Ethernet/IP Setup with Omron PLC

DX-200

Version 1.0

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DOCUMENT REVISION INFORMATION

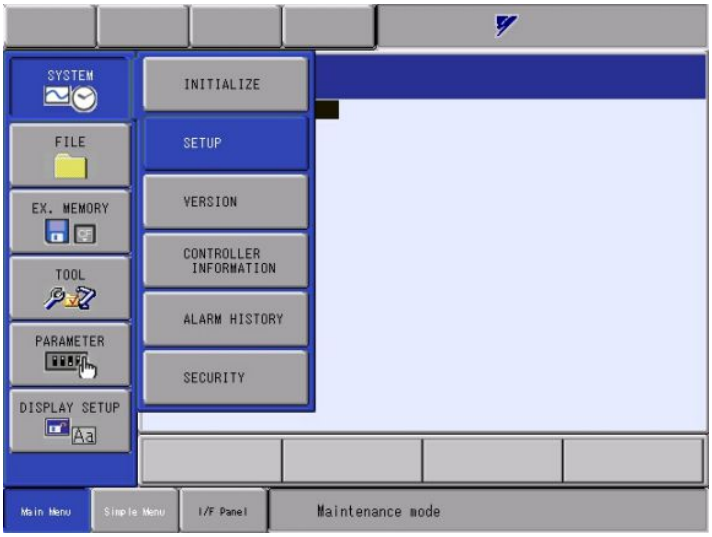
Date	Version Number	Document Changes
11/04/15	1.00	Initial version

TABLE OF CONTENTS

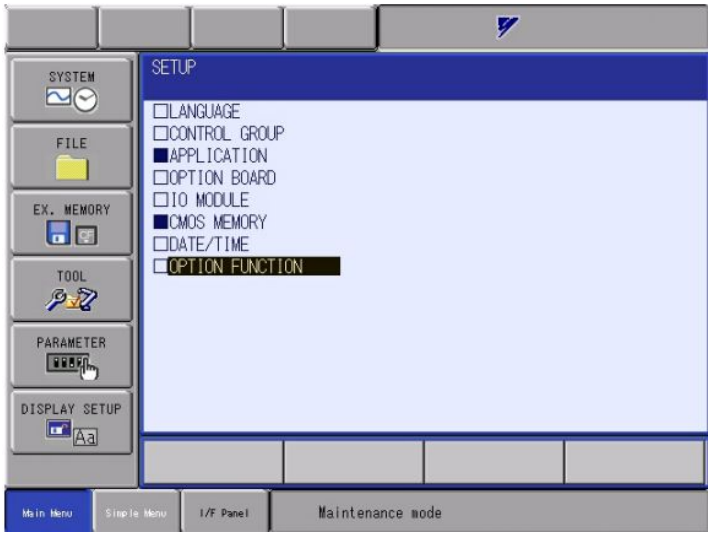
ROBOT SETUP

MAINTENANCE MODE SETUP OF ETHERNET/IP ADAPTER SETTINGS

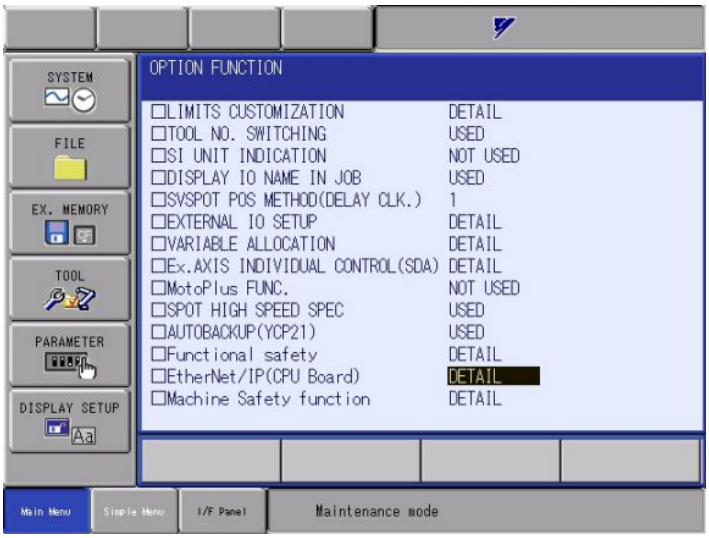
1. Power down and boot the robot up in Maintenance Mode
2. Log into MANANGEMENT or higher security level
3. Select SYSTEM menu and choose the SETUP sub-menu



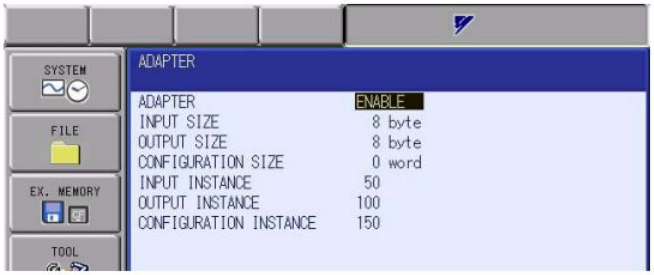
4. Select OPTION FUNCTIONS



5. Searching the list, select ETHERNET/IP CPU BOARD



6. For the default example, we will set the robot's ADAPTER settings as follows

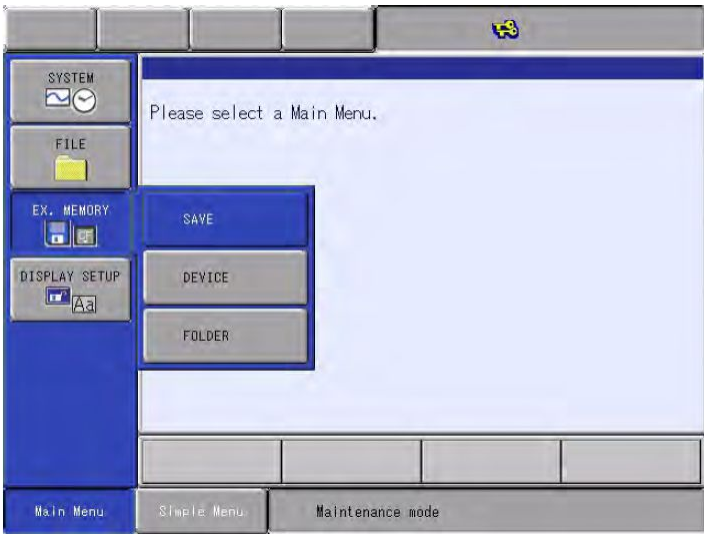


Suggested Default Settings:

- Change ADAPTER from DISABLE to **ENABLE**
- Input size **8 byte**
- Output size **8 byte**
- Configuration size to **0 word**
- Input instance to **50**
- Output instance to **100**
- Configuration instance to **150**

GENERATE THE ROBOT EDS FILE

1. Power down and boot the robot up in Maintenance Mode
2. Log into EDITING mode or higher security level
3. Select EX MEMORY menu



4. Select the SAVE option

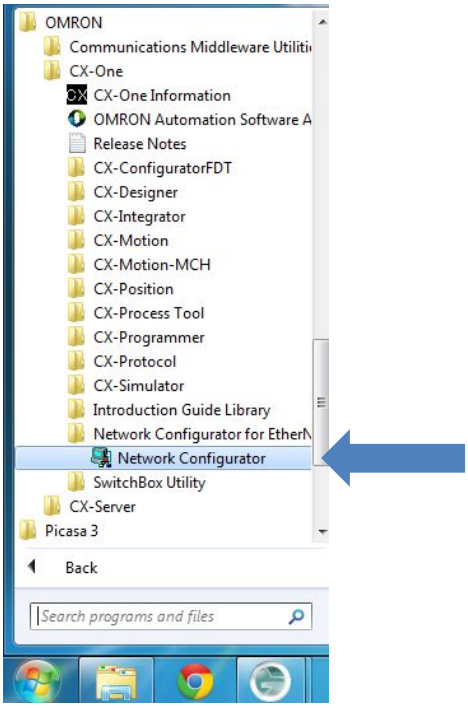
5. Select EDS FILE SAVE from the list of available options

6. Select the Ethernet/IP CPU EDS file and confirm YES when prompted by the dialog box. The EDS file will be saved to either the USB or CF card depending on the currently enabled device.

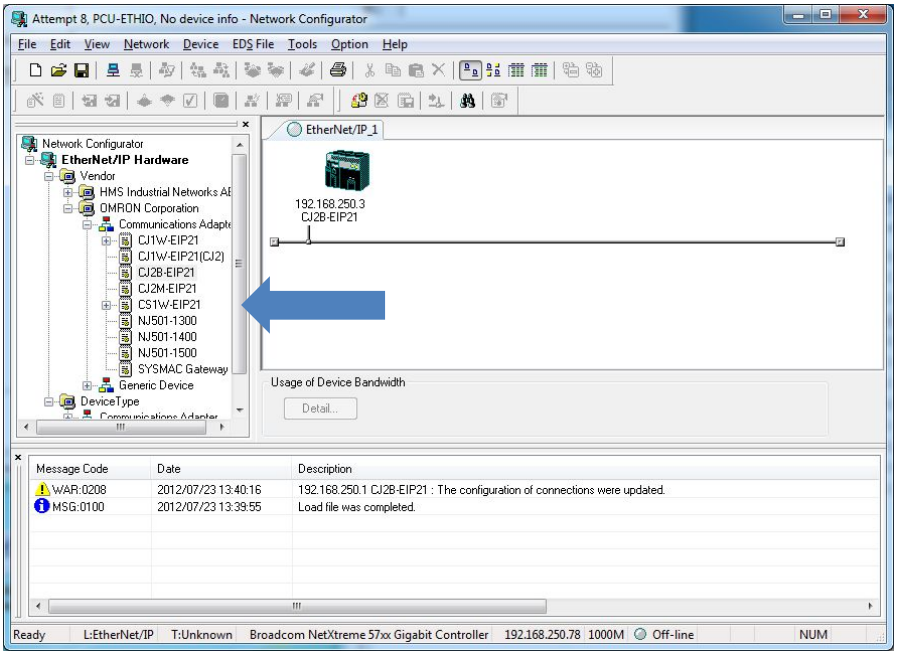
OMRON SETUP

IMPORT EDS FILE

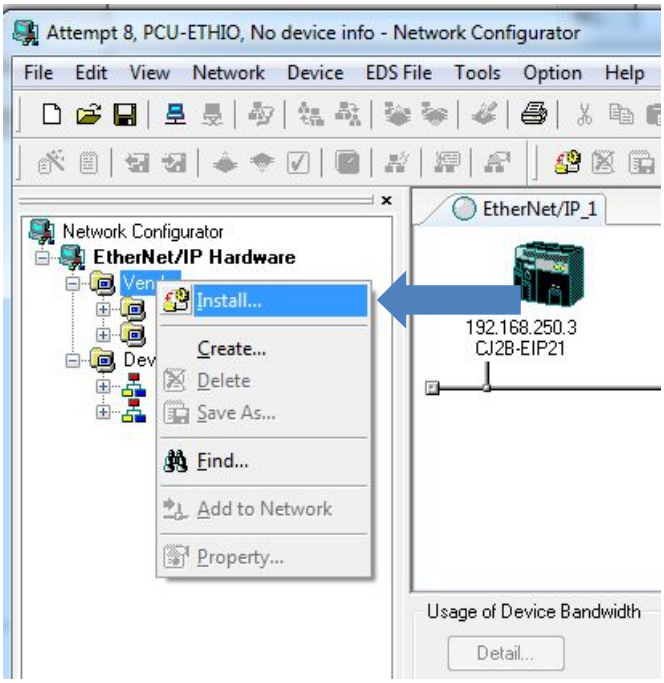
1. Launch the Omron Network Configurator software

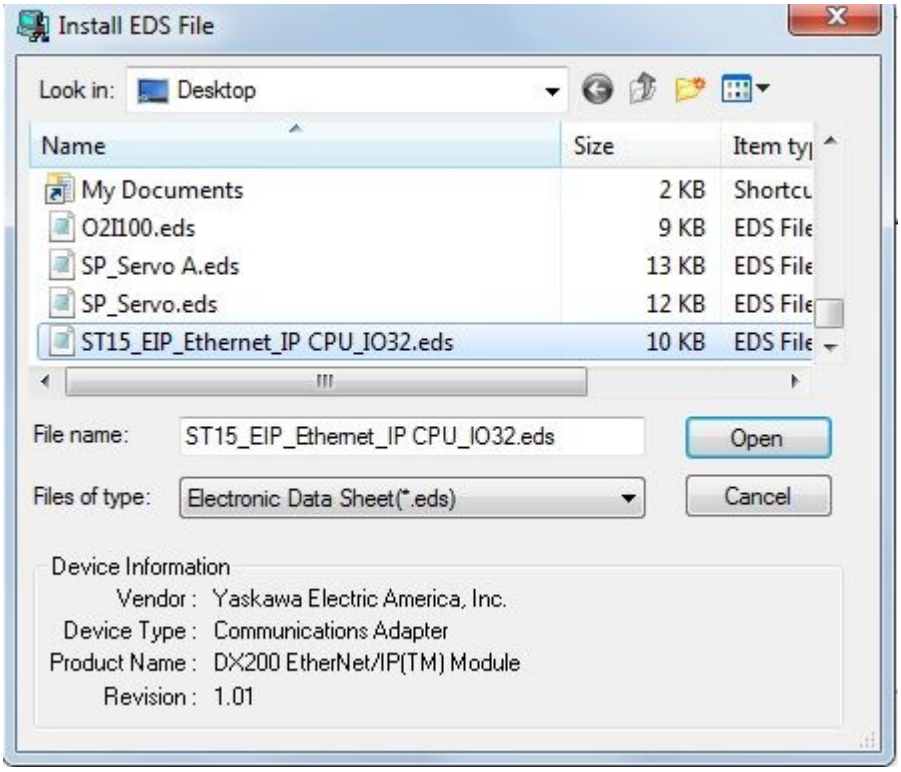


2. Select your PLC from the displayed menu list



3. Install the DX-200 EDS file that was previously saved in section #1
    a. Right click to install the EDS file and select INSTALL

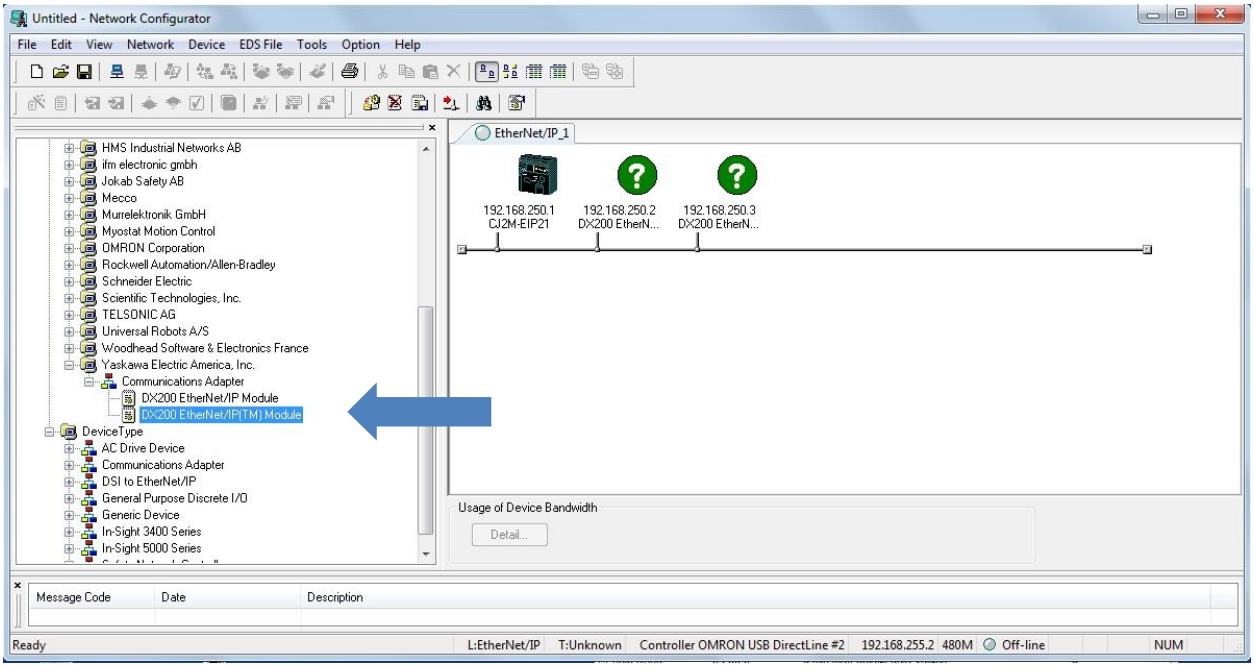



Install EDS File
Look in:
Desktop
Name
Size
Item ty
My Documents
2 KB
Shortcu
O2I100.eds
9 KB
EDS File
SP_Servo A.eds
13 KB
EDS File
SP_Servo.eds
12 KB
EDS File
ST15_EIP_Ethernet_IP CPU_IO32.eds
10 KB
EDS File
File name:
ST15_EIP_Ethernet_IP CPU_IO32.eds
Open
Files of type:
Electronic Data Sheet(*.eds)
Cancel
Device Information
Vendor : Yaskawa Electric America, Inc.
Device Type : Communications Adapter
Product Name : DX200 EtherNet/IP(TM) Module
Revision : 1.01

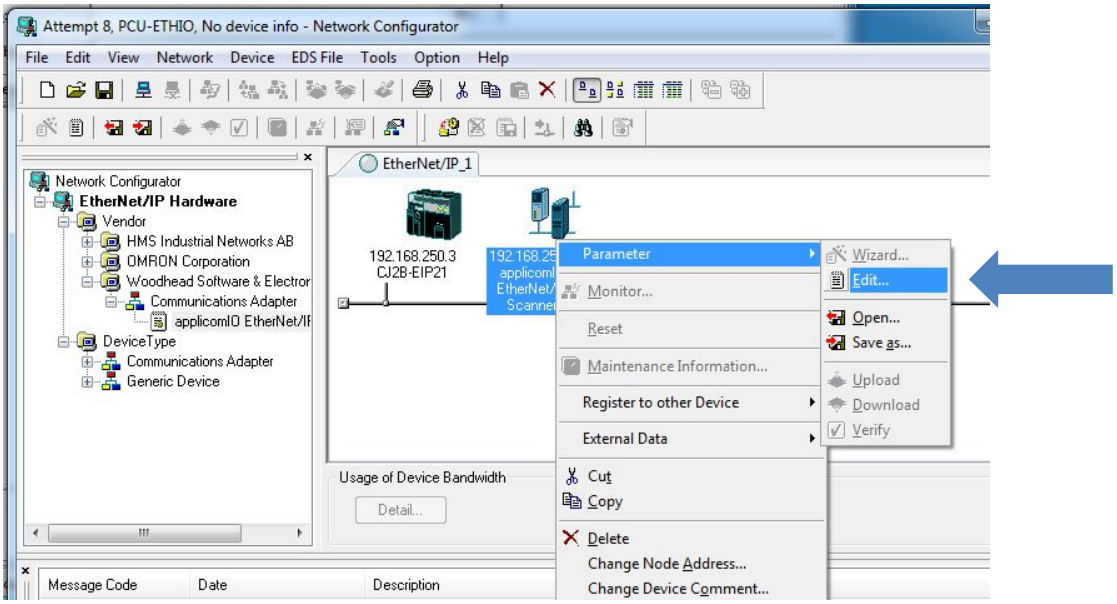
CONFIGURE THE APPLICATION SPECIFIC SETTINGS

The EDS file that you just imported is a generic EDS file for the DX-200 robot controller. It does not contain any specifics to I/O size or instance numbers. They are truly flexible and the only requirement is that both the PLC and robot controller reference the same set of values.

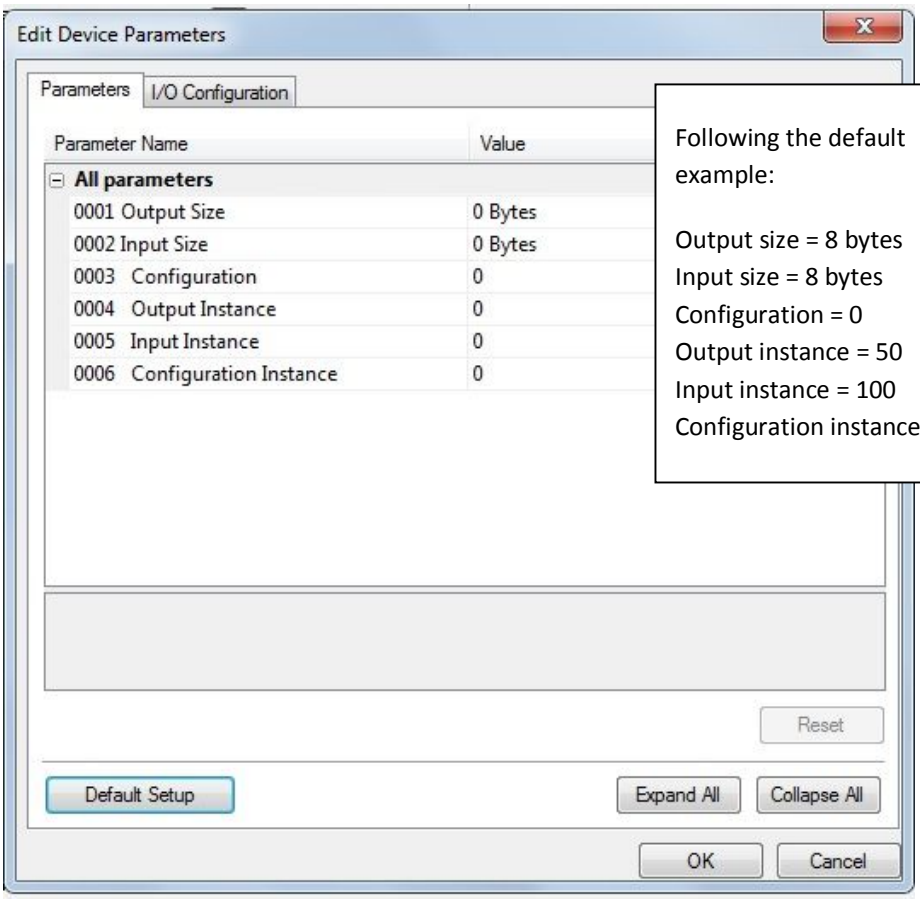
1. Select the DX-200 EDS file that was just imported



2. Edit parameters for the specific installation of your DX-200



3. The settings specified in this screen must match the values specified on the robot teach pendant.



NOTE:

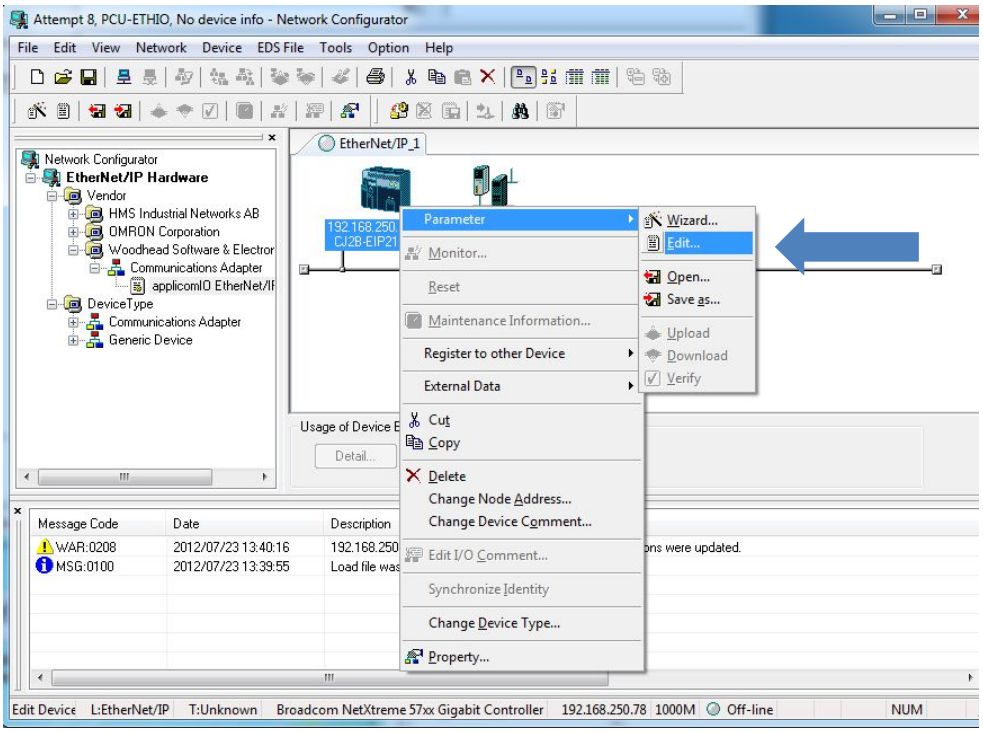
The robot OUTPUT instance = PLC INPUT instance
The robot INPUT instance = PLC OUTPUT instance

NOTE: The initial values on this screen are all set to zero. This has led to customer confusion as they are expecting values to be automatically populated by the EDS file. From what I can determine, they draw comparison to other Ethernet/IP devices such as a valve bank. For these devices, the I/O size is fixed and that is reflected in the EDS file. For example, the valve bank can only ever by 2bytes of I/O.

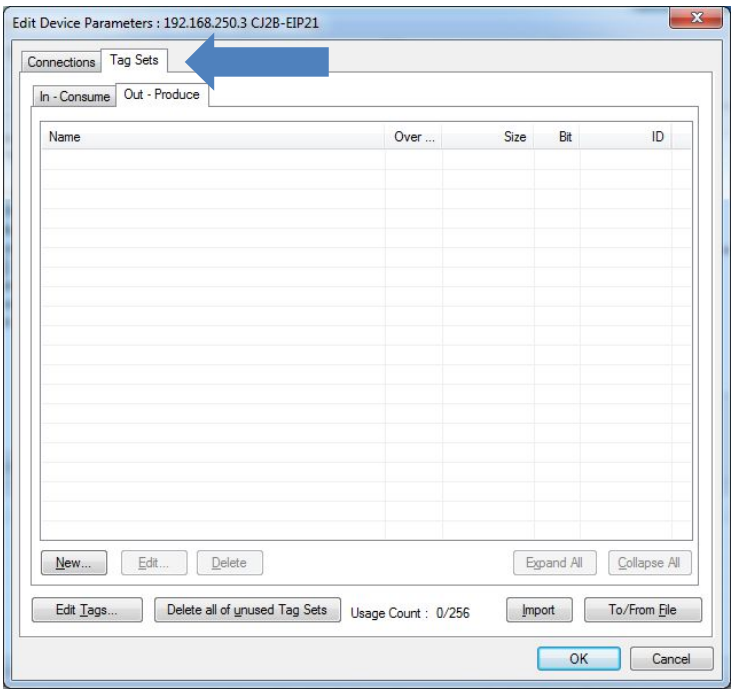
For our robots, the I/O size is variable and therefore must be manually specified in the PLC screen to match the robot.

EDIT PARAMETERS FOR THE OMRON PLC

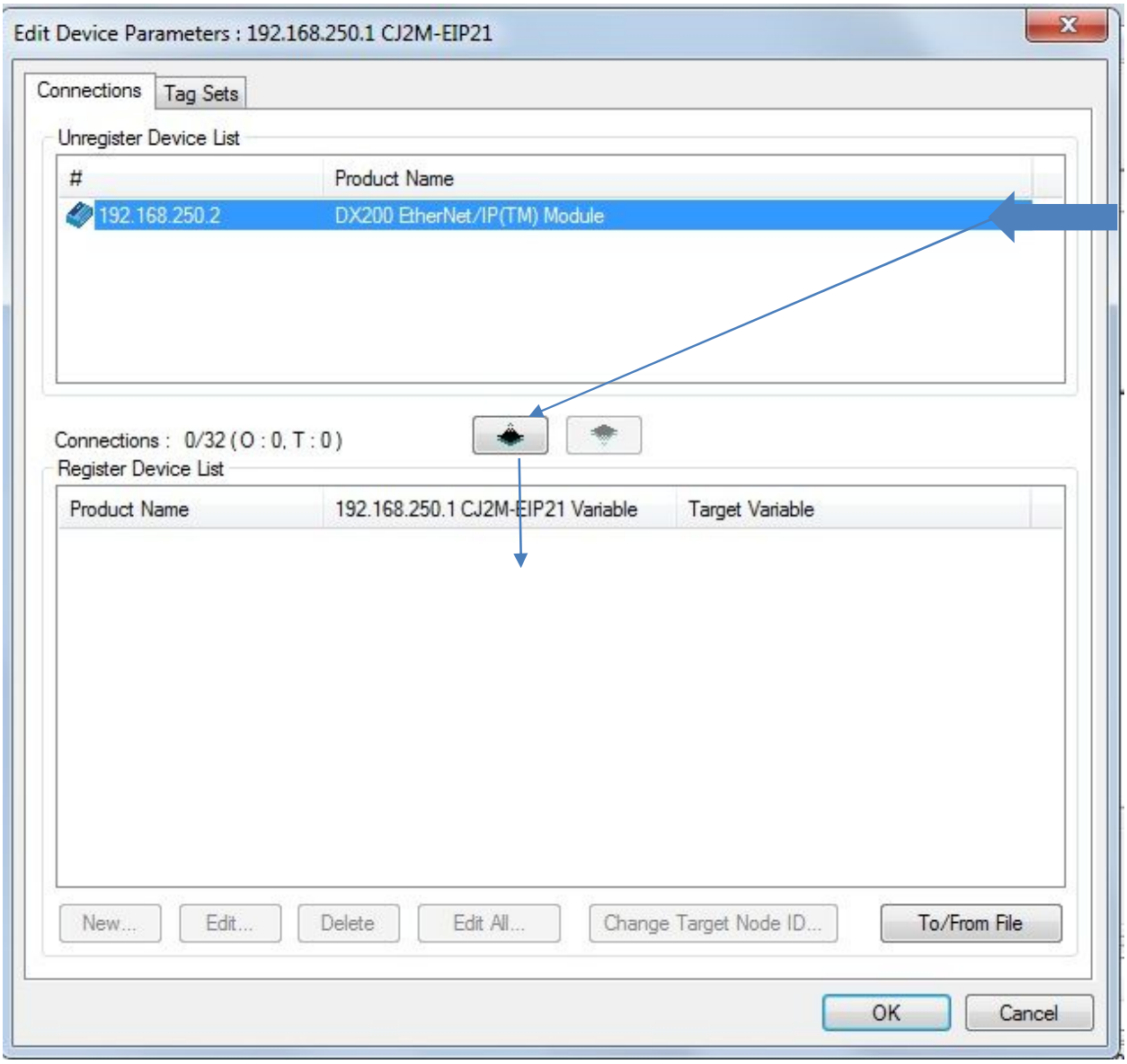
1. Select the PLC, right click and under the Parameter tab, select EDIT



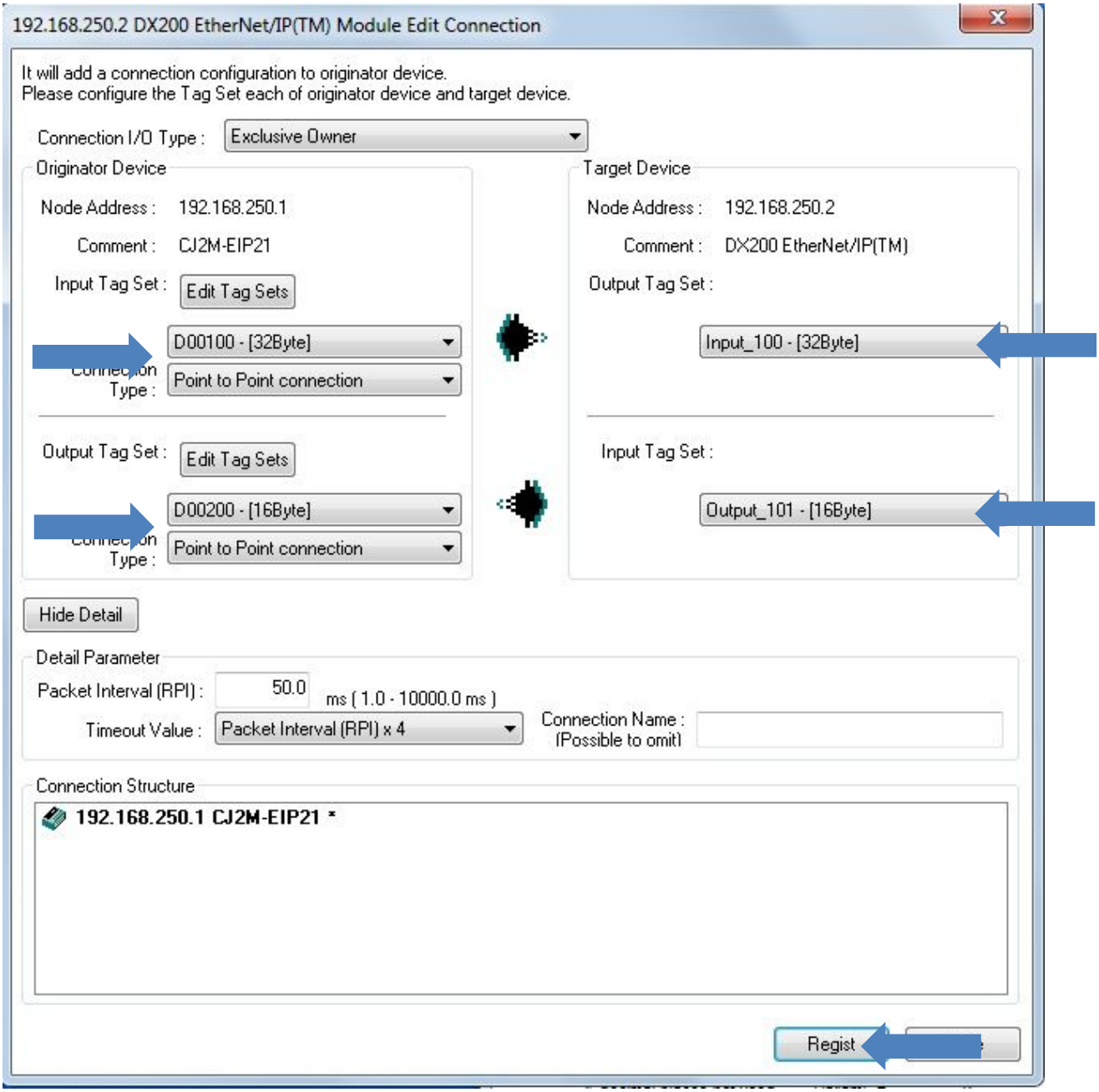
2. Select the tab called “Tag Sets”
    a. Follow Omron instructions for setting up tag sets and mapping to PLC addresses



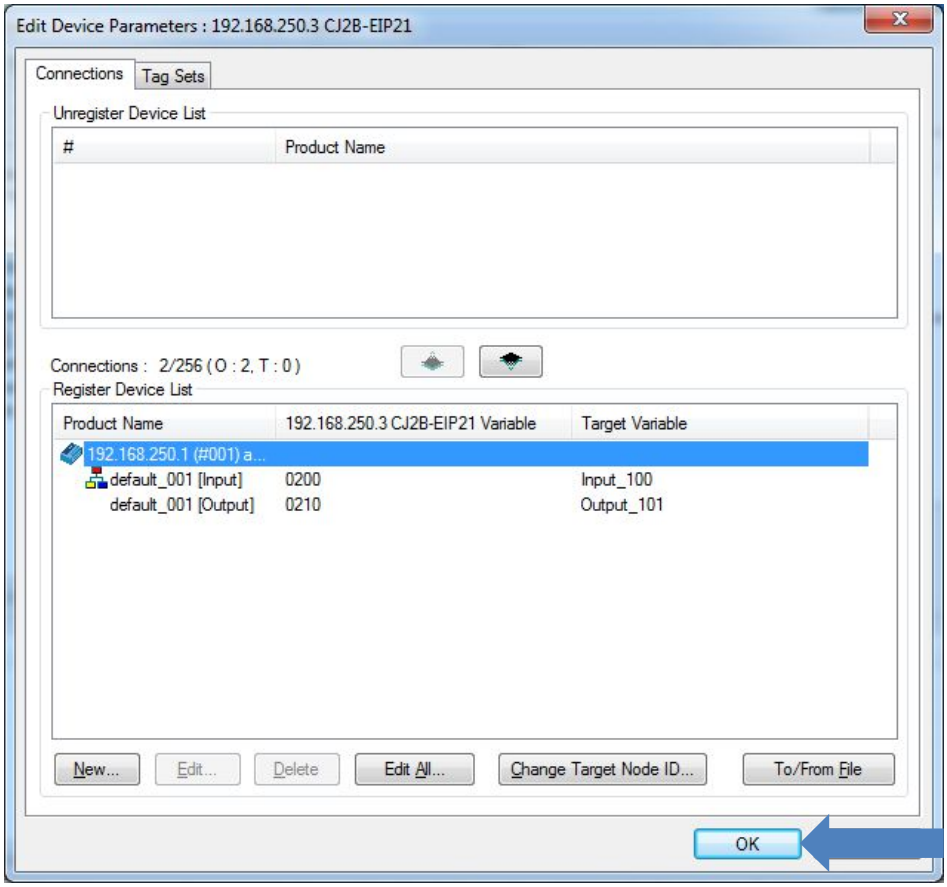
3. Select the tab called CONNECTIONS
    a. Select the Yaskawa card from the unregistered device list and add it to the connections list



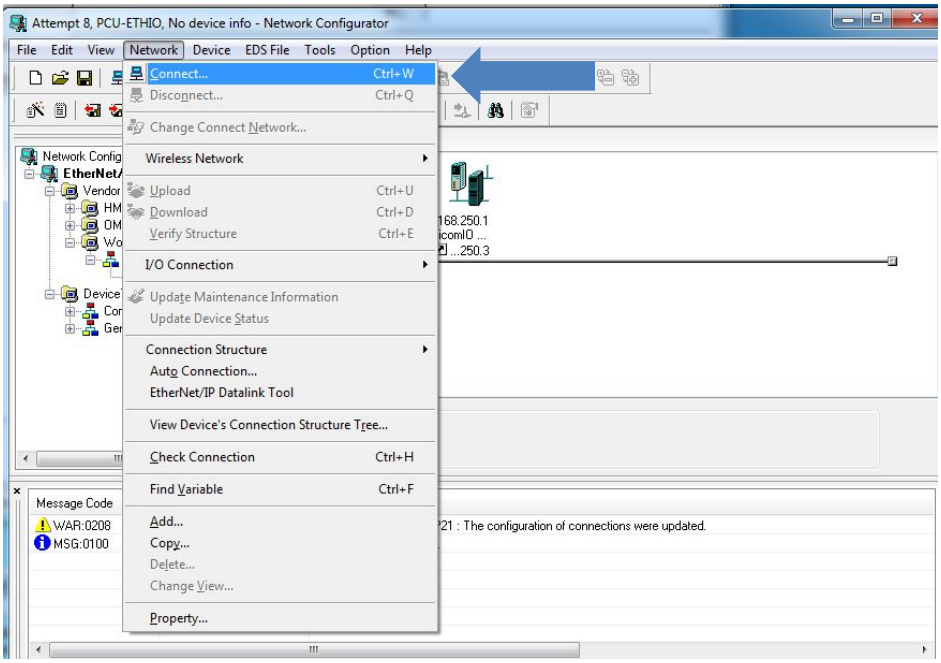
4. Double click the Yaskawa Ethernet/IP card in the connection list to edit the connection and configure its parameters
    a. Ensure that CONNECTION TYPE is set to POINT TO POINT CONNECTION

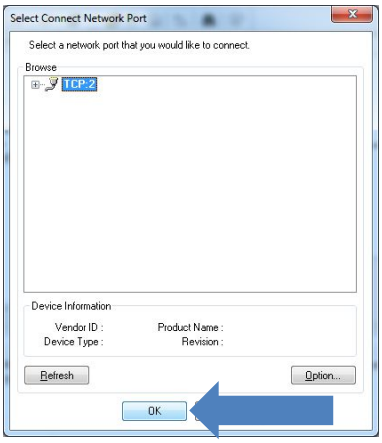


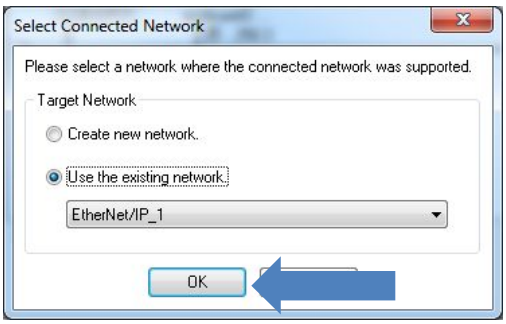
5. Once completed, close the Edit Device Parameter dialog box

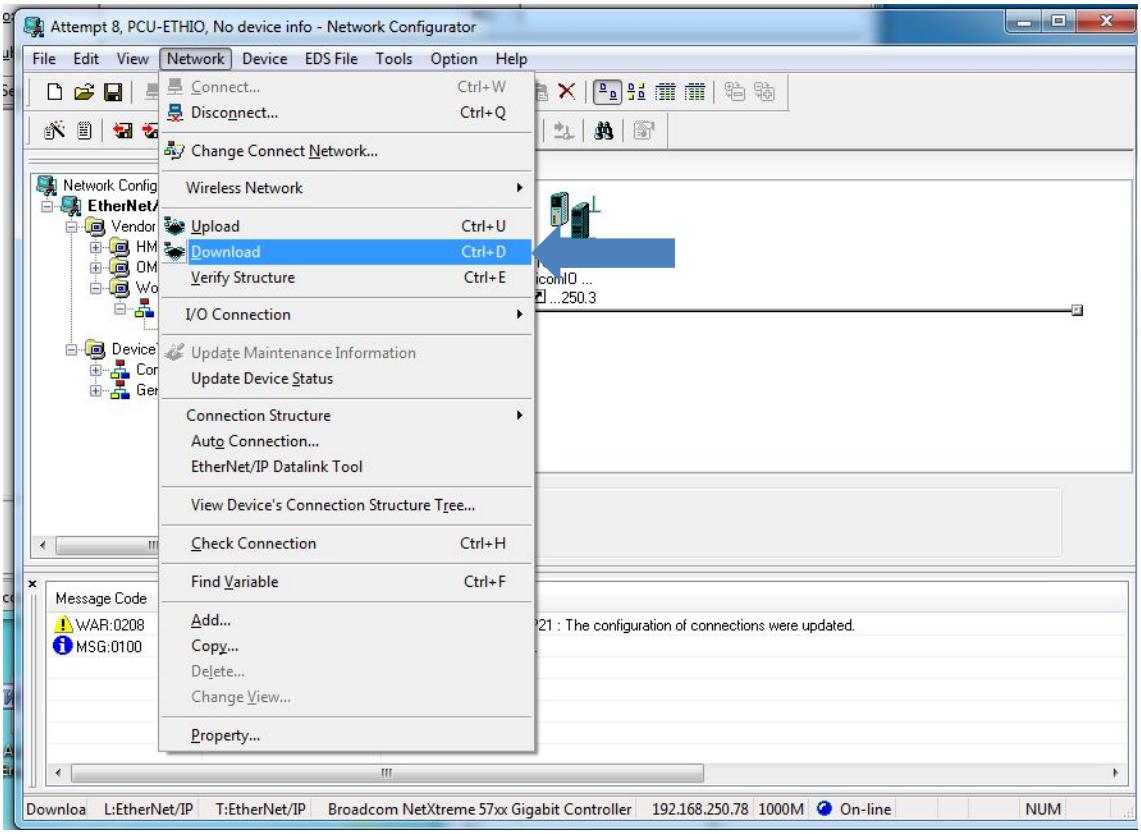


DOWNLOAD AND TEST CONNECTION








Attempt 8, PCU-ETHIO, No device info - Network Configurator
File Edit View Network Device EDS File Tools Option Help
Connect... Ctrl+W
Disconnect... Ctrl+Q
Change Connect Network...
Wireless Network
Upload Ctrl+U
Download Ctrl+D
Verify Structure Ctrl+E
I/O Connection
Update Maintenance Information
Update Device Status
Connection Structure
Auto Connection...
EtherNet/IP Datalink Tool
View Device's Connection Structure Tree...
Check Connection Ctrl+H
Find Variable Ctrl+F
Add...
Copy...
Delete...
Change View...
Property...
Message Code
WAR:0208
MSG:0100
21 : The configuration of connections were updated.
Downloa L:EtherNet/IP T:EtherNet/IP Broadcom NetXtreme 57xx Gigabit Controller 192.168.250.78 1000M On-line NUM