



GE Radio Admin User Guide

Version 4.3.0



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INTRODUCTION

Both the Radio Admin and GE LaunchNET applications are used in conjunction during the process of “Provisioning” new GE radios.

INSTALLATION

Installation Prerequisites

The following prerequisites are required before installing Radio Admin:

- Microsoft Windows 7/10
- 500 mb available memory
- 200 mb available disk storage
- Microsoft.NET framework 4.0
- Firewall ports open for appropriate communication with the LaunchNET server
- Minimum recommended screen resolution is 1024x700

The Radio Admin installation package is available as an installer or as a ZIP archive file. In both cases, the installation process does not write to the Windows registry so that the software can be installed on machines that restrict registry modification.

Installation and Upgrade Process

Once you have the Radio Admin installer or ZIP package downloaded to your machine, execute the installer or unpack the ZIP archive in the directory of your choice. To upgrade the software, you may unzip the new version into the same folder as the existing software, replacing the old files with the new ones, or you may choose to put the new software into a separate folder. Keep a copy of any existing **lic.ini** file.



NEW FEATURES

- NMS tool allowing for direct decommissions from associated NMS.
 - OCE feature to update Orbit Firmware Metadata after update to 9.2.2
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USING RADIO ADMIN

LaunchNET

One of the challenges in deploying large numbers of new devices is that the field technicians need detailed knowledge of radio configuration settings in order to install devices. A separate LaunchNET Server provides features that allow RF engineers, network administrators, and other radio experts to create configuration templates designed for specific types of devices or specific field locations. Once the engineers have created these templates, the technician can easily configure devices using Radio Admin.

In order to accomplish field deployments of new devices using the LaunchNET Server templates, each field technician will have a local copy of Radio Admin and credentials for accessing the LaunchNET Server.

For more information about LaunchNET Server installation and configuration, please refer to the documentation delivered with that software.

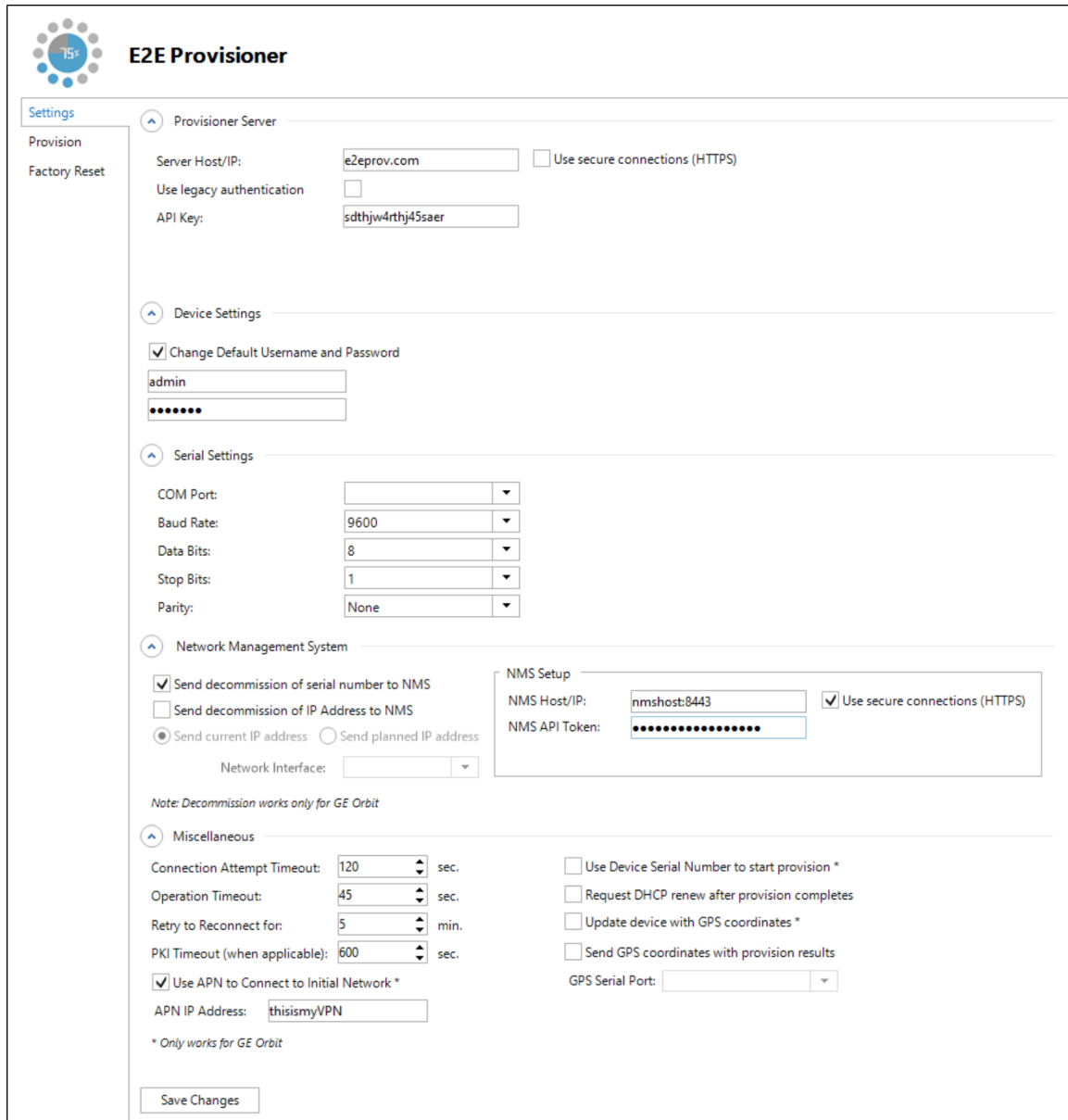
The LaunchNET currently supports the following GE MDS radio models:

- Orbit
- SD
- TransNET



Settings Tab

The **Settings** tab on the **Tools** menu will allow field technicians to connect to the LaunchNET Server and select the list of deployment options that are available to them.



The screenshot displays the 'E2E Provisioner' settings interface. On the left, a sidebar contains 'Settings' (selected), 'Provision', and 'Factory Reset'. The main area is divided into several sections: 'Provisioner Server' with fields for 'Server Host/IP' (e2epro.com), 'API Key' (sdthjw4rthj45saer), and a checkbox for 'Use secure connections (HTTPS)'; 'Device Settings' with a checked 'Change Default Username and Password' and fields for 'admin' and a masked password; 'Serial Settings' with dropdowns for 'COM Port', 'Baud Rate' (9600), 'Data Bits' (8), 'Stop Bits' (1), and 'Parity' (None); 'Network Management System' with checkboxes for 'Send decommission of serial number to NMS', 'Send decommission of IP Address to NMS', and radio buttons for 'Send current IP address' (selected) and 'Send planned IP address', along with a 'Network Interface' dropdown and an 'NMS Setup' box containing 'NMS Host/IP' (nmshost:8443), 'NMS API Token' (masked), and a checked 'Use secure connections (HTTPS)'; and 'Miscellaneous' with various timeouts (Connection Attempt: 120 sec, Operation: 45 sec, Retry: 5 min, PKI: 600 sec), checkboxes for 'Use APN to Connect to Initial Network *' (checked), 'Use Device Serial Number to start provision *', 'Request DHCP renew after provision completes', 'Update device with GPS coordinates *', and 'Send GPS coordinates with provision results', and an 'APN IP Address' field (thisismyVPN). A 'Save Changes' button is at the bottom.

There are two different ways to configure the LaunchNET server credentials. If using Legacy LaunchNET (A version prior to 5.0), click the "Use legacy authentication". If using LaunchNET 5.X you will need to configure an API token before proceeding to authenticate (See the LaunchNET User guide for more details).



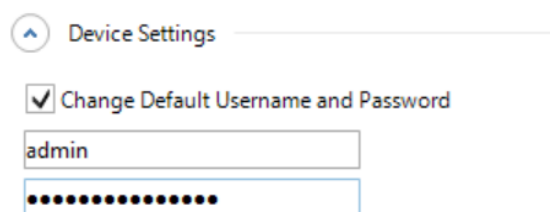
Navigate to the **Tools > Provisioner > Settings** tab to input your LaunchNET Server credentials for connecting to the LaunchNET Server. This will allow Radio Admin to obtain the list of configuration templates for each field technician deploying devices on the network.

Enter the server name or IP address of the LaunchNET server on which the staged configuration templates reside

1. Enter the field technician username for the LaunchNET server (only required for Legacy authentication)
2. Enter the field technician password for authenticating to the LaunchNET server (only required for Legacy authentication)
3. Enter the **Random Unique Key (RUK)** for this user and company (only required for Legacy authentication)
4. Select whether a secure HTTPS protocol is used to connect to the LaunchNET server
5. Enter the API Token that was created on the LaunchNET server (Note: Token must-have device level privileges)

Radio Admin will connect to the local radio which is being provisioned using either an Ethernet cable (Orbit) or a serial cable (SD & TransNET). If connecting to the device serially, in the **Serial Settings** enter the COM port, baud rate, data bits, stop bits, and parity.

In the **Device Settings** section, if the Orbit's username or password is different than the default username and password. The login information for the Orbit username and password can be entered.



The screenshot shows the 'Device Settings' section of a web interface. It features a checkbox labeled 'Change Default Username and Password' which is checked. Below this checkbox are two input fields: the first contains the text 'admin' and the second contains a series of dots, representing a masked password.

The **Network Management System** section allows the serial number or IP to be sent to the NMS server for decommissioning. There is an option to send the current IP address or send the planned IP address to the NMS server for decommissioning. NMS setup



requires host/ip:port of the NMS server if using secure server checkbox is required. Also, an API should be generated on the NMS server.

The screenshot shows the 'Network Management System' configuration section. It includes a 'NMS Setup' box with the following fields: 'NMS Host/IP' (192.168.1.25:8080), 'NMS API Token' (a masked field with dots), and a checkbox for 'Use secure connections (HTTPS)'. Below the NMS Setup box, there are radio buttons for 'Send decommission of serial number to NMS' (unchecked), 'Send decommission of IP Address to NMS' (checked), 'Send current IP address' (unchecked), and 'Send planned IP address' (checked). A 'Network Interface' dropdown menu is set to 'Cell'. A note at the bottom states: 'Note: Decommission works only for GE Orbit'.

In the **Miscellaneous** section, you can adjust the connection timeouts and the number of retries used when communicating between the LaunchNET server and the radio. You may also tell Radio Admin to use the serial number of the locally connected radio for selecting the correct template from the LaunchNET server. If you need to renew the DHCP lease on the locally connected radio after the LaunchNET completes, check the **Request DHCP renew after provision completes** box.

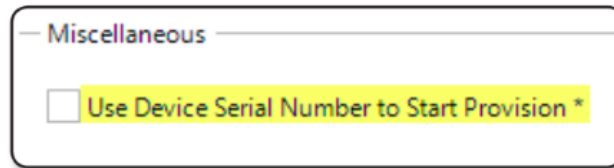
If you have a locally connected GPS receiver on the field laptop, you can tell Radio Admin which COM port the GPS is using and have Radio Admin send the current GPS coordinates back to the LaunchNET server with the results of the provisioning activity. Also, the APN for the provisioning device can be entered, this allows the device to make a connection to the APN before the provisioning process begins.

The screenshot shows the 'Miscellaneous' configuration section. It includes several settings: 'Connection Attempt Timeout' (120 sec), 'Operation Timeout' (45 sec), 'Retry to Reconnect for' (5 min), and 'PKI Timeout (when applicable)' (600 sec). There are checkboxes for 'Use Device Serial Number to start provision *' (unchecked), 'Request DHCP renew after provision completes' (unchecked), 'Update device with GPS coordinates *' (unchecked), and 'Send GPS coordinates with provision results' (unchecked). A checkbox for 'Use APN to Connect to Initial Network *' is checked. Below this, there is a text field for 'APN IP Address' containing 'APNinformation'. A 'GPS Serial Port' dropdown menu is also visible. A note at the bottom states: '* Only works for GE Orbit'.

If your LaunchNET Server administrator has locked specific radio serial numbers to templates for deployment, and if you are deploying a GE MDS Orbit device, you can navigate to the **Radio Admin Provisioner Settings** tab and select **Use Device Serial Number to Start Provision**. (Note that this only works for Orbit radios.) If this option is



selected, Radio Admin will automatically connect to the Orbit radio, send its serial number to the LaunchNET Server to obtain the correct template, and immediately begin applying the template settings to the Orbit device. The correct radio template will be selected automatically.



Miscellaneous

☐ Use Device Serial Number to Start Provision *

Save the Radio Admin settings by clicking the  **Save Changes** button.



Provision Tab

Once the settings have been saved, click the **Provision** tab and Radio Admin will attempt to connect with the LaunchNET Server using the credentials you provided. If successful, the list of available templates for this user will be displayed in the **Staged Templates** drop-down list. If unsuccessful, an error message will appear and you should verify your LaunchNET account and connection settings.

If **Use secure connections (HTTPS)** is selected on the **Settings** tab, you may see an error message indicating Radio Admin could not establish a trust relationship for the SSL/TLS secure channel. To resolve this issue, ensure that your Radio Admin laptop's CA certificate includes an entry for the LaunchNET Server.

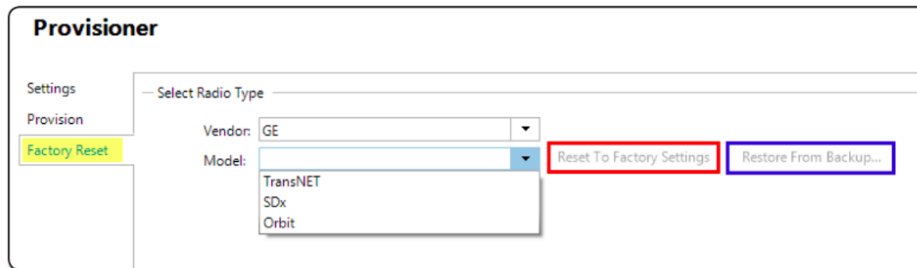
Click on the drop-down list to select the template that must be applied to the radio you are currently deploying. To view the details of the selected template, click on the **Get Staged Template Details** button. This will show any unique configuration settings that are included in the template for deployment to the radio.

If you are satisfied that you have selected the correct template for the device you are currently deploying, and that the configuration settings are correct, click the **Provision Radio** button to start the process of deploying the template settings to the radio. Status messages will be displayed during each step of the configuration process.



Factory Reset Tab

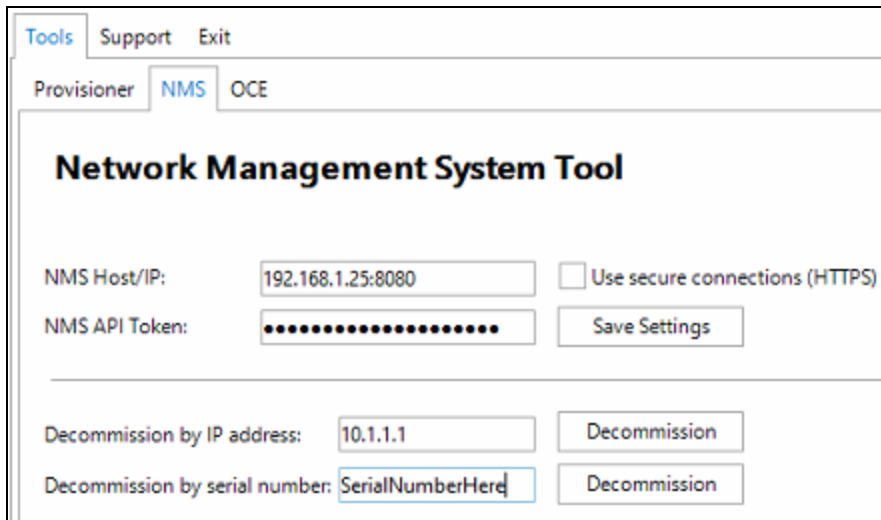
If you desire to reset a GE MDS radio to its factory default configuration values, you can navigate to the **Factory Reset** tab and select the vendor and model. You may reset the device to its factory configuration settings by clicking on **Reset to Factory Settings**. You may also restore the configuration settings from a backup file by clicking **Restore from Backup**.



The screenshot shows the 'Provisioner' window with the 'Factory Reset' tab selected. It features a 'Select Radio Type' dropdown menu with 'Vendor' set to 'GE' and 'Model' set to 'TransNET'. Below the model dropdown, a list of models is visible: 'TransNET', 'SDx', and 'Orbit'. To the right of the model dropdown are two buttons: 'Reset To Factory Settings' (highlighted with a red border) and 'Restore From Backup...' (highlighted with a blue border).

Network Management System Tool

This feature allows the user to Decommission single devices from the associated NMS instance directly by providing the IP Address, or Serial Number of the device:



The screenshot shows the 'Network Management System Tool' window. It has a menu bar with 'Tools', 'Support', and 'Exit'. Below the menu bar are tabs for 'Provisioner', 'NMS', and 'OCE', with 'NMS' currently selected. The main area is titled 'Network Management System Tool'. It contains two sections. The first section has 'NMS Host/IP:' with a text box containing '192.168.1.25:8080' and a checkbox for 'Use secure connections (HTTPS)'. Below this is 'NMS API Token:' with a masked text box and a 'Save Settings' button. The second section has 'Decommission by IP address:' with a text box containing '10.1.1.1' and a 'Decommission' button. Below this is 'Decommission by serial number:' with a text box containing 'SerialNumberHere' and a 'Decommission' button.

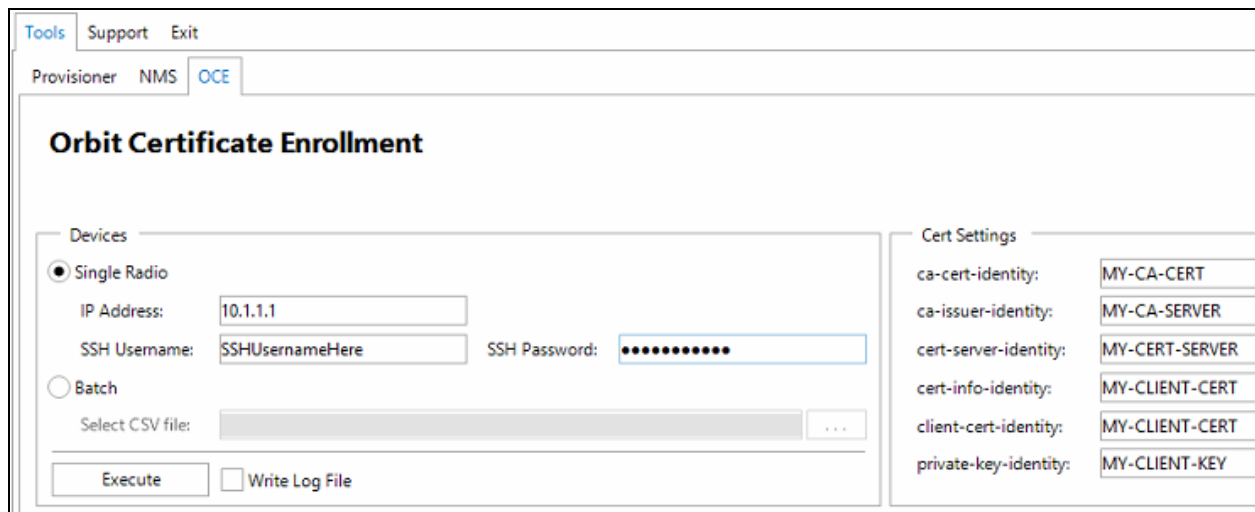


OCE Tab

This feature requires IP Address and SSH credentials and will run the following process for Orbit Certificate Renewal on Orbit firmware 9.2.2 and above:

1. Radio Admin will read an IP address and credentials from a file or prompt user to enter IP plus credentials
2. Radio Admin connects to the radio via SSH (radio's IP address, username/password must be provided)
3. Radio Admin issues command substituting certificate values as configured
4. Radio Admin validates that the commands were successful
5. If successful, repeat with the next device in the list or ask for another device from the user input.

This process can be run on a single radio, or as a batch action on multiple Orbits using a .csv file.



CSV batch file must be in the following format:

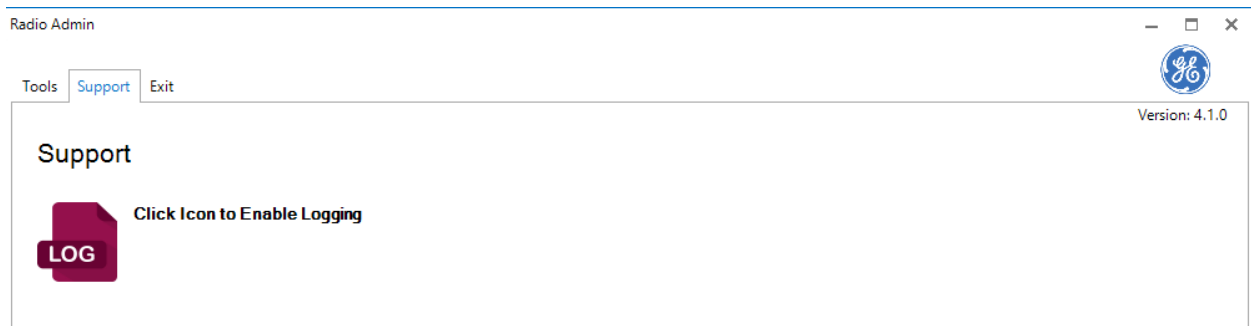
IP Address	SSH Username	SSH Password
127.0.0.1	admin	pwd
127.0.0.1	admin	pwd



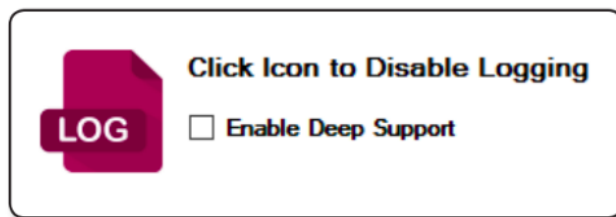
GETTING SUPPORT

How to Contact Support

If you have a question regarding GE Radio Admin contact the Support Center by email at gemds.techsupport@ge.com.



During a support call you may be asked to enable logging. This is accomplished by clicking on the **Enable Logging** icon. After enabling logging you will see the icon label change to **Disable Logging**. This allows you to toggle logging on and off with a single click on the logging icon. If required, the Support team may request that you check the **Enable Deep Support** box for additional details. This checkbox will appear when debug logging is enabled.



About GE MDS

Over two decades ago GE MDS began building radios for business-critical applications. Since then we have installed millions of radios in countries across the globe. We overcame impassable terrain, brutal operating conditions, and complex network configurations to succeed. We also became experts in wireless communication standards and applications worldwide. The result of our efforts is that today thousands of organizations around the world rely on GE MDS wireless networks to manage their critical assets.

The majority of GE MDS radios deployed since 1985 are still installed and performing within our customers' wireless networks. That's because we design and manufacture our products in-house, according to ISO 9001, which allows us to meet stringent global quality standards.

Thanks to our durable products and comprehensive solutions, GE MDS is the wireless leader in industrial automation—including oil and gas production and transportation, water/wastewater treatment, supply, and transportation, electric transmission and distribution, and many other applications. GE MDS is also at the forefront of wireless communications for private and public infrastructure and online transaction processing. As your wireless needs change, you can continue to expect more from GE MDS. We'll always put the performance of your network above all.

GE MDS ISO 9001 Registration

GE MDS adheres to the internationally-accepted ISO 9001 quality system standard.

To GE Customers

We appreciate your patronage. You are our business. We promise to serve and anticipate your needs. We will strive to give you solutions that are cost effective, innovative, reliable and of the highest quality possible. We promise to engage in a relationship that is forthright and ethical,

one that builds confidence and trust. Data sheets, frequently asked questions, application notes, firmware upgrades and other updated information is available on the GE MDS Web site.

Manual Revision and Accuracy

This manual was prepared to cover a specific version of our product. Accordingly, some screens and features may differ from the actual version you are using. While every reasonable effort has been made to ensure the accuracy of this guide, product improvements may also result in minor differences between the manual and the product shipped to you. If you have additional questions or need an exact specification for a product, please contact our Customer Service Team using the information below. In addition, manual updates can often be found on the GE MDS Web site.

Customer Support

If you have problems, comments, or questions pertaining to the GE PulseNET application, please contact GE MDS via one of the methods below:

Phone: 585-241-5510

Email: gemds.techsupport@ge.com

Fax: 585-242-8369

About the developer, End 2 End Technologies

End 2 End (E2E) Technologies offers a unique combination of wireless communications and information technology expertise. We improve efficiency, reduce risk, and lower the cost of industrial field operations via modernization and management of our customer's wireless communications networks. From initial planning through lifecycle support, we assist your team in adopting a wireless solution that keeps communication costs low while maximizing network reliability and performance. For more information visit us at www.e2etechinc.com

