



Allen-Bradley

MicroLogix 1400 Embedded Web Server

Bulletin 1766 Controllers

User Manual

**Rockwell
Automation**

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://literature.rockwellautomation.com>) 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.





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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.

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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.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
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, such as a drive or motor, to alert people that dangerous voltage may be present.
BURN HAZARD 	Labels may be on or inside the equipment, such as a drive or motor, to alert people that surfaces may reach dangerous temperatures.

MicroLogix 1400 Embedded Web Server	Chapter 1	
	How to Use This Chapter	3
	Typical Applications.	3
	Browser Requirements.	3
	Connect the MicroLogix 1400 controller to the Network.	4
	Navigate the MicroLogix 1400 Controller	6
Use Data Views to Access Controller Data	Chapter 2	
	How to Use This Chapter	7
	Overview of Data Views	7
	Change an Access Group.	8
	Data View Page	9
	Change Data Table Files	10
	How to Change a Data File Type	10
	Disable Web View	12
Monitor Diagnostics	Chapter 3	
	How to Use This Chapter	15
	MicroLogix 1400 Controller Diagnostics	15
	Network Status.	18
Administrative Settings	Chapter 4	
	Server Settings	21
	Customize Server Settings.	21
User Management	Chapter 5	
	How to Use This Chapter	23
	User Accounts and Privilege Classes.	24
	Configure Access Limits for Web Pages.	24
	Recover with Unknown Password	26
Simple Web Pages	Chapter 6	
	Device Information	28
	Ethernet Configuration	28
	Diagnostic Information.	29
	Data Table Memory Map	31
User Provided Pages	Chapter 7	
	HTML Pages	33
	Generating Custom Data Table Monitor Pages	35
	Index	

Notes:

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	3
Browser Requirements	3
Connect the MicroLogix 1400 controller to the Network	4
Navigate the MicroLogix 1400 Controller	6

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

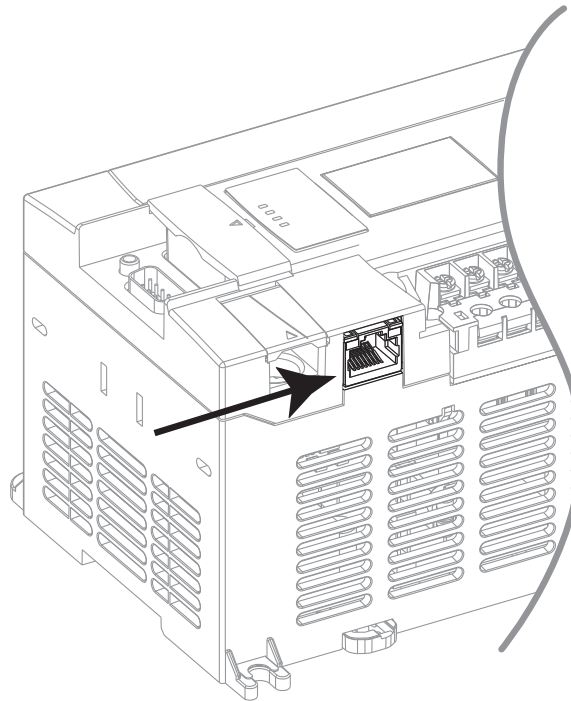
You can access the MicroLogix 1400 controllers only with Internet Explorer 6.0, Opera 9.23, FireFox 2.0.0.14, or Safari 3.0.4, or higher. To access data view pages, the browser requires Javascript and XML support.

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

1. 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

2. 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.

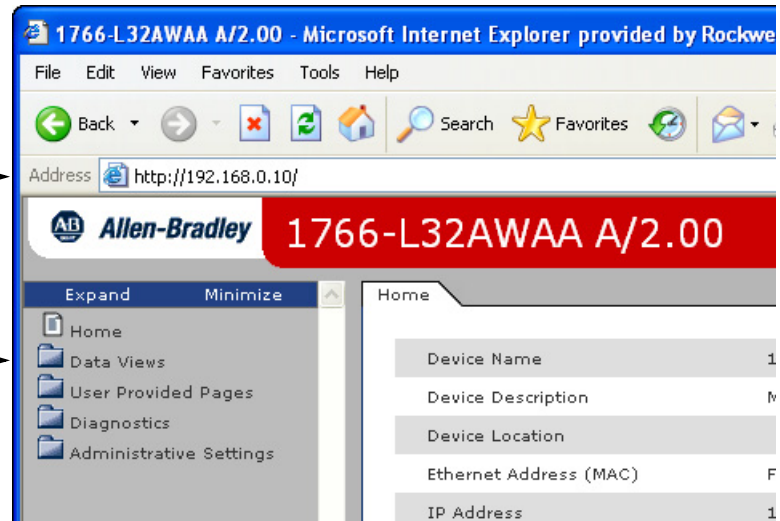
If your network does not have a BOOTP server, use one of the methods described in the MicroLogix 1400 Programmable Controllers User Manual [1766-UM001](#) to assign an IP address to the MicroLogix 1400 controller.

3. 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.



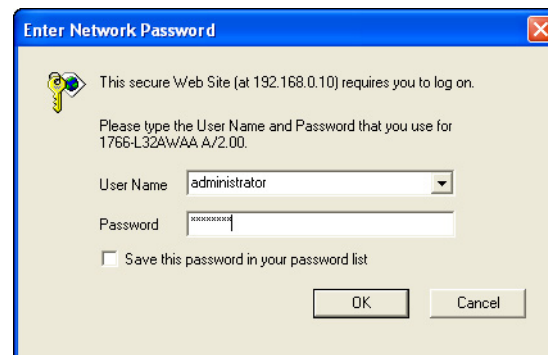
4. Log into the web server.

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)

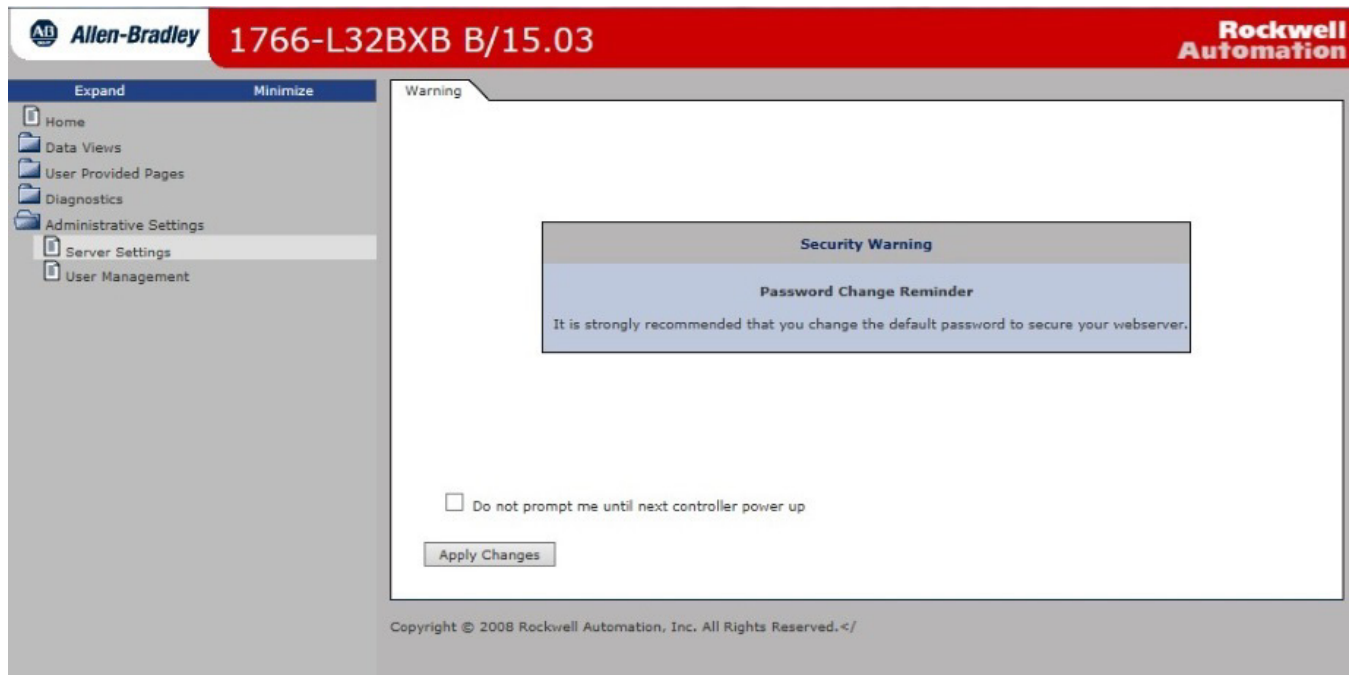
Password:
(ml1400 for administrator, guest for guest)



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 .

Security Warning Page

For MicroLogix 1400 FRN 15.3 or later only. To enhance web server security, upon logging in to the MicroLogix 1400 Web Server page with the default administrator account and default password, a warning displays to notify the user to change the default password.



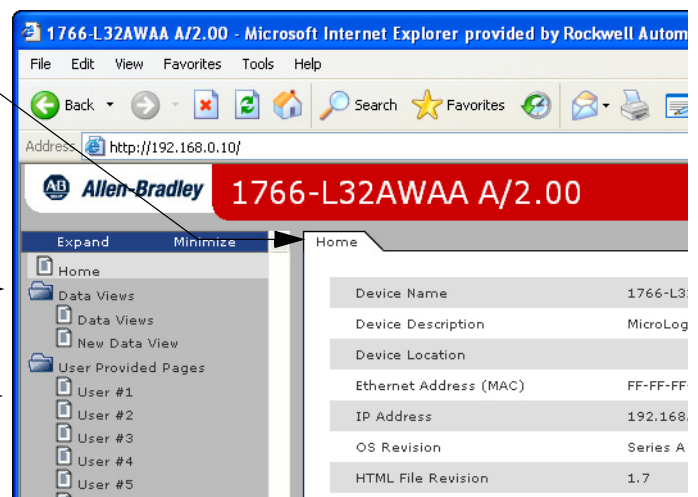
Navigate the MicroLogix 1400 Controller

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.



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	7
Change an Access Group	8
Monitor Data Views and Data Table File	9
Change Data Table Files	10
Disable Web View	12

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.

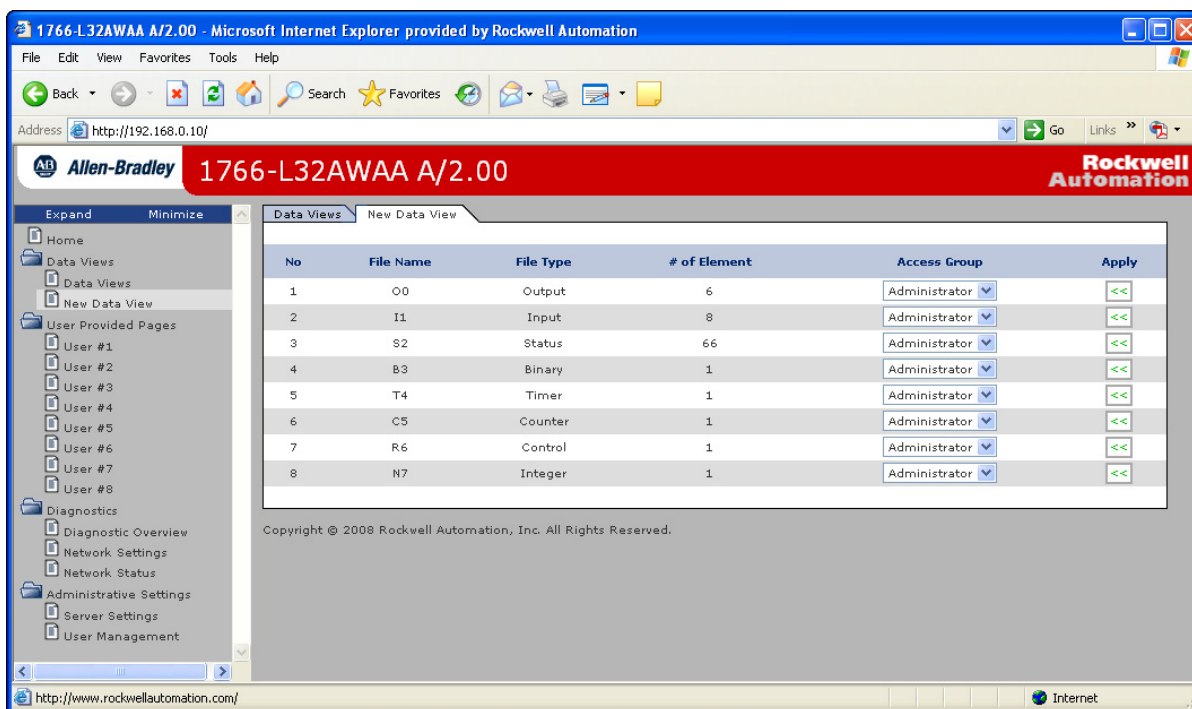
A data view consists of an HTML file and an XML file with data file information. The HTML file is in a readable ASCII format. It contains the File Name, File Type, # of Element, and Access Group.


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)
 - Write (read/write access only)
 - Read (read access only)
2. Choose Administrator, Write, or Read from the Access Group pull-down menu to change a file's access group.



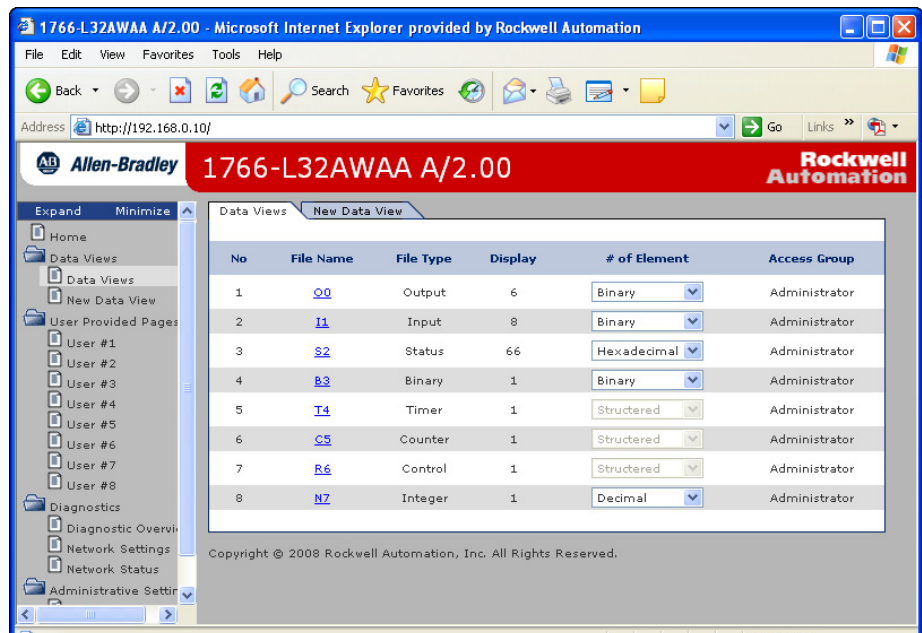
3. Click Apply  to change an access group for the data table file you specified.

Monitor Data Views and Data Table File

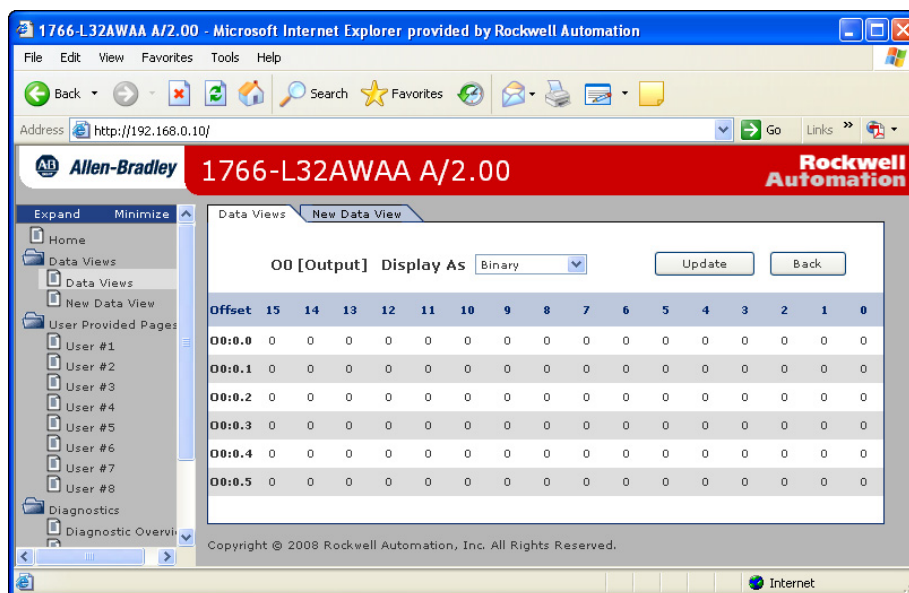
Use the Data Views → Data Views page to view existing data table files. Click the file name to view the data within a data table file.

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.



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.

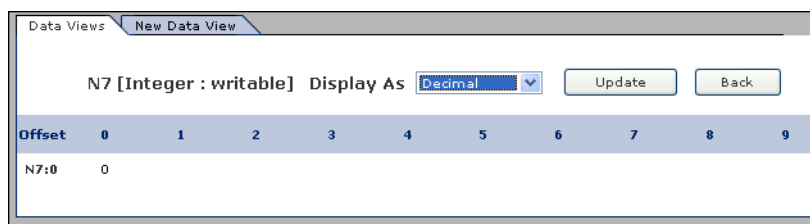


The available and default display formats depend on the data type of the file.

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

Change Data Table Files

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.

Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
N7:0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

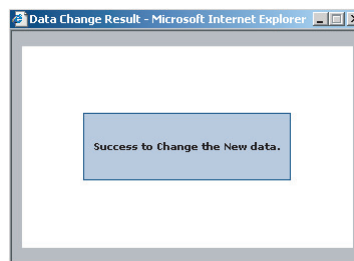
Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
N7:0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

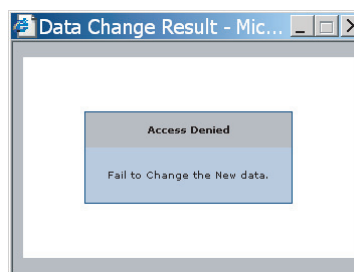
Offset	15	14	13	12	11	10
N7:0	0	0	0	0	0	0

4. Click OK to change the value.

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



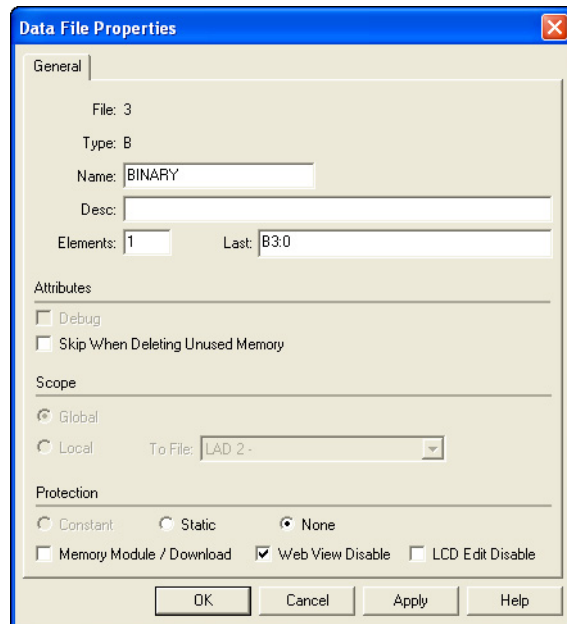
If the following screen appears, the value is not saved and the value returns to the original value.



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.

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.



The image shows a 'Data File Properties' dialog box with a blue title bar and a standard Windows-style close button. The 'General' tab is selected, showing fields for 'File: 3', 'Type: B', 'Name: BINARY', and an empty 'Desc:' field. Below these are 'Elements: 1' and 'Last: B3:0'. The 'Attributes' section has two unchecked checkboxes: 'Debug' and 'Skip When Deleting Unused Memory'. The 'Scope' section has 'Global' selected with a radio button, and 'Local' is unselected. A 'To File:' dropdown menu is set to 'LAD 2'. The 'Protection' section has 'None' selected with a radio button, and 'Constant' and 'Static' are unselected. There are three checkboxes at the bottom: 'Memory Module / Download' (unchecked), 'Web View Disable' (checked), and 'LCD Edit Disable' (unchecked). At the bottom right are four buttons: 'OK', 'Cancel', 'Apply', and 'Help'.

Data File Properties

General

File: 3

Type: B

Name: BINARY

Desc:

Elements: 1 Last: B3:0

Attributes

☐ Debug

☐ Skip When Deleting Unused Memory

Scope

☒ Global

☐ Local To File: LAD 2

Protection

☐ Constant ☐ Static ☒ None

☐ Memory Module / Download ☒ Web View Disable ☐ LCD Edit Disable

OK Cancel Apply Help

Notes:

Monitor Diagnostics

How to Use This Chapter

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

Topic	Page
MicroLogix 1400 Controller Diagnostics	15
Diagnostic Overview	16
Network Settings	17
Network Status	18

MicroLogix 1400 Controller Diagnostics

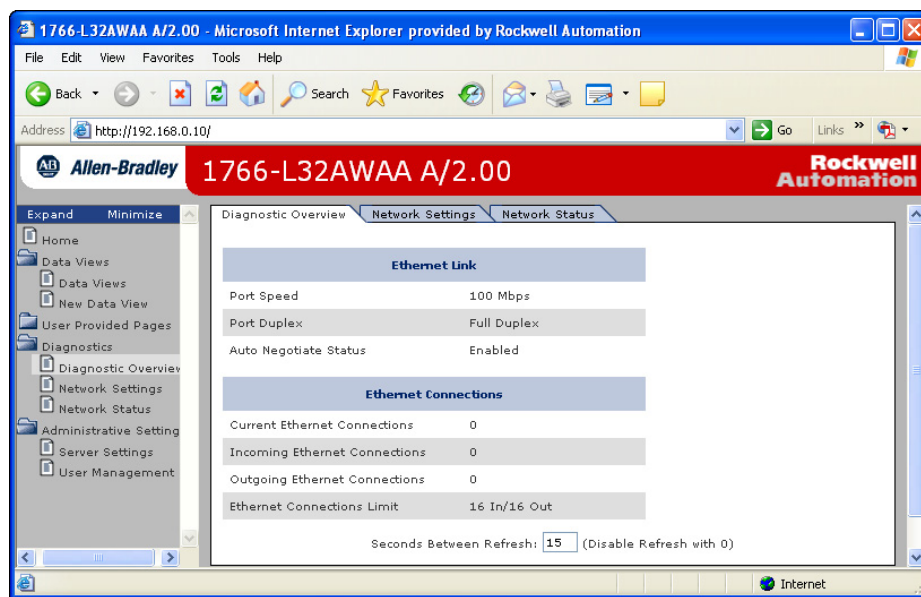
The MicroLogix 1400 controller provides four diagnostic pages of user-oriented diagnostics.

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.

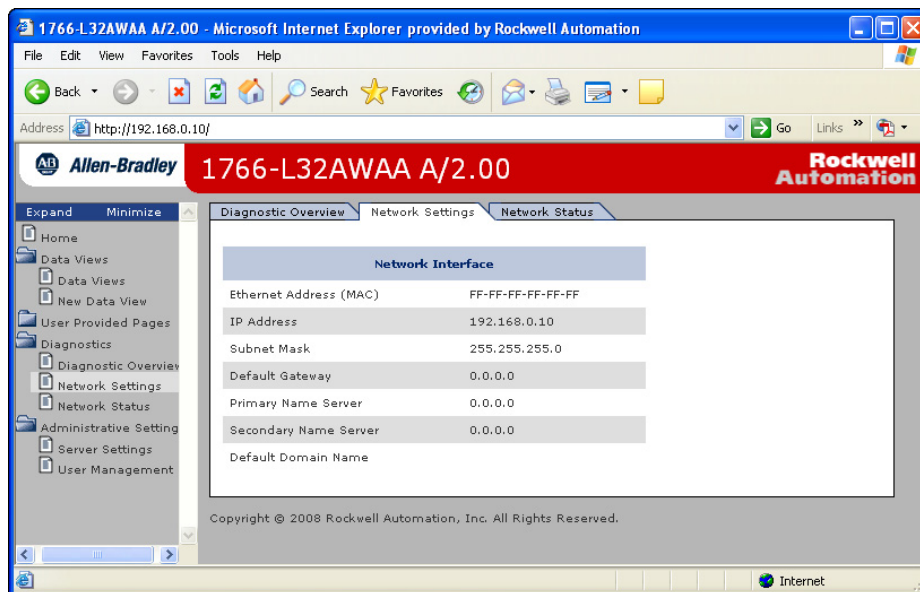


This field	Specifies
Ethernet Link	
Port Speed	whether the Ethernet port is operating at 10 Mbps or 100 Mbps
Port Duplex	whether the Ethernet port is operating at half duplex or full duplex
Auto negotiate Status	whether the port speed and duplex mode were determined via autonegotiation or whether they 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.



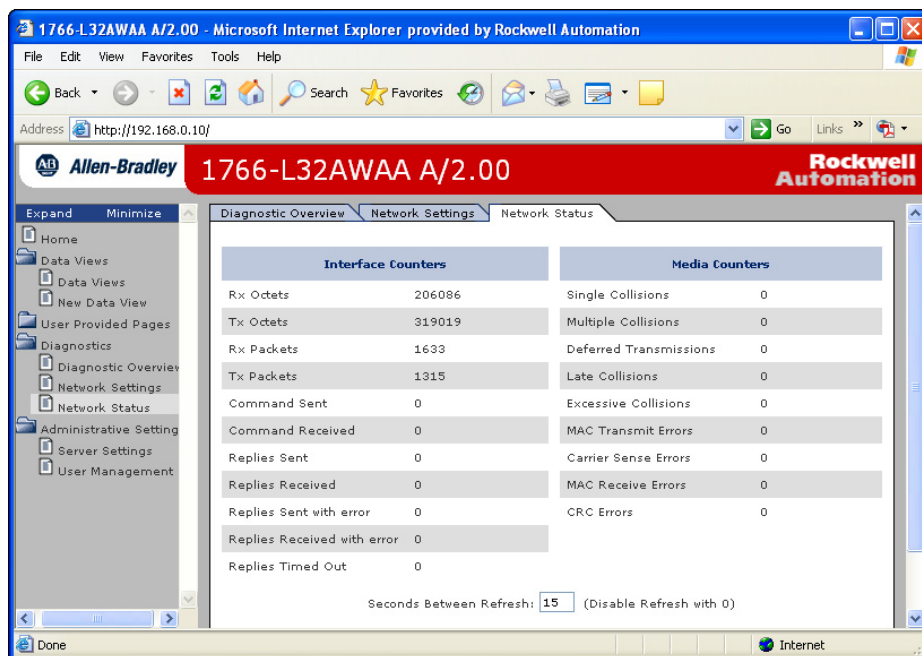
Any fields not configured remain blank.

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 which experienced exactly one collision
Multiple Collisions	Successfully transmitted frames which experienced more than one collision

This field	Specifies
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
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

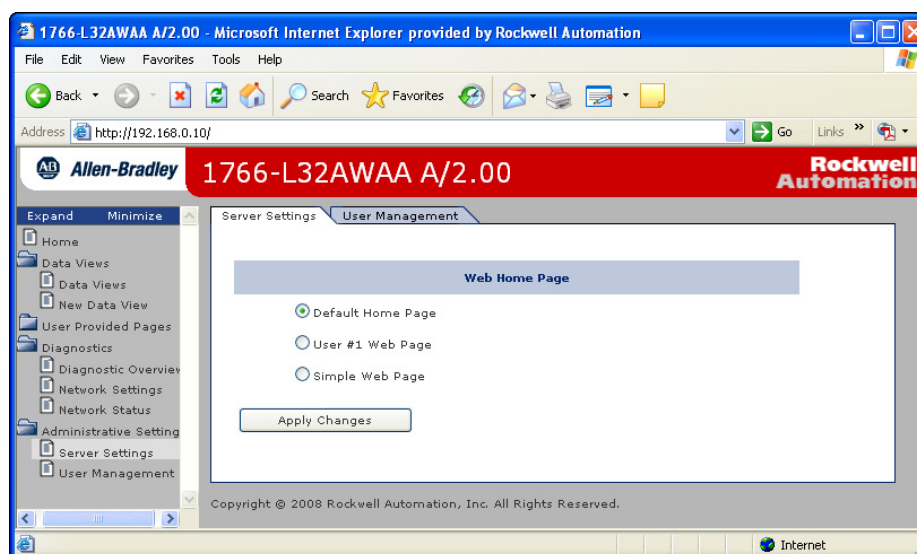
Server Settings

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. If User #1 Web Page is selected, the first user provided page is shown. For information, see User Provided Pages on page 33. 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	24
Configure Access Limits for Web Pages	24
Create User Accounts	25
Recover with Unknown Password	26

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

It is strongly recommended that you change the password for the default Administrator account.

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

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)
- Write (read/write access only)
- Read (read access 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
- Read

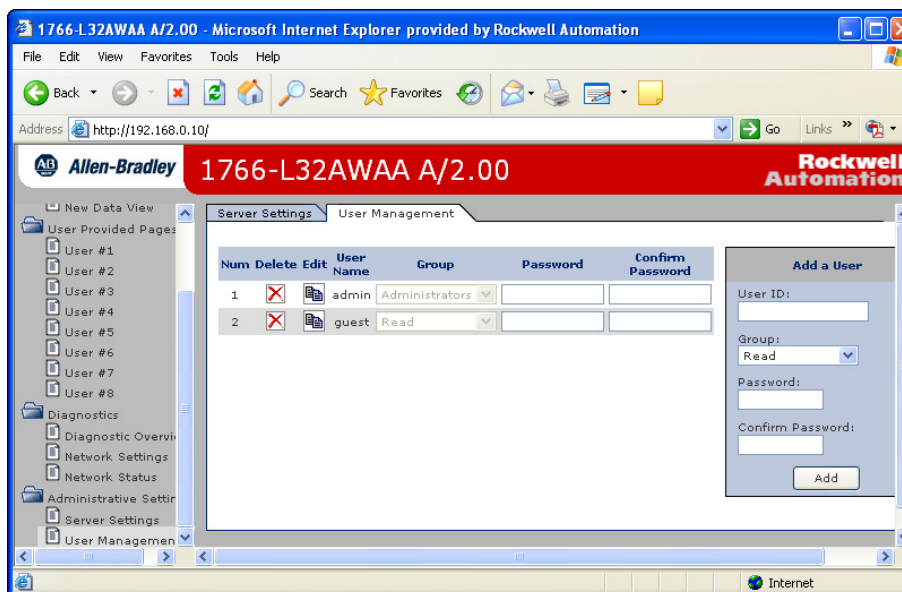
The protection levels are hierarchical. Administrator users can access Read protected pages.

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

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 ID	enter the user name for the account 20 characters maximum can contain these characters: A-Z, a-z, 0-9, underscore (_), and dash (-)
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 can not access the Data belonging to Write or Administrator 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

Recover with Unknown Password

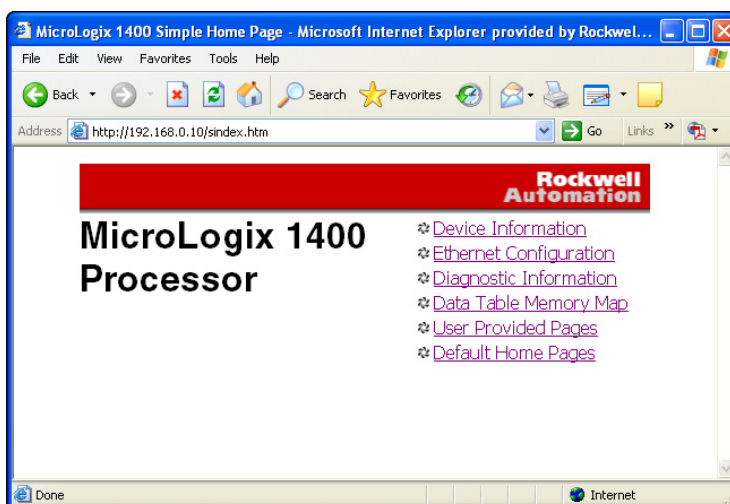
Update the firmware using ControlFlash to initialize both user accounts and the access level of data view.

Simple Web Pages

MicroLogix 1400 controllers can supply Simple Web Pages in environments where communications status is an issue. These type 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.

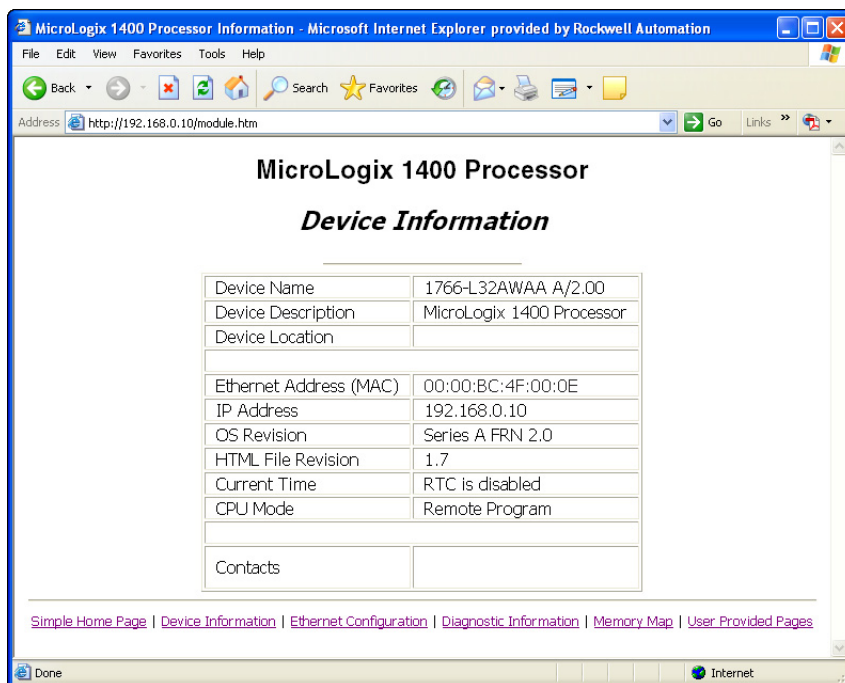
The following topics appear on the home page main menu, as shown below:

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



Device Information

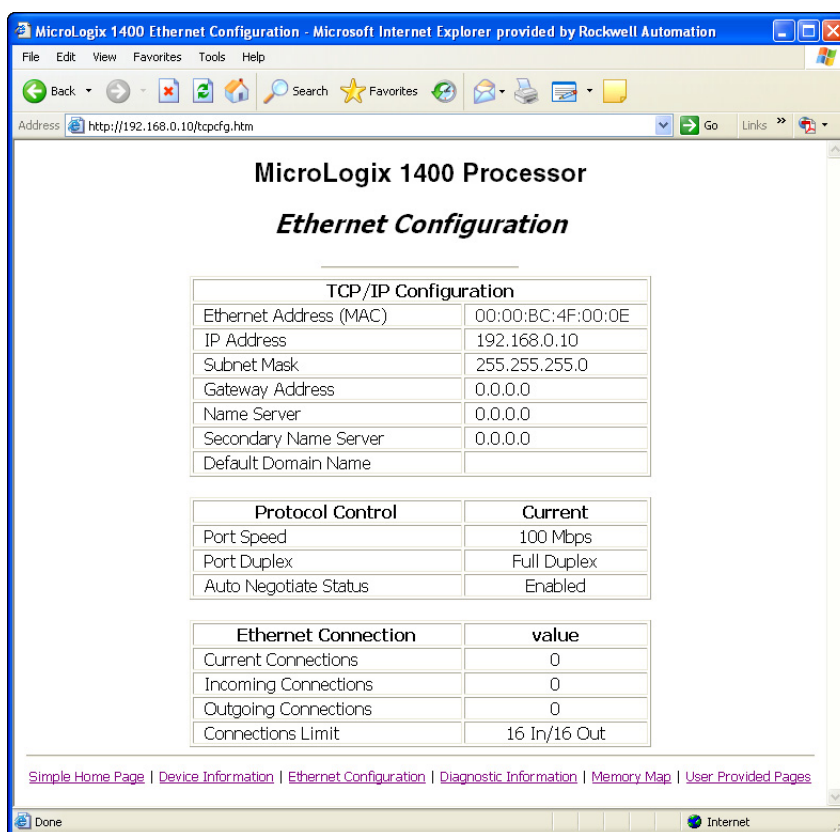
The device information page displays a table with information about the MicroLogix 1400 controller. The specific information displayed includes the controller model, series/revision and mode of the controller.



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.



Diagnostic Information

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

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

The screenshot shows a web browser window titled "MicroLogix 1400 Diagnostic Information - Microsoft Internet Explorer provided by Rockwell Automation". The address bar shows "http://192.168.0.10/diags.htm". The page content is titled "MicroLogix 1400 Processor" and "Diagnostic Information". It displays a table of network statistics with two columns of data. Below the table, there is a refresh interval setting of 15 seconds and buttons for "Change", "Default", and "Disable". At the bottom, there are links to "Simple Home Page", "Device Information", "Ethernet Configuration", "Diagnostic Information", "Memory Map", and "User Provided Pages".

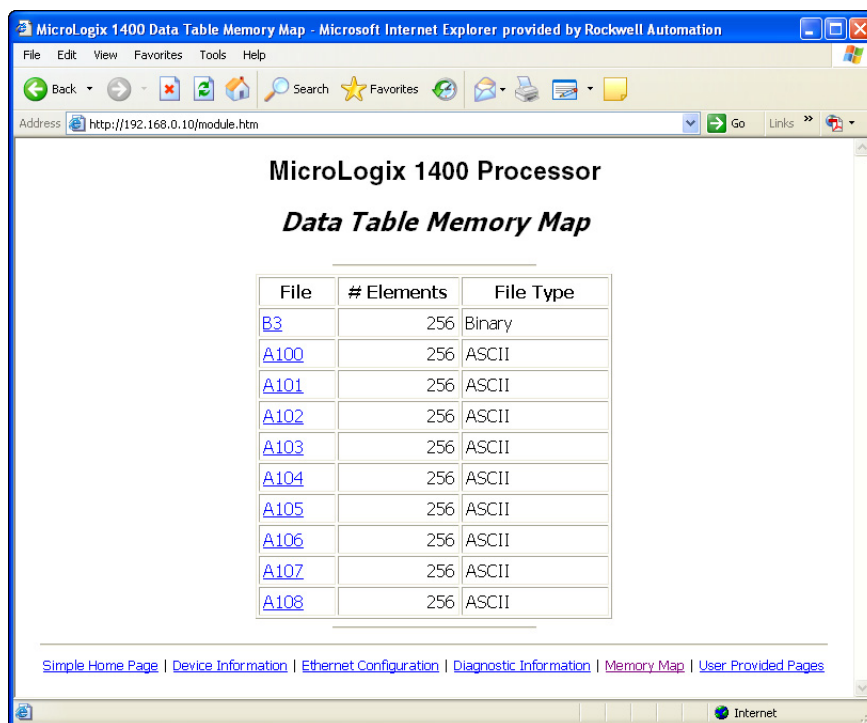
Rx Octets	174376	Single Collisions	0
Tx Octets	231429	Multiple Collisions	0
Rx Packets	1313	Deferred Transmissions	0
Tx Packets	1057	Late Collisions	0
Command Sent	0	Excessive Collisions	0
Command Received	0	MAC Transmit Errors	0
Replies Sent	0	MAC Receive Errors	0
Replies Received	0	Carrier Sense Errors	0
Replies Sent with error	0	CRC Errors	0
Replies Received with error	0		
Replies Timed Out	0		

Refresh counters every 15 seconds.

[Simple Home Page](#) | [Device Information](#) | [Ethernet Configuration](#) | [Diagnostic Information](#) | [Memory Map](#) | [User Provided Pages](#)

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, login 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 on a particular file, the Data Table

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

MicroLogix 1400 Processor
Data Table Monitor

Address	0	1	2	3	4	5	6	7	8	9
B3:0	1023	-31745	16415	8192	4096	2048	1024	512	256	128
B3:10	64	32	16	8	4	2	1	2	4	8
B3:20	16	32	64	0	0	0	0	0	0	0
B3:30	0	0	0	0	0	0	0	0	0	0
B3:40	0	0	0	0	0	0	0	0	0	0
B3:50	0	0	0	0	0	0	0	0	0	0
B3:60	0	0	0	0	0	0	0	0	0	0
B3:70	0	0	0	0	0	0	0	0	0	0
B3:80	0	0	0	0	0	0	0	0	0	0
B3:90	0	0	0	0	0	0	0	0	0	0
B3:100	0	0	0	0	0	0	0	0	0	0
B3:110	0	0	0	0	0	0	0	0	0	0
B3:120	0	0	0	0	0	0	0	0	0	0
B3:130	0	0	0	0	0	0	0	0	0	0
B3:140	0	0	0	0	0	0	0	0	0	0
B3:150	0	0	0	0	0	0	0	0	0	0
B3:160	0	0	0	0	0	0	0	0	0	0
B3:170	0	0	0	0	0	0	0	0	0	0
B3:180	0	0	0	0	0	0	0	0	0	0
B3:190	0	0	0	0	0	0	0	0	0	0
B3:200	0	0	0	0	0	0	0	0	0	0
B3:210	0	0	0	0	0	0	0	0	0	0
B3:220	0	0	0	0	0	0	0	0	0	0
B3:230	0	0	0	0	0	0	0	0	0	0
B3:240	0	0	0	0	0	0	0	0	0	0
B3:250	0	0	0	0	0	0				

Display format: Decimal

Refresh data every 15 seconds. Default Disable

Change Parameters

[Simple Home Page](#) | [Device Information](#) | [Ethernet Configuration](#) | [Diagnostic Information](#) | [Memory Map](#) | [User Provided Pages](#)

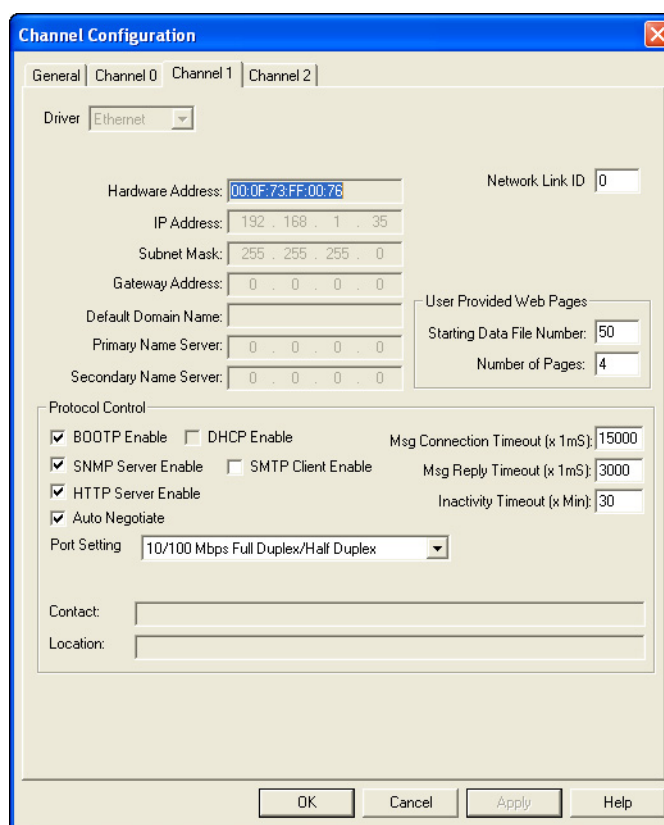
The available and default display formats depend on the data type of the file.

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 8 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 36 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 SString 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 to 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:

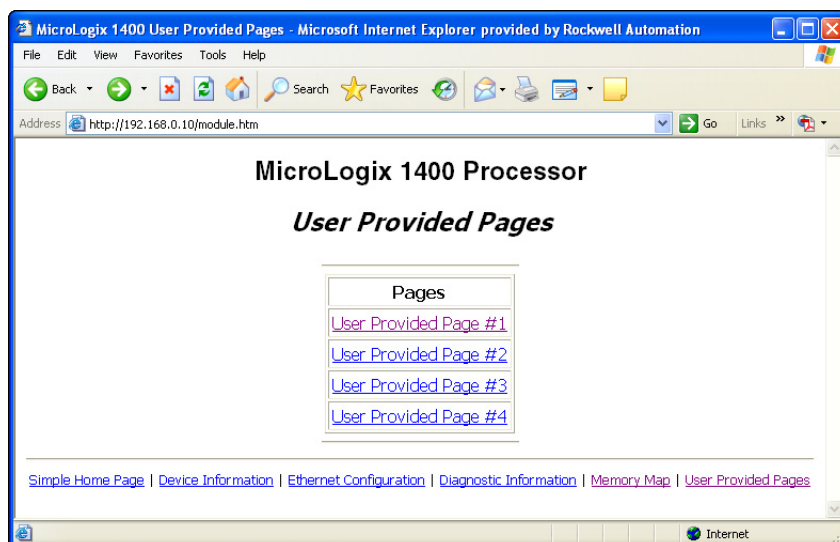
Tag Item	Description
#elements	If not specified, this defaults to one. If it is less than one, also defaults to one. Each element is output using the same format (whether specified with %format or defaulted). Any associated comment is displayed only for the first element.
%format	Legal values are %b 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

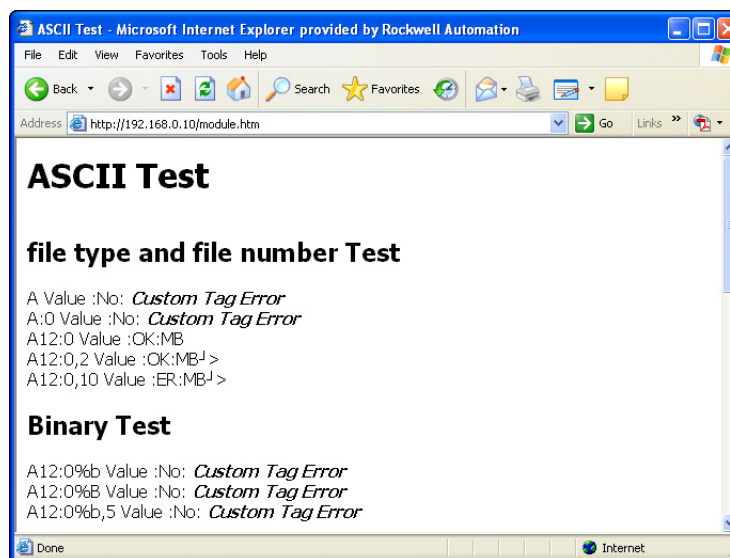
Use RSLogix 500/RSLogix Micro to import user page files to the MicroLogix 1400 controller ASCII files:

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 on *Properties*.
3. Click on *Import HTML*.
4. Use the browser to locate the user page HTML file you want to import.
5. Double-click on 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 on the *User Provided Page #X* to display that specific page.



Notes:

A

- access group
 - creating 8
- access levels
 - classes 24
- access limits
 - configuring 24
- administrative settings 21
- Administrator access 24
- authentication 24

B

- browser requirements 3

C

- change data table files 10
- configure
 - server settings 21
- configuring
 - access limits 24
 - user accounts 25
- connecting 4
- creating
 - access group 8

D

- data table memory map 31
- data views
 - monitoring 9
 - overview 7
- device information 28
- diagnostic information 29
- Diagnostic Overview 16
- diagnostics
 - diagnostic overview 16
 - Ethernet statistics 18
 - network settings 17
- disable web view 12

E

- Ethernet configuration 28

G

- generating custom data table monitor pages 35

H

- HTML pages 33

I

- installing 4
- IP address 4

M

- MicroLogix 1100 Controller Diagnostics 15
- monitor diagnostics 15

N

- navigating 6

P

- password 23, 26

R

- Read access 24
- recovering 26
- requirements, browser 3

S

- server settings 21
- simple web pages 27

T

- typical applications 3

U

- user accounts
 - classes 24
 - creating 25
- user management 23
- user provided pages 33

W

- write access 5

Notes:

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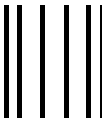
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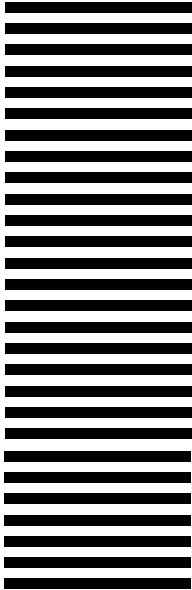
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