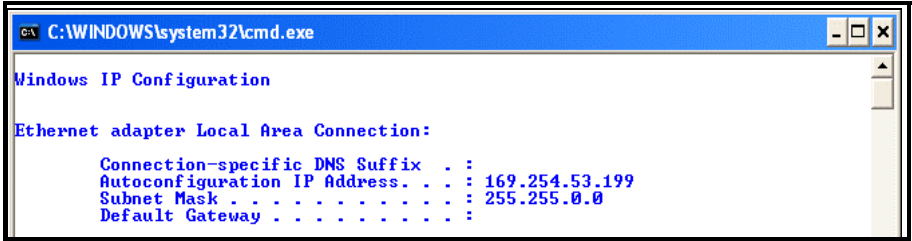
Note: *If the LAN Link LED does not go on and/or flash, you will need to use an Ethernet crossover adapter or an Ethernet Hub.*

4. Wait for ~30 seconds while the PC assigns itself an Auto IP address.
5. On your PC, verify that it has assigned itself the correct Auto IP address
From the Windows Start menu, click on Run, and then enter the command "cmd /K ipconfig" as shown below. Click OK.

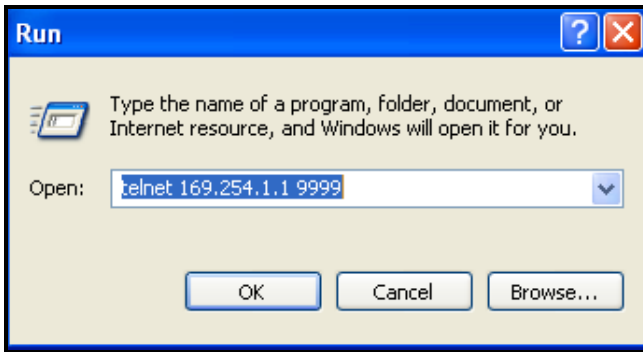


Using an Ethernet Port to Access the Configuration Menu (cont.)

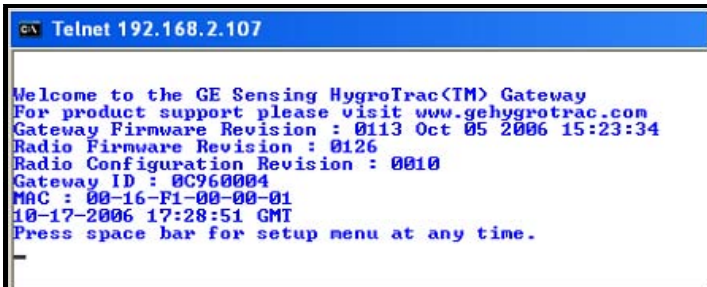
- The windows IP configuration window will open. Note that any 169.254.xxx.xxx address is acceptable and your address need not exactly match the address shown below.



- On your PC, connect to the gateway configuration menu using Start>Run to execute the command telnet 169.254.1.1 9999 and click OK, as shown below.



You should see a new window similar to the one shown below.



Using an Ethernet Port to Access the Configuration Menu (cont.)

Note: *If this command fails, then it is likely your PC is not using an auto assigned IP address. Make sure you that have followed the instructions in step 1.*

8. Press the space bar to access the configuration menu as well as to view the current gateway settings. You should see the menu shown below.

```
C:\ Telnet 192.168.2.107
Radio Firmware Revision : 0126
Radio Configuration Revision : 0010
Gateway ID : 0C960004
MAC : 00-16-F1-00-00-01
10-17-2006 17:28:51 GMT
Press space bar for setup menu at any time.

Setup Menu
(a) Set LAN static IP<000.000.000.000>
(b) Set LAN default gateway IP<000.000.000.000>
(c) Set LAN subnet mask<000.000.000.000>
(d) Set Remote Server IP<012.043.214.176>
(e) Set Wireless Network Address<12345678>
(f) Set dialup number<2002122>
(g) Set dialup username<choogenboom@earthlink.net>
(h) Set dialup password<chatham>
(i) Set MODEM custom AT command string<>
(j) Set dialup time interval in minutes<720>
(k) Set dialup retries<2>
(l) Use LAN connection<N>
(m) Use MODEM connection<N>
(n) Use Auto Detect Connection<Y>
(q) exit and discard changes
(s) save changes to FLASH and reboot
enter selection>_
```

9. You can then modify individual settings by selecting the desired menu item.

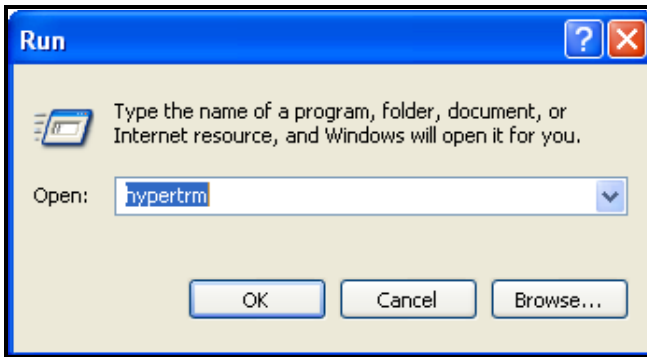
Note: *Be sure to save your changes; saving changes forces a reboot which will disconnect your telnet session from the gateway.*

Using an RS-232 Port to Access the Configuration Menu

Complete the following steps to access the configuration menu via the RS-232 port connection.

IMPORTANT: *Be sure the gateway is unplugged from the power source.*

1. Connect the gateway RS-232 port to your PC's serial COM port (usually, but not always, designated "COM1") using a serial cable (not supplied).
2. On your PC start a HyperTerminal window (shown below) using Start>Run to execute the command hypertrm. Click OK.



3. At the prompt, enter a name (see below) for the new connection and click OK.

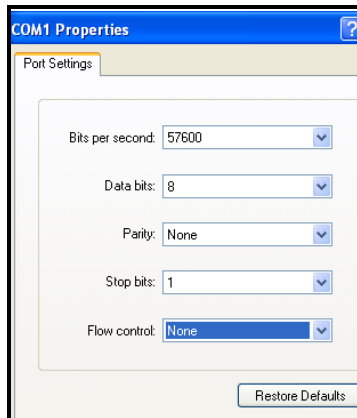


Using an RS-232 Port to Access the Configuration Menu (cont.)

- You will then be prompted to select the gateway connection (see below); usually the connection is through the COM1 port, but it will vary from PC to PC, and in some cases may be through a serial adapter on a USB port. Select the appropriate COM port name and click OK.

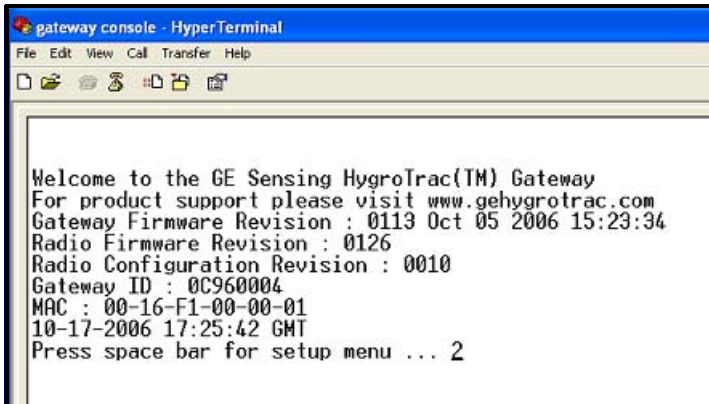


- Follow prompts to enter the COM port settings. Configure the COM port with the following settings and click OK.
 - Bits per second: 57600
 - Data Bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: None



Using an RS-232 Port to Access the Configuration Menu (cont.)

6. You are now ready to power on the gateway. Power on the gateway and your HyperTerminal window should resemble the screen shown below. If you have problems, be sure that the HyperTerminal window is the currently selected window on your desktop and that you do not currently have any text selected in the HyperTerminal window.



7. Press the space bar within 5 seconds of power-up to access the gateway configuration menu.

Using an RS-232 Port to Access the Configuration Menu (cont.)

```
gateway console - HyperTerminal
File Edit View Cal Transfer Help
Radio Firmware Revision : 0126
Radio Configuration Revision : 0010
Gateway ID : 0C960004
MAC : 00-16-F1-00-00-01
10-17-2006 17:26:52 GMT
Press space bar for setup menu ... 5
Setup Menu
(a) Set LAN static IP(000.000.000.000)
(b) Set LAN default gateway IP(000.000.000.000)
(c) Set LAN subnet mask(000.000.000.000)
(d) Set Remote Server IP(012.043.214.176)
(e) Set Wireless Network Address(12345678)
(f) Set dialup number(2002122)
(g) Set dialup username(choogenboom@earthlink.net)
(h) Set dialup password(chatham)
(i) Set MODEM custom AT command string()
(j) Set dialup time interval in minutes(720)
(k) Set dialup retries(2)
(l) Use LAN connection(N)
(m) Use MODEM connection(N)
(n) Use Auto Detect Connection(Y)
(q) exit and discard changes
(s) save changes to FLASH and reboot
enter selection>
```

8. You can now modify individual settings by selecting the desired menu item. Remember to save your changes.

We,

GE Sensing
1100 Technology Park Drive
Billerica, MA 01821

declare under our sole responsibility that the

Protimeter HygroTrac Monitoring System

to which this declaration relates, is in conformity with the following standards:

[For US and Canada Models Only](#)

• **FCC Part 15**

This Product Contains Transmitter Module FCC ID: RY20002.

This equipment complies with Parts 15 of the Federal Communications Commission (FCC) rules for the United States. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The equipment has been tested and found to comply with part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet or on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Part 15 Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



- **Industry Canada (IC)**

This Product Contains Transmitter Module IC ID:6474A-0002.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference causing equipment standard entitled Digital Apparatus, ICES-003 of Industry Canada. This device complies with Canadian RSS-210 regulations.

NOTICE: The Industry Canada (IC) label identifies certified equipment. The Department does not guarantee the equipment will operate to the user's satisfaction.

[For EU Models Only](#)

- **Data Acquisition Gateway**

The *Data Acquisition Gateway* is in conformity with the following standards:

- EN55022: 1998 + A1: 2000 + A2: 2003
- EN55024: 1998 + A1: 2001 + A2: 2003
- EN60950-1: 2001

following the provisions of the 89/336/EEC Electromagnetic Compatibility (as amended) and 73/23/EEC Low Voltage Directive (as amended).

- **Sensor Module**

The *Sensor Module* is in conformity with the following standards:

- EN300 220-3 V1.1.1 (2000-09)
- EN301 489-3 V1.4.1 (2002-08)

following the provisions of the Radio Equipment and Telecommunications Terminal Equipment. (R&TTE) directive: Directive 1999/5/EC.

Billerica - June 9, 2006



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INS9000DE, Rev. A

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