

Communication Firmware in PowerMonitor 500 Units with EtherNet/IP Network Communication

Catalog Numbers 1420-V1-ENT, 1420-V2-ENT, 1420-V1A-ENT, 1420-V2A-ENT, 1420-V1P-ENT, 1420-V2P-ENT

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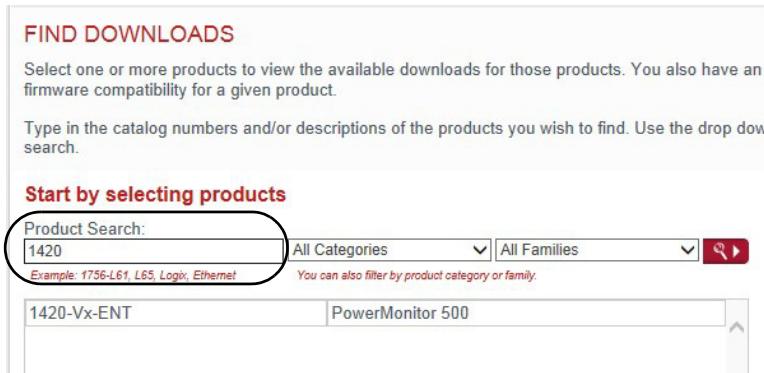
Introduction

This document describes the procedure to update Ethernet network communication firmware in the 1420-V1-ENT, 1420-V2-ENT, 1420-V1A-ENT, 1420-V1P-ENT, 1420-V2A-ENT, and 1420-V2P-ENT model PowerMonitor™ 500 units. Read and follow the procedure outlined in this document carefully.

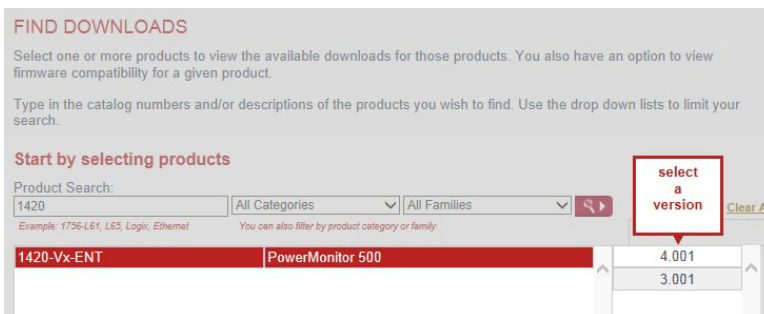
Download the Firmware

PowerMonitor 500 firmware and release notes are available online with the Product Compatibility and Download Center. Follow these steps to download the firmware.

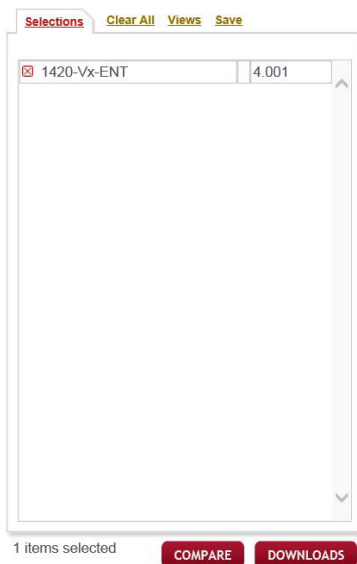
1. The PowerMonitor 500 unit Ethernet communication firmware is found at the following link:
<http://compatibility.rockwellautomation.com/Pages/MultiProductDownload.aspx?crumb=112>
2. Enter '1420' in the Product Search window.




3. Select 1420-Vx-ENT, PowerMonitor 500 and select the Ethernet firmware version that you want to install.



4. From the Selections tab, click Downloads.



5. Under Downloads, click .

6. Click the checkbox for the firmware update link.
One item is added to the Download Cart.
7. Click Close in the Available Downloads dialog box.
8. Click Download Cart.

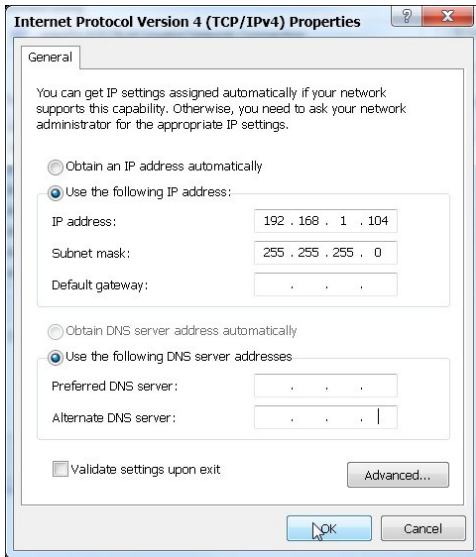


9. Follow the prompts to complete the download.

Prepare the PowerMonitor 500 Unit

To prepare the PowerMonitor 500 unit for the firmware installation, follow these steps.

1. Configure a personal computer with a fixed IP address of 192.168.1.x (where $x \neq 10$) on its wired Ethernet network port.



2. Make a note of the existing PowerMonitor 500 unit Ethernet network IP address and Modbus/TCP port.
3. Enter programming mode through the front display of the PowerMonitor 500 and navigate to the Ethernet menu (menu page 130).
4. Configure the PowerMonitor 500 to use a fixed IP address of 192.168.1.10 (required) and port 502 for Modbus/TCP.

See Chapter 3 of the PowerMonitor 500 Unit user manual, publication [1420-UM001](#), for more information on how to configure the Ethernet settings of the PowerMonitor 500 unit.



5. Connect the PowerMonitor 500 unit to the personal computer Ethernet port by using a crossover or straight-through⁽¹⁾ patch cable. The connection must be point-to-point without a router or any other network devices.

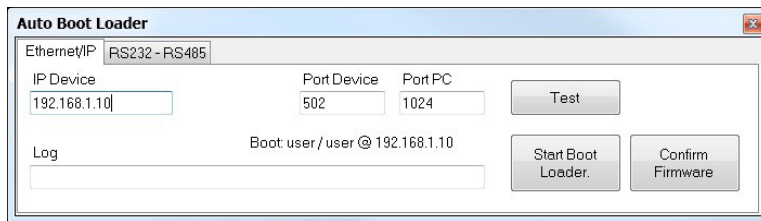
(1) A straight-through cable works if the NIC on your personal computer supports Auto MDI-X (required on Gigabit Ethernet NICs).

Install the Firmware

To install the firmware, follow these steps.

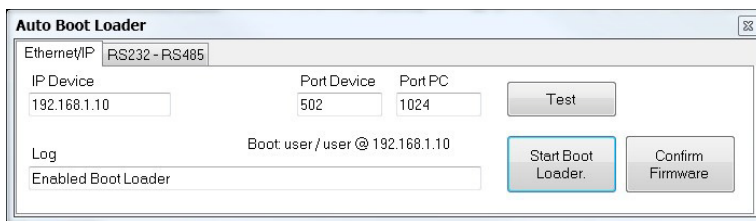
1. Extract files from the firmware Zip archive to a folder.
2. Launch the AutoBootLoader.exe program.
3. In the Ethernet/IP tab, set the IP Device to 192.168.1.10.
The default Port Device 502 is correct.

IMPORTANT The default IP Device address is 192.168.1.1. Each time the Auto Boot Loader program is opened, the default IP Device address must be changed to 192.168.1.10.



4. Click Start Boot Loader.

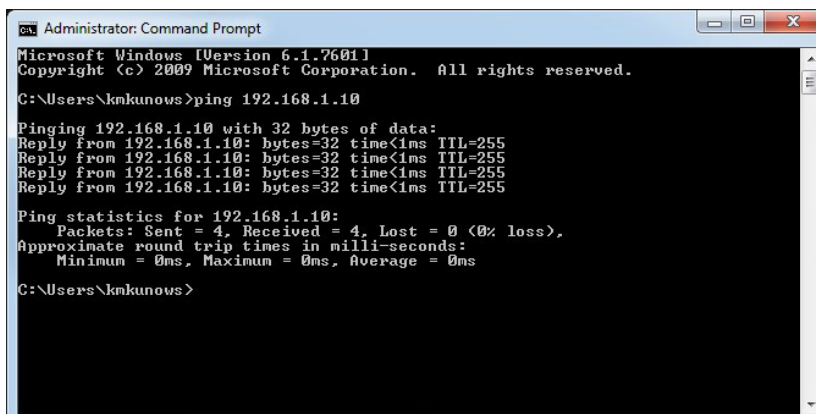
The Log field displays 'Enabled Boot Loader'.



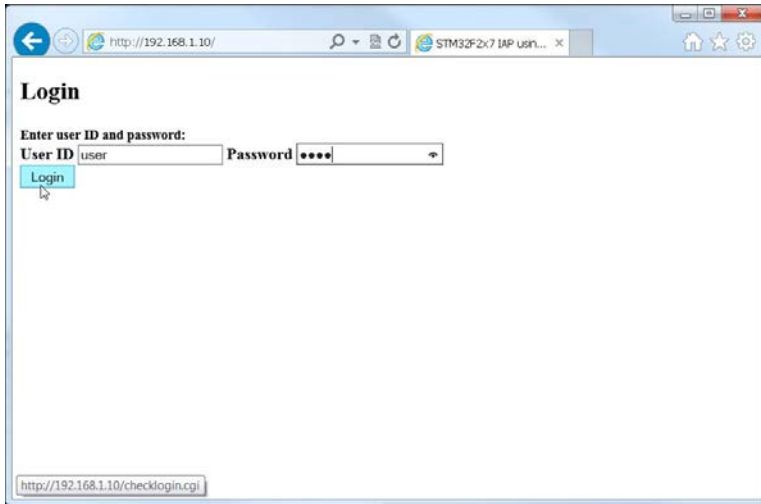
5. Close the Auto Boot Loader program.
6. Wait approximately 60 seconds for the Ethernet communications module to restart.

IMPORTANT While the boot loader is active in the PowerMonitor 500 unit, the unit does not respond to EtherNet/IP or Modbus network messages until the remaining procedures are completed. After the unit reboots, it responds to a command-line Ping to 192.168.1.10.

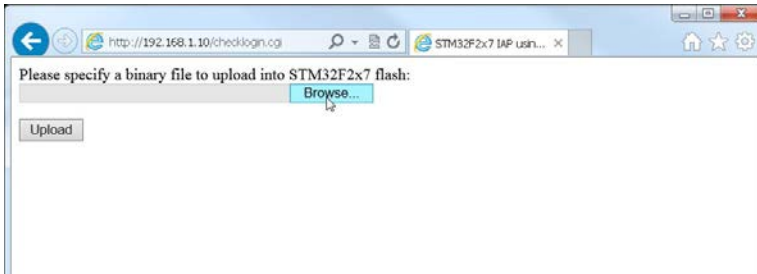
7. Open the Windows command prompt and ping 192.168.1.10 to verify the communication module has rebooted.



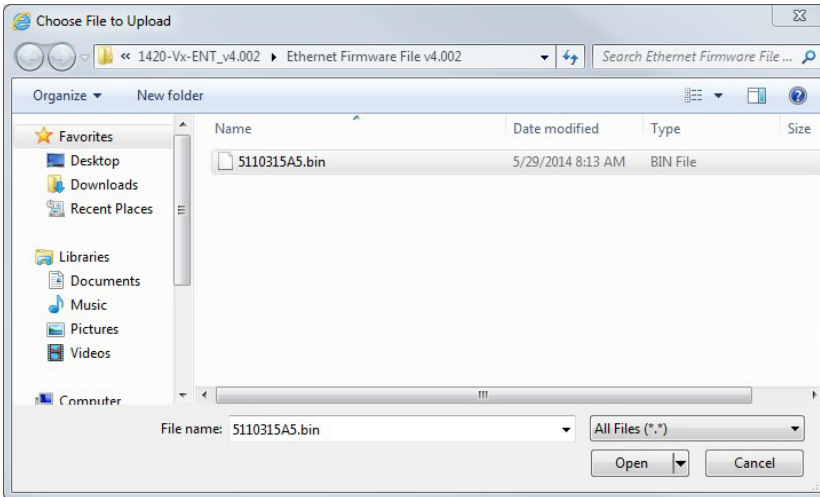
- Open Internet Explorer or Mozilla Firefox (**not** Google Chrome) and browse to <http://192.168.1.10>.
- Enter 'user' as the User ID and 'user' as the Password, then click Login.



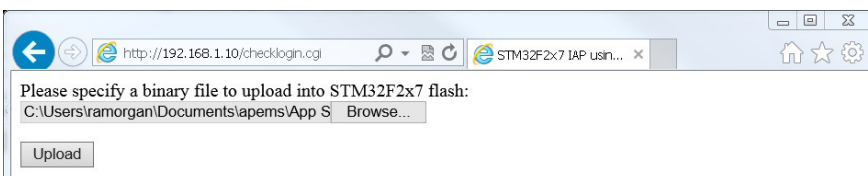
- Click Browse.



- Select the firmware file to install and click Open.

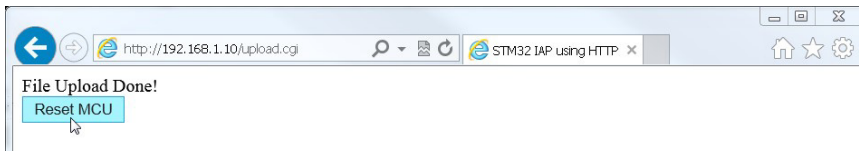


- Once the firmware file is selected, click Upload.



IMPORTANT If the web browser displays an error, refresh the web page. It can be necessary to repeat steps [9](#) ... [12](#).

- When the File Upload Done! message appears, click Reset MCU.



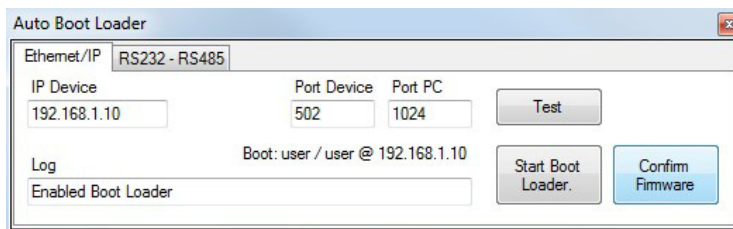
- Wait approximately 15 seconds, and then close the internet browser.
- Launch the Auto Boot Loader again.
- In the Ethernet/IP tab, set the IP Device to 192.168.1.10.
The default Port Device 502 is correct.

IMPORTANT The default IP Device address is 192.168.1.1. Each time the Auto Boot Loader program is opened, the default IP Device address must be changed to 192.168.1.10.

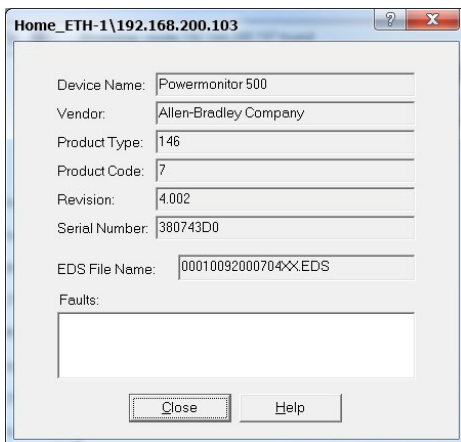
- Click Confirm Firmware.

The Log field displays 'Enabled Boot Loader'.

This step is required to complete the firmware update process by using the Auto Boot Loader program, but the firmware revision must be verified in the next step.



- Verify the new Ethernet firmware revision by using RSLinx® Classic and viewing the Device Properties of the PowerMonitor 500 in RSWho.



- Once you have confirmed that the firmware has updated successfully, power cycle the unit.
- You can now change the PowerMonitor 500 unit Ethernet IP address back to its original value as noted in [Prepare the PowerMonitor 500 Unit, step 2](#).

Troubleshooting

This section helps troubleshoot issues that can arise while updating the Ethernet firmware of the PowerMonitor 500 firmware.

Description	Possible Cause	Corrective Action
Auto Boot Loader displays 'Socket Connection timeout - no host'.	1. The incorrect IP address is set in the Auto Boot Loader program.	Set the IP Device address to 192.168.1.10 in the Auto Boot Loader program.
	2. The PM500 is not configured to the IP address of 192.168.1.10.	Configure the PM500 to the fixed IP address 192.168.1.10.
	3. Boot mode has already been enabled.	Open Internet Explorer or Mozilla Firefox, browse to http://192.168.1.10 , and proceed with the firmware update procedure.
	4. The PowerMonitor 500 has stopped communicating.	Power cycle the PowerMonitor 500 unit
Auto Boot Loader displays 'Socket Connection timeout'.	1. Boot mode has already been enabled.	Open Internet Explorer or Mozilla Firefox, browse to http://192.168.1.10 , and proceed with the firmware update procedure.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
PowerMonitor 500 Unit User Manual, publication 1420-UM001	Provides installation instructions, wiring diagrams, configuration, and specifications for PowerMonitor 500 units.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/global/certification/overview.page	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Rockwell Automation Support

For technical support, visit <http://www.rockwellautomation.com/support/overview.page>.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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