



Abstract:

This document describes using the Crimson® Mitsubishi Q Series TCP/IP Master driver to communicate with Mitsubishi Programmable Logic Controllers (PLCs) via an Ethernet connection.

Products:

Red Lion CR1000 Human Machine Interface (HMI), CR3000 HMI, G3 HMI, G3 Kadet HMI, Graphite® HMI, Graphite Controller, Modular Controller, Data Station Plus (DSP), and ProducTVity Station™ (PTV)

Use Case: Communicating With Mitsubishi PLCs via Ethernet

This document describes the settings required to use the Mitsubishi Q Series TCP/IP Master driver to communicate with Mitsubishi FX, L, and Q series PLCs.

Required Software:

Crimson 2.0, 3.0, or 3.1

Required Operating System:

Microsoft Windows 2000, or above

Required Firmware:

Crimson 2.0, build 126 or higher

Crimson 3, all builds

Introduction

This document describes how to use the Crimson Mitsubishi Q Series TCP/IP Master driver to communicate with Mitsubishi FX, L, and Q series PLCs. Crimson and the desired PLC must be correctly configured before communications can be established. Refer to the next section for Crimson configuration instructions. Refer to “Configuring the Device” on page 4 for PLC-specific configuration instructions.

Configuring Crimson

Crimson configuration consists of configuring the Ethernet port and selecting the driver.

Configuring the Ethernet Port

1. Referring to Figure 1, go to the Navigation Pane and Navigate to the Communications section.
2. Click on **Network**; the Communications - Network popup appears.
3. Click on the **Ethernet** tab.
4. Configure the port, as required.

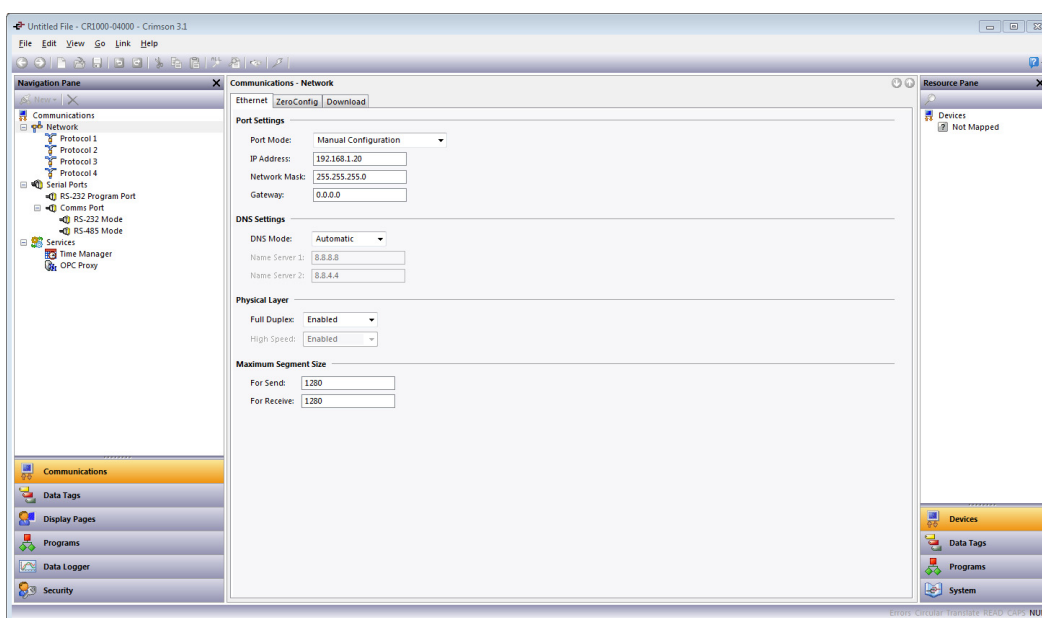


Figure 1.

Ethernet port configuration is now complete and the next step is to select the driver.

Selecting the Driver

1. Referring to Figure 2, go to the Navigation Pane and select the first available protocol; Protocol 1 in this example.
2. Go to the **Driver:** field under the Driver Selection heading and click the *Pick...* button; the Driver Picker for Ethernet Port popup appears.
3. Under the Manufacturer heading, select *Mitsubishi*.
4. Under the Driver heading, select *Q Series TCP/IP Master*.
5. Click **OK**.

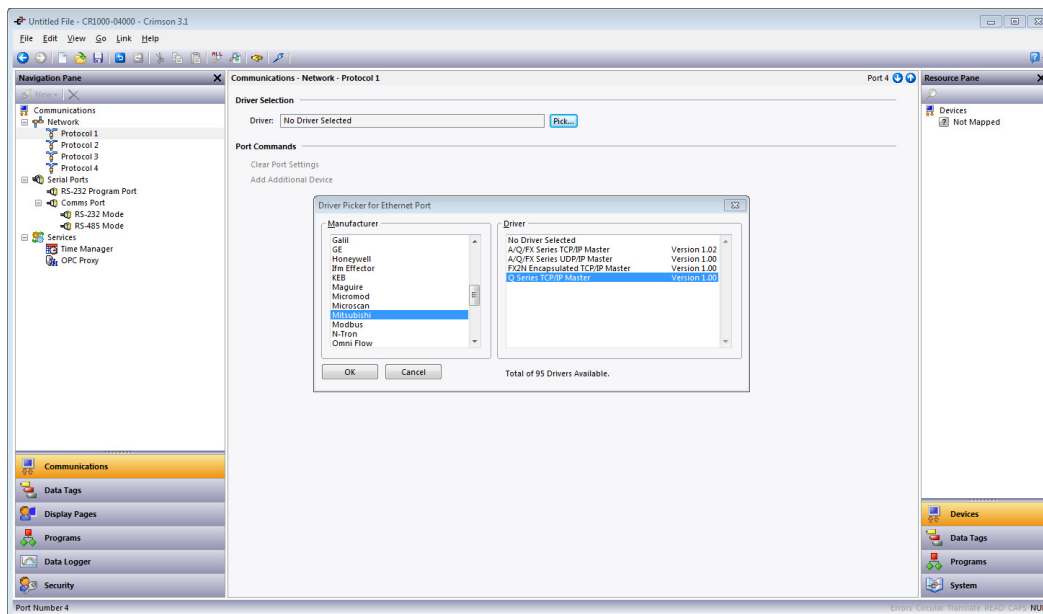


Figure 2.

Crimson configuration is now complete. Next, the applicable device (Mitsubishi FX, L, or Q series PLC) must be configured.

Configuring the Device

The following two steps apply to all three Mitsubishi PLCs covered in this Tech Note.

1. Referring to Figure 3, go to the Navigation Pane and click on the device that appeared below Protocol 1; PLC1 in this example.
2. Configure the Device Identification heading fields, as required:
 - a. IP Address : The IP Address of the PLC or communication card; *192.168.1.52* in this example.
 - b. TCP Port : The TCP port from which the PLC or communication card is listening; *5002* in this example.
NOTE: Crimson's number is DECIMAL; the Mitsubishi PLC may be DECIMAL or HEX.
 - c. Network Number : The network on which the PLC resides; *0* in this example.
NOTE: For most local on-board CPU communications, use 0.
 - d. PC Number : The station number of the remote station; *0* in this example.
NOTE: For most local on-board CPU communications, use 255.
 - e. CPU Access : Specifies which CPU will be accessed; *Local* in this example.

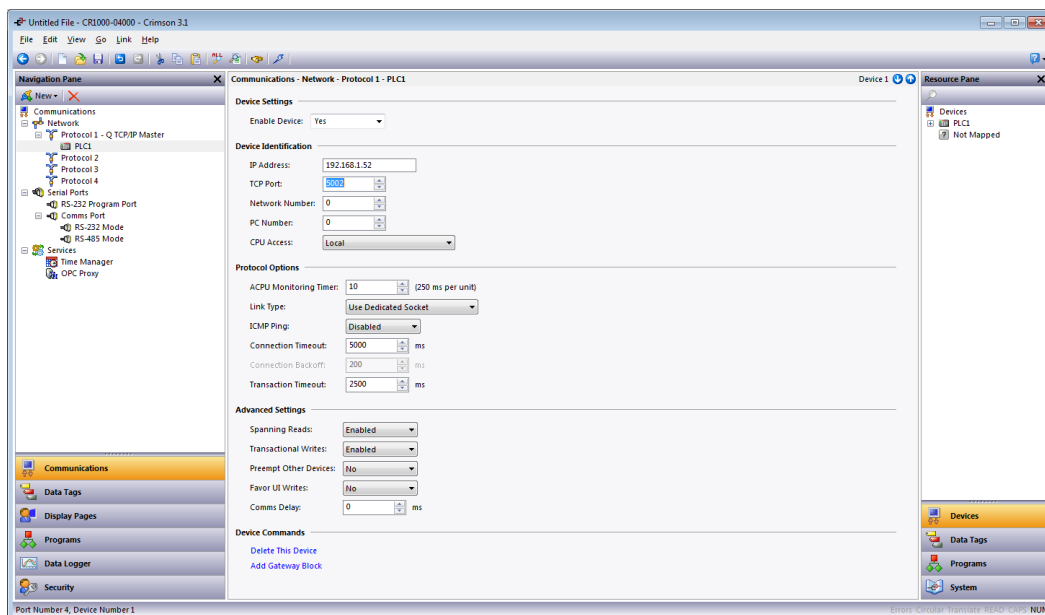


Figure 3.

Refer to the [Crimson Quick Start Guide](#) for Data Tag, Display Page, and Data Logging configuration.

If configuring a Mitsubishi FX Series PLC, proceed to the next section. If configuring a Mitsubishi L or Q Series PLC, proceed to “Mitsubishi Q/L Series PLC Configuration” on page 6.

Mitsubishi FX Series PLC Configuration

The following steps apply to Mitsubishi FX PLC configuration, only:

1. Open the PLC's Ethernet Configuration window, as shown in Figure 4.
2. Configure the PLC's Ethernet connection using the following parameters:
 - a. Communication Method: *SLMP*
 - b. Protocol: *TCP*
 - c. Port No.: *Should match the port number previously specified during Crimson configuration.*

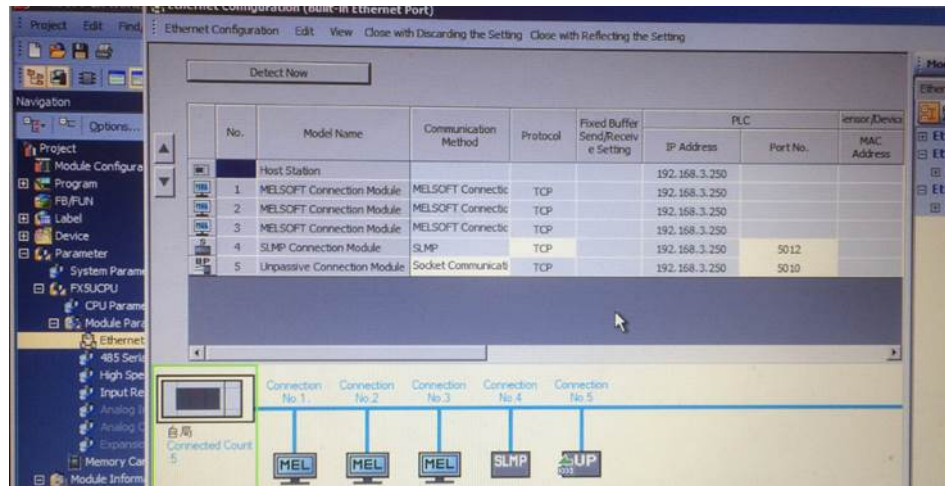


Figure 4.

Mitsubishi Q/L Series PLC Configuration

The following instructions apply to both Mitsubishi Q and L Series PLC configuration:

1. Open the PLC's Ethernet configuration window, as shown in Figure 5.
2. Ensure that Communication Data Code is set for *Binary Code*.
3. Ensure that Enable online change (FTP, MC Protocol) is checked.

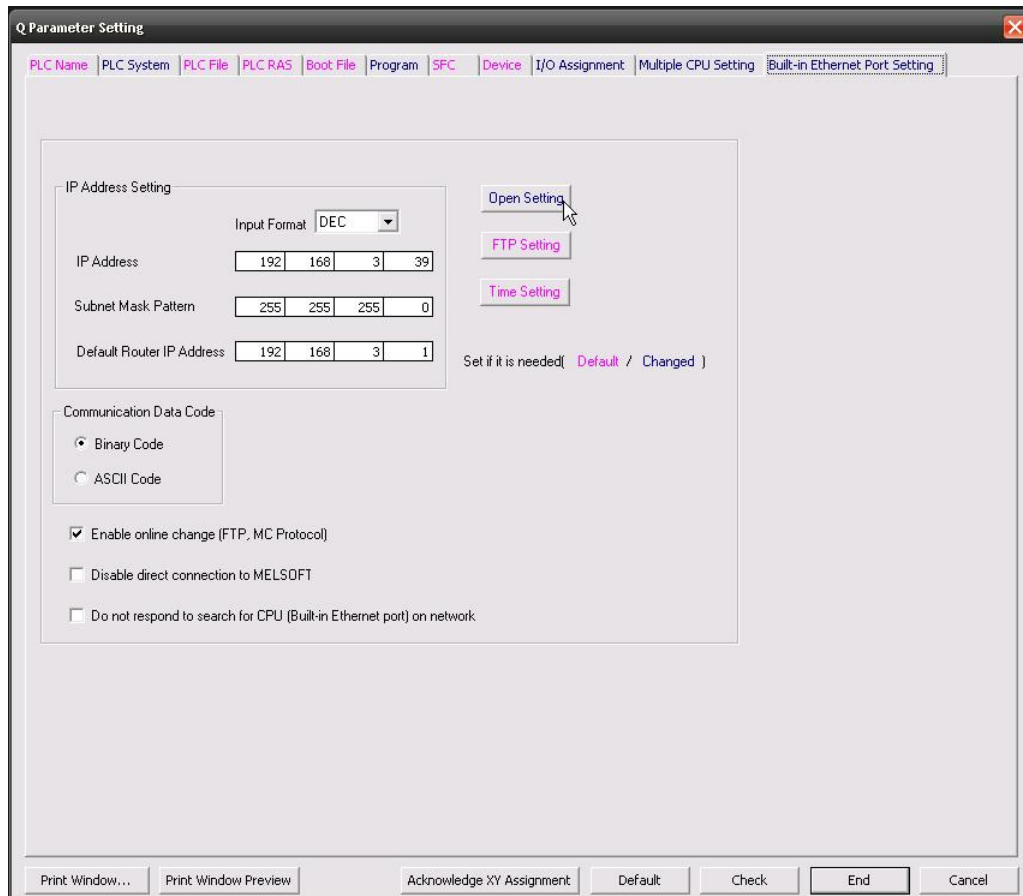


Figure 5.

4. Click the *Open Setting* button.

5. Referring to Figure 6, configure a connection with the following parameters:

a. Protocol: *TCP*

b. Open System: *MC Protocol*

c. Host Station Port No.: *Should match the port number previously specified during Crimson configuration.*

	Protocol	Open System	TCP Connection	Host Station Port No.	Destination IP Address	Destination Port No.
1	TCP	MC Protocol		08BA		
2	TCP	MELSOFT Connection				
3	TCP	MELSOFT Connection				
4	TCP	MELSOFT Connection				
5	TCP	MELSOFT Connection				
6	TCP	MELSOFT Connection				
7	TCP	MELSOFT Connection				
8	TCP	MELSOFT Connection				
9	TCP	MELSOFT Connection				
10	TCP	MELSOFT Connection				
11	TCP	MELSOFT Connection				
12	TCP	MELSOFT Connection				
13	TCP	MELSOFT Connection				
14	TCP	MELSOFT Connection				
15	TCP	MELSOFT Connection				
16	TCP	MELSOFT Connection				

Host station port No, destination port No: Please input in HEX.

End Cancel

Figure 6.

d. Select the *End* button.

Disclaimer

It is the customer's responsibility to review the advice provided herein and its applicability to the system. Red Lion makes no representation about specific knowledge of the customer's system or the specific performance of the system. Red Lion is not responsible for any damage to equipment or connected systems. The use of this document is at your own risk. Red Lion standard product warranty applies.

Red Lion Technical Support

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