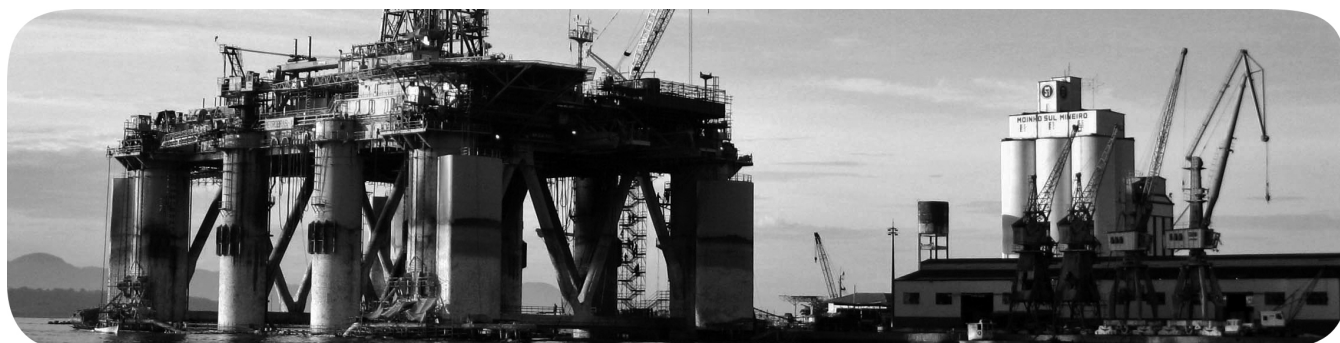


MicroLogix 1400 Embedded Web Server

Bulletin 1766 Controllers



Important User Information

Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation, and Maintenance of Solid State Controls (publication [SGI-1.1](#) available from your local Rockwell Automation® sales office or online at <http://www.rockwellautomation.com/literature/>) describes some important differences between solid-state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid-state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.



WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.



ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence



SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

IMPORTANT

Identifies information that is critical for successful application and understanding of the product.

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EtherNet/IP is a trademark of ODVA, Inc.

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Summary of Changes

To help you find new and updated information in this release of the manual, we have included change bars as shown to the right of this paragraph.

The table below lists the sections that document new features and additional or updated information about existing features.

Summary of Changes

| Topic | Page |
|--|--------|
| Added important information about changing default passwords | 10, 29 |
| Added an important note about Write access | 14, 30 |
| Added important information about removing the functionality to change data table files | 16 |
| Added important information about the possibility of data loss during firmware update using ControlFLASH | 32 |

Notes:

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MicroLogix 1400 Embedded Web Server

How to Use This Chapter

Rockwell Automation® offers enhanced MicroLogix™ 1400 controllers for your EtherNet/IP control systems so you can monitor data remotely via web pages.

This chapter shows how you can use a MicroLogix 1400 controller in your control system.

| Topic | Page |
|---|------|
| Typical Applications | 7 |
| Browser Requirements | 7 |
| Connect the MicroLogix 1400 controller to the Network | 8 |
| Navigate the MicroLogix 1400 Controller | 10 |

Typical Applications

With the MicroLogix 1400 controller, you can access controller and control system data with different and remote access applications. With a web browser, you can easily monitor live MicroLogix 1400 controller data remotely.

With the MicroLogix 1400 controller, you can access Simple web page view, and custom-designed User Provided page views. Simple web pages use only HTML tags and are useful in limited-communication environments where radio modems are used.

Browser Requirements

For firmware revision 16 or later, you can access the MicroLogix 1400 controllers only with Internet Explorer 11.0, Opera 42.0, FireFox 50.1.0, or Safari 5.1.7, or higher.

For earlier firmware revisions, you can access the MicroLogix 1400 controllers only with Internet Explorer 6.0, Opera 9.23, FireFox 2.0.0.14, or Safari 3.0.4, or higher.

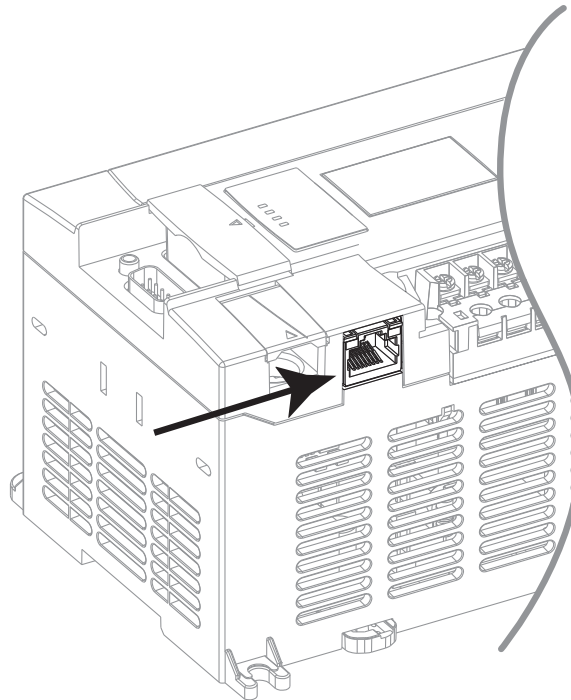
To access data view pages, the browser requires Javascript and XML support.

The supported display sizes start from 640 x 480. Smaller display sizes also work but require scrolling to view the information.

Connect the MicroLogix 1400 controller to the Network

2. Connect the module to the network.

Connect the MicroLogix 1400 controller to the Ethernet network. The RJ-45 connector is on the left-hand side of the module.



44592

3. Obtain an IP address.

For more information, see *MicroLogix1400 Programmable Controllers User Manual* [1766-UM001](#).

By default, the MicroLogix 1400 controller is BOOTP enabled. If you connect the MicroLogix 1400 controller to a network that has a BOOTP server, that server will assign an IP address to the MicroLogix 1400 controller and the LCD screen of the MicroLogix 1400 controller will display BOOTP IP address.

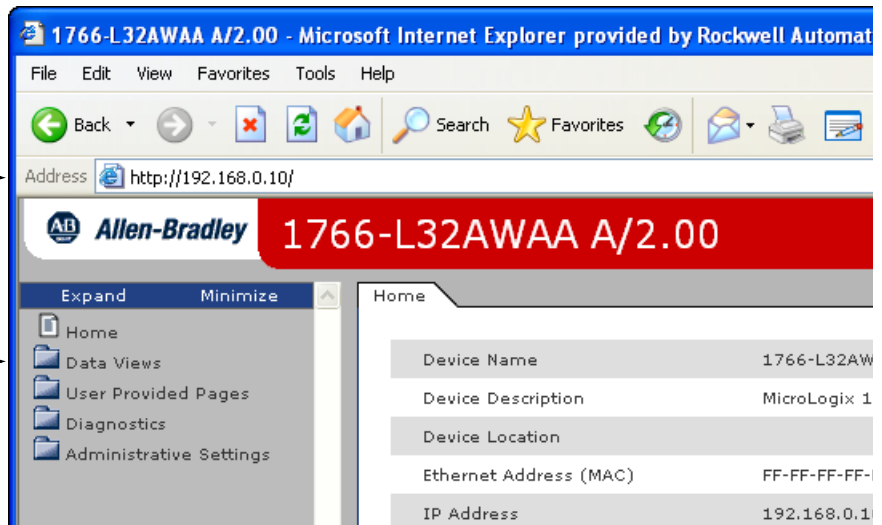
If your network does not have a BOOTP server, use one of the methods described in the *MicroLogix 1400 Programmable Controllers User Manual* [1766-UM001](#) to assign an IP address to the MicroLogix 1400 controller.

4. Access the Home page of the web server.

In your web browser's Address box, enter the IP address of the MicroLogix 1400 controller. The Home page is displayed.

Specify the IP address of the MicroLogix 1400 controller in the Address window of your web browser.

This is the controller's Home page.

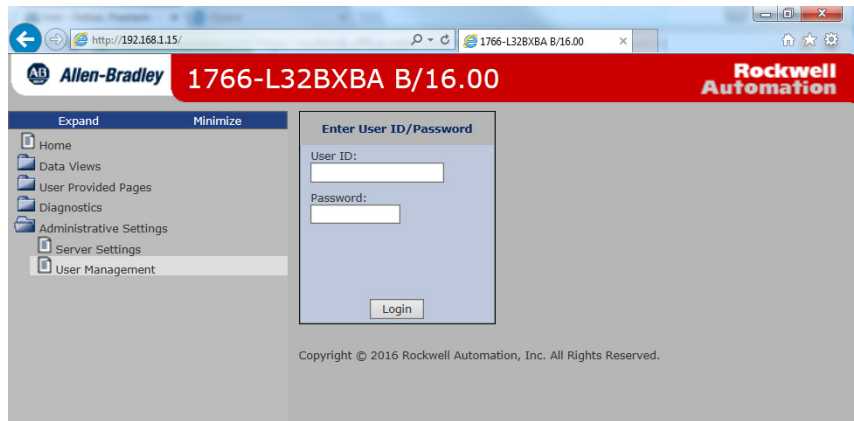


5. Log into the web server.

Many of the features of the MicroLogix 1400 controller require you to log in with appropriate access. If you select a feature, such as Data Views, the MicroLogix 1400 controller prompts you to enter your user name and password. The user name is either administrator or guest. The password is ml1400 for administrator and guest for guest.

Default Access

User Name: administrator or guest (case sensitive)
 Password: (ml1400 for administrator, guest for guest)



Note: This login screen appears in firmware revisions 16 and later only.

You can set up as many as 10 user accounts. Each account can have read, write, or administrator access. For more information, see User Management .

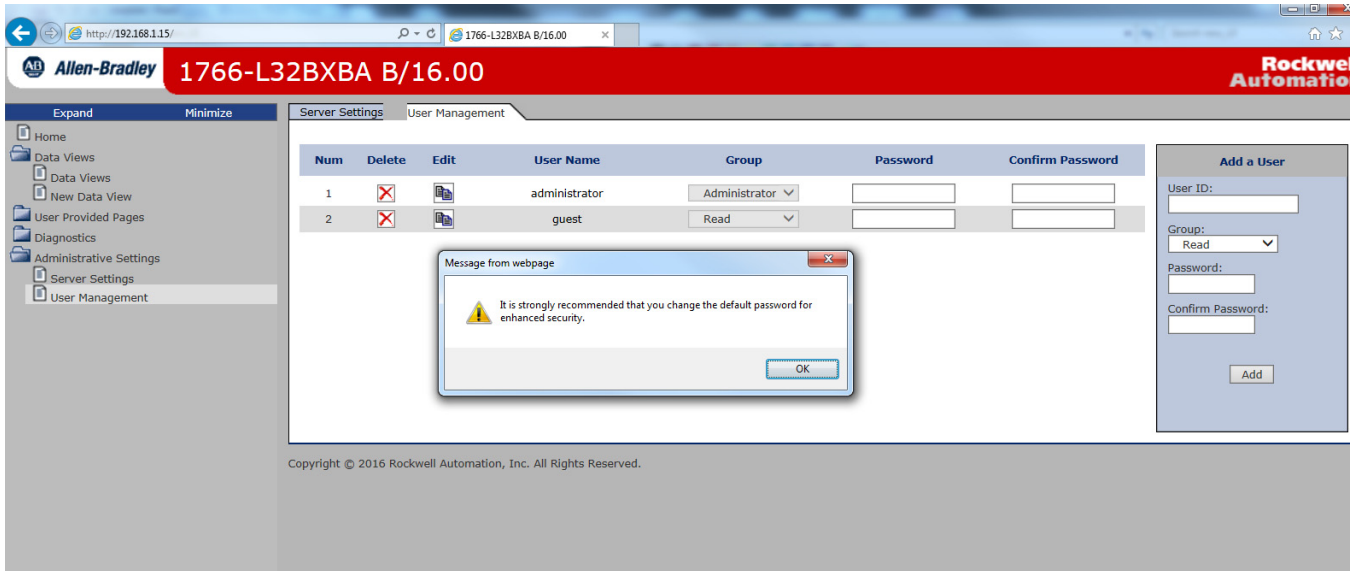
6. Disable the web server.

We recommend disabling the Web Server if it is not required for the application. For more information, see Knowledgebase article [732398 - How to disable the web server in MicroLogix 1100 and 1400.](#)

Note: You will need to log in using your TechConnect? Account User Name and Password.

Security Warning

To enhance web server security, upon logging in to the MicroLogix 1400 Web Server page with the default administrator account and default password, a dialog box displays to notify the user to change the default password.



IMPORTANT

For firmware revision 21.006 or later, if you log into the web server as an administrator or guest for the first time, a message box prompts you to change the default password. You cannot proceed to the next step without changing the default password.

Note: The message box for changing default passwords appear in firmware revisions 16 and later only.

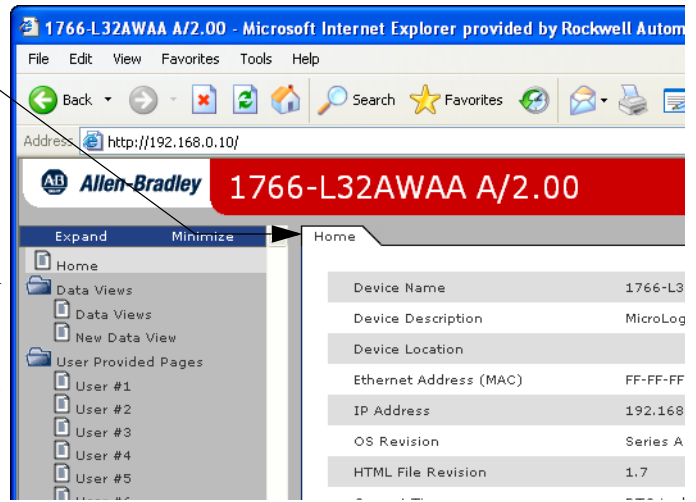
Navigate the MicroLogix 1400 Controller

You navigate the web server’s web pages by using the navigation panel on the left of the screen. There are also tabs across the top you can click to navigate the folders containing documents.

Tabs across the top match the documents within a folder, as shown in the left navigation panel.

Click folders to open and close additional levels of information.

Click a document to display a web page showing specific information.



■ Notes:

Use Data Views to Access Controller Data

How to Use This Chapter

The MicroLogix™ 1400 controller provides access to the controller data table files. This chapter shows you how to set up views of data table files.

| Topic | Page |
|--|------|
| Overview of Data Views | 13 |
| Change an Access Group | 14 |
| Monitor Data Views and Data Table File | 15 |
| Change Data Table Files | 16 |
| Disable Web View | 19 |

Overview of Data Views

Data views give you the ability to read controller data via a browser interface. The MicroLogix 1400 controller provides web pages that let you configure a set of files (a data view) that can be read.

A data view consists of an HTML file and an XML file with data file information. The HTML file is in a readable ASCII format. It contains the File Name, File Type, # of Element, and Access Group.


Change an Access Group

Each data view contains a group of files that you want to monitor. Each MicroLogix 1400 controller can support multiple data views. One browser supports only one data view, so if you want to look at many data views, you need to run a corresponding number of browsers.

You change an access group from the Data Views → New Data View page.

1. From the Access Group pull-down menu of the given data table file, choose one of the following access group types:
 - Administrator (all access except write)
 - Write (read/write access only)⁽¹⁾
 - Read (read only)
2. Choose Administrator, Write, or Read from the Access Group pull-down menu to change a file's access group.



3. Click Apply  to change an access group for the data table file you specified.

⁽¹⁾ For MicroLogix 1400, revision 21.006 or later, Write access is not supported and is listed as Invalid from the drop-down selection.

Monitor Data Views and Data Table File

Use the Data Views → Data Views page to view existing data table files. Click the file name to view the data within a data table file.

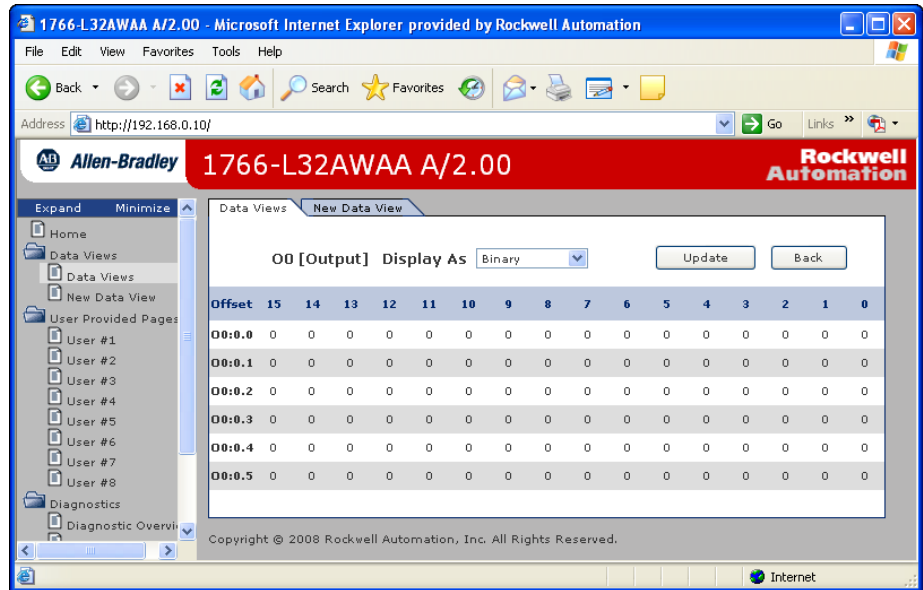
Data View Page

The Data Views page displays a list of the data table files, their type, and size in elements for a connected MicroLogix 1400, as shown in the following example.

| No | File Name | File Type | # of Element | Display | Access Group |
|----|--------------------|-----------|--------------|-------------|---------------|
| 1 | O0 | Output | 6 | Binary | Administrator |
| 2 | I1 | Input | 8 | Binary | Administrator |
| 3 | S2 | Status | 66 | Hexadecimal | Administrator |
| 4 | B3 | Binary | 1 | Binary | Administrator |
| 5 | T4 | Timer | 1 | Structured | Administrator |
| 6 | C5 | Counter | 1 | Structured | Administrator |
| 7 | R6 | Control | 1 | Structured | Administrator |
| 8 | N7 | Integer | 1 | Decimal | Administrator |

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Each file contains a hyperlink that takes you to the specific Data Views page for that file. When you click a particular file, the Data Views page appears, displaying the contents of the data table file you selected.



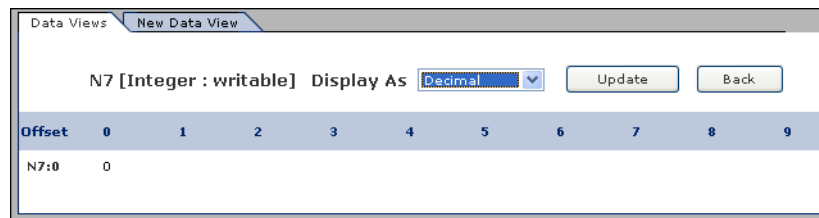
The available and default display formats depend on the data type of the file.

Click Back to display the previous page. To refresh the data view, click Update.

Change Data Table Files

IMPORTANT This feature is only supported in the earlier revisions of MicroLogix 1400. It is not supported in firmware revision 21.006 or later.

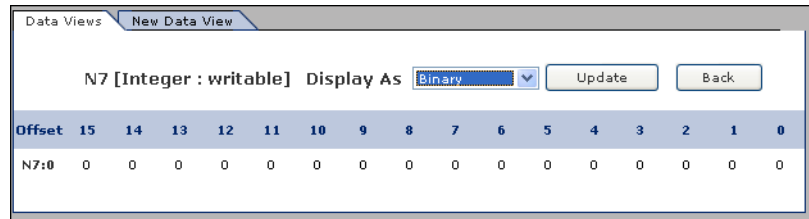
The data in the Data File Types such as Binary, Integer, Long, Float, and String can be changed. The Binary, Integer, and Long types support all the Display formats. You can edit Binary types by bit, and the Octal, Decimal, and Hexadecimal types by element. A user account with either Write or Administrator access level can change the Data Table Files. When you click N7 in Data Views, Data Writable appears beside a Data File Type (Integer here) as shown below.



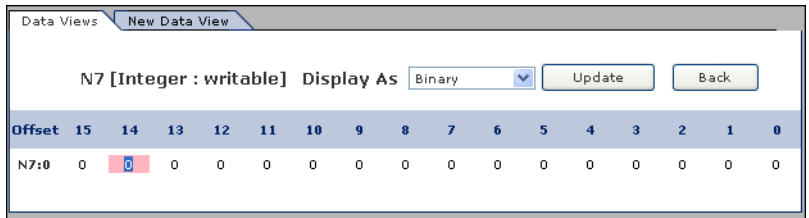
How to Change a Data File Type

In the steps that follow, a Binary type is assumed.

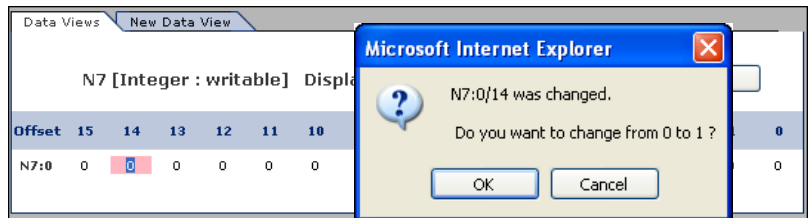
1. Change Display As to Binary, then the following screen appears.



2. Double-click the data that you want to change, then the background color turns pink.

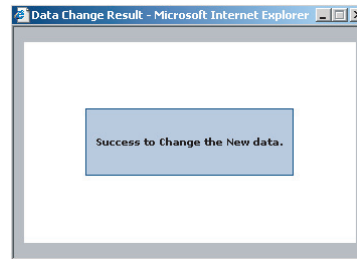


3. Enter a value and either press Enter or click an area in the screen, then a confirmation window appears.

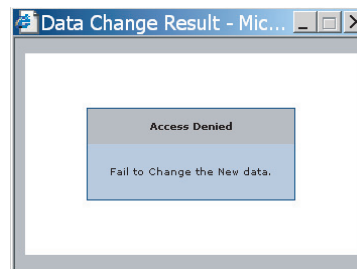


4. Click OK to change the value.

The following screen appears when the value is successfully saved into the server.



If the following screen appears, the value is not saved and the value returns to the original value.



If you want to change the data in Decimal, click the pull-down menu to change the Display As to Decimal and follow the steps described. The steps also apply to the String type.

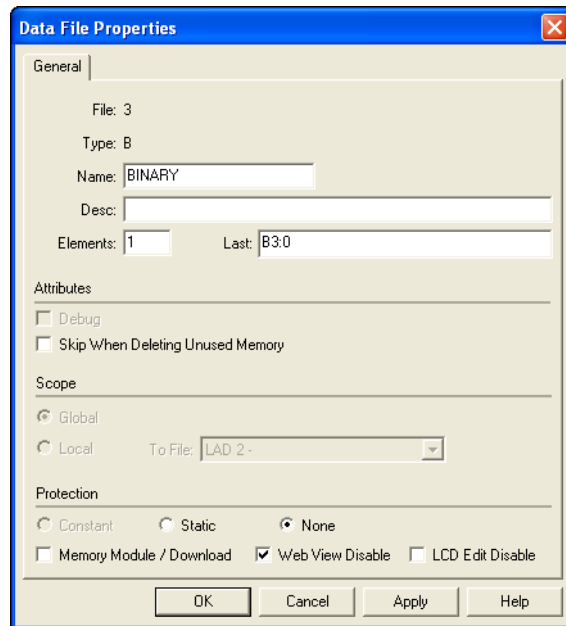
Information on String Data File Types

Take note of the following when changing String file types using the web interface:

- The maximum string data length allowed to be saved into the controller is 82.
- Each special character translates to three characters in the network.
- When using only special characters, you can enter up to 37 characters.
- When using special characters in combination with alphanumerics, you can enter up to 113 characters as illustrated by the formula: $(\text{alphanumeric characters}) + (\text{special characters} \times 3) \leq 113$.

Disable Web View

Using RSLogix 500®/RSLogix™ Micro V8.10 or higher, you can disable individual data files from being viewed via any web browser by selecting the data file's properties page and checking the Web View Disable checkbox as shown below. Any data file property changes must be made offline and downloaded to the processor or later.



Notes:

Monitor Diagnostics

How to Use This Chapter

This chapter describes the diagnostics that are presented on the user-oriented diagnostic pages.

| Topic | Page |
|--|------|
| MicroLogix 1400 Controller Diagnostics | 21 |
| Diagnostic Overview | 22 |
| Network Settings | 23 |
| Network Status | 24 |

MicroLogix 1400 Controller Diagnostics

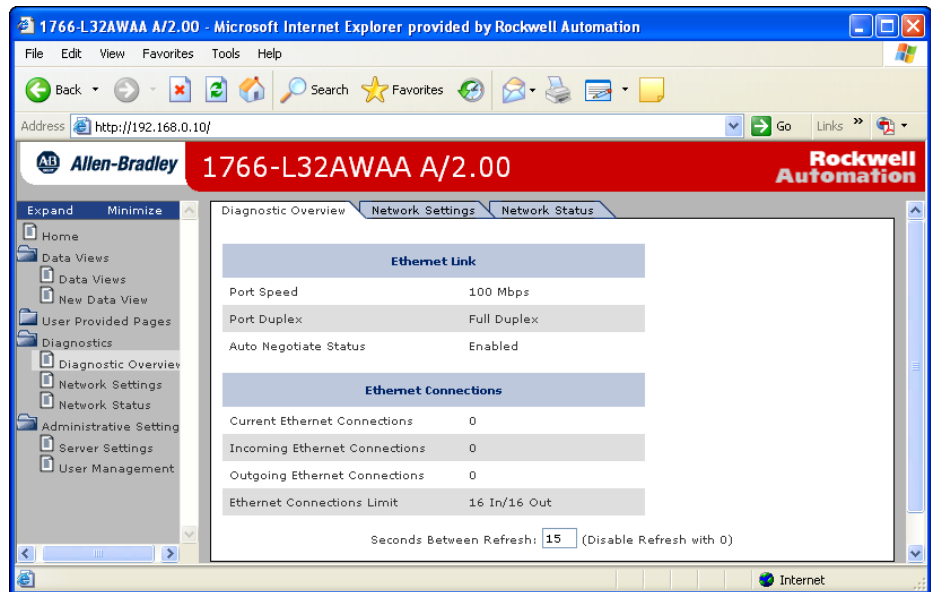
The MicroLogix 1400 controller provides three diagnostic pages of user-oriented diagnostics.

| Topic | Web page |
|---|-----------------------------------|
| Overview of the current configuration of the MicroLogix 1400 controller | Diagnostics → Diagnostic Overview |
| Summary of the network settings configured for the MicroLogix 1400 controller | Diagnostics → Network Settings |
| Ethernet statistics | Diagnostics → Network Status |

Diagnostic Overview

The Diagnostics → Diagnostic Overview page presents a summary of the current configuration and overall status of the MicroLogix 1400 controller. This summary includes:

- Ethernet link.
- Ethernet Connections.

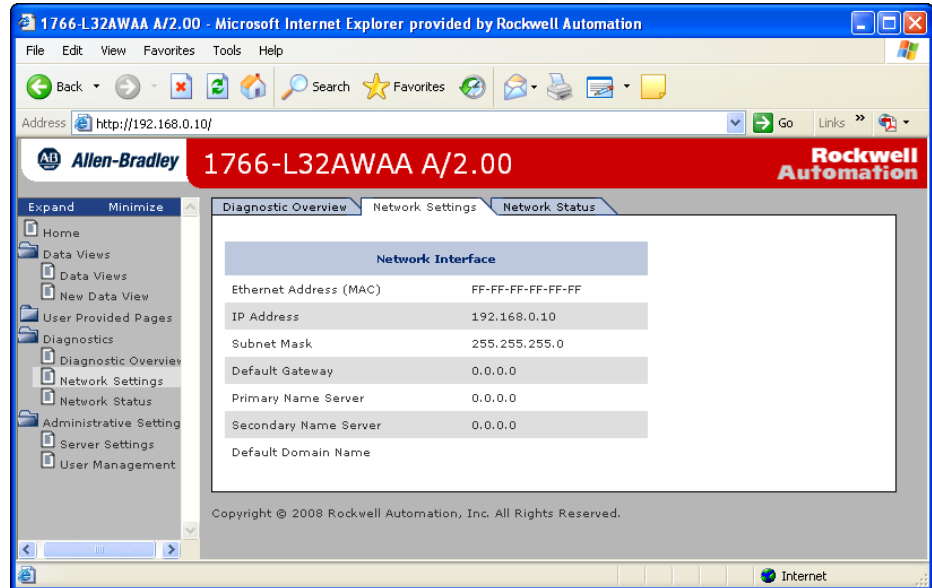


| This field | Specifies |
|-------------------------------|---|
| Ethernet Link | |
| Port Speed | whether the Ethernet port is operating at 10 Mbps or 100 Mbps |
| Port Duplex | whether the Ethernet port is operating at half duplex or full duplex |
| Auto negotiate Status | whether the port speed and duplex mode were determined via autonegotiation or whether they were manually configured |
| Ethernet Connections | |
| Current Ethernet Connections | current number of active connections |
| Incoming Ethernet Connections | current number of incoming connections |
| Outgoing Ethernet Connections | current number of outgoing Ethernet connections |
| Ethernet Connection Limit | maximum number of Ethernet incoming/outgoing connections |

Network Settings

The Diagnostics → Network Settings page presents a summary of the current Ethernet configuration for MicroLogix 1400. This summary includes:

- Ethernet address details.



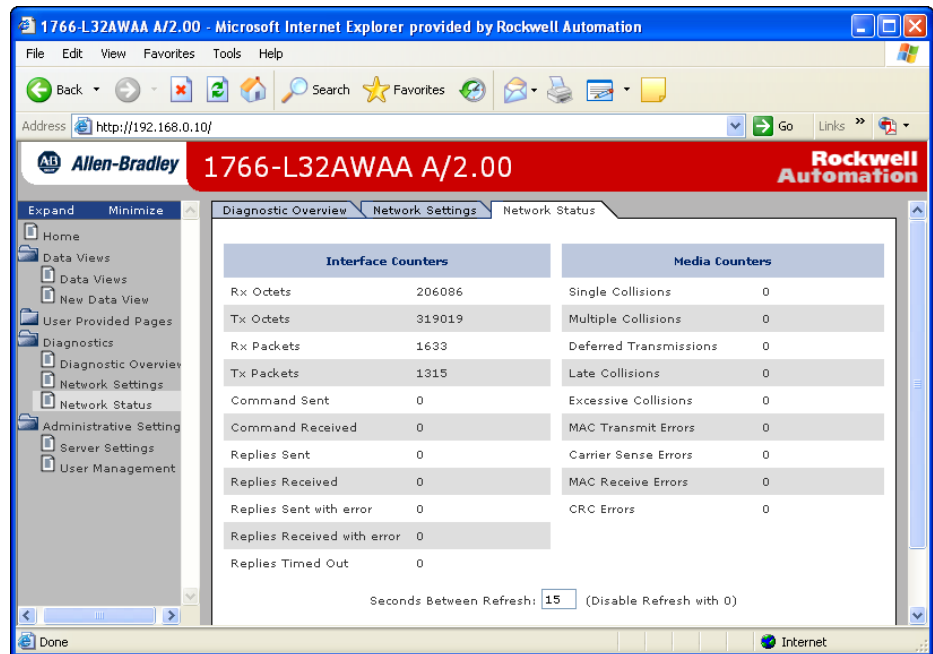
Any fields that are not configured remain blank.

| This field | Specifies |
|--------------------------|--|
| Network Interface | |
| Ethernet Address (MAC) | Ethernet (MAC) address of the controller |
| IP Address | IP address for the controller |
| Subnet Mask | subnet mask for the controller |
| Default Gateway | gateway address for the controller |
| Primary Server Name | DNS server names, if using DNS addressing |
| Secondary Server Name | |
| Domain Name | domain name for the web server module, if using DNS addressing |

Network Status

The Diagnostics → Network Status page presents a summary of the status of communication activity on the Ethernet network. This summary includes:

- Ethernet network configuration.
- packets sent and received over the Ethernet network.
- frames sent and received over the Ethernet network.



| This field | Specifies |
|-----------------------------|--|
| Interface Counters | |
| Rx Octets | Octets received on the Ethernet interface |
| Tx Octets | Octets sent on the Ethernet interface |
| Rx Packets | Packets received on the Ethernet interface |
| Tx Packets | Packets sent on the Ethernet interface |
| Command Sent | Command sent on the Ethernet interface |
| Command Received | Command received on the Ethernet interface |
| Replies Sent | Replies sent on the Ethernet interface |
| Replies Received | Replies received on the Ethernet interface |
| Replies Sent with error | Outbound packets that contain errors |
| Replies Received with error | Inbound packets that contain errors |
| Replies Timed Out | No reply within a specified time period |
| Media Counters | |
| Single Collisions | Successfully transmitted frames that experienced exactly one collision |
| Multiple Collisions | Successfully transmitted frames that experienced more than one collision |
| Deferred Transmissions | Frames for which first transmission attempt is delayed because the medium is busy |
| Late Collisions | Number of times a collision is detected later than 512 bit-times into the transmission of a packet |

| This field | Specifies |
|----------------------|---|
| Excessive Collisions | Frames for which transmission fails due to excessive collisions |
| MAC Transmit Errors | Frames for which transmission fails due to an internal MAC sublayer transmit error |
| Carrier Sense Errors | Times that the carrier sense condition was lost or never asserted when attempting to transmit a frame |
| MAC Receive Errors | Frames for which reception on the Ethernet interface failed due to an internal MAC sublayer receive error |
| CRC Errors | Frames for which CRC error is detected |

Notes:

Administrative Settings

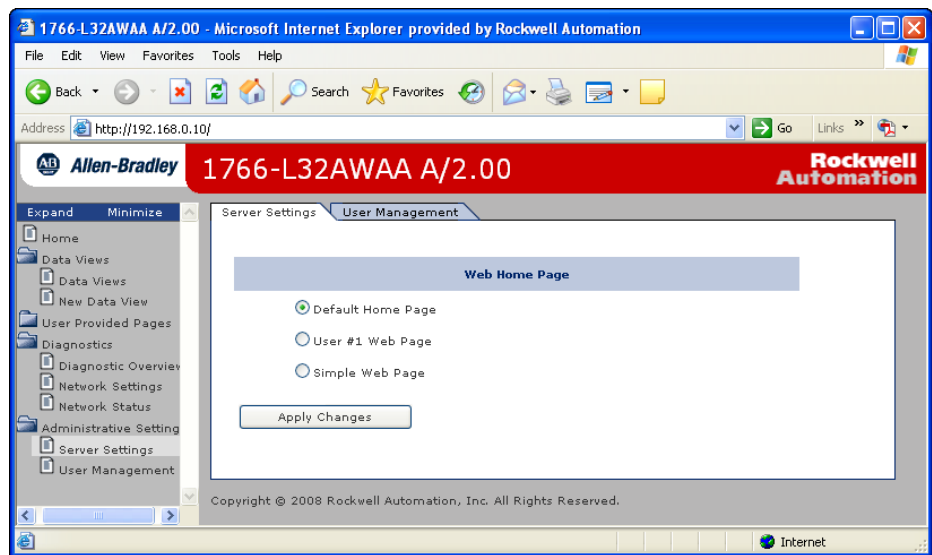
Server Settings

Select Administrative Settings > Server Settings to customize some of the server settings of the module, as well as back up the file system on the web server module. You can:

- customize server settings, including web home page.

Customize Server Settings

Select Administrative Settings > Server Settings to customize the web home page.



| In The Field | Take This Action |
|---------------|--|
| Web Home Page | <p>Select a home page of MicroLogix 1400 controller.</p> <p>If Default Home Page is selected, the current web page is shown.</p> <p>If User #1 Web Page is selected, the first user provided page is shown. For information, see User Provided Pages on page 39.</p> <p>If Simple Web Page is selected, the simple web page is shown.</p> <p>For default home page, enter the IP address in the URL address bar, for example, http://192.168.0.10/index.htm.</p> |

Notes:

User Management

How to Use This Chapter

This chapter describes how to configure user access levels to different information on the module.

| Topic | Page |
|---------------------------------------|------|
| User Accounts and Privilege Classes | 30 |
| Configure Access Limits for Web Pages | 30 |
| Create User Accounts | 31 |
| Recover with Unknown Password | 32 |

By assigning user accounts with different access levels, you can manage which users have access to view network configuration or have access to view and change data views.

Several pages on the MicroLogix 1400 controller, such as diagnostics pages and data views pages, have default access protection. Before accessing these pages, you must authenticate your access by entering a user name and password. The module displays the log-in box when you access these web pages.

IMPORTANT Once authenticated, you do not have to re-enter a user name or password when accessing subsequent pages. You **must** close your browser to log out.

The default user name is administrator with password 'ml1400' or guest with password 'guest'.

IMPORTANT For MicroLogix 1400, revision 15.3 or later, the password 'ml1400' will no longer be accepted when changing, or after changing the password for the default Administrator account.

For firmware revision 21.006 or later, if you log into the web server as an administrator or guest for the first time, a message box prompts you to change the default password. You cannot proceed to the next step without changing the default password.

User Accounts and Privilege Classes

The MicroLogix 1400 controller supports multiple user accounts, each with a user name and password. Each user account is configured for one of these access levels:

- Administrator (all access except write)
- Write (read/write access only)⁽¹⁾
- Read (read only)

The access level determines which web pages the user can access. You configure access limits for individual web pages.

Configure Access Limits for Web Pages

Each page in the MicroLogix 1400 controller has one of these protection levels:

- Administrator
- Write⁽¹⁾
- Read

The protection levels are hierarchical. Administrator users can access Read protected pages.

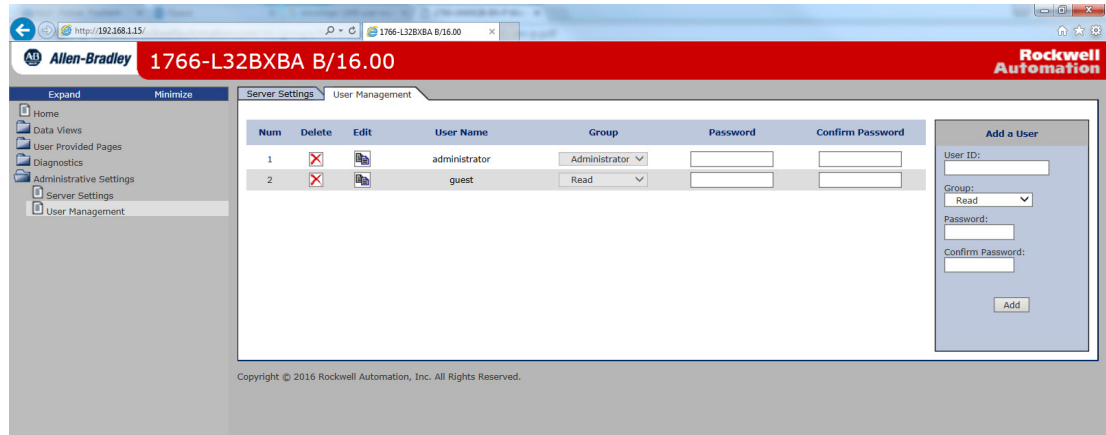
These pre-defined pages (those web pages that come with the MicroLogix 1400 controller) in the MicroLogix 1400 controller have these default access levels. You can change the Data View access group, if needed, with administrator privilege

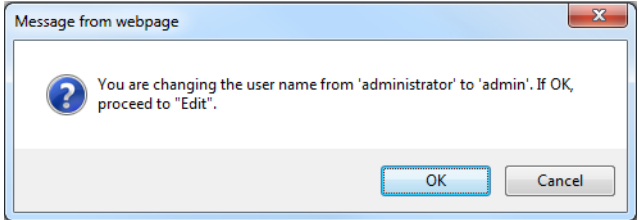
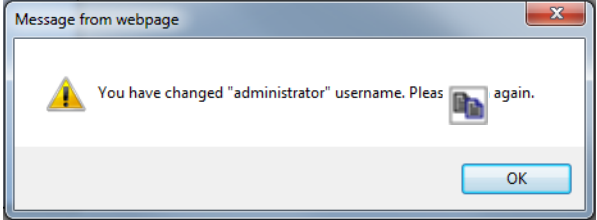
| Web Page | Default Protection Level |
|----------------------|--------------------------|
| Home page | no protection |
| Diagnostics pages | Read protection |
| Data Views | Read protection |
| New Data View | Administrator protection |
| Server Setting page | Administrator protection |
| User Management page | Administrator protection |

⁽¹⁾ For MicroLogix 1400, revision 21.006 or later, Write access is not supported and is listed as Invalid from the drop-down selection.

Create User Accounts

You need Administrator access to create and modify user accounts. You can create as many as 10 individual accounts. You manage accounts from the Administrative Settings → User Management → Edit Users page.



| In this field | Do this |
|------------------|---|
| User Name | <p>Enter the user name for the account. 20 characters maximum. Can contain these characters: A-Z, a-z, 0-9, underscore (_), and dash (-). Only default user names, such as administrator or guest, can be changed. When you change a default user name, a confirmation message displays.</p>  <p>Click OK, then proceed to click the corresponding Edit button. If the default user name change is successful, you are asked to log in again.</p>  <p>Click OK, and then log in to the web server to continue editing.</p> |
| Group | Select Administrator, Write, or Read access for the user account. |
| Password | Enter the password for the account. 10 characters maximum |
| Confirm Password | Re-enter the same password for the account. |

IMPORTANT If you use Internet Explorer, the number of characters allowed for a user ID or password depends on how many characters “fit in the box.” Larger characters (such as “W”) take more room and reduce the total number of allowed characters.

A user account with a specific privilege can access the Data corresponding to the specific access level, i.e. a user account with Read access level cannot access the Data belonging to the Administrator or Write access group. The following screen, which shows only Read Access Group, appears when you log in with the guest account.

| No | File Name | File Type | Display | # of Element | Access Group |
|----|-----------|-----------|---------|--------------|--------------|
| | | | | | Read |

Recover with Unknown Password

Update the firmware using ControlFLASH™ to initialize both user accounts and the access level of data view.

IMPORTANT

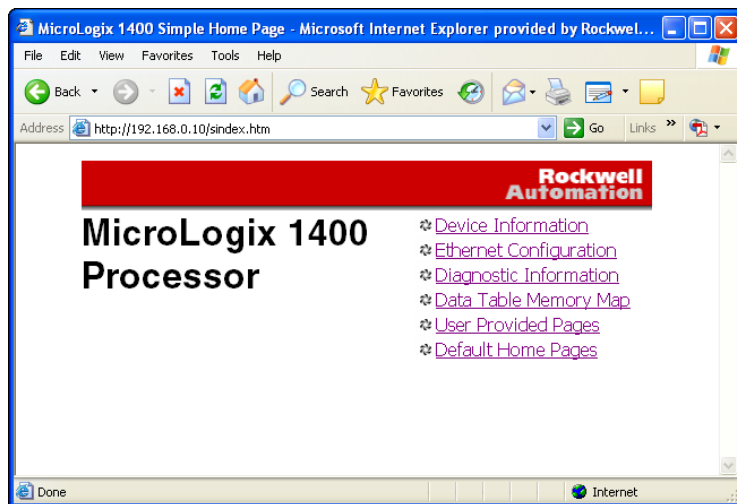
Updating firmware using ControlFLASH™ may lead to loss of important data. Back up data before the update to avoid data loss.

Simple Web Pages

MicroLogix 1400 controllers can supply Simple Web Pages in environments where communications status is an issue. These types of web pages only support HTML tags without graphic files. You can only monitor Ethernet configurations and data tables with these type of web pages.

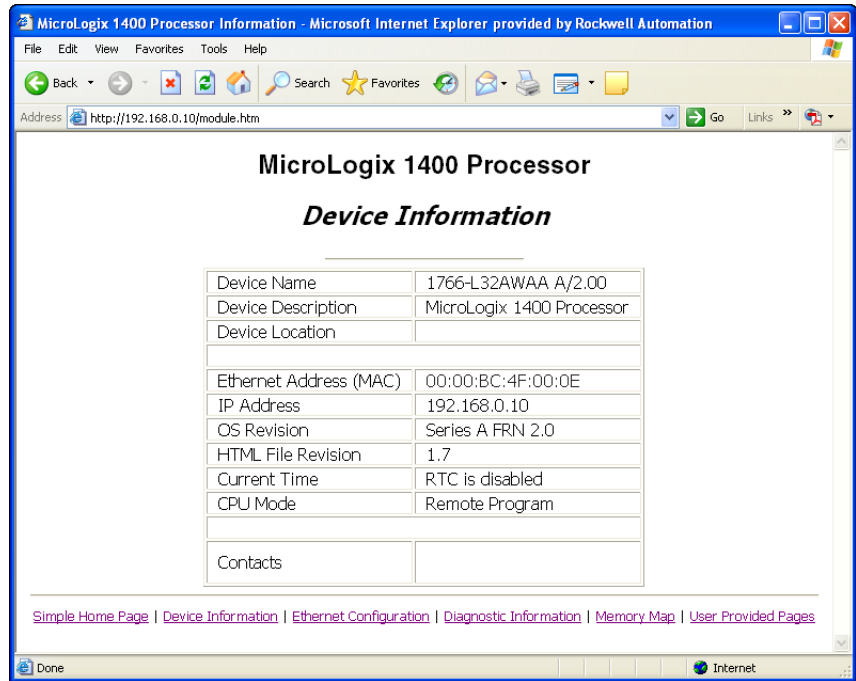
The following topics appear on the home page main menu, as shown below:

- Module Information
- Ethernet Configuration
- Diagnostic Information
- Data Table Memory Map
- User Provided Pages



Device Information

The device information page displays a table with information about the MicroLogix 1400 controller. The specific information displayed includes the controller model, series/revision and mode of the controller.



Ethernet Configuration

This page displays a table with information about the current Ethernet configuration parameters. Included are the module's IP address, the subnet mask, gateway address, the Ethernet hardware address and whether BOOTP is enabled.

Also included are the name server, secondary name server, and the default domain name parameters, if configured.

The screenshot shows a web browser window titled "MicroLogix 1400 Ethernet Configuration - Microsoft Internet Explorer provided by Rockwell Automation". The address bar shows "http://192.168.0.10/tcpcfg.htm". The main content area displays the following configuration data:

| TCP/IP Configuration | |
|------------------------|-------------------|
| Ethernet Address (MAC) | 00:00:BC:4F:00:0E |
| IP Address | 192.168.0.10 |
| Subnet Mask | 255.255.255.0 |
| Gateway Address | 0.0.0.0 |
| Name Server | 0.0.0.0 |
| Secondary Name Server | 0.0.0.0 |
| Default Domain Name | |

| Protocol Control | Current |
|-----------------------|-------------|
| Port Speed | 100 Mbps |
| Port Duplex | Full Duplex |
| Auto Negotiate Status | Enabled |

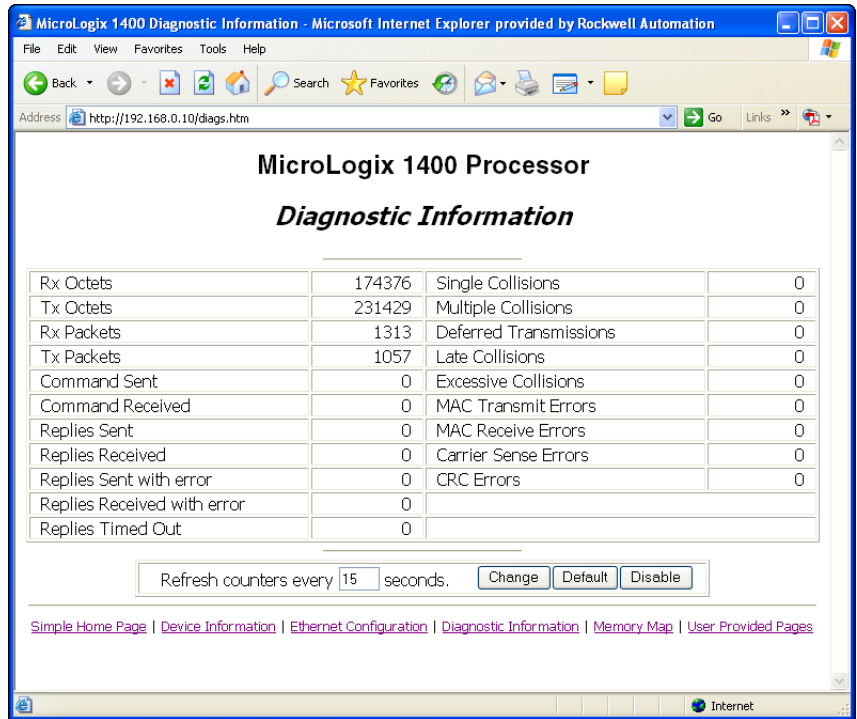
| Ethernet Connection | value |
|----------------------|--------------|
| Current Connections | 0 |
| Incoming Connections | 0 |
| Outgoing Connections | 0 |
| Connections Limit | 16 In/16 Out |

At the bottom of the page, there are navigation links: [Simple Home Page](#) | [Device Information](#) | [Ethernet Configuration](#) | [Diagnostic Information](#) | [Memory Map](#) | [User Provided Pages](#).

Diagnostic Information

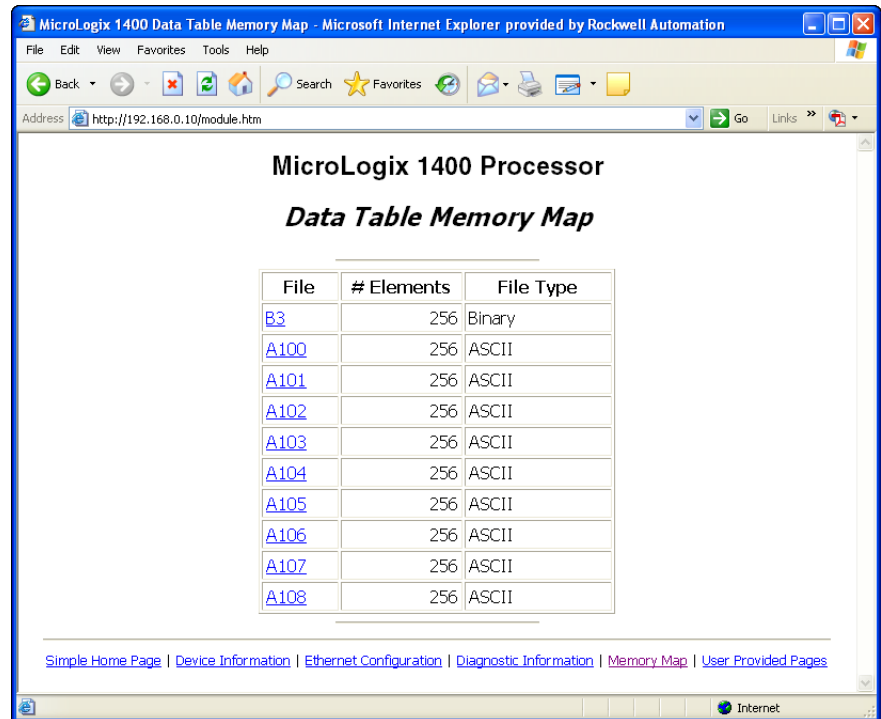
This section gives you access to the various diagnostic information screens that are available.

The diagnostic screens automatically refresh using a time that is configurable by the user and defaults to 15 seconds.



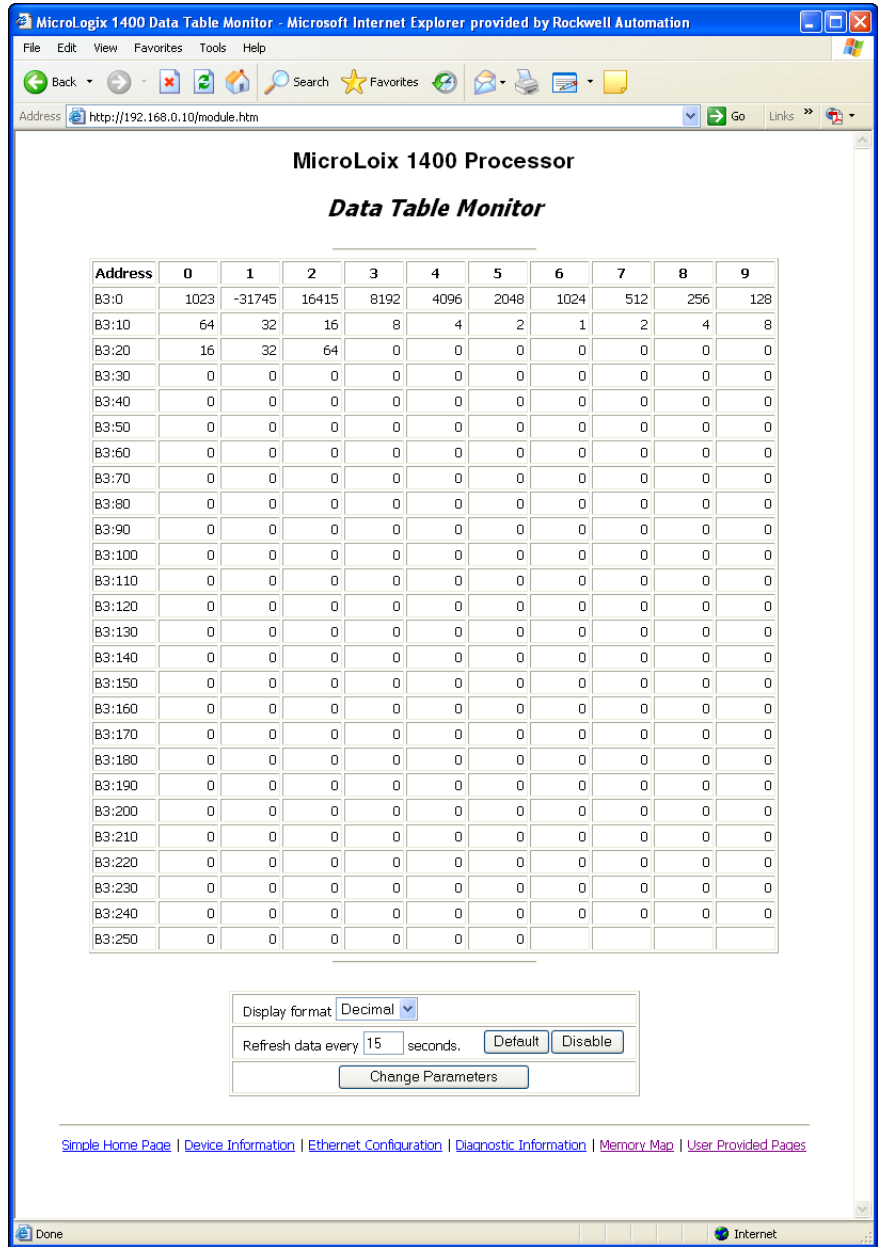
Data Table Memory Map

The Data Table Memory Map page displays a list of the data table files, their type, and size in elements for a connected MicroLogix 1400 controller. To view memory maps, log in with a Read access group user account.



Each file contains a hyperlink that takes you to the specific Data Table Monitor page for that file. When you click a particular file, the Data Table Monitor page

appears, displaying the contents of the data table file you selected.



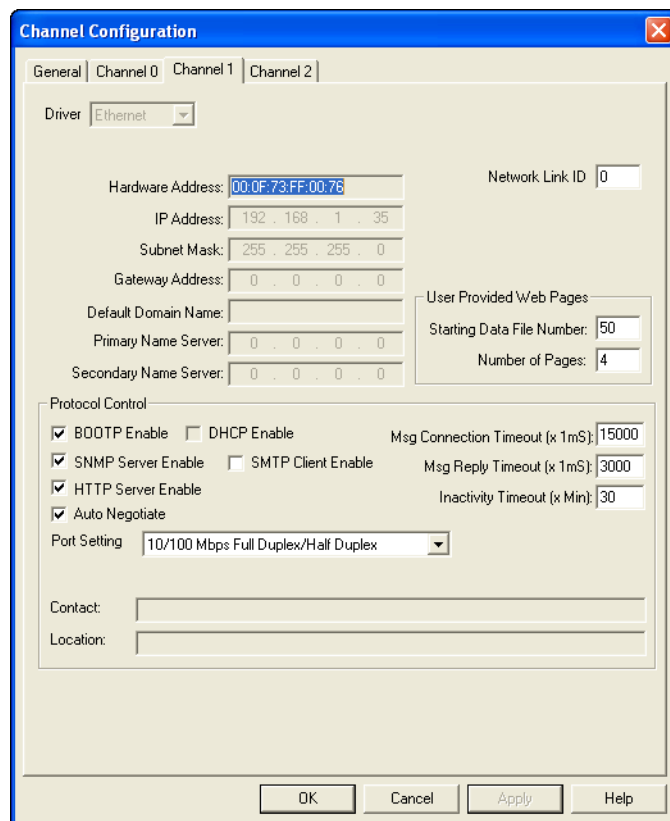
The available and default display formats depend on the data type of the file.

You can change the *Display format* and *Refresh data every xx seconds* fields by entering data in the text boxes and clicking the Change Parameters button.

To change the refresh data function back to the default of 15 seconds, click the *Default* field. To disable the refresh data function, click the *Disable* button.

User Provided Pages

You can use a text editor to generate up to eight user-provided web pages. Each page is stored in four consecutive ASCII files of the MicroLogix 1400 controller. The channel configuration feature of RSLogix™ 500/RSLogix Micro (version 8.10 or later) allows you to select the starting file number and the number of user pages to be stored, as shown in the following example:



RSLogix 500/RSLogix Micro (version 8.10 or later) also allows you to import an HTML file from your PC to specified ASCII files in the MicroLogix 1400 controller. See page 42 for details.

HTML Pages

Referencing Other Pages/Servers - following are some basic considerations when referencing other pages or servers:

- reference User Specified Pages in the MicroLogix 1400 controller by using the names *user1.htm* through *user8.htm*
- to reference a page on the same controller, specify a URL such as */user2.htm*

- to reference a page on another processor, specify a URL such as *http://www.xxx.yyy.zzz/user2.htm*, where *www.xxx.yyy.zzz* is the IP address of the controller
- you can reference other WWW servers and display images from other sources without affecting your usage of data table memory (except for the size of the HTTP reference)

Referencing Data Table Memory - reference data table memory locations by placing custom tags into your HTML source which specify the data table location and optional formatting information. Use the following format for the custom tag:

```
<!ABDTR-file_type{file_number}:{file_element}{,#elements}[%format]>
```

The items surrounded by {} are sometimes optional. The items surrounded by [] are always optional.

You must always specify the basic file reference. Depending on which file is being referenced, *file_number* or *file_element* may be defaulted. If the *file_type* is I, O or S, the *file_number* does not need to be specified, but the *file_element* must be specified. If the *file_type* is not one of the three special files, the *file_number* must be specified and the *file_element* may default to zero (the input, output, and status files have fixed file numbers).

When defining your custom tag, consider the following:

| Tag Item | Description |
|-------------------------|--|
| #elements | If not specified, this defaults to one. If it is less than one, it also defaults to one. Each element is output using the same format (whether specified with %format or defaulted). |
| %format | Legal values are %d for decimal and %x for hexadecimal. The following file types allow the format to be specified <ul style="list-style-type: none"> · Input · Output · Status · Integer · Timer · Counter · Control · Long |
| Display format defaults | Input and Output file elements are output in decimal format. Status file elements are output in hexadecimal format with a leading 0x. Integer file elements are output in decimal format. Complex data types (Timer, Counter, Control, or other data types) are output as a table with bits and important words specified. |
| Fixed display formats | Float files are always output in floating point format ("C" %g format). ASCII and STring files are always output as a null terminated text string. Binary files are always output as two binary bytes. |

HTML Examples - the following example shows an HTML code segment with a short description of what you would see on a web browser:

| Examples | HTML Code | Web Browser Displays |
|----------------------|--------------------|--|
| Input image word I:0 | <!ABDTR-I:0> | the value of the first word of the input image table in the default format of decimal with bold type |
| Timer T4:0 | <!ABDTR-T4:0> | the values of the timer in T4:0 in the default format of a table |
| Timer T4:0 | <!ABDTR-T4:0%d> | the values of the three words comprising timer T4:0 in decimal with bold type |
| N24:0 to N24:3 | <!ABDTR-N24:0,4> | the values of the four words in N24:0 through N24:3 in decimal with bold type |
| S:21 to S:23 | <!ABDTR-S:21, 3%d> | the values of the three words in S:21 through S:23 in decimal with bold type |

Generating Custom Data Table Monitor Pages

You can generate Custom Data Table Monitor pages with your text editor then download them to the MicroLogix 1400 controller using RSLogix 500/RSLogix Micro version 8.10 or later. **The first element of the file must contain a special tag** as shown here:

```
<!ABCDM-xx>
```

where **xx** is the automatic refresh rate in seconds (01...99).

A value outside the range defaults to a “snapshot” display.

You can modify the refresh rate three different ways:

- enter the desired refresh rate and press the *Change* button
- select the *Default* button for a 15 second refresh
- disable the refresh by selecting the *Disable* button

Referencing Data Table Memory - the Data Table locations in the Custom Data Table Monitor are referenced by placing custom tags into the ASCII file of the processor. The format of the custom tag is:

```
<!ABDTR-file_type{file_number}:{file_element}[,#elements][%format]
[!comment]>
```

The items surrounded with {} are sometimes optional, whereas the items surrounded by [] are always optional.

You must always specify the basic file reference. Depending on which file is being referenced, *file_number* or *file_element* may be defaulted. If the *file_type* is I, O or S, the *file_number* does not need to be specified, but the *file_element* must be specified. If the *file_type* is not one of the three special files, the *file_number* must

be specified and the *file_element* may default to zero (because the input, output, and status files have fixed numbers).

When defining your custom tag, consider the following:

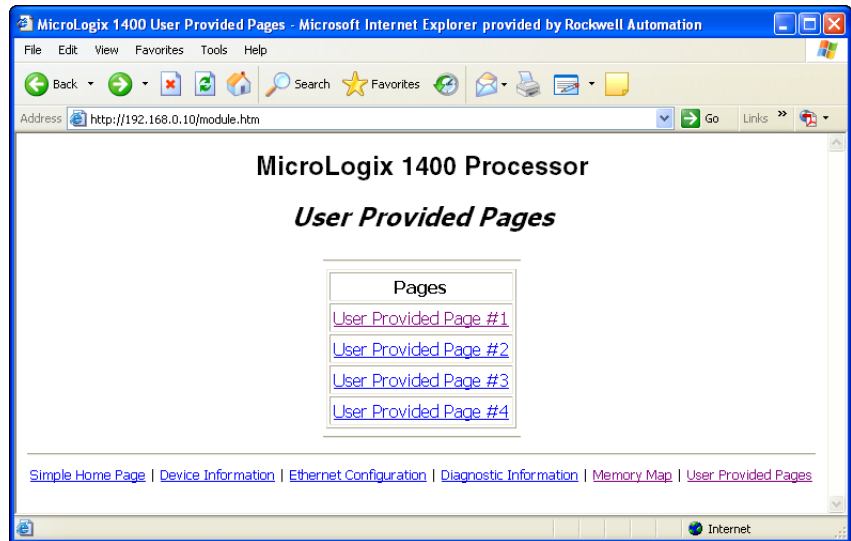
| Tag Item | Description |
|-----------------------|---|
| #elements | If not specified, this defaults to one. If it is less than one, also defaults to one. Each element is output using the same format (whether specified with %format or defaulted). Any associated comment is displayed only for the first element. |
| %format | Legal values are %b for binary, %d for decimal, %O for octal and %x for hexadecimal. The following file types allow the format to be specified: <ul style="list-style-type: none"> • Input • Output • Status • Integer All other file types are displayed in an appropriate format. |
| !comment | Data after the exclamation point and up to the closing > is displayed in the Comment column of the monitor. |
| Fixed display formats | Float files are always output in floating point format ("C"%g format). String files are always output as a null terminated text string. Binary files are always output as four binary nibbles. Complex data types (Timer, Counter, Control, or other data files) are output as a table with bits and important words specified. |

Importing User Page Files to the MicroLogix 1400 Controller

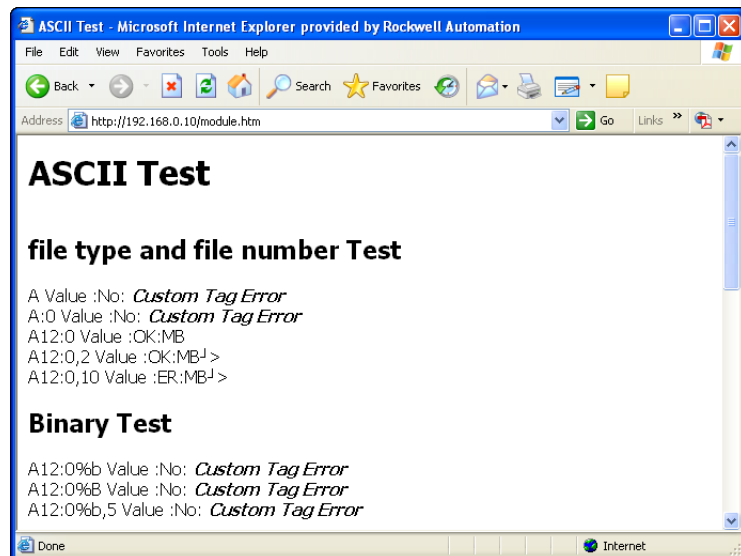
Use RSLogix 500/RSLogix Micro to import user page files to the MicroLogix 1400 controller ASCII files:

1. In the Project folder (under the Data Files folder), right-click on the first of the block of four consecutive ASCII files where you will import the user page HTML file.
2. Click *Properties*.
3. Click *Import HTML*.
4. Use the browser to locate the user page HTML file you want to import.
5. Double-click the file to select it.
6. Click *OK*.
7. Repeat this process for each user page file.
8. When all user page files have been imported, go online with your MicroLogix 1400 controller processor.

9. Select the *User Provided Pages* link to view the User Provided Pages menu, as shown in the following example:



Click the *User Provided Page #X* to display that specific page.



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Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support/>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/support/>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual.

You can contact Customer Support for initial help in getting your product up and running.

| | |
|---------------------------------|--|
| United States or Canada | 1.440.646.3434 |
| Outside United States or Canada | Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html , or contact your local Rockwell Automation representative. |

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

| | |
|-----------------------|---|
| United States | Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process. |
| Outside United States | Please contact your local Rockwell Automation representative for the return procedure. |

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