Tel +1 (717) 767-6511
Fax +1 (717) 764-0839
www.redlion.net

Panasonic FP7 MEWTOCOL-7 Communications Drivers

Information Sheet for Crimson v3.0+

Compatible Devices

Panasonic PLC's equipped with a serial or Ethernet port capable of being configured as a MEWTOCOL-7 slave.

Verified Device

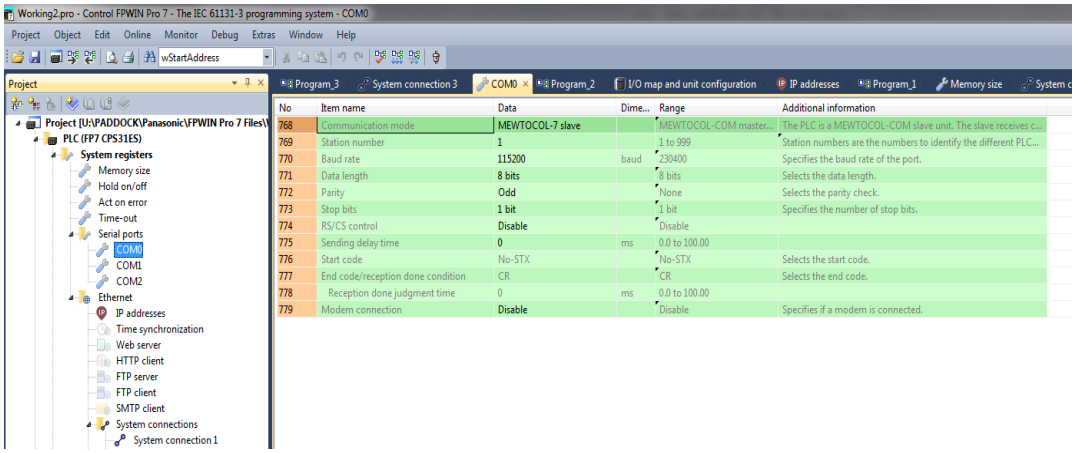
Panasonic FP7 CPS31ES

Overview

Red Lion's communication drivers for the Panasonic MEWTOCOL-7 are master drivers available for both serial and Ethernet ports providing access to memory ranges as described within.

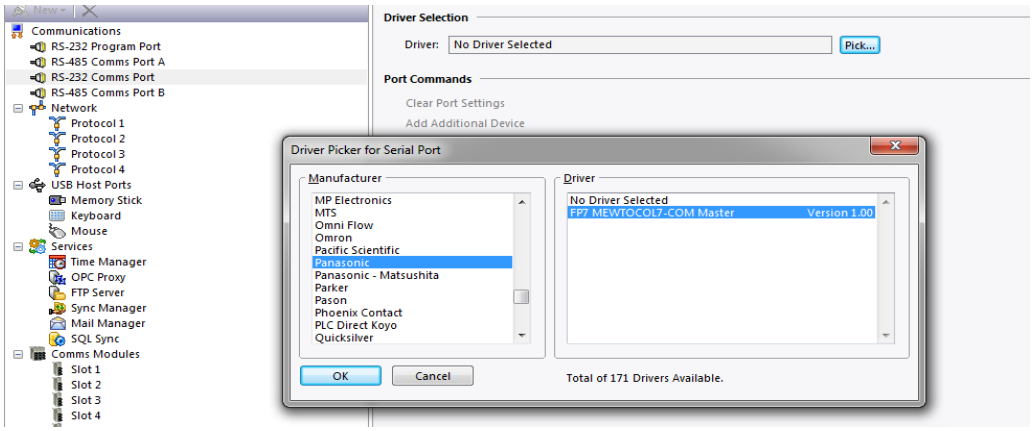
Serial Port Configuration

In Panasonic's Control FPWIN Pro 7 software select the desired COM port in the Serial ports folder of the project tree.

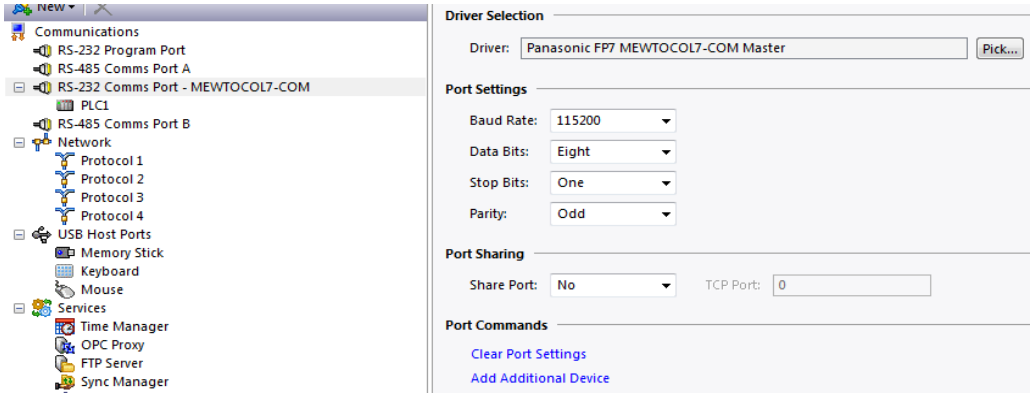


Set the Communication mode to MEWTOCOL-7 slave. Select the desired Station number and port settings including Baud rate, Data length, Parity and Stop bits.

In Crimson's Communications category select the desired serial port in the Communications tree and click on the Pick… button.

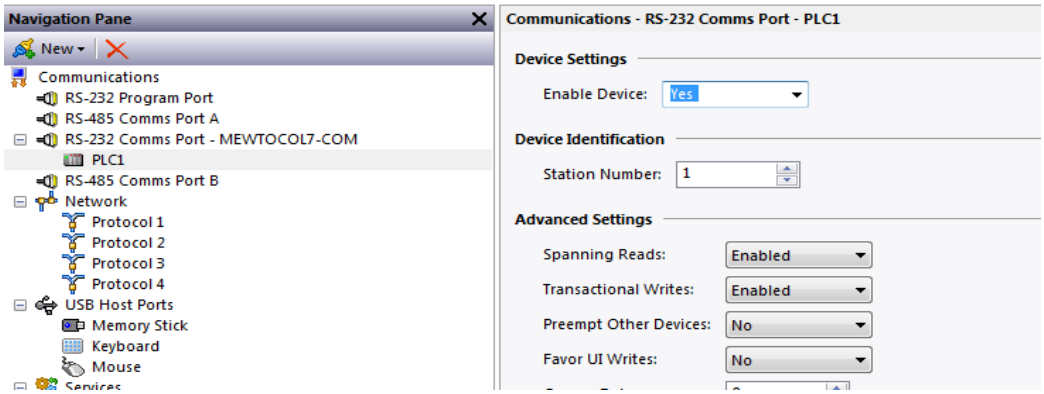


Find the Panasonic FP7 MEWTOCOL7-COM Master communications driver as shown above and click OK.



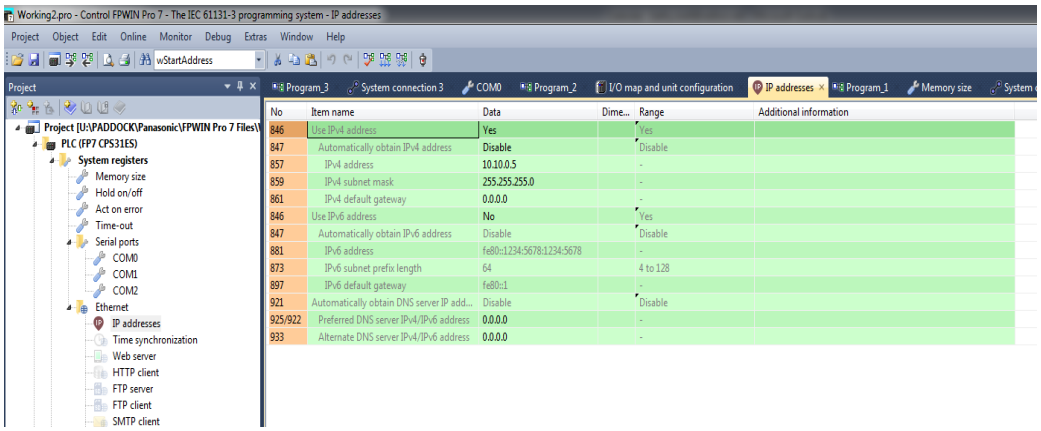
Modify the Baud Rate, Data Bits, Stop Bits and Parity settings such that it mirrors the port settings in the FPWIN software.

Next select the PLC device and set the Station Number to the same value as configured in the FPWIN software in the first step of this section.



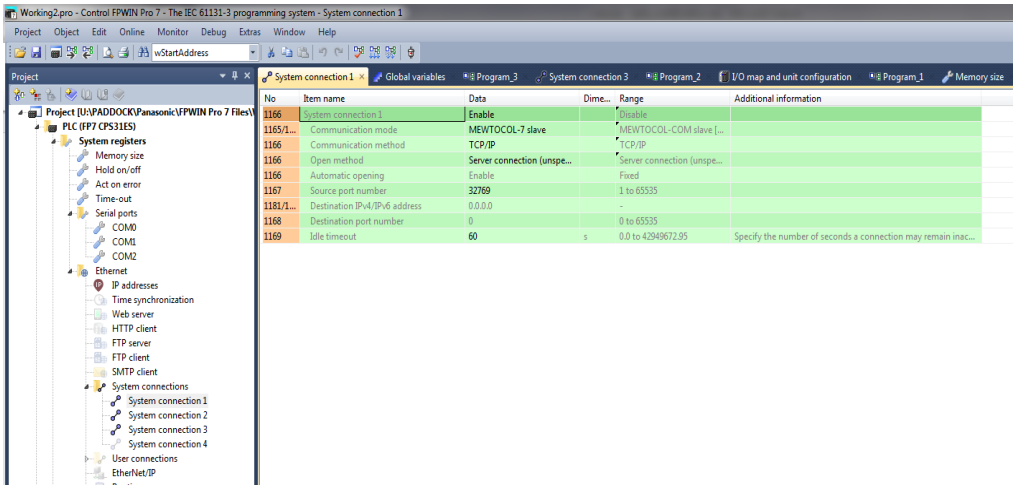
Ethernet Port Configuration

In Panasonic's Control FPWIN Pro 7 software select the IP addresses item in the Ethernet Folder of the project tree.



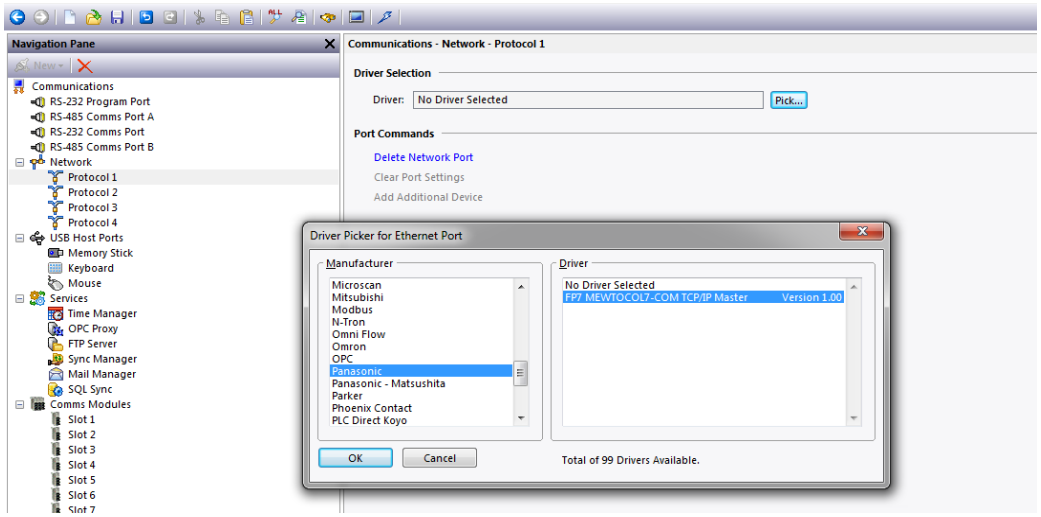
Configure an appropriate IPv4 address according to the network requirements. Please consult your IT department for assistance if needed.

Next select an unused System connection found in the Ethernet folder of the project tree.



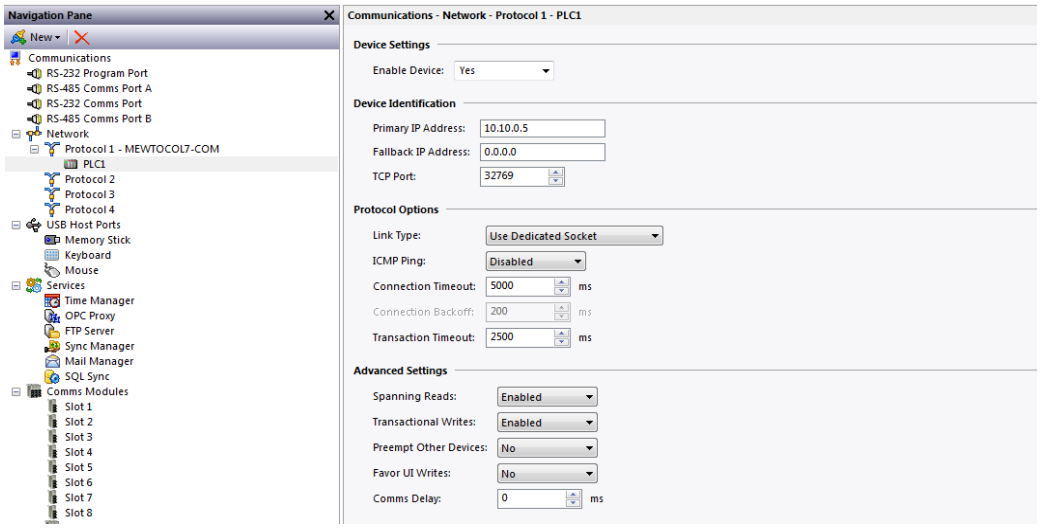
After enabling this System connection, set the Communication mode to MEWTOCOL-7 slave and the Communication method to TCP/IP. Set a Source port number available for use.

In Crimson's Communications category select an available protocol in the Network element of the Communications tree and click on the Pick… button.



Find the Panasonic FP7 MEWTOCOL7-COM Master communications driver as shown above and click OK.

Next select the PLC device and configure the Primary IP Address and the TCP Port such that it matches the IPv4 address and the Source port number in FPWIN configuration respectively.



Note - Only configure the Fallback IP Address if there is a secondary FP7 IP address for redundancy communications.

Also ensure that the Red Lion device's Ethernet Port Settings are configured – please refer to the **NETWORK CONFIGURATION** section within the Crimson manual.

Ethernet User Access

Ethernet configuration access is provided to the Red Lion device's UI by using the DevCtrl function:

INT **DEVCTRL(**DEVICE, FUNCTION, DATA**)**

For DEVICE use the Device Number shown in Crimson's lower Toolbar when the MEWTOCOL7-COM PLC is selected in the Communications tree.

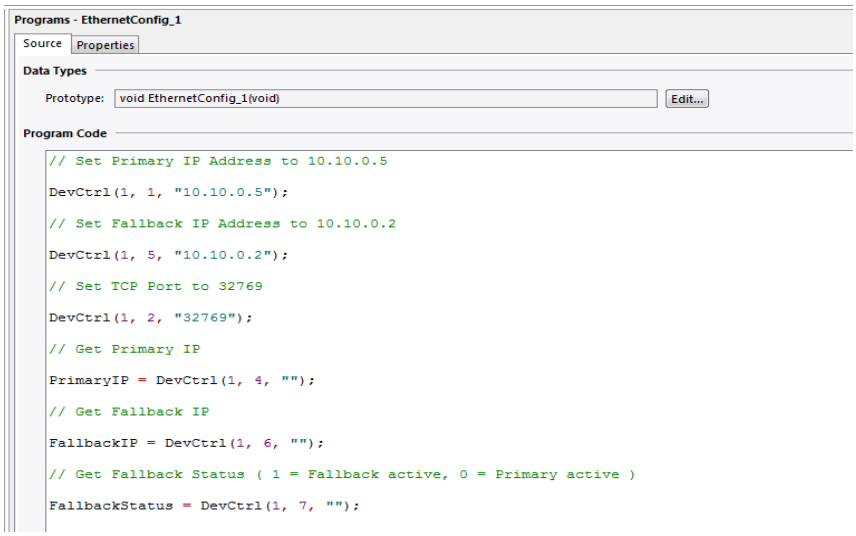
For FUNCTION reference the codes below.

Function Code	Operation Performed
1	Set Primary IP Address
5	Set Fallback IP Address
2	Set TCP Port
4	Get Primary IP Address
6	Get Fallback IP Address
7	Get Fallback Status (1 = Fallback active, 0 = Primary active)

DATA is defined as a string containing write data.

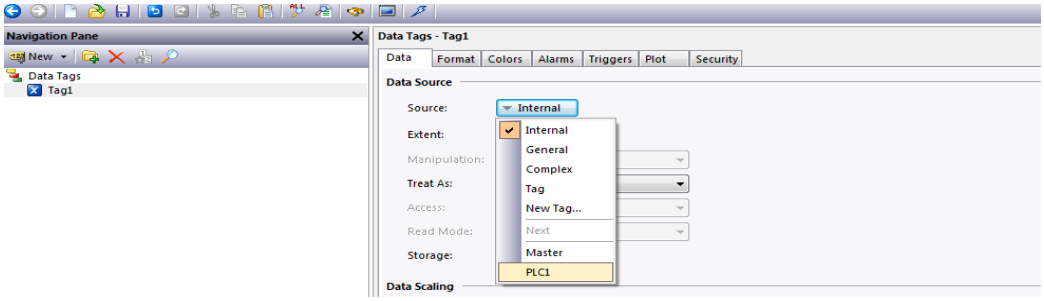
Note returned data is always a number.

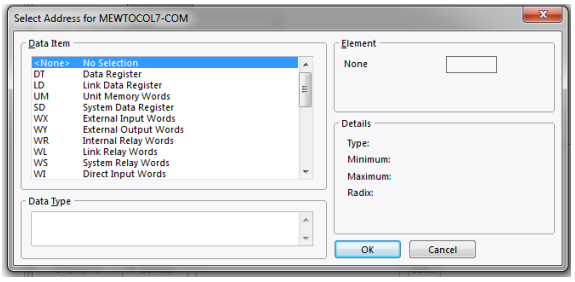
For demonstration purposes consider the following functions within a user program accessing Device Number 1:



Data Access

The "Select Address for MEWTOCOL7-COM" dialog box can be found by selecting the device representing the Panasonic FP7 device in the Source drop down box of a Tag created in the Data Tag category in Crimson.





The following FP7 address memory registers are available for access.

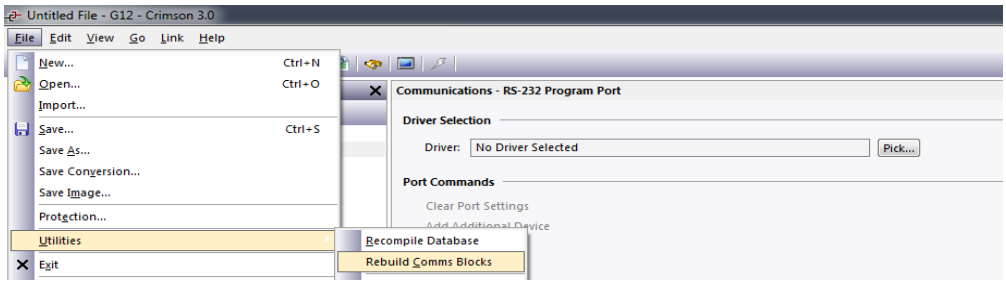
Prefix	Description	Data Types	Format	Range	Access
DT	Data Register	Word, Long, Real	Decimal	0-589823	R/W
LD	Link Data Register	Word, Long, Real	Decimal	0-16383	R/W
SD	System Data Register	Word, Long, Real	Decimal	0-255	RO
WX	External Input Words	Word, Long, Real	Decimal	0-511	R/W
WY	External Output Words	Word, Long, Real	Decimal	0-511	R/W
WR	Internal Relay Words	Word, Long, Real	Decimal	0-2047	R/W
WL	Link Relay Words	Word, Long, Real	Decimal	0-1023	R/W
WS	System Relay Words	Word, Long, Real	Decimal	0-223	R/W
X	External Inputs	Bit	Mixed*	0 – 511F	R/W
Y	External Outputs	Bit	Mixed*	0 – 511F	R/W
R	Internal Relays	Bit	Mixed*	0 – 2047F	R/W
L	Link Relays	Bit	Mixed*	0 – 1023F	R/W
S	System Relays	Bit	Mixed*	0 – 233F	RO
T	Timer Flags	Bit	Decimal	0 – 4095	RO
C	Counter Flags	Bit	Decimal	0 – 1023	RO
E	Error Alarm Relays	Bit	Decimal	0 – 4095	RO
I	Index Register	Long, Real	Hexadecimal	0 – 0xE	R/W
TSV	Timer Set Value	Long, Real	Decimal	0 - 4095	R/W
TEV	Timer Elapsed Value	Long, Real	Decimal	0 - 4095	R/W
CSV	Counter Set Value	Long, Real	Decimal	0 - 1023	R/W
CEV	Counter Elapsed Value	Long, Real	Decimal	0 - 1023	R/W

*Mixed format is defined as a decimal number with the least significant nibble (4 bits) in hexadecimal format. This is consistent with FPWIN/FP7 access.

In addition, registers noted below are accessible but require Slot designation. Slots are specified in the format of Sxxx where xxx represents the position of the FP7 module to be accessed.

Prefix	Description	Data Types	Format	Range	Access
UM	Unit Memory Words	Word, Long, Real	Hexadecimal	Sxxx:0-0x7FFFF	R/W
WI	Direct Input Words	Word	Decimal	Sxxx:0-62	RO
WO	Direct Output Words	Word	Decimal	Sxxx:0-62	R/W

Note since the driver maintains a mapping list of Slot designated data it is necessary to rebuild communications blocks after references have been manipulated/deleted. The Rebuild Comms Block utility can be found in the Utilities submenu of Crimson's File menu.



The following items have also been provided for debugging purposes and will contain information received from the latest FP7 error response. Current values can be cleared by a data write.

Prefix	Description	Tag Mapping
LER	Latest Error Request	String of 60 character length
LEC	Latest Error Code	Number in hexadecimal format

FP7 Error Codes definitions are as follows.

Code	Description
0x41	Received command is in the wrong format.
0x42	Received command is unsupported.
0x60	Parameter does not exist or cannot be used.
0x61	Error in data area of request.
0x62	Registration limit exceeded.
0x63	Command cannot be executed in RUN mode.
0x71	Command in process error.
0x81	CRC error.
0x91	Slot access does not exist.

Serial Cable Information

Red Lion RS232 RJ12 Port	FP7 COM Port
Pin 2 - Rx	SD
Pin 5 - Tx	RD
Pin 3 - COMM	SG

Ethernet Cable Information

Standard Ethernet Cable

Revision History

08/16/17 – Created.
12/22/17 – Clarification in Data Access section.
01/05/18 – Modified supported Data Access details.
01/19/18 – Formatting improvements.