



INDUSTRIAL CONTROL COMMUNICATIONS, INC.

# Gateway Configuration Utility

ICC Gateway Configuration Utility

File Device Help

ICC

Status: Disconnected

Object Memory Used: 00.8%

Device: ETH-1000

Ethernet Configuration RS-485 Configuration Timeout Configuration Monitor Finder

Protocol Selection

Protocol: Modbus RTU Master

Baud Rate: 9600

Parity: No Parity (1 Stop Bit)

Address:

Timeout (ms): 250

Scan Rate (ms): 0

Service Object Configuration

Description: Service Object 4

Dest Address:

Start Reg:

Num Regs:

Database Addr:

Data Type: 16-bit Unsigned

Multiplier: 1.000000

Function: Function Code

Read: ☒ 3 (Read Holding Registers)

Write: ☒ 16 (Preset Multiple Register)

☒ Group Multiple Writes

Type:

☒ Holding Register

☐ Input Register

☐ Coil Status

☐ Input Status

Service Object Status

☐ Reflect Status

Address:

Options

Create Update Delete Delete All

Service Objects

Description	Dest Address	Type	Start	Num	DB Address	Mult	Read FC	Write FC	Mult Writes	RS Address
Service Object 1	1	Holding Register	100	5	0	1.000000	3	16	Yes	128
Service Object 2	1	Holding Register	120	3	32	1.000000	3	16	Yes	144
Service Object 3	1	Holding Register	130	8	64	1.000000	3	16	Yes	160



## **Configuration Utility User's Manual**

Part Number 10737

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# 1. Introduction

To maximize the abilities of the Configuration Utility, a working familiarity with this manual and each associated gateway's manual will be required. This manual has been prepared with the assumption that the user is familiar with and understands the concepts presented in the gateway's user's manual. Before using the Configuration Utility and this manual, please familiarize yourself with the product you are configuring and be sure to thoroughly read the instructions and precautions contained in the gateway's manual. In addition, please make sure that this instruction manual is delivered to the end user of the gateway, and keep this instruction manual in a safe place for future reference.

The ICC Gateway Configuration Utility allows you to interact with USB-enabled ICC Gateway devices from a PC. These gateways feature two communication ports, which are configurable through the Configuration Utility. The gateways also use the concept of protocol-specific objects which provide a more uniform method of configuring each port. The utility provides an easy-to-use interface for configuring and keeping track of these objects.

Configuring a gateway with the Configuration Utility is as simple as selecting the device, configuring the port options, configuring any protocol-specific objects, and downloading the configuration to the device. Additionally, the utility offers many other advanced configuration features such as database endianness selection, timeout processing configuration, EDS file generation (for DeviceNet), firmware updates, and configuration file management.

Configurations can be created offline, saved as XML configuration files, and downloaded to a device at a later time. Configurations can also be downloaded to connected devices as soon as they are created.

The Configuration Utility is not limited to configuration alone. The utility actively monitors the status of the connected device and displays any errors, warnings, or other messages in the status information box. It can retrieve information from the device such as the current firmware version, database endianness, and coprocessor information (where applicable).

The Configuration Utility also contains a very powerful tool in the Monitor tab, which offers a unique insight into the operation of the connected device. Using this tool, a user may monitor and edit, in real time, any address in the gateway's database. Along with this, the status of each transaction performed by a master/client protocol on the gateway may be viewed, giving the user insight into the number of sent and received packets as well as any transmission errors that occur.

The Monitor tab is not only useful when a device is connected, but can also be used while designing a configuration either offline or online. The Monitor tab has an option to display the memory used in the database by configured protocol objects. This feature is very useful for seeing where data is mapped into the database, whether or not the data from each port will overlap, and where the next free location in memory is.

Another feature of the configuration utility is its ability to locate any Ethernet-enabled ICC device on the current subnet. The Finder tab enables a user to search the Ethernet subnet for any connected ICC devices. Once a device is found, the utility provides many actions such as reading device information, configuring IP settings, rebooting the device, interacting with the device's filesystem via FTP, and opening the device's embedded web server for Ethernet protocol configuration.

For the latest information, support software and firmware releases, please visit <http://www.iccdesigns.com>.

## 2. Features

- Save and load XML-formatted configuration files on a PC
- Create configurations offline
- Easily duplicate configurations for multiple devices
- Update the firmware of a device over USB
- Download and upload configurations to and from a connected device
- Locate Ethernet-enabled ICC devices on an Ethernet subnet
- Monitor live data from the device's database
- Monitor the status of the device's transactions
- Change database values of a connected device in real time.
- Easily check the database for memory blocks that have been allocated to objects, and easily identify where the next free address is
- Generate custom EDS files for DeviceNet
- Common interface for configuring many ICC gateway products reduces learning curve for new devices
- No need to convert numbers, users may enter either decimal or hexadecimal values (by prefacing the number with "0x") while configuring a device

## 3. Program Installation

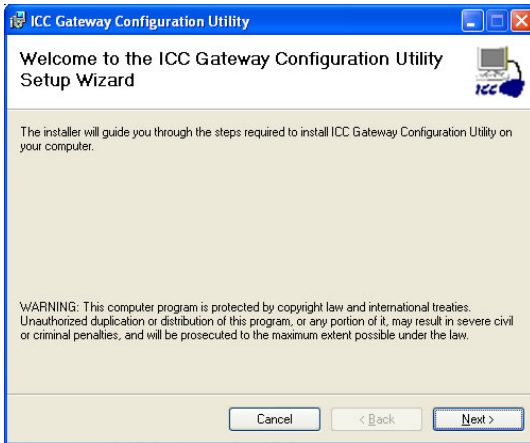
The ICC Gateway Configuration Utility installer will install firmware and device drivers for all supported devices. The Configuration Utility also requires the Java Runtime Environment. The installation includes the Java FX installer for Java 6.

**Note that the Configuration Utility should be installed before connecting any gateway devices to the computer's USB port. The Configuration Utility contains product-specific USB drivers that must be installed on the computer prior to initial connection of the target device.**

### Launch the install executable

To start the installation of the ICC Gateway Configuration Utility, open the file **ICC Gateway Configuration Utility Installer.exe** file.

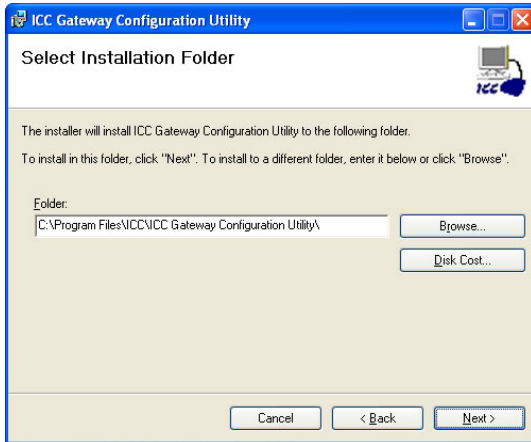
### Review the installation message (Figure 1) and click Next



**Figure 1: Installer Welcome Screen**

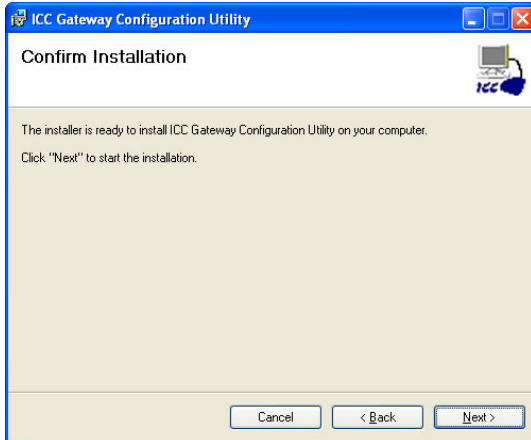
## **Select the install folder**

Select the folder where you want the Configuration Utility to be installed (Figure 2).



**Figure 2: Installation Folder Selection Screen**

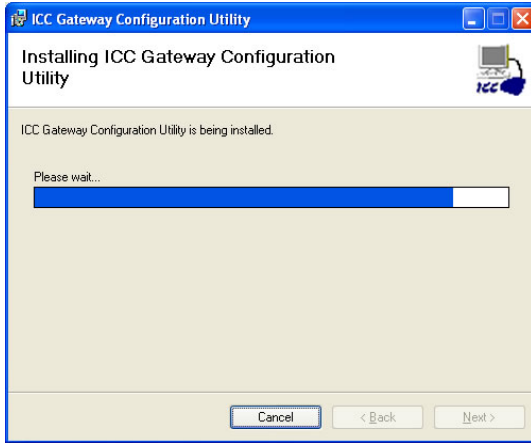
## **Confirm and click Next to start installation (Figure 3)**



**Figure 3: Installation Confirmation Screen**



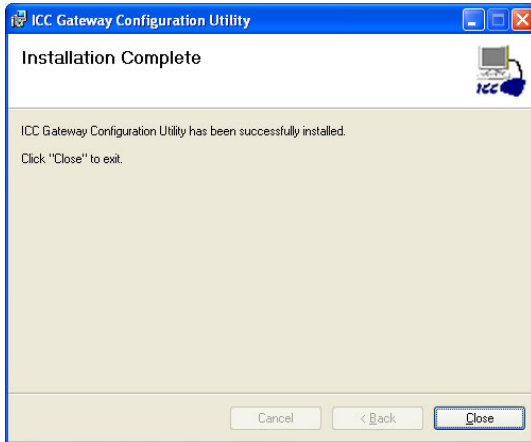
**Wait while the configuration utility is being installed (Figure 4)**



**Figure 4: Installation Progress Screen**

**Installation complete**

Click **Close** to exit the installer (Figure 5).



**Figure 5: Installation Complete Screen**

## 4. Connecting a Device

By using a USB mini-B cable (optionally available from ICC as part number 10717), a device can be connected to the PC, powered, configured and updated. This section explains setting up the PC to work with an ICC gateway device.

After the ICC Gateway Configuration Utility is installed, the PC will be able to automatically install a supported device's USB driver when one is connected.

*Note that the Configuration Utility must be installed prior to connecting a supported device to the PC: the PC will not be able to automatically install a device's USB driver until the Configuration Utility installation is complete.*

### 4.1 Automatic Driver Installation

If this is the first time connecting the device to your computer, Microsoft Windows will prompt you to install the device's USB driver.

#### Found New Hardware Wizard

You can select **No, not this time** when prompted for Windows to connect to Windows Update (Figure 6).



**Figure 6: Found New Hardware Screen**

## Select Recommended Install

Accept the default action (Figure 7).



Figure 7: Select Install Type Screen

## The Wizard Will Search for the Appropriate Driver (Figure 8)

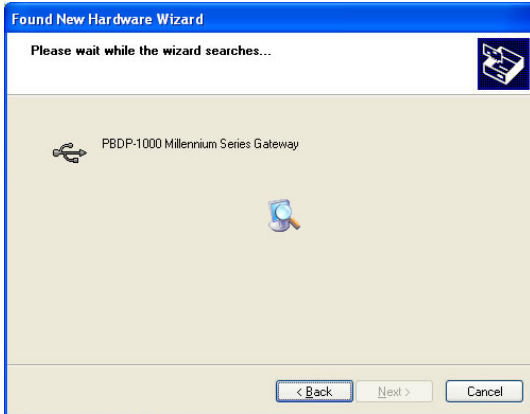


Figure 8: Searching for Driver

## Device Installation Complete

The device driver has been successfully installed (Figure 9). Click **Finish** to close the wizard.



Figure 9: Installation Complete Screen

## 4.2 Manual Driver Installation

If the automatic driver installation fails, or if it becomes necessary to reinstall the driver for the USB device, the driver is located in the **Drivers** folder in the Configuration Utility's installation folder.

### Select Advanced Install (Figure 10)



Figure 10: Select Install Type Screen

## Select Search Locations

Select **Search for the best driver in these locations**, uncheck **Search removable media**, and check **Include this location in the search**. Then, select "Browse" to choose the specific drivers folder (the default location is C:\Program Files\ICC\Gateway Configuration Utility\Drivers). Once you have selected the Drivers folder, click **Next** to continue.

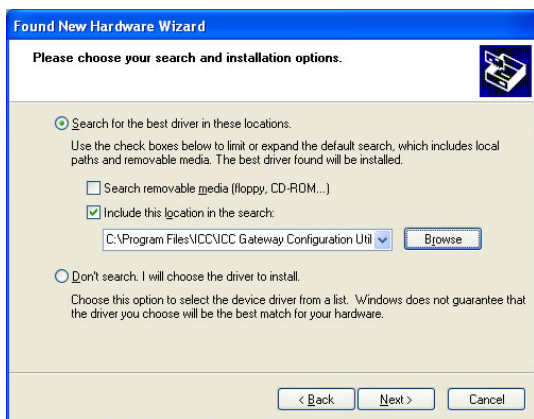


Figure 11: Search and Installation Options Screen

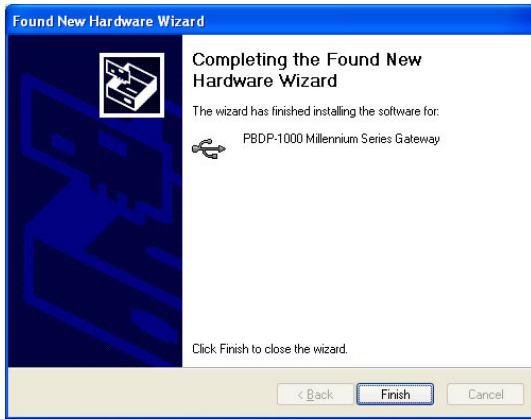
## The Wizard Will Search for the Appropriate Driver (Figure 12)



Figure 12: Searching for Driver

## Device Installation Complete

The device driver has been successfully installed (Figure 13). Click **Finish** to close the wizard.



**Figure 13: Installation Complete Screen**

## 5. Application Overview

An overview of the major subcomponents of the Configuration Utility can be found in Figure 14. Some of the subcomponents (such as the Device Status group) are visible at all times, while others (such as the object / protocol configuration group) are visible only when specific selection tabs are chosen.

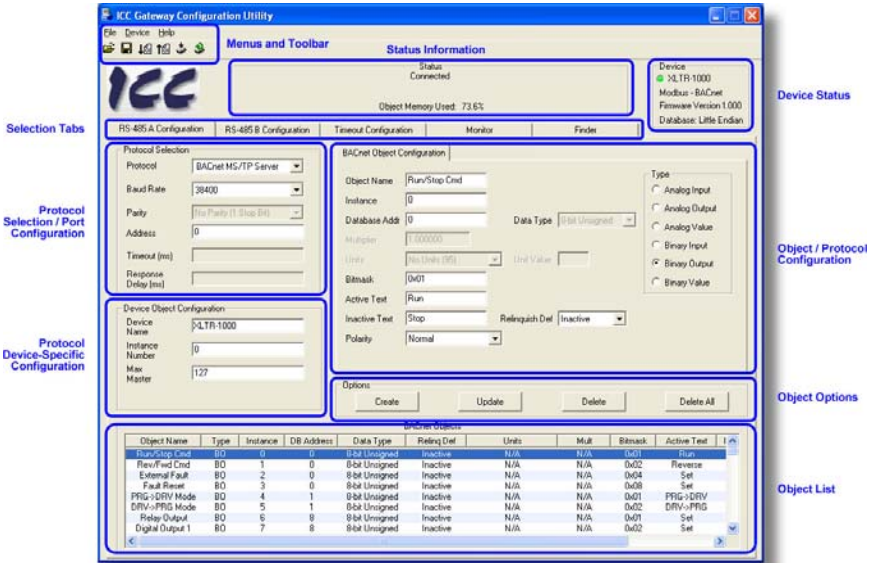


Figure 14: Application Overview

## 6. Menus and Toolbar


The menus and toolbar primarily provide the ability to interact with configuration files (via the File menu) and devices (via the Device menu). The toolbar icons provide one-click access to some of the most frequently-used menu selections. Refer to Figure 15.



Figure 15: Menus and Toolbar


### 6.1 File Menu

#### Load Configuration

Opens an existing XML configuration file. This action is also accessible from the toolbar by selecting the  icon, and as a keyboard shortcut by pressing Ctrl+O.

If no device is currently selected, then loading an existing configuration file automatically selects the device specified in the file. If a device has already been selected, however, then the selected device must match the one specified in the configuration file or an error message will appear indicating that the configuration file is not valid for the currently-selected device. To change the currently-selected device to match the one specified in the configuration file, select the correct device from the *Device...Select Device...* menu (refer to section 6.2).

#### Save Configuration

Saves an XML configuration file. This action is also accessible from the toolbar by selecting the  icon, and as a keyboard shortcut by pressing Ctrl+S.

Saving configuration files is useful for backing up device configurations, configuring multiple devices with the same configuration, or sending a device configuration via e-mail. While it is possible to view saved configuration files with standard web browsers, XML editors or word processing programs, please note that editing XML configuration files outside of the Configuration Utility is **STRONGLY DISCOURAGED** unless specifically directed to do so by an ICC Application Note or support personnel: any changes to configuration files should normally be performed only via the Configuration Utility.

#### Generate EDS file (DNET-1000 only)

Generates an EDS file for the DNET-1000 based on the current custom configuration.

#### Exit

Exits the Configuration Utility.



## **6.2 Device Menu**


### **Select Device**

Allows selection of the target device. Selecting a specific device will automatically modify the configuration tabs for that device's configuration requirements, and will clear the current configuration.

### **Endianness**


Allows selection of the database byte order (big endian or little endian) for storage and retrieval of multibyte data types by network drivers.

### **Download Configuration to Device**


Downloads the current configuration to a connected device. Note that the currently-selected device must be connected for this action to be available. This action is also accessible from the toolbar by selecting the  icon.

If the protocol drivers defined in the current configuration are different than those in the firmware on the device, new firmware must be downloaded first. After the new firmware has been automatically installed, the configuration file will then be downloaded, and the device can be reset for the changes to take effect.

### **Upload Configuration from Device**

Uploads the configuration on a connected device into the Configuration Utility. Note that the currently-selected device must be connected for this action to be available. This action is also accessible from the toolbar by selecting the  icon.

### **Update Firmware**

Updates the firmware on a connected device. Note that the currently-selected device must be connected for this action to be available. This action is also available from the toolbar by selecting the  icon.


In order to update firmware, the connected device must be the same type as the device currently selected in the Configuration Utility. Once connected, the Configuration Utility will automatically display a message in the Status Information box (refer to section 7) if a firmware update is available. If multiple firmware versions are available, a list will be displayed which allows selection of the desired version (the latest version will be highlighted by default).

Updating firmware will not invalidate an existing configuration stored on the device; any new configuration options that have been added to the latest

firmware will be set to default values until a new configuration is downloaded to the device.

The latest device firmware files are included with each new release of the Gateway Configuration Utility. Dedicated “firmware update” packages may also be released from time to time. For more information, please refer to <http://www.iccdesigns.com>.

### **Reset Device**

Resets (reboots) a connected device. Note that the currently-selected device must be connected for this action to be available. This action is also available from the toolbar by selecting the  icon.

### **Device Info**

Retrieves information about a connected device such as firmware version, database endianness, coprocessor information etc. Note that the currently-selected device must be connected for this action to be available.

## **6.3 Help Menu**

### **Configuration Utility Help**

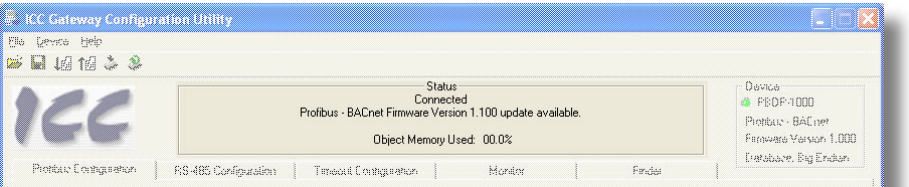
Opens this manual for viewing. This action is also accessible as a keyboard shortcut by pressing F1.

### **About**

Displays Configuration Utility version.

## 7. Status Information

The status information box displays relevant information about the device connection, firmware updates, object memory utilization, etc. Refer to Figure 16.



**Figure 16: Status Information**

### Connection Status

The first line displays the connection status, while the second line displays relevant messages about the device (where applicable), including available firmware updates, errors, and warnings.

### Errors and Warnings

The device errors listed in Table 1 may be displayed in the status information box for various reasons.

**Table 1: Device Errors**

Error	Description
Invalid Tick Timer	Internal Device Error. Please contact ICC technical support.
Task Initialization	Internal Device Error. Please contact ICC technical support.
Resource Allocation	Internal Device Error. Please contact ICC technical support.
Object Allocation	Protocol objects could not be allocated.
Protocol Firmware	The firmware on the device does not match the protocol.
Device Communication	Error communicating with the device.

The device warnings listed in Table 2 may be displayed in the status information box for various reasons.

**Table 2: Device Warnings**

Warning	Description
Device Busy	For gateways with on-board coprocessors (such as the ETH-1000), the coprocessor is not ready.
Passthrough Mode Enabled	The device is currently in RS-485 / USB passthrough mode.

### **Object Memory**

The last line of the status information box indicates the Object Memory Used. This dynamically-calculated value increases as additional objects are added to the gateway's configuration. When this number reaches 100%, no further objects can be added to the configuration.

## 8. Device Status

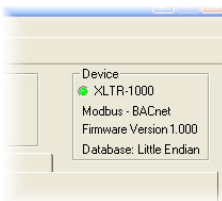
The contents of the device status box depend on whether or not a device is currently selected in the Configuration Utility. When no device is currently selected (such as when the Configuration Utility is first started), this box contains an “Auto Connect” button which will attempt to discover a device connected to the computer’s USB port (refer to Figure 17). If a device is discovered, the Configuration Utility will upload the current configuration from that device for inspection or editing. Once a device has been successfully discovered via the Auto Connect feature, this button is replaced by device-related status information (refer to Figure 18).



**Figure 17: Auto Connect**

When a connected device has been successfully detected by the Configuration Utility (either by using the Auto Connect feature or by manually choosing the connected device via the *Device...Select Device...* menu), the Device Status box changes to display various important information about the device. Displayed items include:

- A connection status LED
- The device type
- The drivers currently installed on the device
- The currently-installed firmware version
- The database endianness



**Figure 18: Device Status**

### Connection Status LED

The LED in the upper left-hand corner of the device status box indicates the current state of the USB connection to the device. Refer to Table 3 for a description of the possible LED states.

**Table 3: Connection Status LED States**

Color	Status
Off	No device connected
Green	Device connected normally
Red	Device connected with errors (the error will also be indicated)
Yellow	Device connected with warnings (the warning will also be indicated)

**Device Type**

Indicates the currently-selected device (whether or not the device is currently connected).

**Currently-Installed Drivers**

Indicates the drivers currently installed on the device. Note that some device firmware images contain support for multiple drivers, and these “additional” drivers may be displayed even if the current configuration does not make use of them.

**Currently-Installed Firmware Version**

Indicates the firmware version currently installed on the device. Note that the version numbers for the most up-to-date firmware images available at any given time may be different for different drivers. If a newer firmware version is available in the Configuration Utility, a message indicating that fact will be displayed in the status information box (refer to section 7).

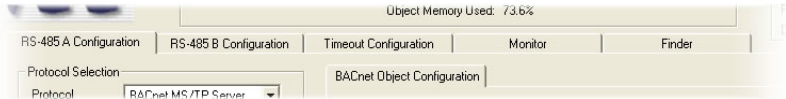
**Database Endianness**

Indicates the current endianness setting of the device’s internal database. Endianness is a specification of the byte ordering used when storing and retrieving multibyte data types by network drivers.

- If the database is little endian, the least-significant byte is stored at the lowest address (with higher-order bytes sequentially stored at successively higher addresses).
- If the database is big endian, the most-significant byte is stored at the lowest address (with lower-order bytes sequentially stored at successively higher addresses).

## 9. Selection Tabs

Five selection tabs provide access to the various gateway configuration elements, as well as allow interacting with connected devices (refer to Figure 19). Tabs can be directly selected at any time, and keyboard shortcuts Ctrl+Tab and Ctrl+Shift+Tab can also be used to switch tabs in a forward and backward direction, respectively.



**Figure 19: Selection Tabs**

### 9.1 Port Configuration

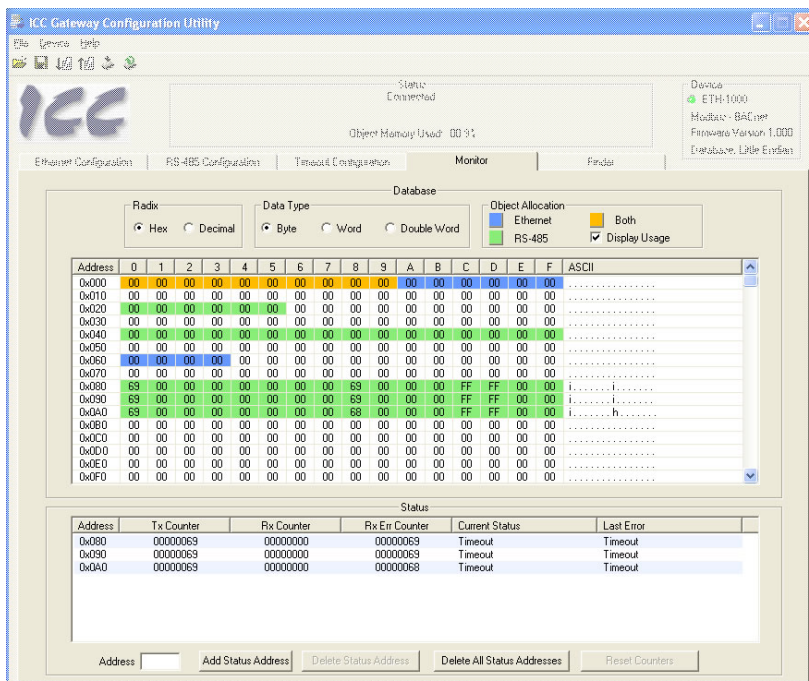
As all Millennium Series gateways contain two physical communication ports, the first two tabs are used to configure the protocol drivers available on each of the respective ports. The titles of these tabs and their contents vary depending on the currently-selected device (refer to each specific product user's manual for a detailed explanation of the available fields for each port / protocol).

### 9.2 Timeout Configuration

The Timeout Configuration tab allows unique "failsafe" values to be automatically written to the device's database in the event of a network timeout detection event. Support of timeout detection is protocol-specific (refer to each specific product user's manual for a detailed explanation of timeout processing support).

### 9.3 Monitor

The monitor tab allows interacting with the device's internal database in real-time. This interaction can encompass both monitoring and modification of database values. The status and allocation of protocol-specific service objects can also be monitored, which can be useful during the initial commissioning stages of a network. Refer to Figure 20.



**Figure 20: Monitor Tab**

## Radix

Data can be displayed and modified in either hexadecimal or decimal radices. To change the radix, just select the radio button of the desired radix: the values in the database will be automatically updated to reflect the selected radix. When editing values in the database, use caution to note the current radix selection: entering the number “64” when the decimal radix is selected is different than entering the number “64” when the hexadecimal radix is selection (64 hex = 100 decimal).

## Data Type

The display and entry data type can be set to byte (8-bit), word (16-bit), or double word (32-bit). To change the data type, select the radio button of the desired type: the database columns and values will be automatically readjusted to reflect the selected data type.

## Object Allocation

A “Display Usage” checkbox is provided, which when enabled colorizes the database locations to display port/object usage. This feature enables the easy



identification of which database locations are currently allocated to objects and/or network I/O data on each port. In order to facilitate the end-to end transfer of information, it is typically desirable to have data/objects from the “back end” port overlap with corresponding constructs on the “front end” port.

Please note the following points regarding the usage display feature:

- Not all mapping information is shown for each selected driver. For example, the default full-database mapping of Modbus RTU slave driver registers is never shown.
- Database usage for protocols which utilize I/O data (such as EtherNet/IP) typically only indicate the individual bytes assigned to the initial input and output data locations, as the overall data transfer sizes of these protocols are usually dynamic and therefore not known until an actual connection is established with a controller (e.g. PLC).
- Depending on the currently-selected data type, the entire byte, word, or double word will be colorized even if only a smaller storage unit has been allocated at that location.

Displaying the database usage can also be convenient when creating multiple complex service objects, as the next available database location can be easily identified after each service object is defined on a protocol configuration tab.

## **Editing Database Values**

To edit a value in the database, double click on the value. The targeted data will be highlighted and the desired value can then be entered. To write the value back to the device, either press the Enter key or click anywhere outside the selected data cell.

## **Status List**

The bottom portion of the monitor tab contains a “Status” list, which allows all-in-one observation and interaction with any “reflect status” structures associated with protocol service objects. Refer to each specific gateway’s instruction manual for details on the structure of reflect status objects and how to associate them with service objects.

The status list will automatically decode the “current status” and “last error” fields of the reflect status structures, and display them in easy-to-understand messages. Refer to Table 4 for a list of possible messages for these fields.

The status list can also be sorted by any column in an ascending or descending fashion. To sort the list by a specific column, click the column header. To reverse the order, click the column header again.

**Table 4: Current Status / Last Error Messages**

Message	Description
No Error	No error has occurred.
Invalid Data Address	The network data address requested is invalid.
Data Error	The received data was invalid.
Write to Read Only	Trying to write to a read-only parameter.
Read from Write Only	Trying to read from a write-only parameter.
Target Busy	The target slave device is busy.
Target Error	The target slave device caused an error or is invalid.
Cannot Execute	The request cannot be executed.
Mode Error	The access mode is invalid.
Other Error	An undefined error occurred.
Memory Error	A memory error occurred on the gateway or the remote device.
Receive Error	An error occurred while receiving the data.
Invalid Function	The function code received cannot be executed.
Invalid Packet	The received packet was not what was expected.
Security Error	A security error occurred while attempting to connect to the remote device. This usually indicates an invalid password.
Checksum Error	The checksum is invalid or a CRC error occurred.
Timeout	A timeout occurred while waiting for a response.

### **Adding Status Objects**

Status objects are automatically added to the list when a configuration file containing service objects with associated reflect status structures is either uploaded from, or downloaded to, a connected device.

Status objects can also be added manually. To manually add a status object to monitor, enter an address in the “Address” field below the status list, then click the “Add Status Address” button. The object will appear in the list and begin displaying the corresponding status counters (if any are defined at that address).

### **Interacting With Status Objects**

To select an individual status object, click anywhere in that object’s row. To select multiple objects, hold down the Ctrl key on the keyboard and click on the desired

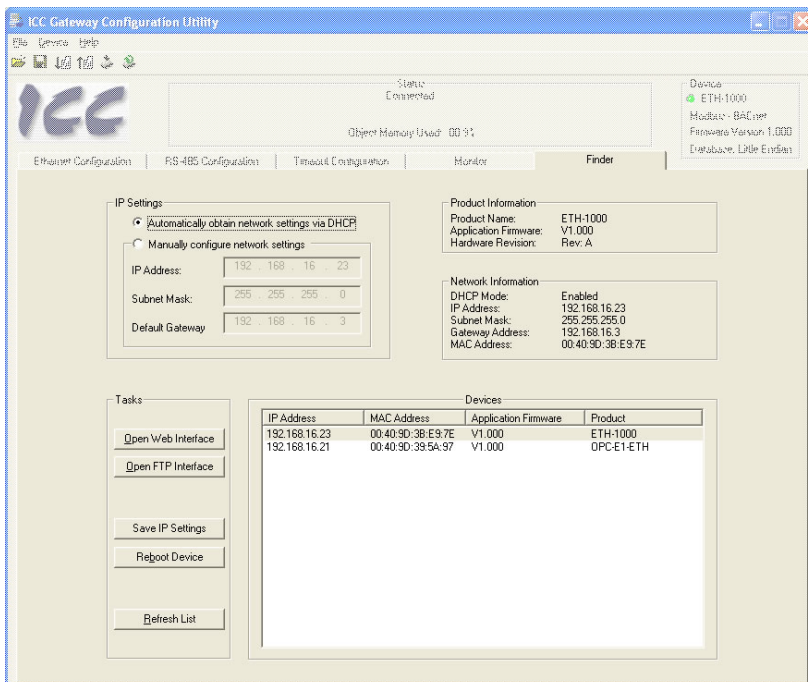
rows. A series of status objects can also be selected by clicking on the first row, then holding down the Shift key on the keyboard and selecting the last row.

Status objects can be deleted from the list. To remove a status object, select the desired object(s) and then click the “Delete Status Address” button. To clear the entire list, click the “Delete All Status Addresses” button. Note that deleting status objects from this list does not affect their actual existence or behavior on the connected gateway itself; it only removes them from view within the Monitor tab.

The TX, RX and Error status counters can be reset for individual or multiple status objects. To reset the status counters, select the object(s) to be reset and then click the “Reset Counters” button.

## 9.4 Finder

The Finder tab discovers all ICC communication devices on the current Ethernet subnet, regardless of whether or not their network parameters are currently compatible with the subnet upon which they reside. This tab may be used regardless of whether or not a device is connected with a USB cable, as it communicates only on the Ethernet subnet. Refer to Figure 21.



**Figure 21: Finder Tab**

In order for the Finder tab to discover devices, certain UDP Ethernet traffic must be allowed in and out of the computer, and firewall applications (such as Windows Firewall) are often configured to block such traffic by default. If the Finder is unable to discover any devices on the current subnet, be sure to check the computer's firewall settings during troubleshooting, and add an exception to the firewall configuration if necessary.

All discovered devices can be organized in ascending or descending order by clicking on the desired sort header (IP Address, MAC Address, Application Firmware or Product). The remaining information in the Finder tab is described as follows:

### **IP Settings Group**

This section displays the IP Address information of the currently selected device. These settings may be configured by selecting either "Automatically obtain network settings via DHCP" or by selecting "Manually configure network settings" and entering values for the IP Address, Subnet Mask, and Default Gateway. Once the desired settings are configured, click the "Save IP Settings" button in the "Tasks" group to save the settings on the gateway.

### **Product Information Group**

This section displays the Product Name, Application Firmware Version, and Hardware Revision for the currently selected device.

### **Network Information Group**

This section displays the currently-configured network settings for the selected device.

The "Tasks" group on the left side of the Finder tab contains buttons which perform the following actions:

#### **Open Web Interface**

Opens a web browser page of the selected device.

#### **Open FTP Interface**

Opens the computer's default FTP application, which could be either Windows Explorer, a web browser, or a 3<sup>rd</sup>-party FTP program (whatever the computer/operating system is configured for by default). This allows you to interact directly with the unit's on-board flash filesystem, enabling you to drag and drop files to/from the unit and upload new coprocessor firmware.

## **Save IP Settings**

Saves the IP settings configured in the “IP Settings” group to the gateway. This will open a dialog box which prompts for a password to save the changes. Enter the case-sensitive system password (default is “icc”), then click “Submit”. Once the IP settings have been saved, another dialog box will open prompting to reboot the device. Click “Reboot” for the changes to take effect.

## **Reboot Device**

Opens a dialog box which prompts for a password to reboot the device. Enter the case-sensitive system password (default is “icc”), then click “Reboot”. The reboot cycle has completed when the displayed status changes from “Rebooting” to “Ready” (note that this may require 20s or more to complete.) Clicking “Close” will then close the dialog box and cause the Configuration Utility to automatically rescan the network.

## **Refresh List**

Causes the Configuration Utility to rescan the network.

## 10. Updating Firmware for the First Time

When a new firmware update is available or a configuration is downloaded containing protocols other than what is supported by the firmware currently loaded on the gateway, the firmware on the device must be updated. Because the gateway has a different USB device profile for updating firmware than while in normal operation, the Microsoft Windows operating system will find a new device named "Millennium Series Bootloader" when the device is reset before downloading new firmware. This section details the steps to install the bootloader driver for the Millennium Series gateways. Note that this must only be done the first time firmware is downloaded to a Millennium Series gateway from your PC. After the initial driver installation, the gateway will be able to switch between device profiles automatically, without user interaction, for all subsequent firmware downloads.

### 10.1 Automatic Driver Installation

#### Found New Hardware Wizard

You can select **No, not this time** when prompted for Windows to connect to Windows Update (Figure 22).



**Figure 22: Found New Hardware Screen**

## Select Recommended Install

Accept the default action (Figure 23).

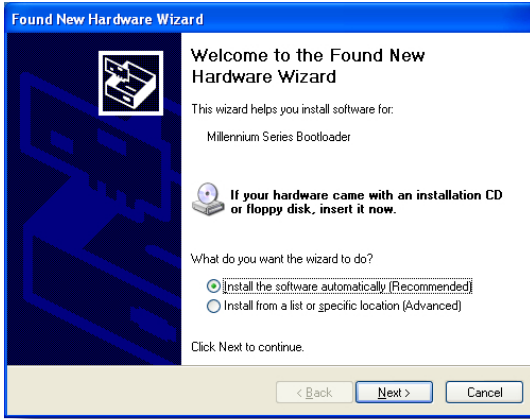


Figure 23: Select Install Type Screen

## The Wizard Will Search for the Appropriate Driver (Figure 24)

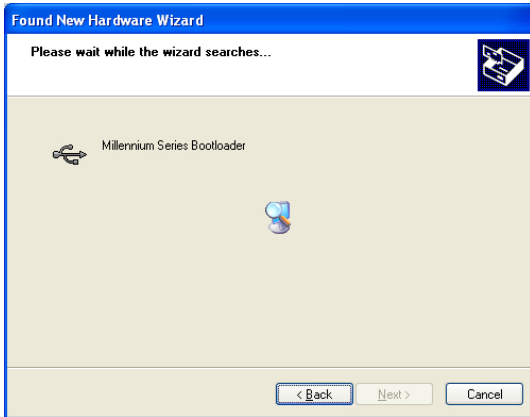


Figure 24: Searching for Driver

## Device Installation Complete

The device driver has been successfully installed (Figure 25). Click **Finish** to close the wizard.

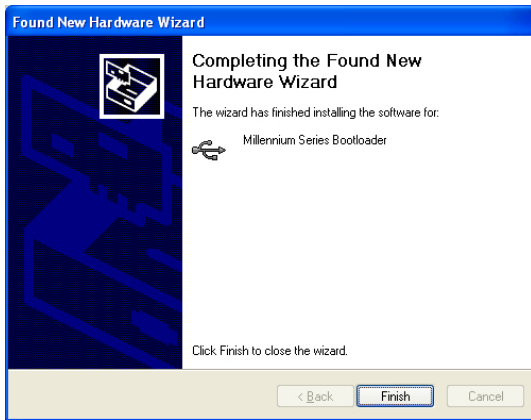


Figure 25: Installation Complete Screen

## 10.2 Manual Driver Installation

If the automatic driver installation fails, or if it becomes necessary to reinstall the driver for the USB device, the driver is located in the **Drivers** folder in the Configuration Utility's installation folder.

### Select Advanced Install (Figure 26)

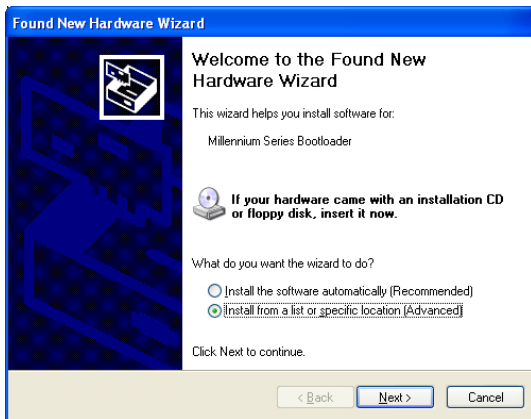


Figure 26: Select Install Type Screen



## Select Search Locations

Select **Search for the best driver in these locations**, uncheck **Search removable media**, and check **Include this location in the search**. Then, select “Browse” to choose the specific drivers folder (the default location is C:\Program Files\ICC\Gateway Configuration Utility\Drivers). Once you have selected the Drivers folder, click **Next** to continue.

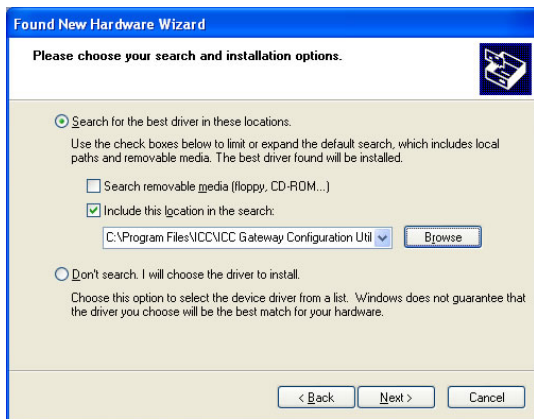


Figure 27: Search and Installation Options Screen

## The Wizard Will Search for the Appropriate Driver (Figure 28)

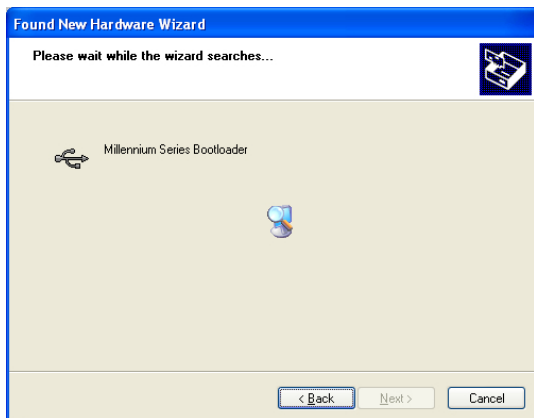


Figure 28: Searching for Driver

## Device Installation Complete

The device driver has been successfully installed (Figure 29). Click **Finish** to close the wizard.

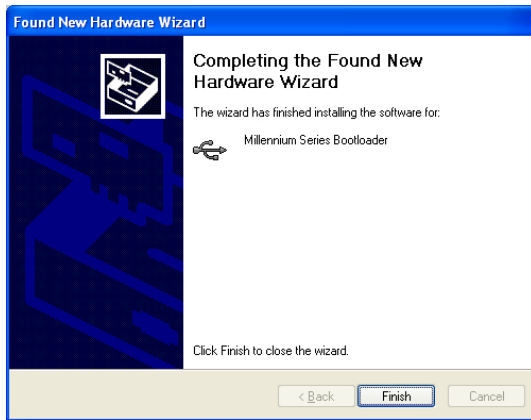


Figure 29: Installation Complete Screen

## 10.3 Resuming the Last Action

Once the bootloader driver is installed, new firmware can be downloaded to the device. While installing the bootloader driver, the configuration utility may have timed out waiting for the gateway to switch into the bootloader device profile. If this occurred, the configuration utility will prompt you to continue the last action once the bootloader driver is fully installed (Figure 30 or Figure 31). Click **Yes** in this dialog box to continue your previous action of either downloading new firmware or updating the configuration on your device.

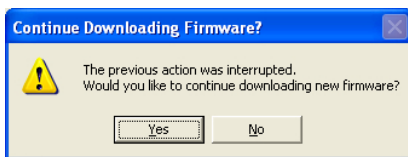


Figure 30: Continue Downloading Firmware

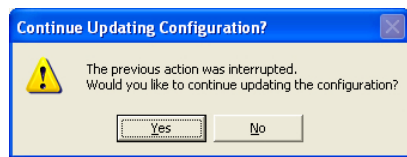
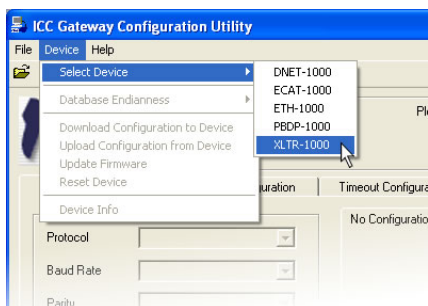


Figure 31: Continue Updating Configuration

## 11. Quick-Start Configuration Example

This section will detail an example quick-start configuration procedure that loads a previously-saved configuration file onto a gateway (the XLTR-1000 serial gateway, in this case). This configuration procedure can either be done at a workstation (with the device powered via the computer's USB port) prior to installation, or it can be performed once the device has already been installed in the field. Although this procedure will only demonstrate one specific case (loading an existing configuration file onto an XLTR-1000 gateway), the steps used in the procedure are similar for any other supported device.

1. Connect the gateway to the computer via a USB mini type-B cable.
2. Open the ICC Gateway Configuration Utility and select the XLTR-1000 via either explicitly selecting the device (Figure 32) or by clicking on the "Auto Connect" button (Figure 33).

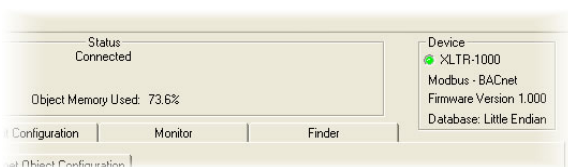


**Figure 32: Explicitly Select Device**



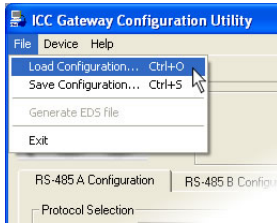
**Figure 33: Auto Connect**

3. Confirm that the status should now be "Connected", and the on-board firmware information should be displayed in the "Device" group (Figure 34).



**Figure 34: Connected Status**

4. Choose "Load Configuration" either via the *File...Load Configuration...* menu (Figure 35), or by clicking on the folder icon in the toolbar (Figure 36). This will load the existing configuration file from your PC into the Gateway Configuration Utility for manipulation and subsequent download to the device.

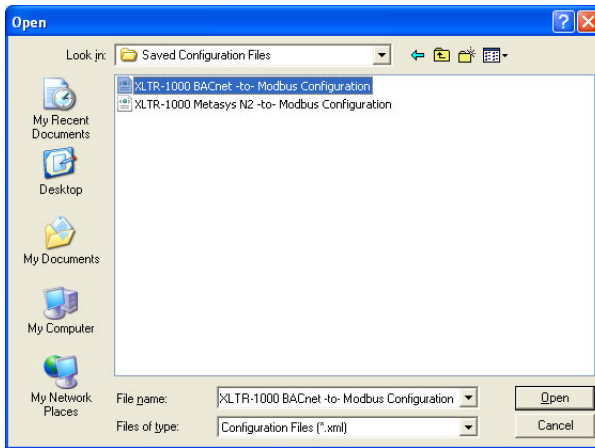


**Figure 35: Load Configuration**



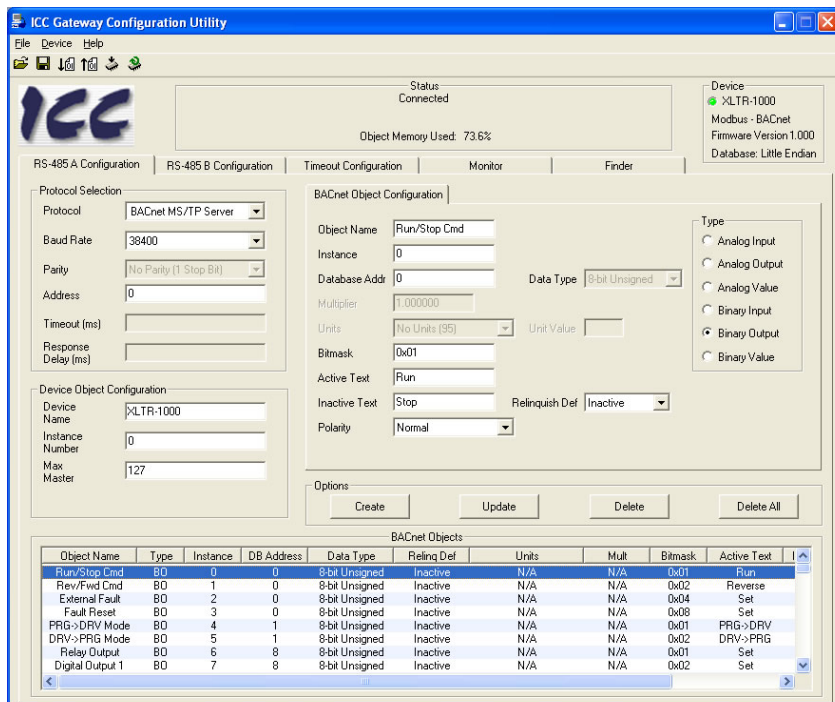
**Figure 36: Load Configuration**

5. Select the desired configuration file and then click the “Open” button. In this example, we will be selecting an existing BACnet MS/TP server -to- Modbus RTU master configuration (Figure 37).



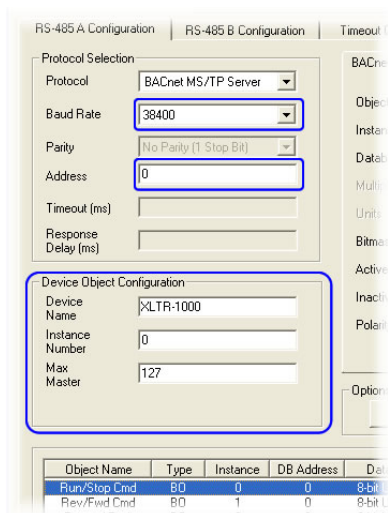
**Figure 37: Select Configuration File**

- The configuration file will be loaded, and the configuration elements will be visible in the “RS-485 A Configuration” and “RS-485 B Configuration” tabs (Figure 38).

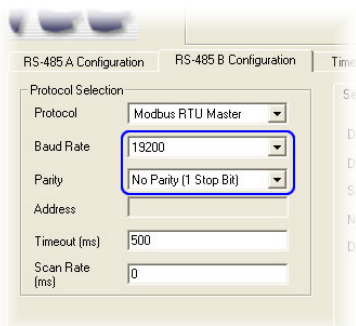


**Figure 38: Configuration File Loaded**

- Although an existing configuration file is being used, some minimal amount of installation-specific configuration will still probably be required for each device. For example, each device installed on a BACnet MS/TP network must be configured for the appropriate network baud rate, station address, and device object configuration values. This information is found on the “RS-485 A Configuration” tab (Figure 39). Similarly, it may be necessary to adjust the “RS-485 B Configuration” to match the Modbus network’s settings. For example, the baud rate and parity settings (Figure 40) may need to be changed to match the Modbus network.

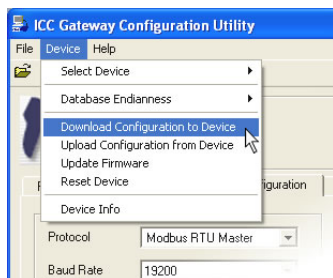


**Figure 39: BACnet Configuration**



**Figure 40: Modbus Configuration**

- Choose “Download Configuration to Device” either via the *Device...Download Configuration to Device* menu (Figure 41), or by clicking on the download icon in the toolbar (Figure 42).

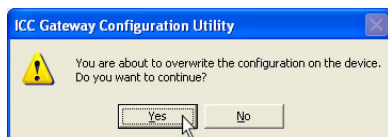


**Figure 41: Download Configuration**



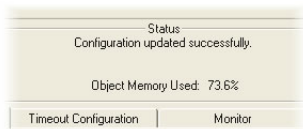
**Figure 42: Download Configuration**

- Click “Yes” to confirm on the dialog box that appears (Figure 43).



**Figure 43: Confirm Download**

10. The configuration file will be downloaded to the device, which should only require a few seconds to complete. Once completed, the status should indicate that the configuration was updated successfully (Figure 44), and a dialog box will then appear which indicates that the device must be reset for the new configuration to take effect (Figure 45). Click “Yes”.



**Figure 44: Update Success**



**Figure 45: Confirm Reset**

11. Once the device reboots, it will now be communicating with the new configuration. If already connected to the Modbus network, confirm that the RS-485 B port's TX and RX LEDs should be blinking rapidly (dozens of blinks per second). If this is not the case, then recheck the wiring, the communication parameter settings of the gateway, and the communication parameter settings of the targeted Modbus slave devices. The Configuration Utility's Monitor tab can also be used to observe the state of any service objects that have “reflect status” structures associated with them (refer to section 9.3).
12. Connect to the gateway via the fieldbus network. If communications cannot be successfully established, recheck the communication settings on the gateway and on the network equipment, as well as the network wiring. The Monitor tab can also be used observe real-time data flowing to and from the connected networks.
13. Congratulations! Your configuration is complete. You may now disconnect the USB cable from the gateway.



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