

# NXR-ILM08C-EIT

## Ethernet/IP configuration startup guide

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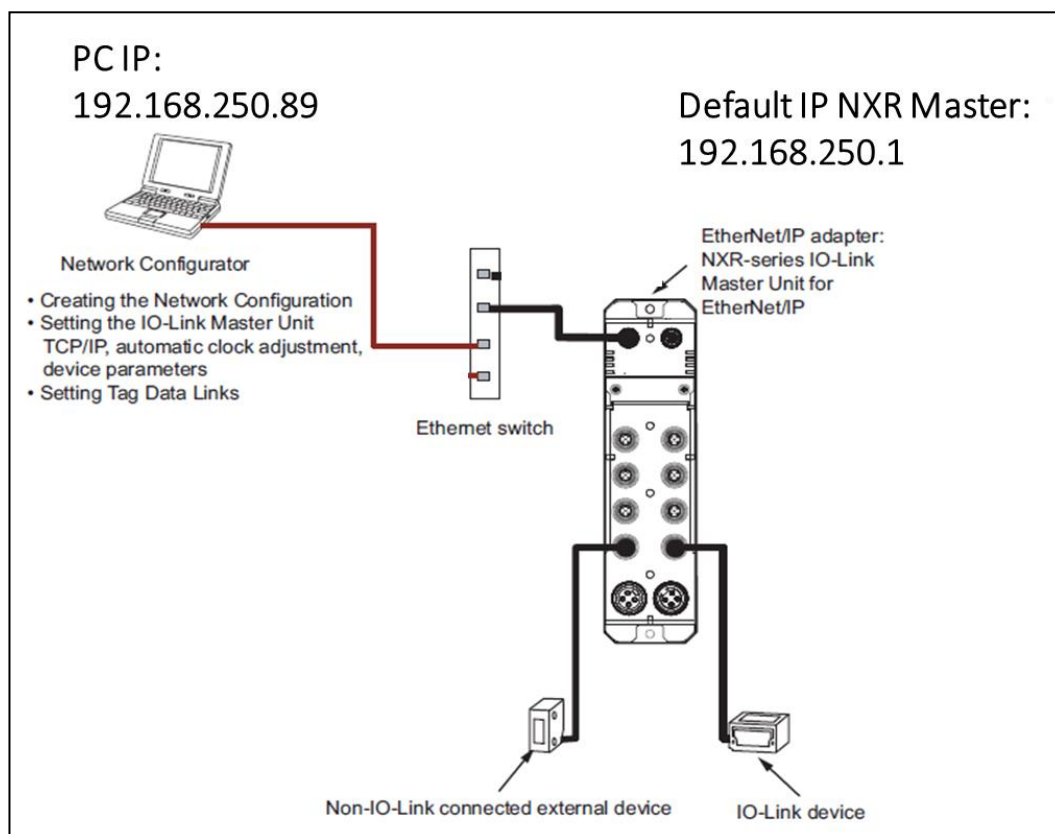
### Disclaims

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## 1 Connect to NXR-ILM08C-EIT IO-Link master device

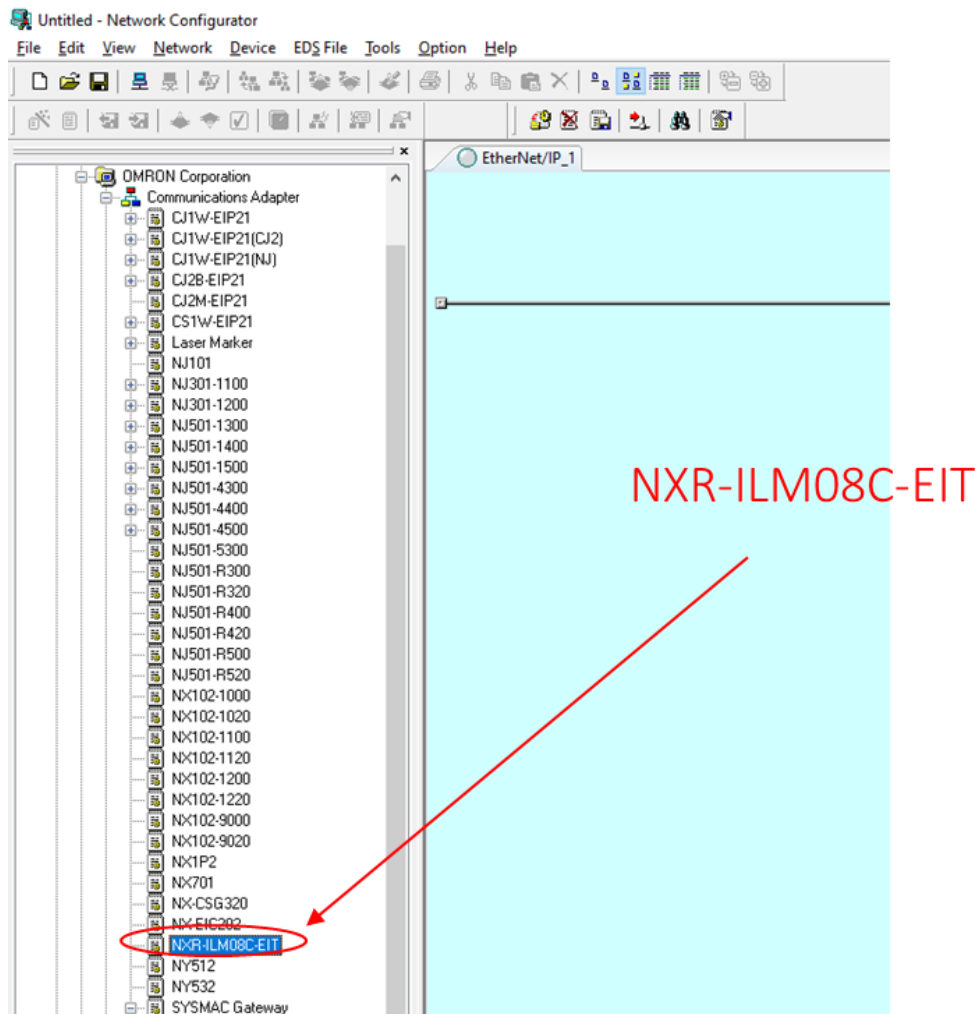


The default NXR IO-Link Master IP address is 192.168.250.1

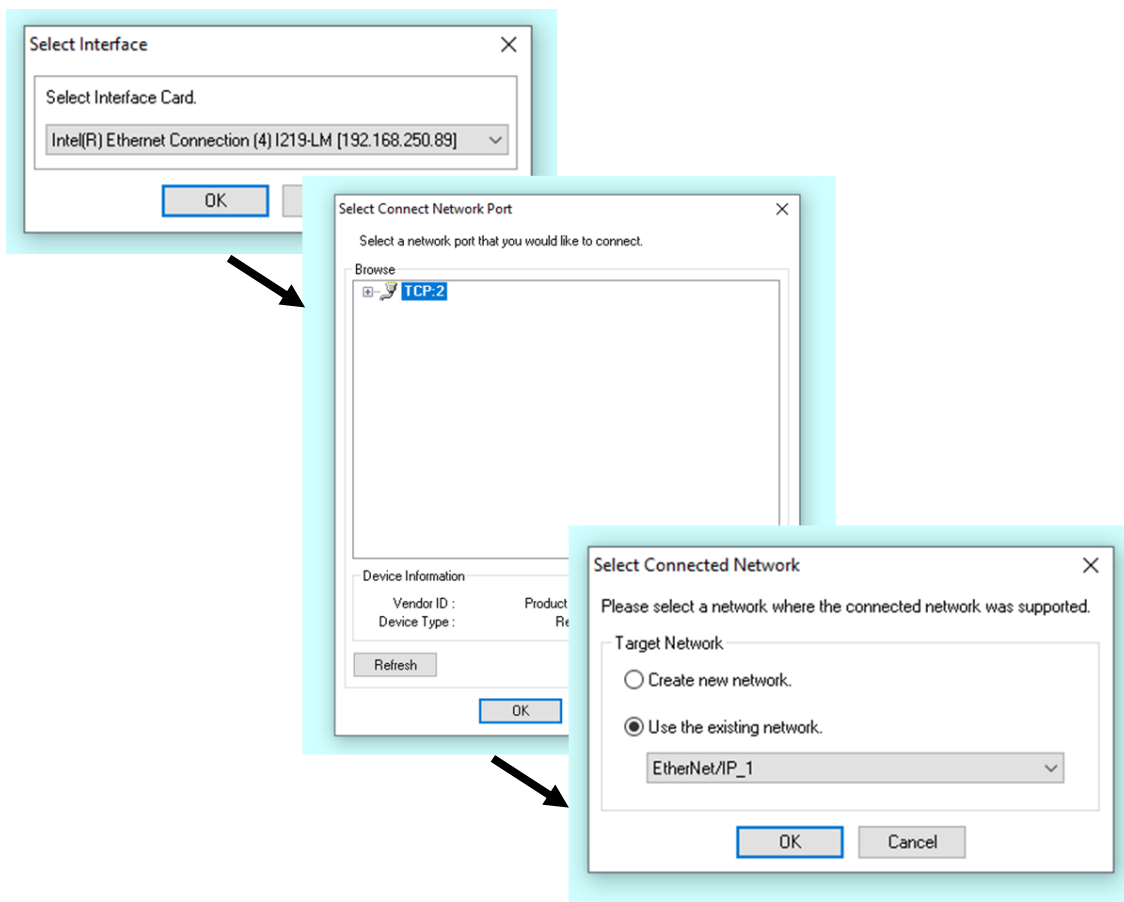
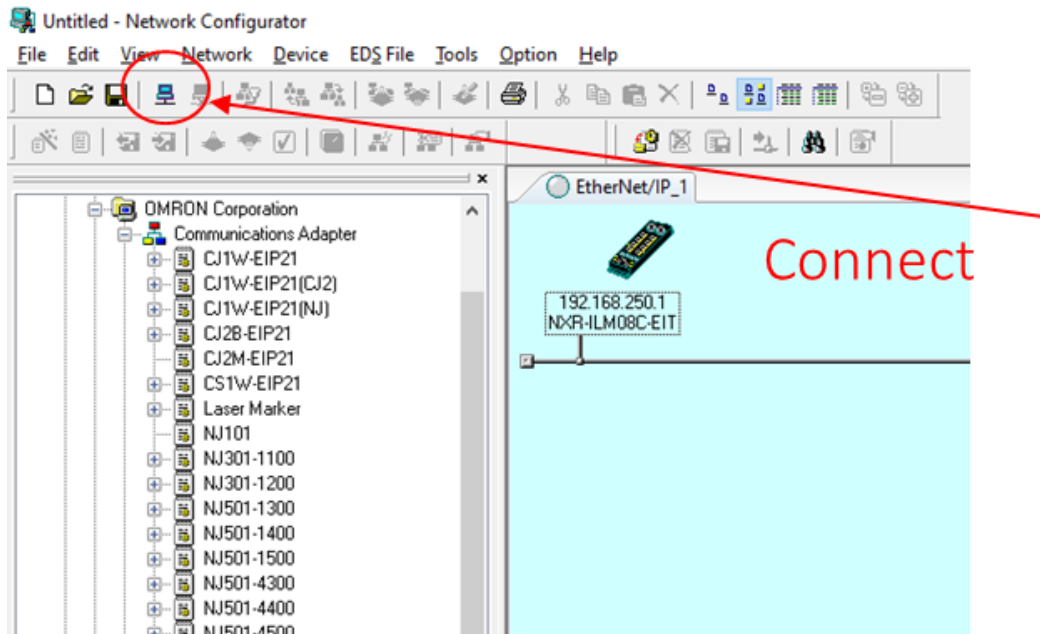
To change NXR IP address proceed with the following steps:

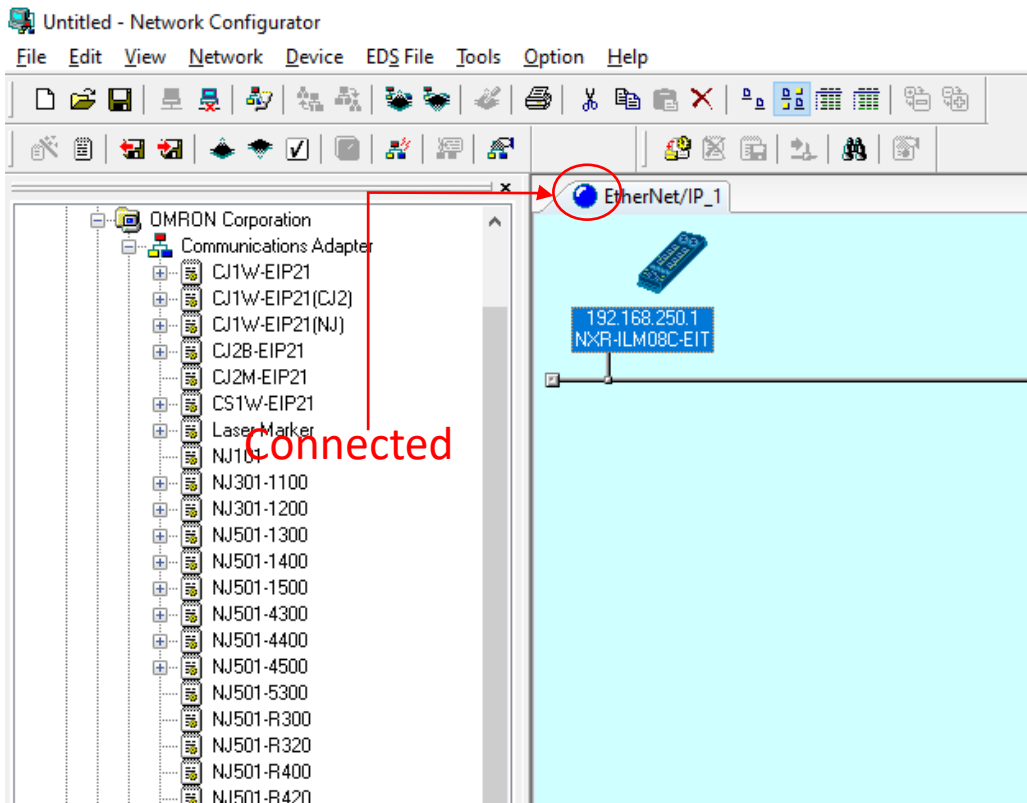
- Set the **PC** IP address in the same network of NXR ILM device [192.168.250.xxx].

- Run **Omron Network Configurator** tool to configure the Ethernet/IP network.
- Add **NXR-ILM08C-EIT** device.

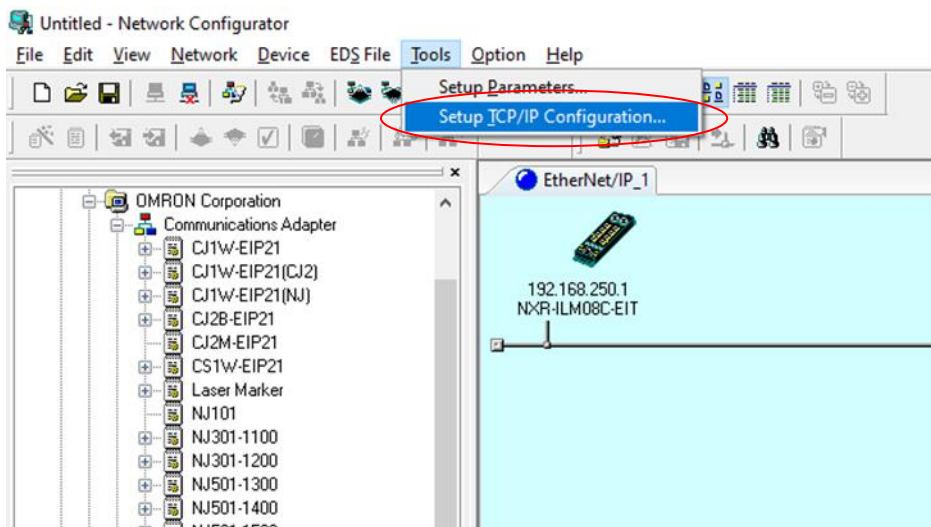


- **Connect** to the network (NXR -ILM08C-EIC device)

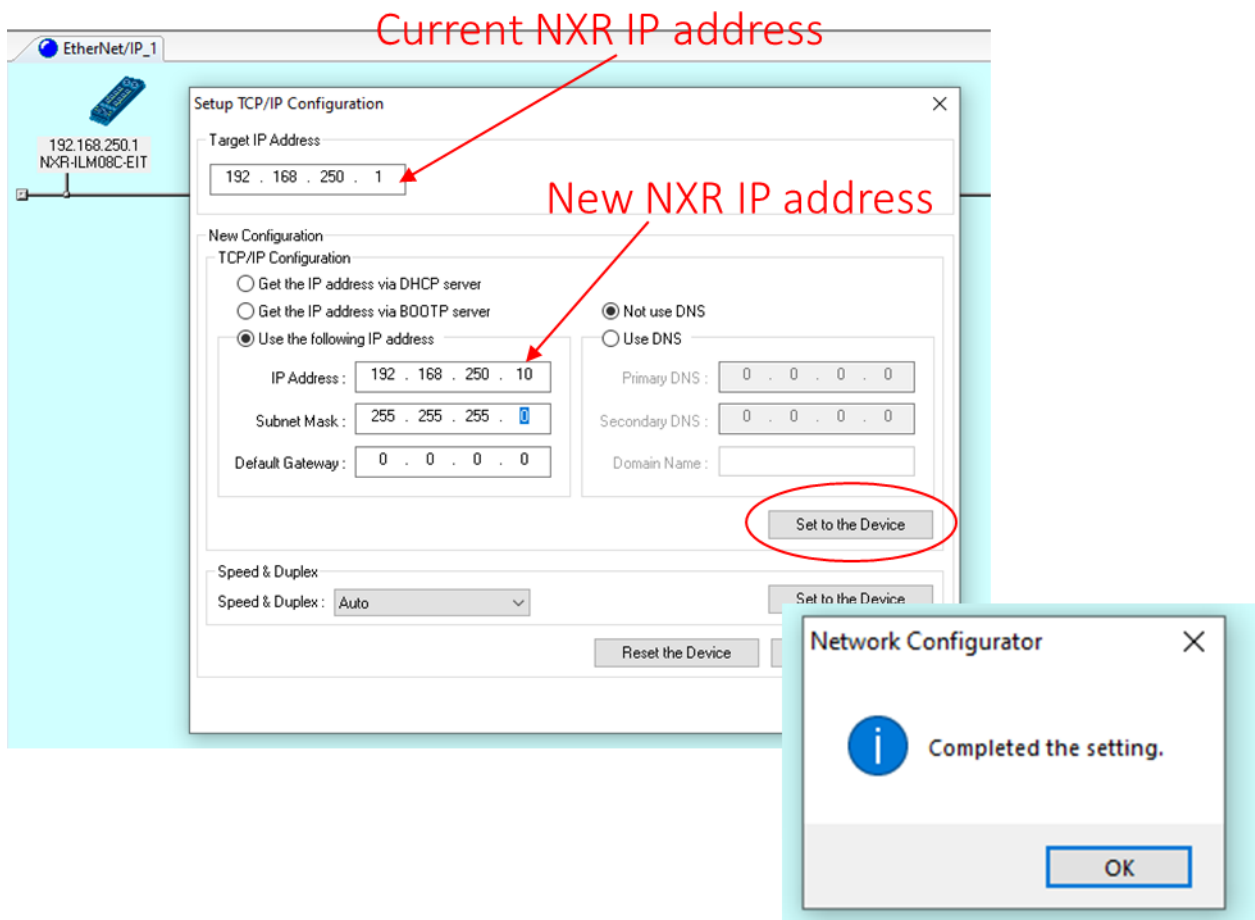




- **Tools** menu -> **Setup TCP/IP Configuration**

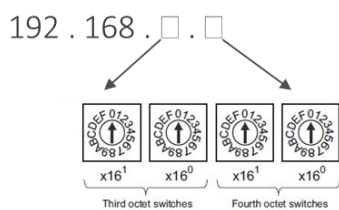


- Change the device NXR -ILM08C-EIC IP address (if needed)



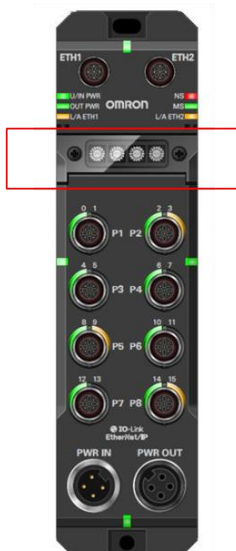
**ATTENTION:**

NXR rotary switch setup for changing IP address via Network Configurator.

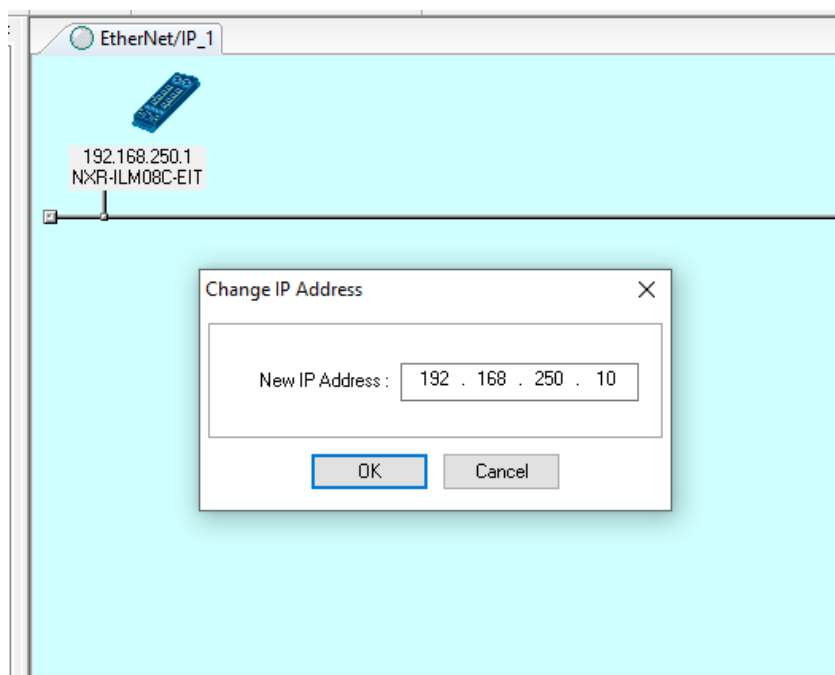
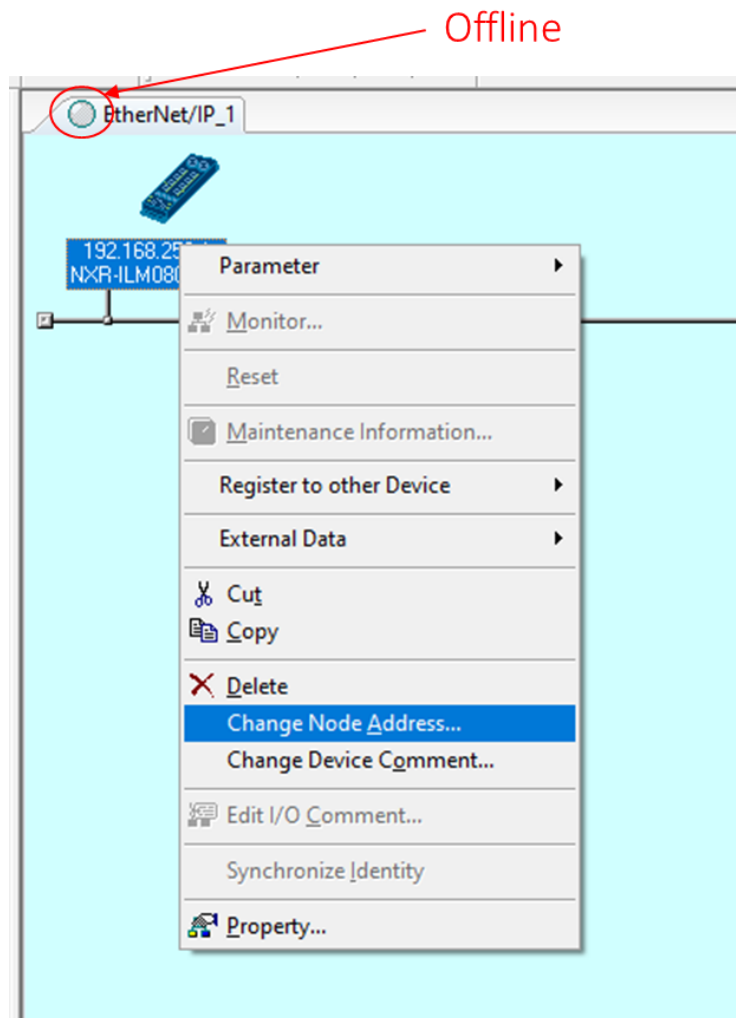


**Rotary switches**

Set value (hex)		Setting method
Third octet	Fourth octet	
00 to FF	00	Directly set the IP address with the Network Configurator.

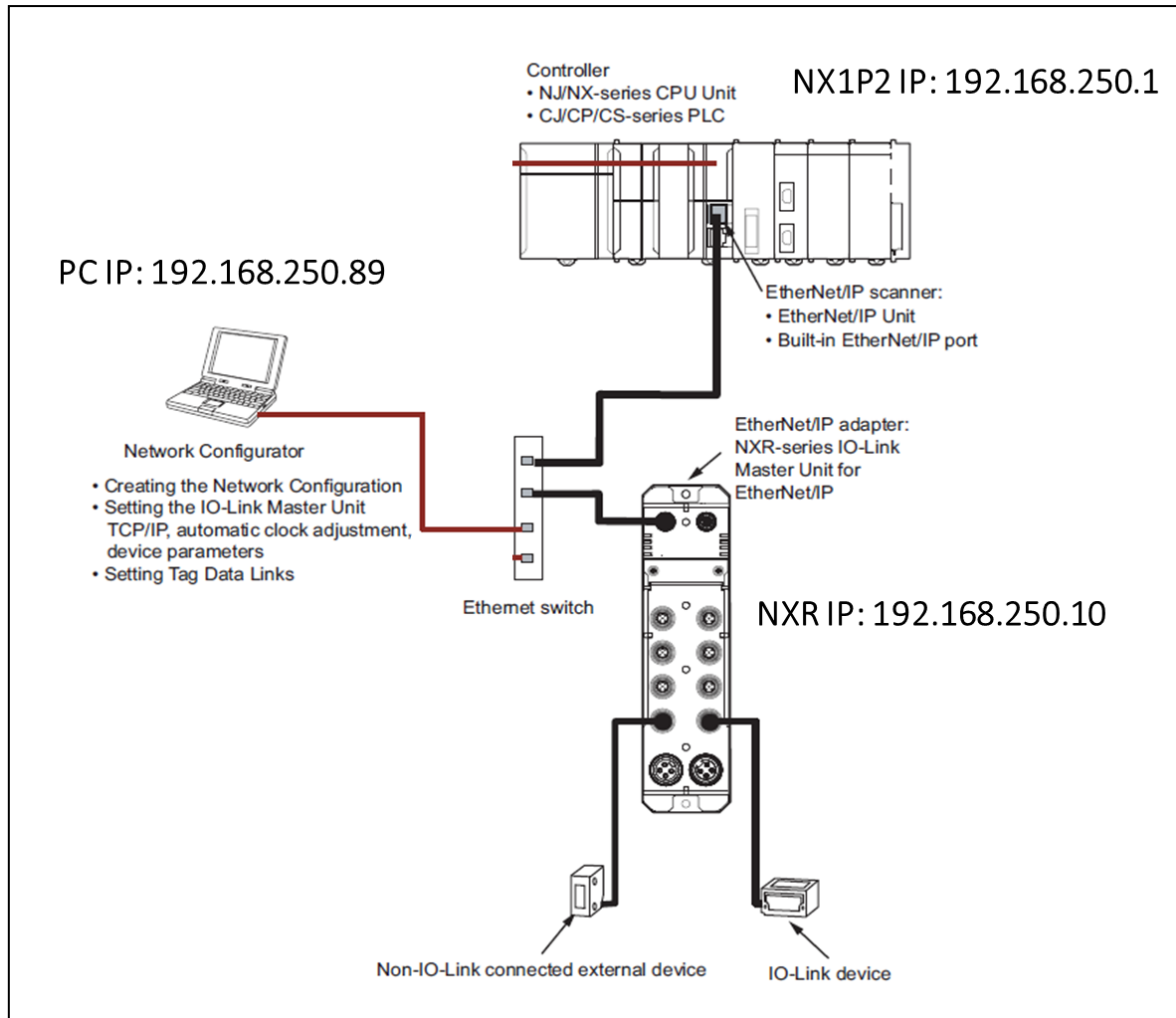


- After setting the new IP address It is necessary to **update the node address** in the network layout.



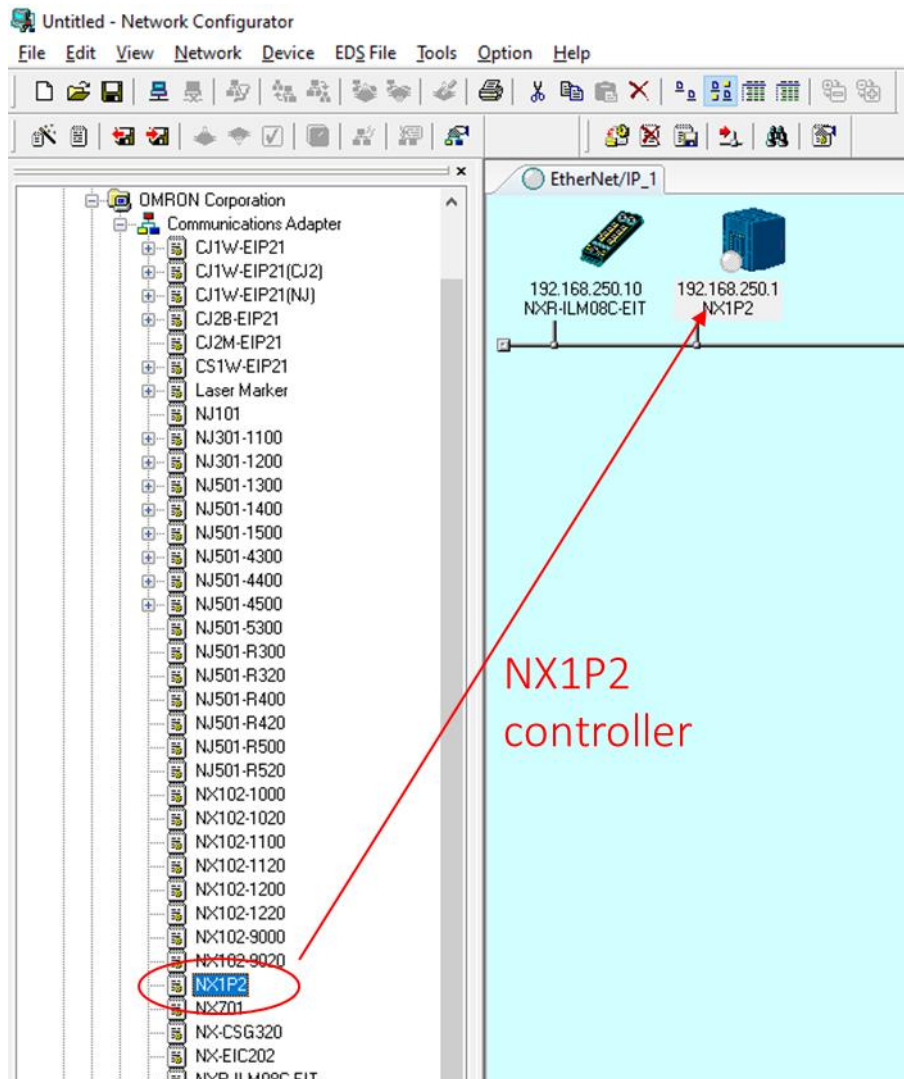
## 2 EtherNet/IP tag data link communication setup

Considering the following network layout:



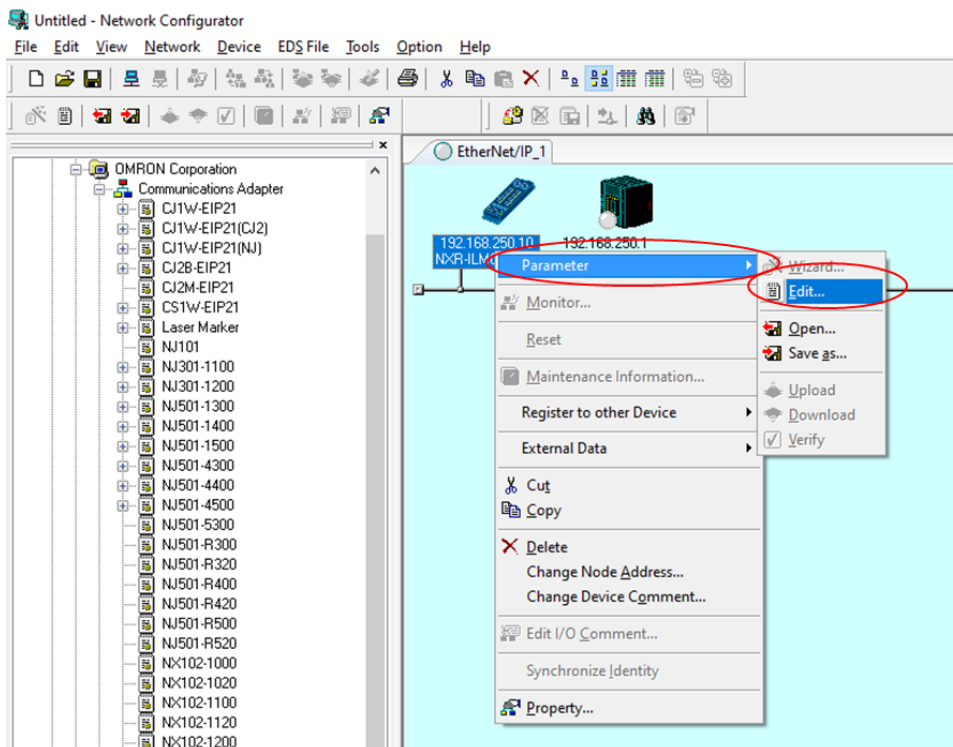


- Add Ethernet/IP master (scanner) **Omron Controller NX1P2** to the Network.

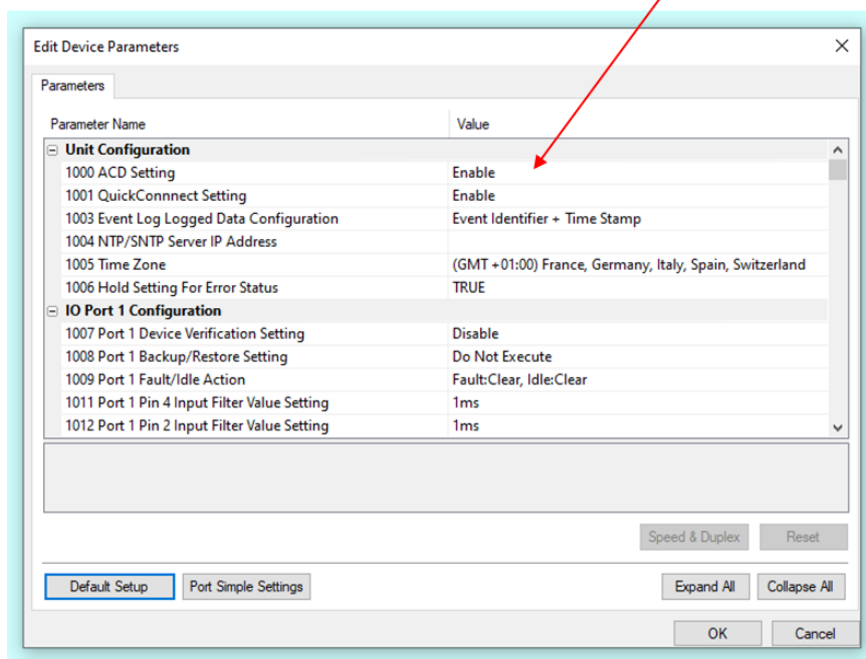


Change the NX1P2 IP address as shown before (or via Sysmac Studio).

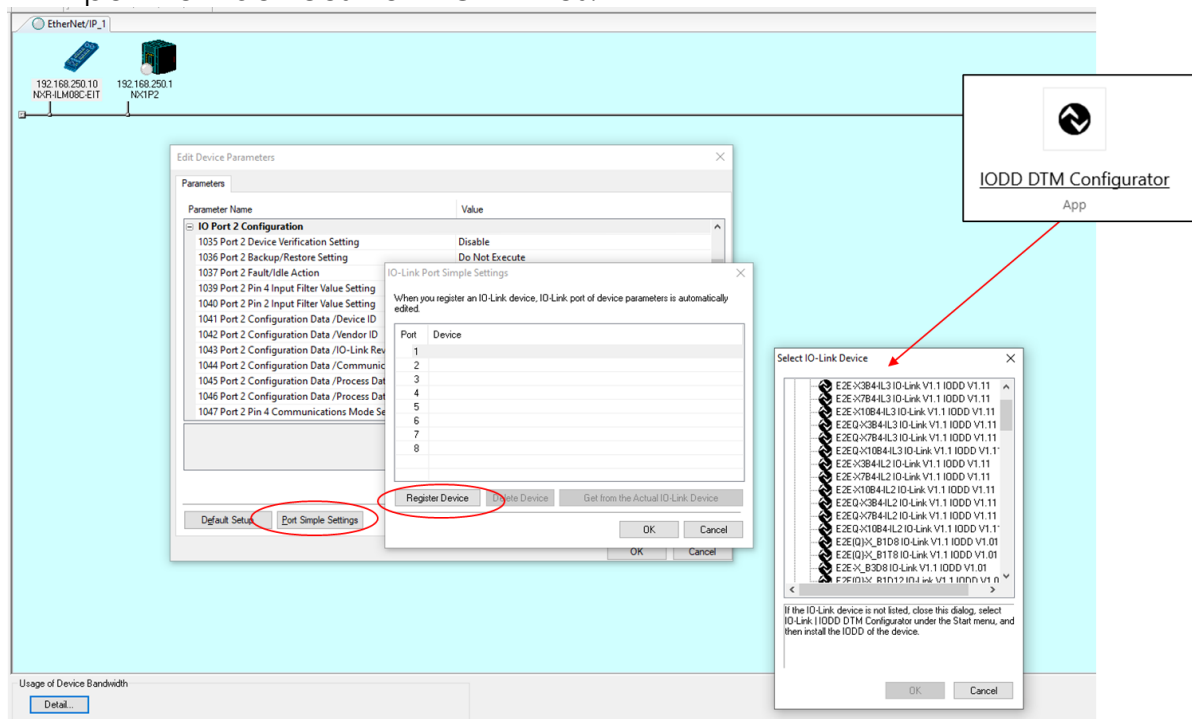
- **Configure** the NXR IO-Link Master device [according to your application]



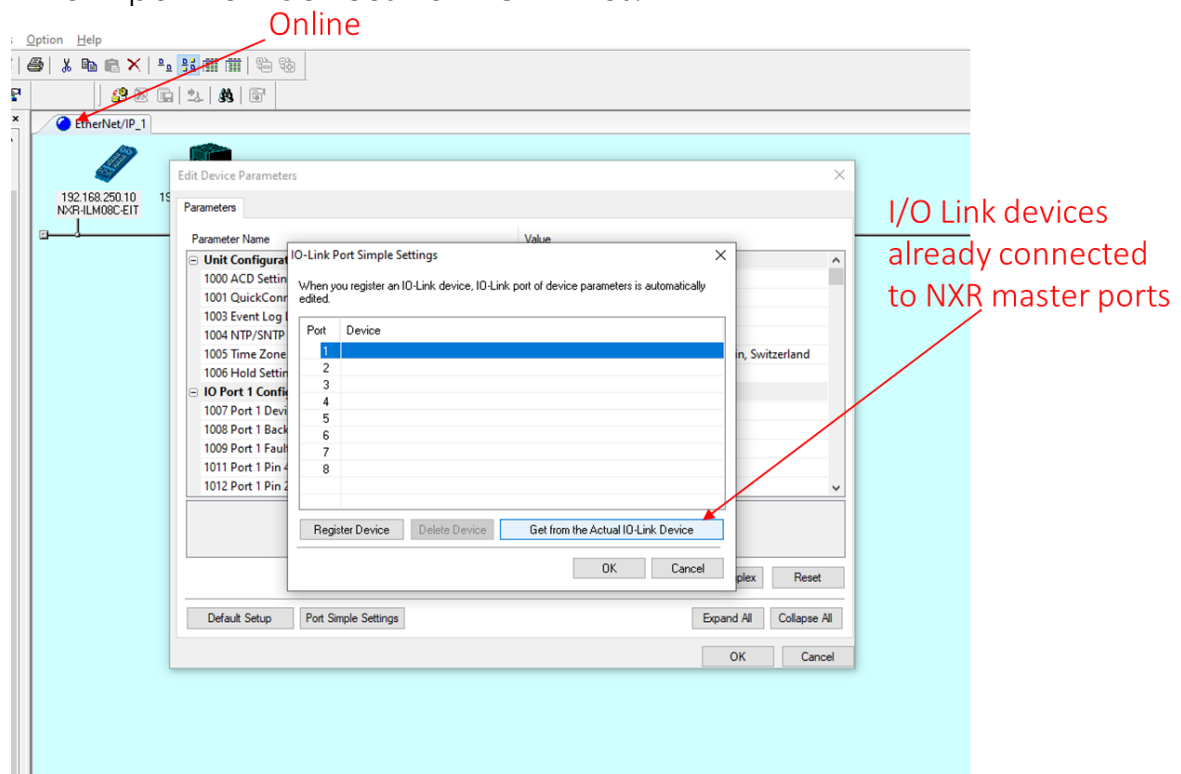
Device and ports configuration



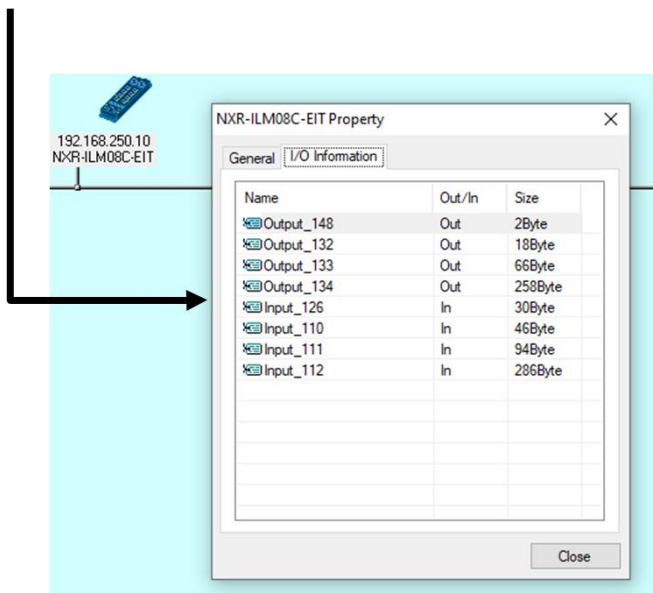
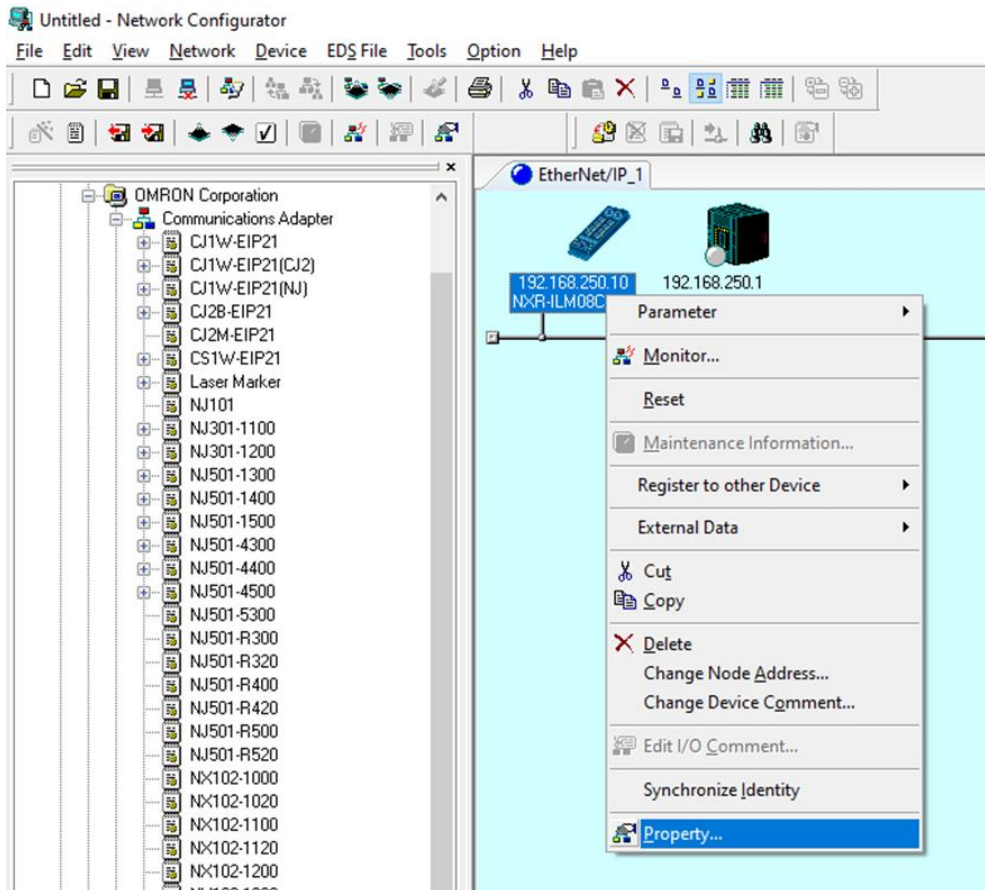
- Configure NXR master ports: [**Manual** config]  
Select IO-Link devices from the list. Use IODD DTM Configuration tools to import new devices from IODD files.



- Configure NXR master ports: [**Automatic** config]  
Get devices port set-up from current devices installation (online)  
If IO-Link devices are not recognized, use IODD DTM Configuration tools to import new devices from IODD files.



- See the list of NXR IO-Link master Input/Output tag set :



Connection I/O type	Output Tag Set		Input Tag Set	
	Input Assembly Instance Number	Data size [bytes]	Output Assembly Instance Number	Data size [bytes]
EO Digital I/O with Status	126	30	148	2
EO Digital I/O, IO-Link 2 byte with Status	110	46	132	18
EO Digital I/O, IO-Link 8 byte with Status	111	94	133	66
EO Digital I/O, IO-Link 32 byte with Status	112	286	134	258

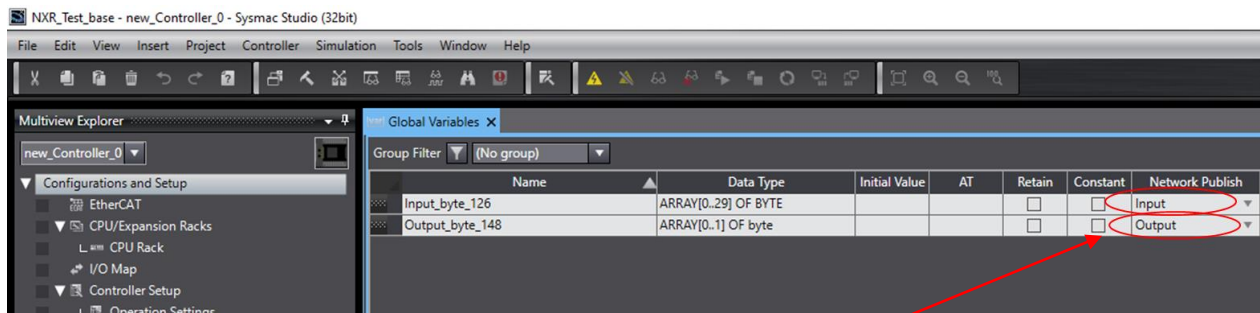
For more details about data mapping:

[W619-E1-02IO-Link Master Unit \(NXR-ILM \) for EIP User's Manual](#)

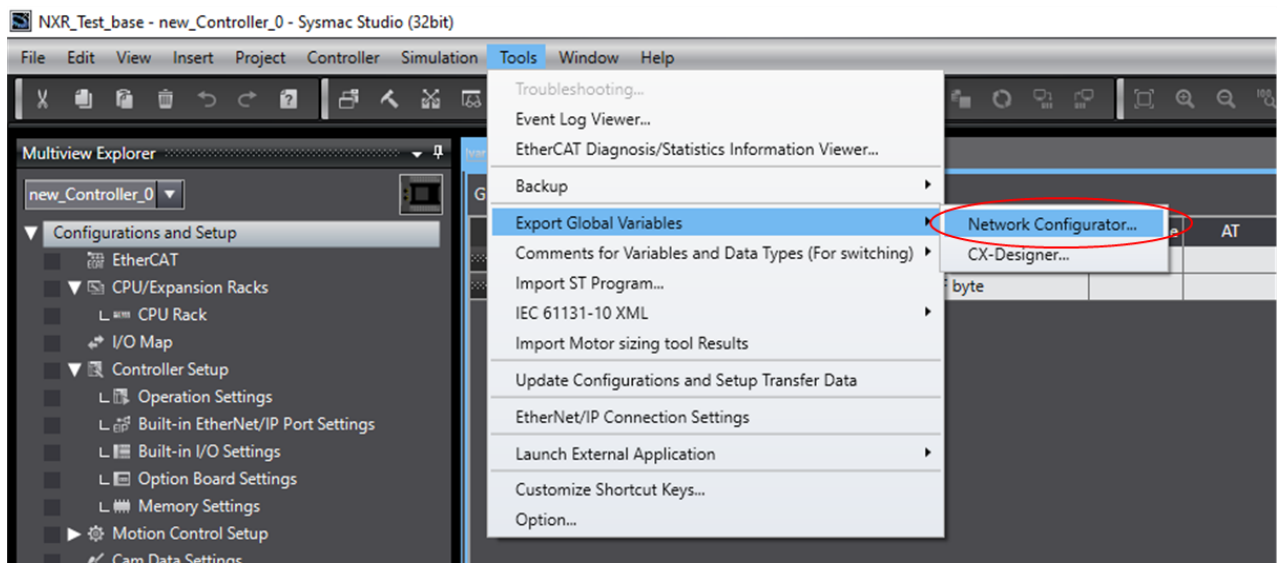
- Configure controller NX1P2 :

Read from NXR IO-Link master -> **Input\_126**  
 Write to NXR IO-Link master -> **Output\_148**

From Sysmac Studio creates the tag set input and output variables.

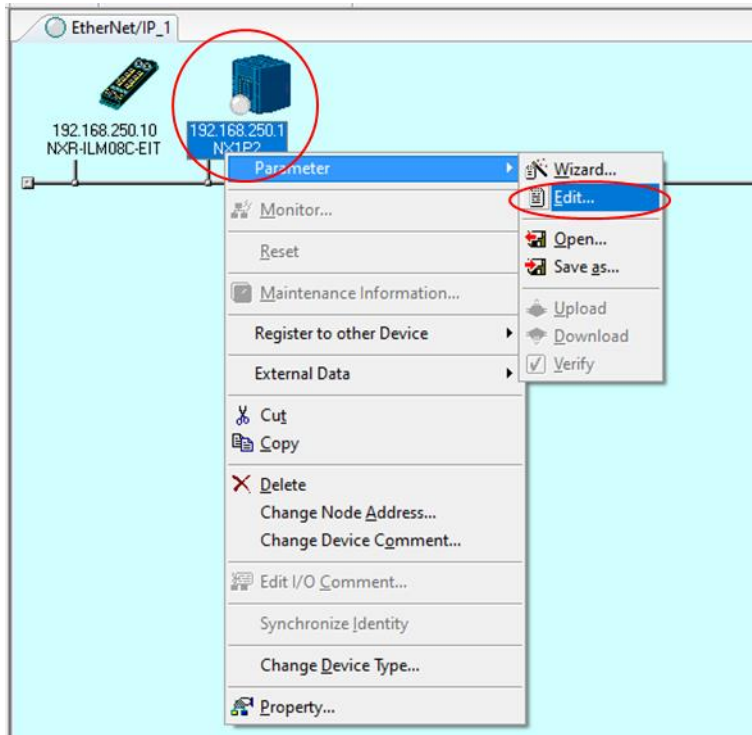


Export Global variable for Network Configuration and save the .csv config file.

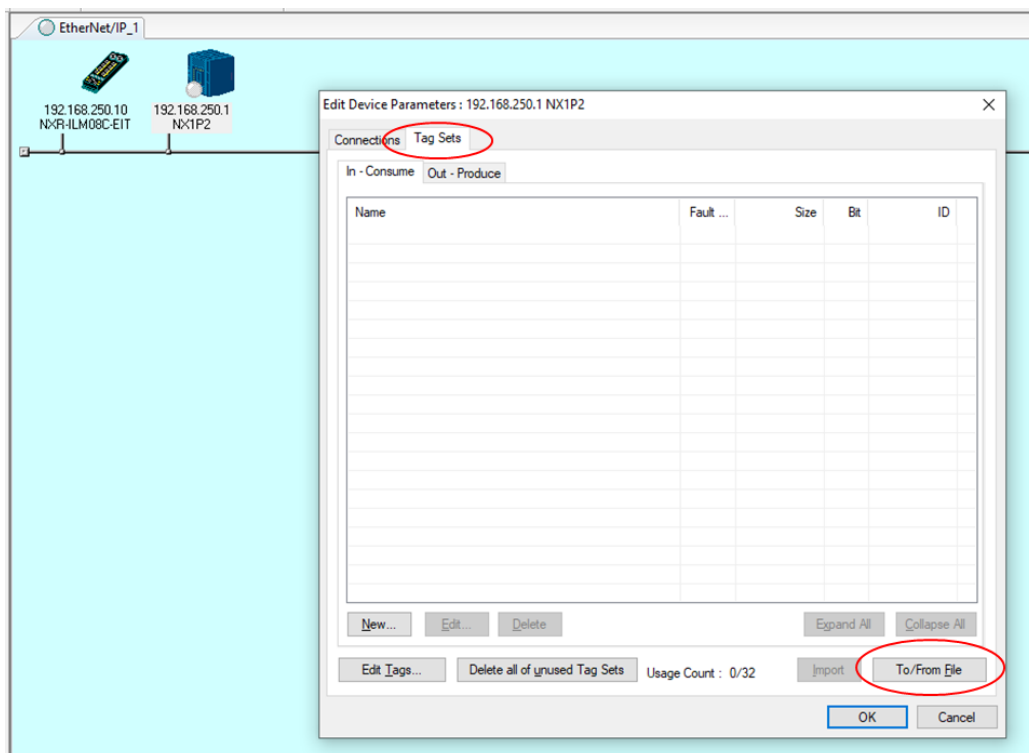


Download the NX1P2 controller user program with the new changes.

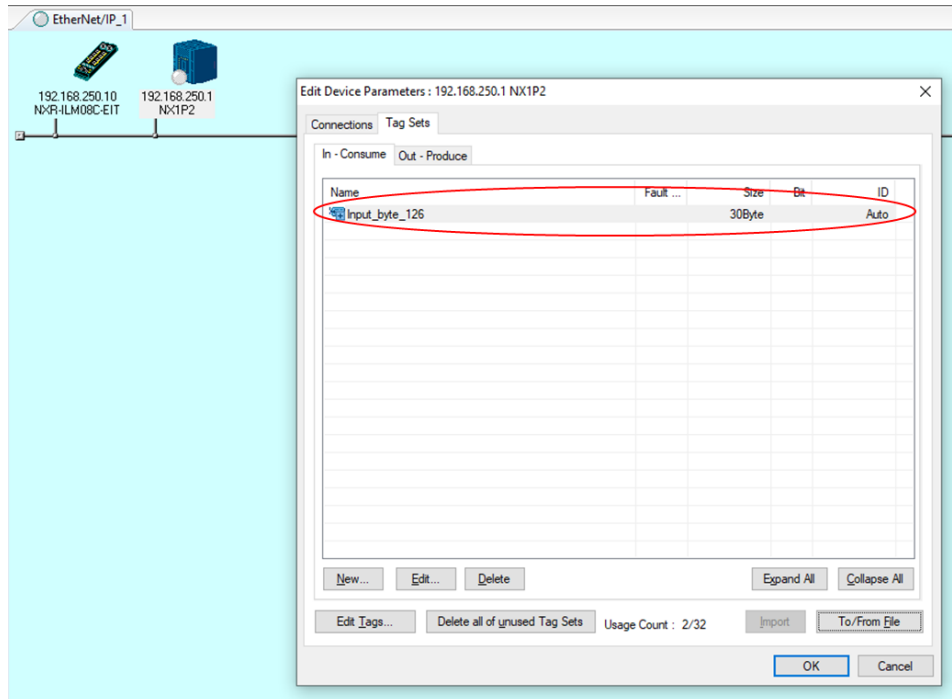
- **Edit** NX1P2 parameter from Network Configurator



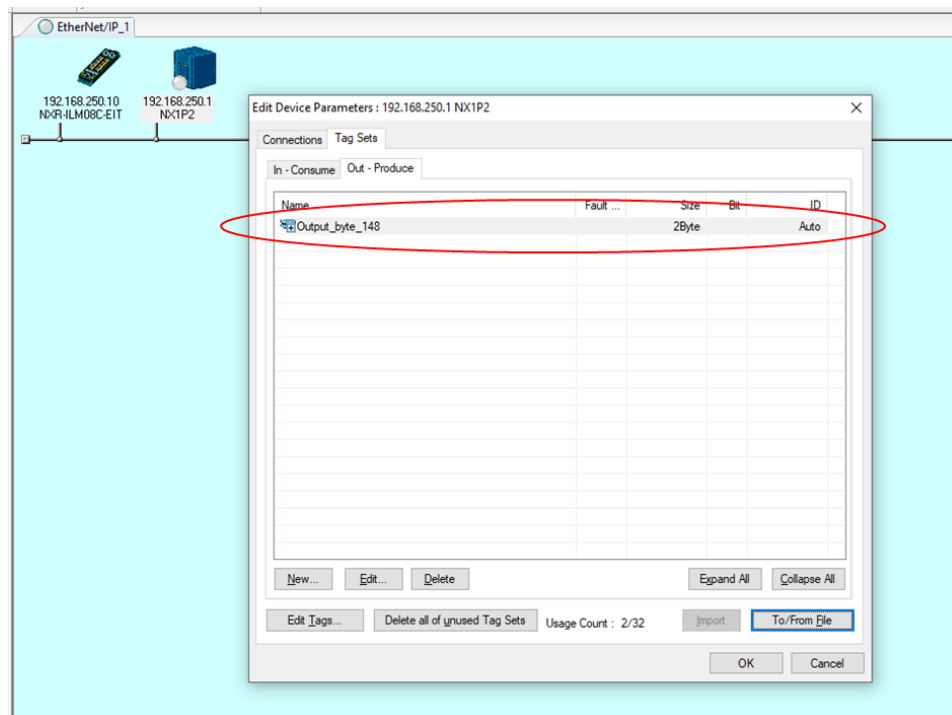
- Import the variable configuration files (previously created from Sysmac Studio) or configure manually the tag set variables.



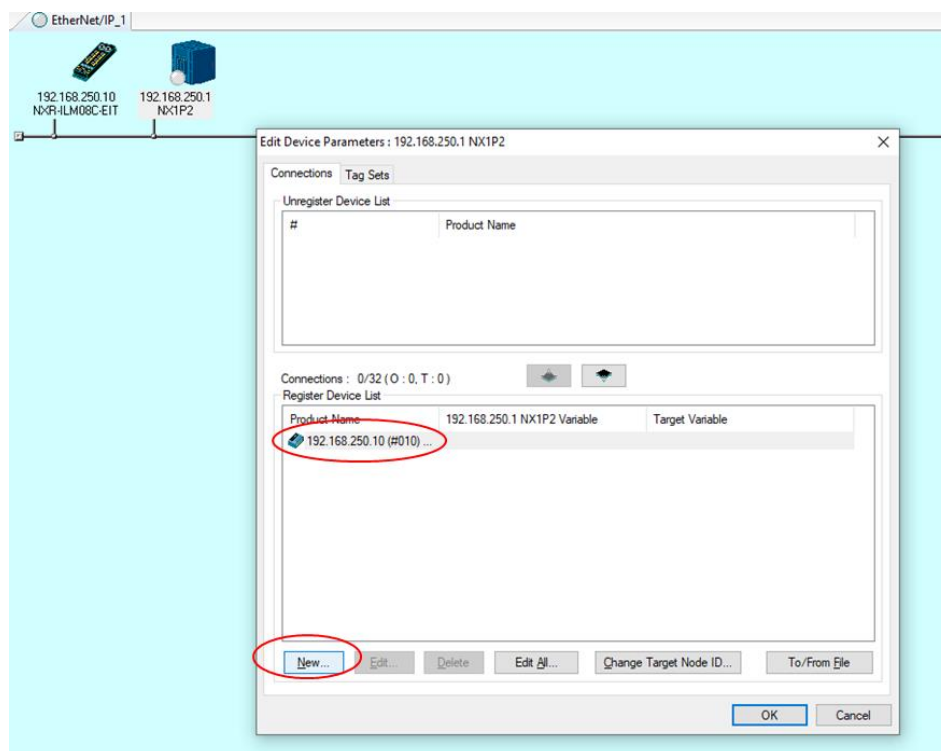
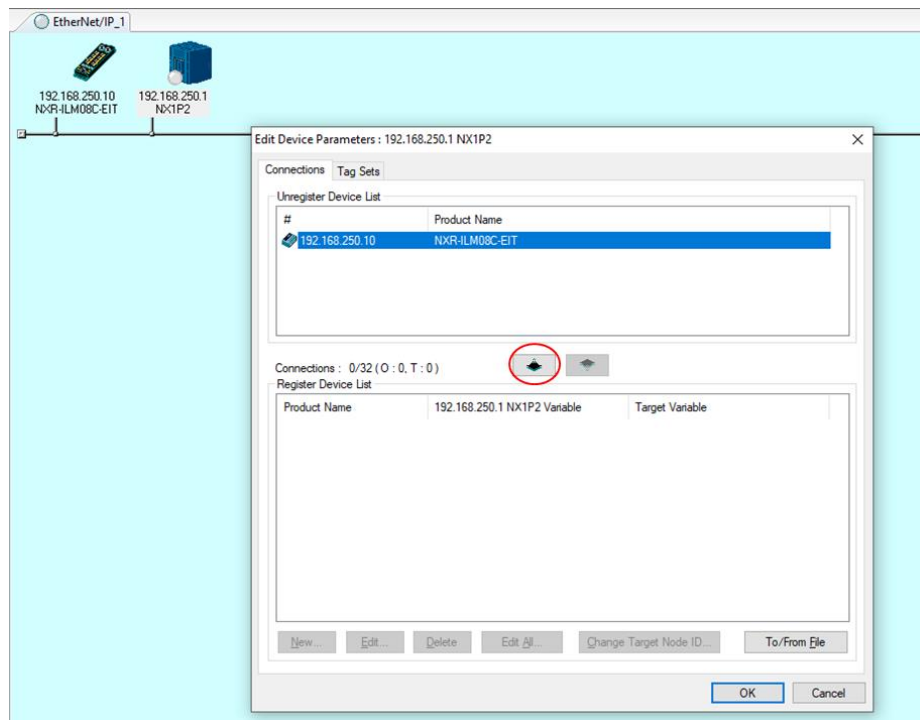
- Tag set input: (NXR master → NX1P2)



- Tag set output: (NX1P2 → NXR master)

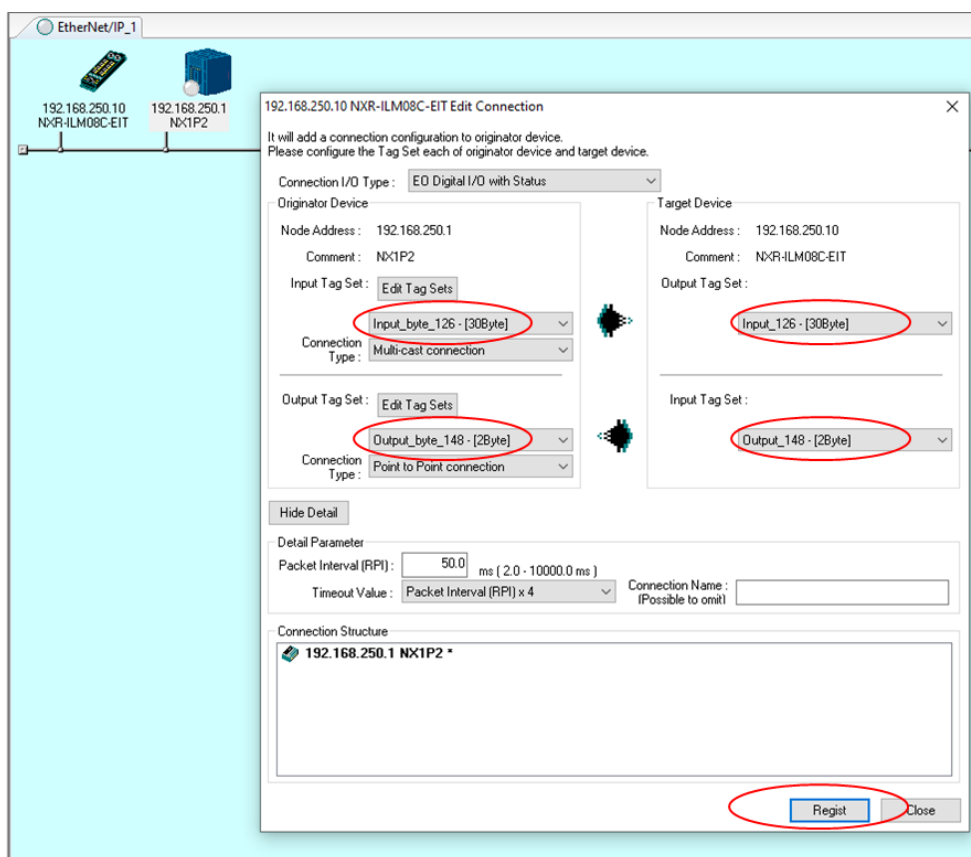


- Create the tag set connection between NX1P2 and NXR IO-Link Master

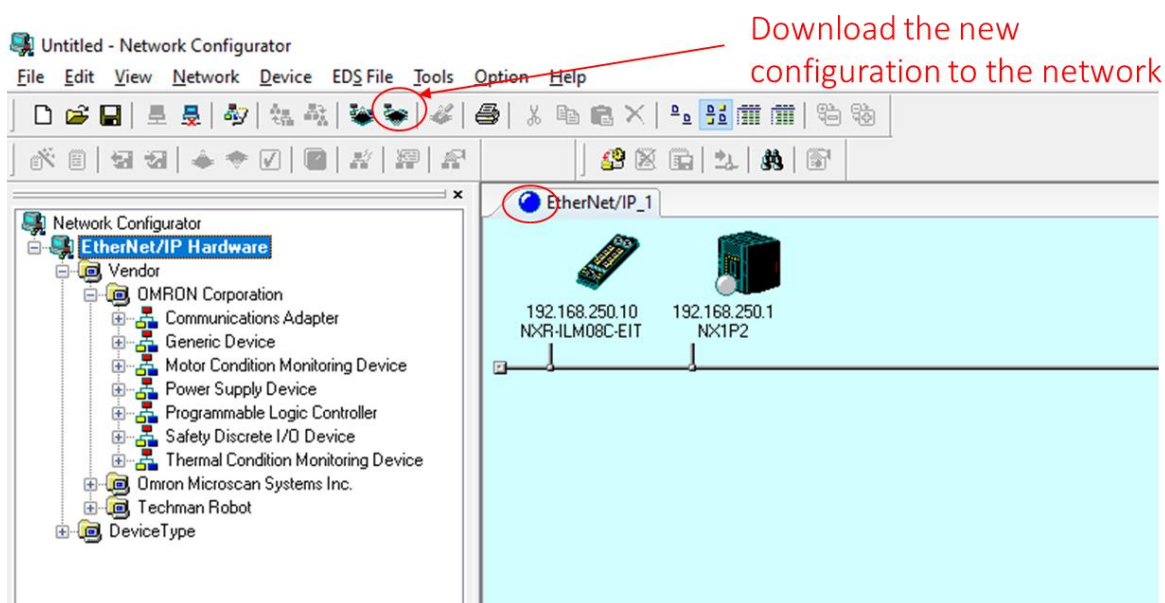




- Select the tag set variables.



- Download the new configurator parameters to the network.  
(All parameters: NXR IO-Link master and NX1P2 controller)



- Check the variables exchange data from Sysmac Studio watch tab.

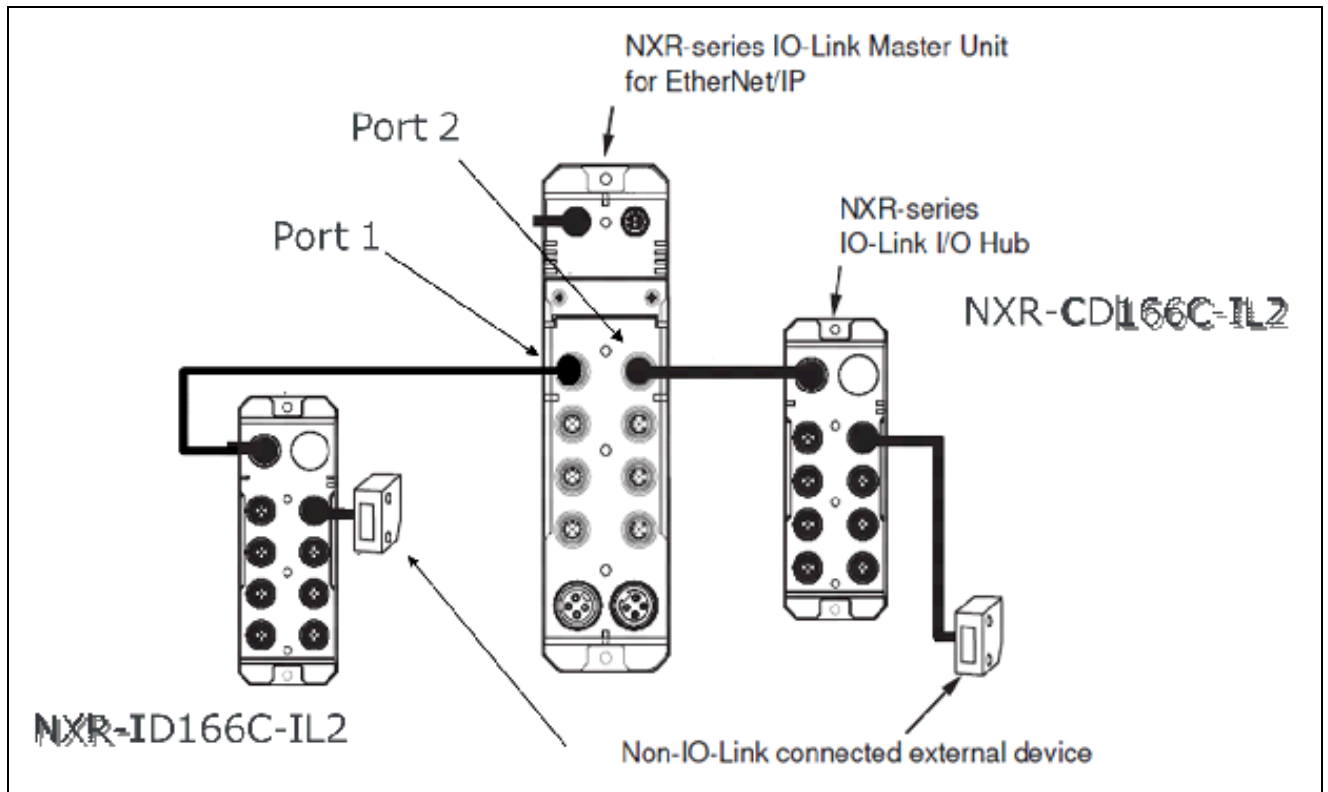
**Input\_byte\_126** and **Output\_byte\_148** (Global variables)

Watch (Table1)																								
Device name		Name																		Index	Modify	Comment	Data type	Display format
new_Controller_0		Input_byte_126																		[0]			BYTE	Hexade
[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]					
20	00	00	00	02	03	F1	00	F1	00	00	00	30	00	00	00	00	00	00	00					
00	00	00	00	00	00	00	00	00	00															

Watch (Table1)																								
Device name		Name																		Index	Modify	Comment	Data type	Display format
new_Controller_0		Output_byte_148																		[1]			byte	Hexade
[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]					
00	00																							

### 3 NXR IO-Link Master and NXR Hub Devices

Consider the following layout setup.



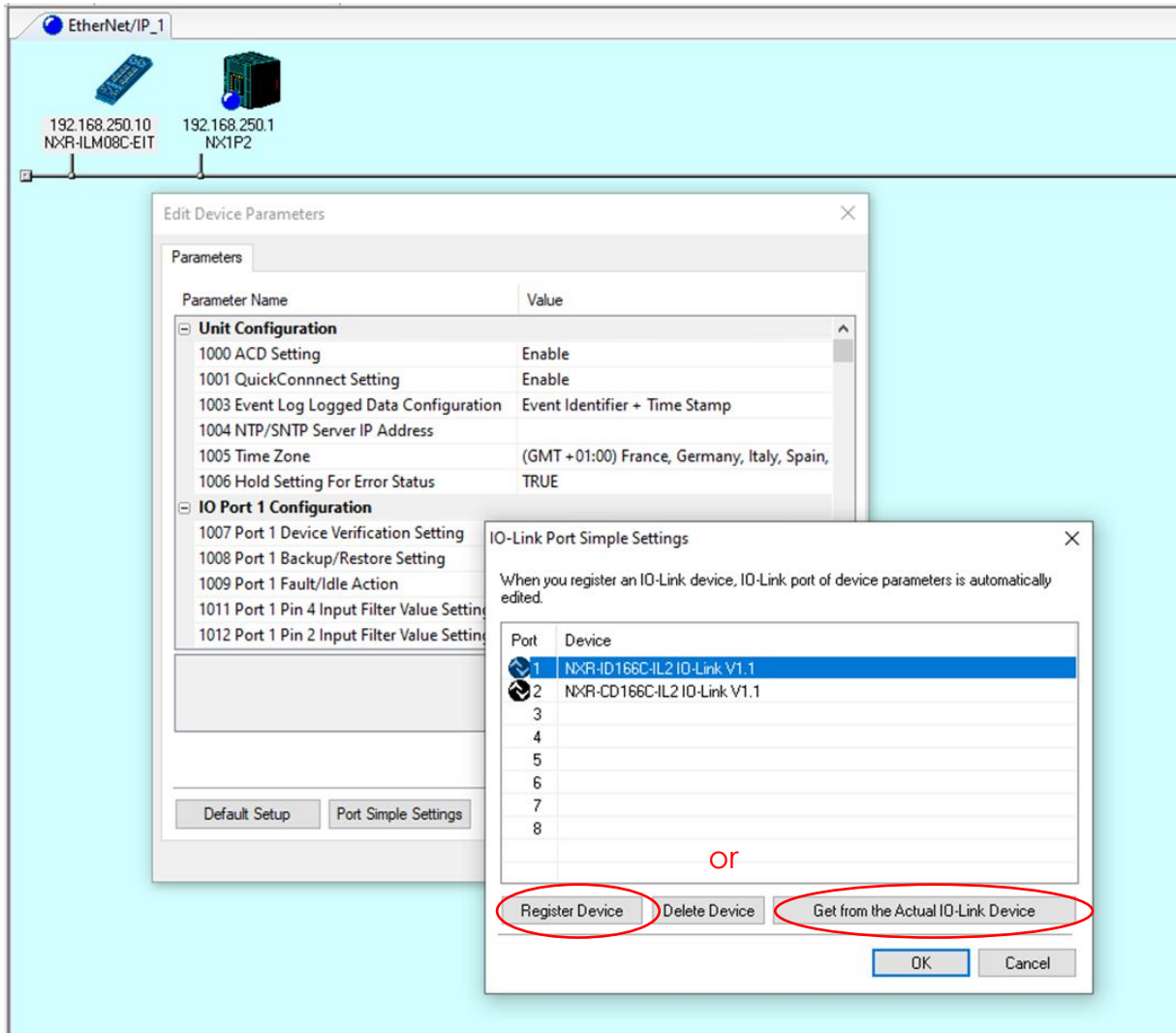
NXR I/O-Link Master:

- **Port1:** NXR-ID166C-IL2  
(16 input, 8 ports)
- **Port2:** NXR-CD166C-IL2  
(16 input/output, 8 ports)

For more details about NXR Hub refer to Omron manual:

[W620-E1-02 IO-Link I/O Hub \(NXR-I \) User's Manual](#)

- Configure NXR IO-Link Master ports.



Network Configurator : after setup, download the new parameter settings.

# NXR-ID166C-IL2

Edit Device Parameters

Parameters

Parameter Name	Value
<b>IO Port 1 Configuration</b>	
1007 Port 1 Device Verification Setting	Disable
1008 Port 1 Backup/Restore Setting	Do Not Execute
1009 Port 1 Fault/Idle Action	Fault:Clear, Idle:Clear
1011 Port 1 Pin 4 Input Filter Value Setting	1ms
1012 Port 1 Pin 2 Input Filter Value Setting	1ms
1013 Port 1 Configuration Data /Device ID	327681
1014 Port 1 Configuration Data /Vendor ID	612
1015 Port 1 Configuration Data /IO-Link Revision	17
1016 Port 1 Configuration Data /Communication L	0
1017 Port 1 Configuration Data /Process Data In Le	20
1018 Port 1 Configuration Data /Process Data Out	0
1019 Port 1 Pin 4 Communications Mode Setting	IO-Link Mode
1020 Port 1 Pin 2 Communications Mode Setting	SIO(DI) Mode
1021 Port 1 Configuration Data /Serial Number	000000000000001C
1022 Offset Setting of Port 1 IO-Link Input Data Co	0
1023 Port 1 Information Area /Device ID	327681
1024 Port 1 Information Area /Vendor ID	612
1025 Port 1 Information Area /IO-Link Revision	17
1026 Port 1 Information Area /Cycle Time	73
1027 Port 1 Information Area /Process Data In Leng	20
1028 Port 1 Information Area /Process Data Out Le	0
1029 Port 1 Information Area /Serial Number	000000000000001C
1030 Port 1 Vendor Name of the Last Connected IC	OMRON Corporation
1031 Port 1 Product Name of the Last Connected I	NXR-ID166C-IL2
1032 Port 1 Information Area /Vendor Name	OMRON Corporation
1033 Port 1 Information Area /Product Name	NXR-ID166C-IL2

Speed & Duplex    Reset

Default Setup    Port Simple Settings    Expand All    Collapse All

OK    Cancel

20 bytes for Data In  
0 bytes for Data Out

NXR-ID166C-IL2 is **only input** hub device. For this reason, 0 bytes for Data Out

# NXR-CD166C-IL2

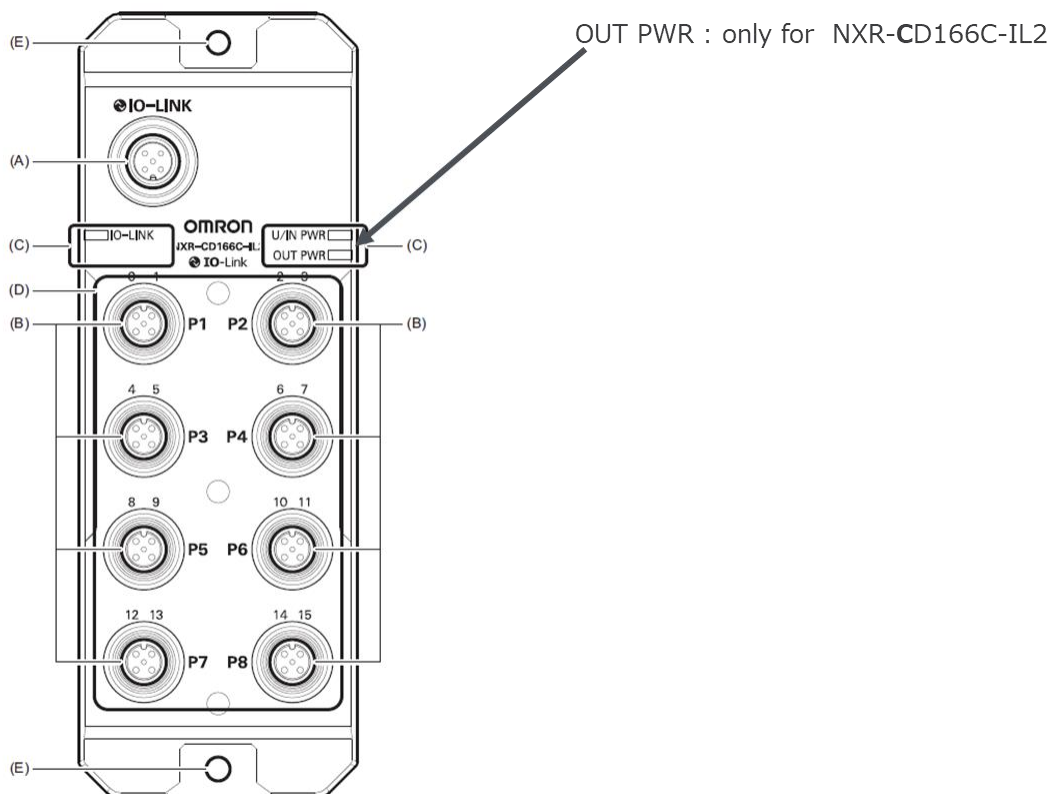
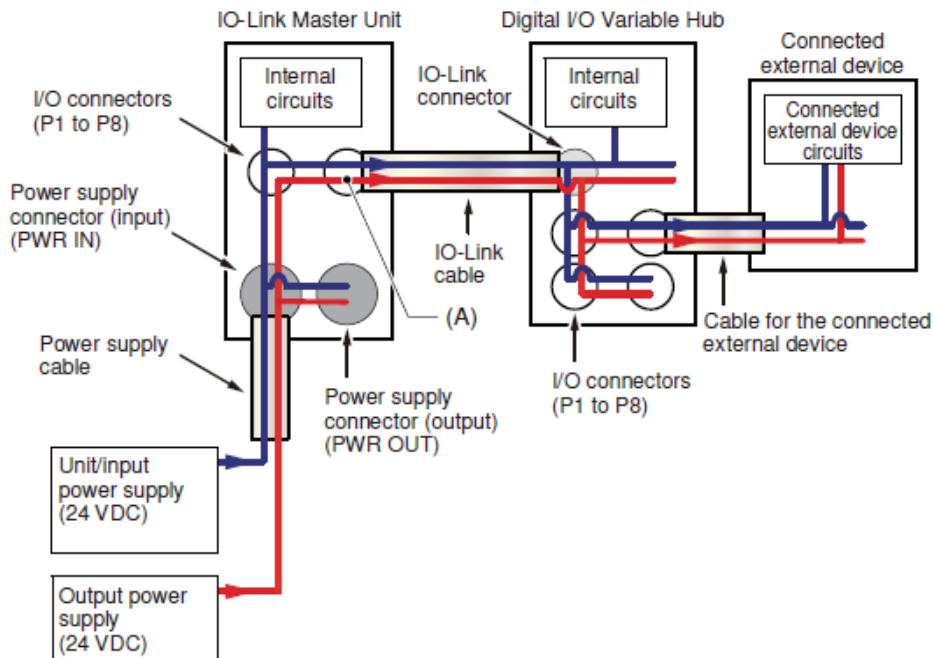
Parameter Name	Value
<b>IO Port 2 Configuration</b>	
1035 Port 2 Device Verification Setting	Disable
1036 Port 2 Backup/Restore Setting	Do Not Execute
1037 Port 2 Fault/Idle Action	Fault:Clear, Idle:Clear
1039 Port 2 Pin 4 Input Filter Value Setting	1ms
1040 Port 2 Pin 2 Input Filter Value Setting	1ms
1041 Port 2 Configuration Data /Device ID	327682
1042 Port 2 Configuration Data /Vendor ID	612
1043 Port 2 Configuration Data /IO-Link Revision	17
1044 Port 2 Configuration Data /Communication Error Counter	0
1045 Port 2 Configuration Data /Process Data In Length	20
1046 Port 2 Configuration Data /Process Data Out Length	2
1047 Port 2 Pin 4 Communications Mode Setting	IO-Link Mode
1048 Port 2 Pin 2 Communications Mode Setting	SIO(DO) Mode
1049 Port 2 Configuration Data /Serial Number	0000000000000023
1050 Offset Setting of Port 2 IO-Link Input Data Counter	0
1051 Port 2 Information Area /Device ID	327682
1052 Port 2 Information Area /Vendor ID	612
1053 Port 2 Information Area /IO-Link Revision	17
1054 Port 2 Information Area /Cycle Time	73
1055 Port 2 Information Area /Process Data In Length	20
1056 Port 2 Information Area /Process Data Out Length	2
1057 Port 2 Information Area /Serial Number	0000000000000023
1058 Port 2 Vendor Name of the Last Connected IO-Link Device	OMRON Corporation
1059 Port 2 Product Name of the Last Connected IO-Link Device	NXR-CD166C-IL2
1060 Port 2 Information Area /Vendor Name	OMRON Corporation
1061 Port 2 Information Area /Product Name	NXR-CD166C-IL2

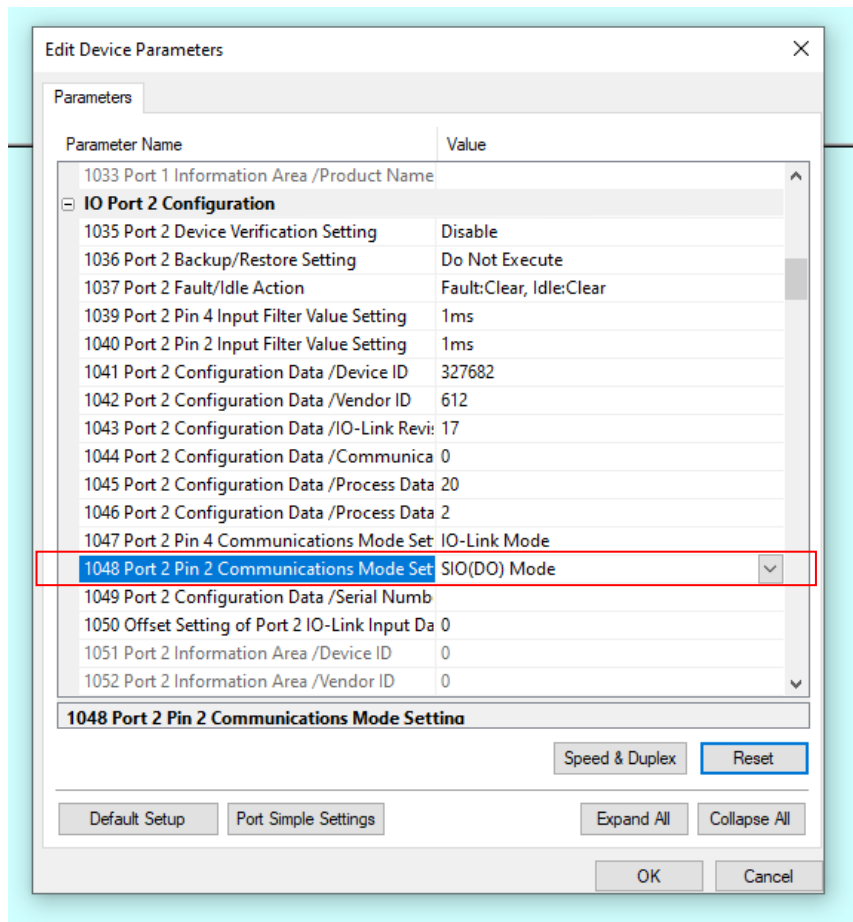
20 bytes for Data In  
2 bytes for Data Out

NXR-CD166C-IL2 is input/output hub device.

**ATTENTION**

To **enable output power** on **NXR-CD166C-IL2** device set pin 2 of the port of the IO-Link Master Unit, which is connected to the Digital I/O Variable Hub, to SIO (DO) Mode and turn on the output of pin 2.





Network Configurator : download the new parameter settings.

Considering the proposed layout:

**Output\_126** -> Port2 Pin2 Digital Output = TRUE



The function of each bit of the Pin 4/Pin 2 Digital Output Data is given in the following table.  
In modes other than SIO (DO) Mode, setting a value in Pin 4/Pin 2 Digital Output Data does not produce output.

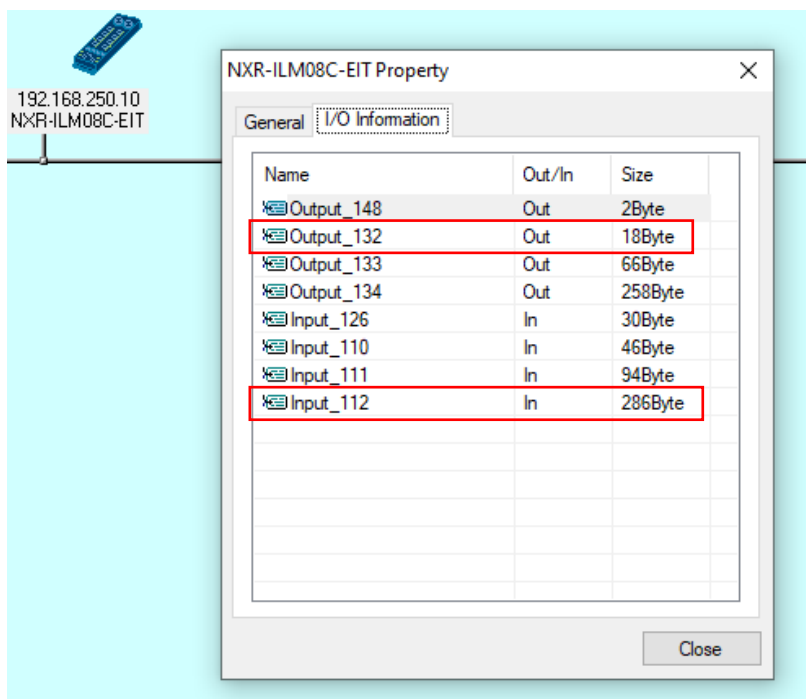
Bit	Name	Default	Description
00	Port 1 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 1 Pin 4 Digital Output Bit is ON. FALSE: The Port 1 Pin 4 Digital Output Bit is OFF.
01	Port 1 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 1 Pin 2 Digital Output Bit is ON. FALSE: The Port 1 Pin 2 Digital Output Bit is OFF.
02	Port 2 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 2 Pin 4 Digital Output Bit is ON. FALSE: The Port 2 Pin 4 Digital Output Bit is OFF.
03	Port 2 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 2 Pin 2 Digital Output Bit is ON. FALSE: The Port 2 Pin 2 Digital Output Bit is OFF.
04	Port 3 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 3 Pin 4 Digital Output Bit is ON. FALSE: The Port 3 Pin 4 Digital Output Bit is OFF.
05	Port 3 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 3 Pin 2 Digital Output Bit is ON. FALSE: The Port 3 Pin 2 Digital Output Bit is OFF.
06	Port 4 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 4 Pin 4 Digital Output Bit is ON. FALSE: The Port 4 Pin 4 Digital Output Bit is OFF.
07	Port 4 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 4 Pin 2 Digital Output Bit is ON. FALSE: The Port 4 Pin 2 Digital Output Bit is OFF.
08	Port 5 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 5 Pin 4 Digital Output Bit is ON. FALSE: The Port 5 Pin 4 Digital Output Bit is OFF.
09	Port 5 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 5 Pin 2 Digital Output Bit is ON. FALSE: The Port 5 Pin 2 Digital Output Bit is OFF.
10	Port 6 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 6 Pin 4 Digital Output Bit is ON. FALSE: The Port 6 Pin 4 Digital Output Bit is OFF.
11	Port 6 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 6 Pin 2 Digital Output Bit is ON. FALSE: The Port 6 Pin 2 Digital Output Bit is OFF.
12	Port 7 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 7 Pin 4 Digital Output Bit is ON. FALSE: The Port 7 Pin 4 Digital Output Bit is OFF.
13	Port 7 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 7 Pin 2 Digital Output Bit is ON. FALSE: The Port 7 Pin 2 Digital Output Bit is OFF.
14	Port 8 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 8 Pin 4 Digital Output Bit is ON. FALSE: The Port 8 Pin 4 Digital Output Bit is OFF.
15	Port 8 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 8 Pin 2 Digital Output Bit is ON. FALSE: The Port 8 Pin 2 Digital Output Bit is OFF.

Port1: NXR-ID166C-IL2 -> **20bytes** Input Data / **0bytes** Output Data

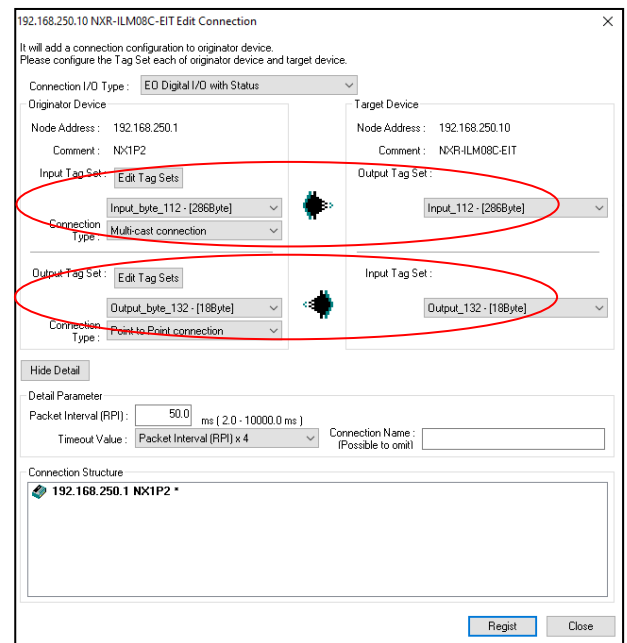
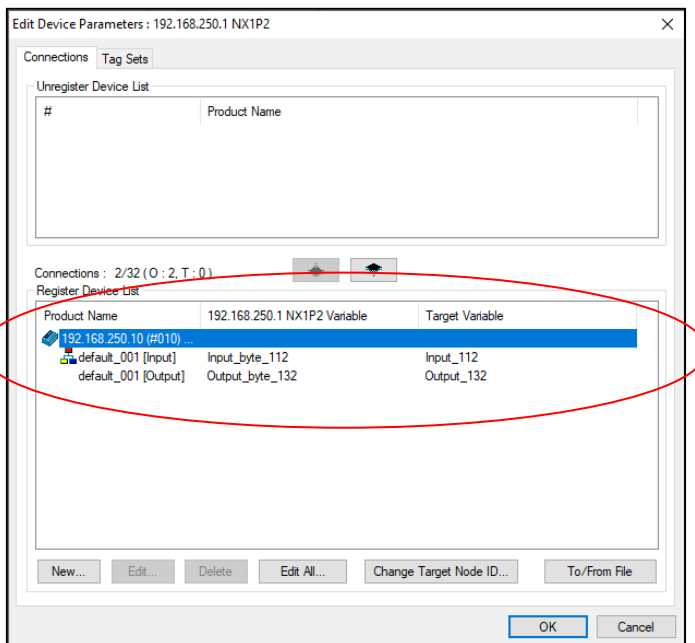
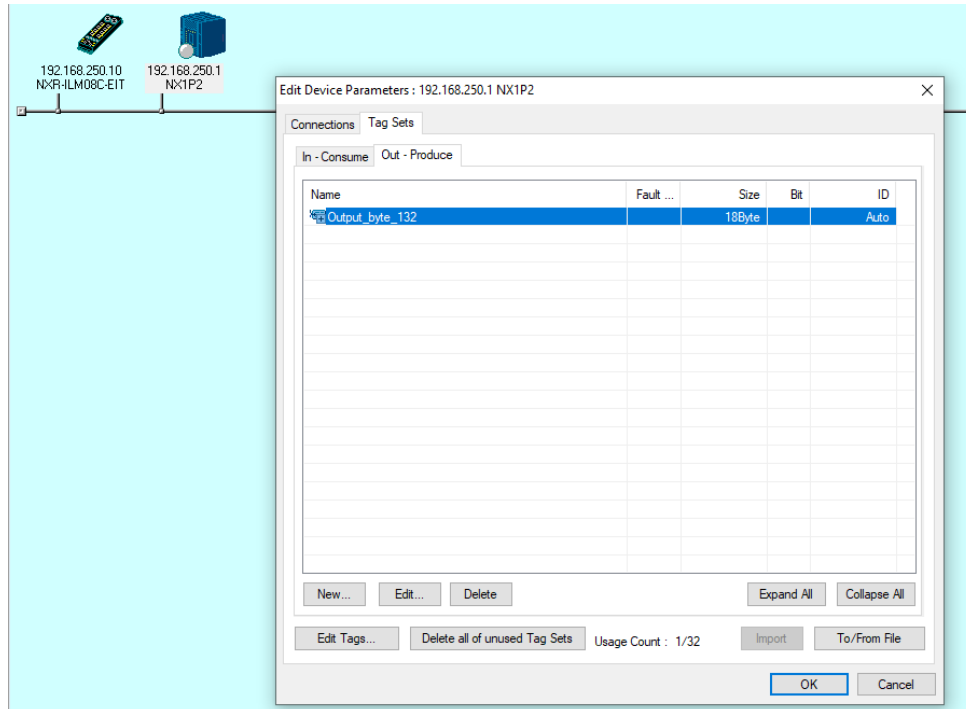
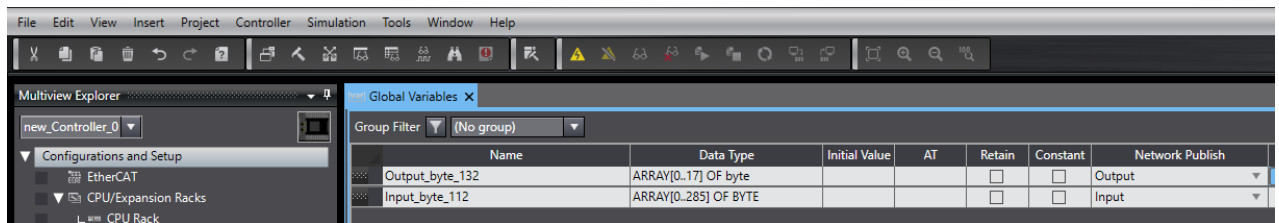
Port2: NXR-CD166C-IL2 -> **20bytes** Input Data / **2bytes** Output Data

Considering the above data length In/Out requirements for the I/O-Link devices ( in this case NXR Hubs), It is necessary to use:

**Output\_132** (2 bytes x Ports)      &      **Input\_112** (32 bytes x Ports)



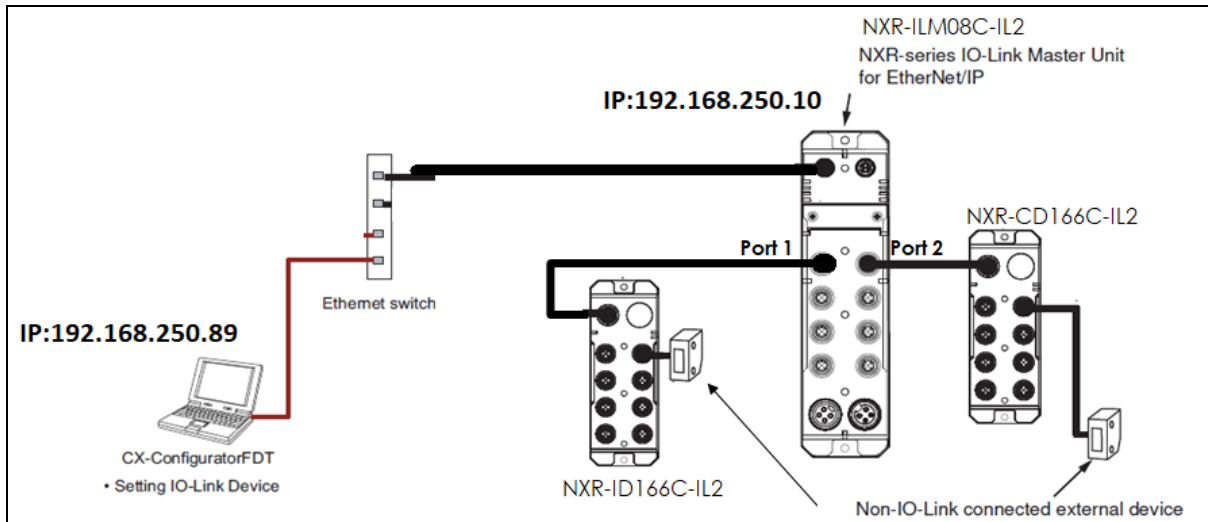
Connection I/O type	Output Tag Set		Input Tag Set	
	Input Assembly Instance Number	Data size [bytes]	Output Assembly Instance Number	Data size [bytes]
EO Digital I/O with Status	126	30	148	2
EO Digital I/O, IO-Link 2 byte with Status	110	46	132	18
EO Digital I/O, IO-Link 8 byte with Status	111	94	133	66
EO Digital I/O, IO-Link 32 byte with Status	112	286	134	258



Network Configurator : download the new parameter settings.

## 4 Configure NXR hub device with CX-ConfiguratorFDT tool

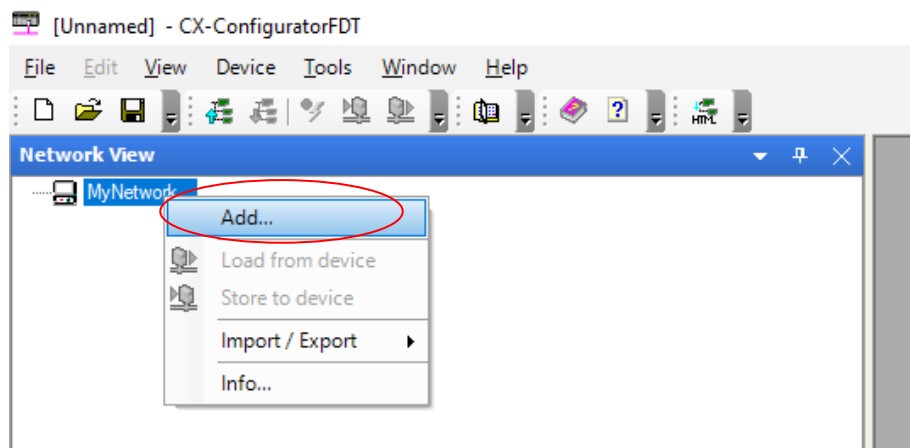
Considering the below layout:

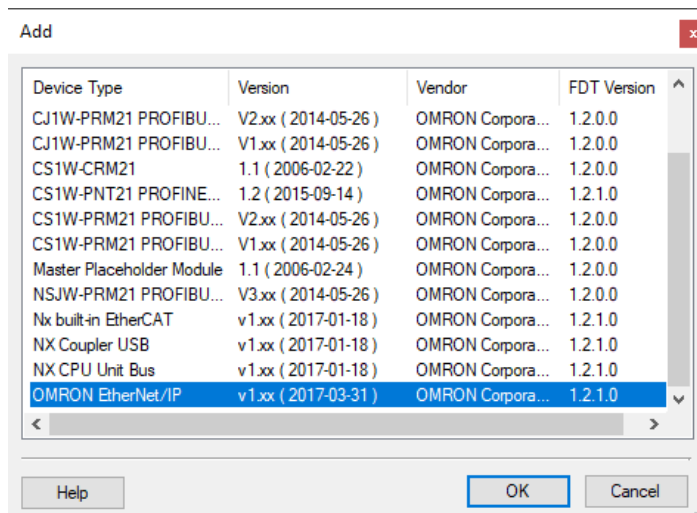


- Run Omron CX-ConfiguratorFDT tool

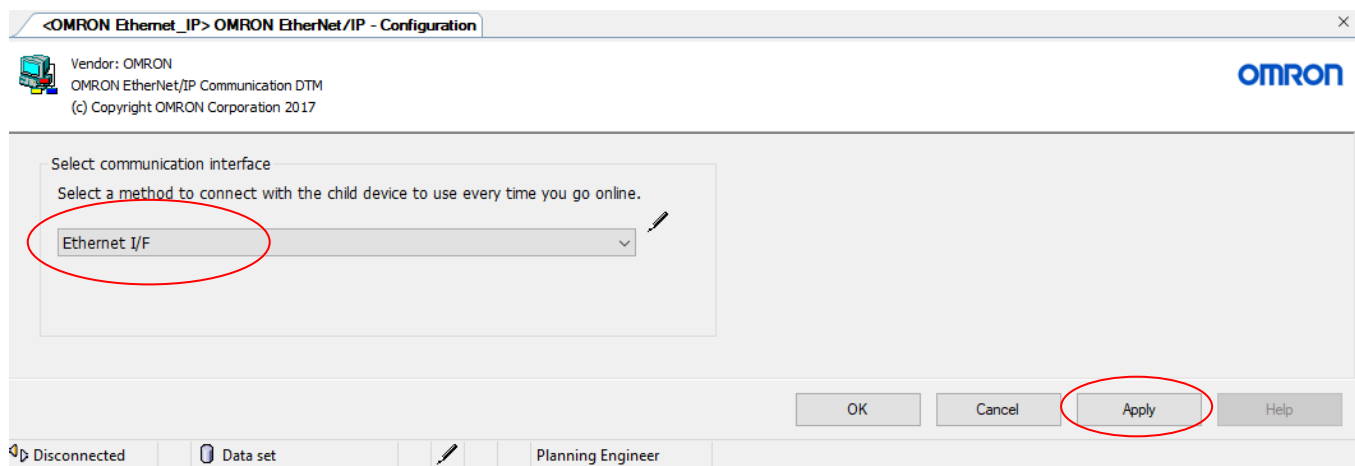
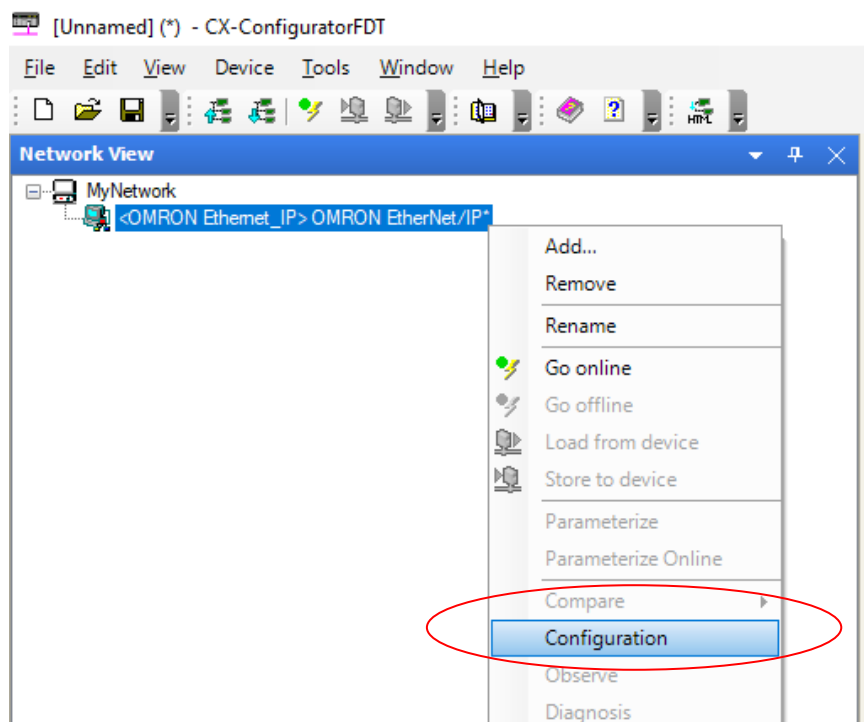


- Define the network -> **Omron Ethernet/IP**





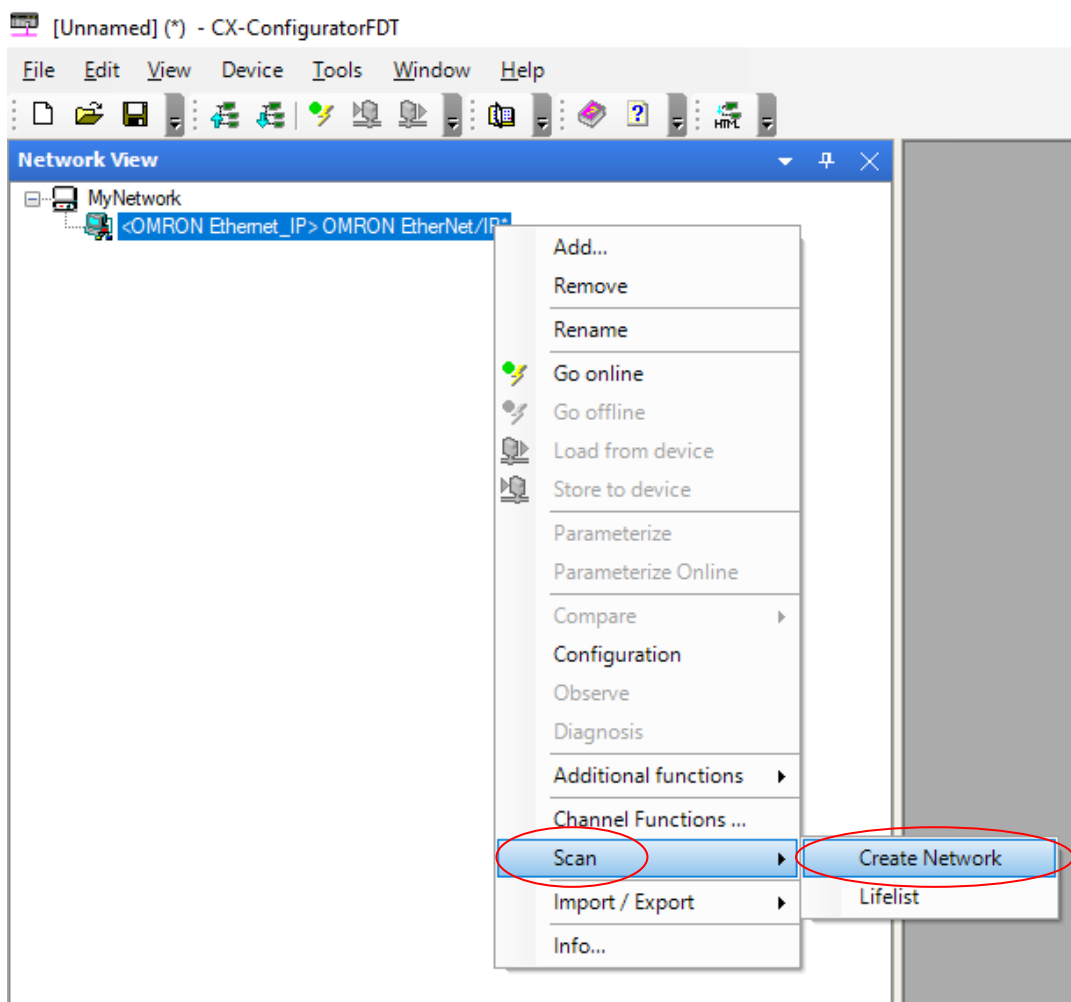
- Configure the communication interface -> **Ethernet**



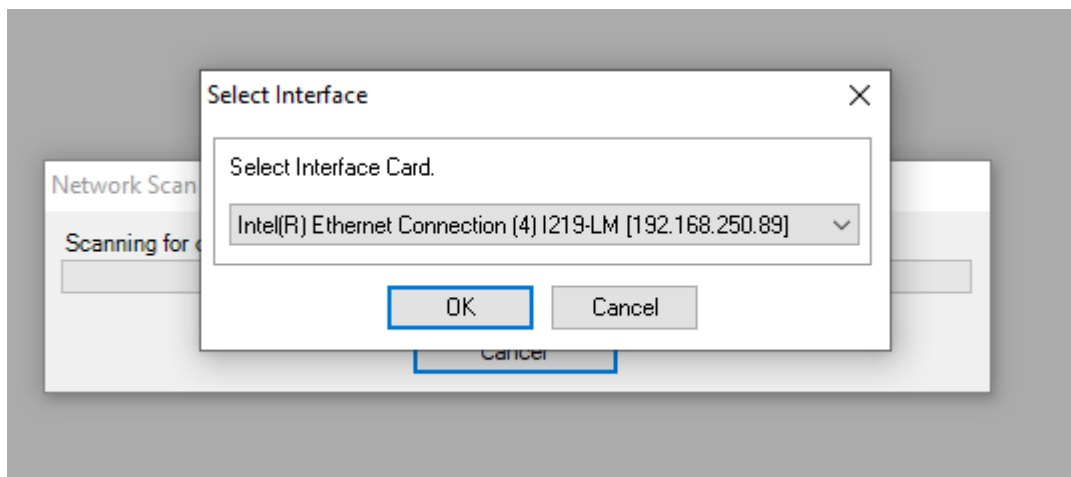
## AUTOMATIC network configuration

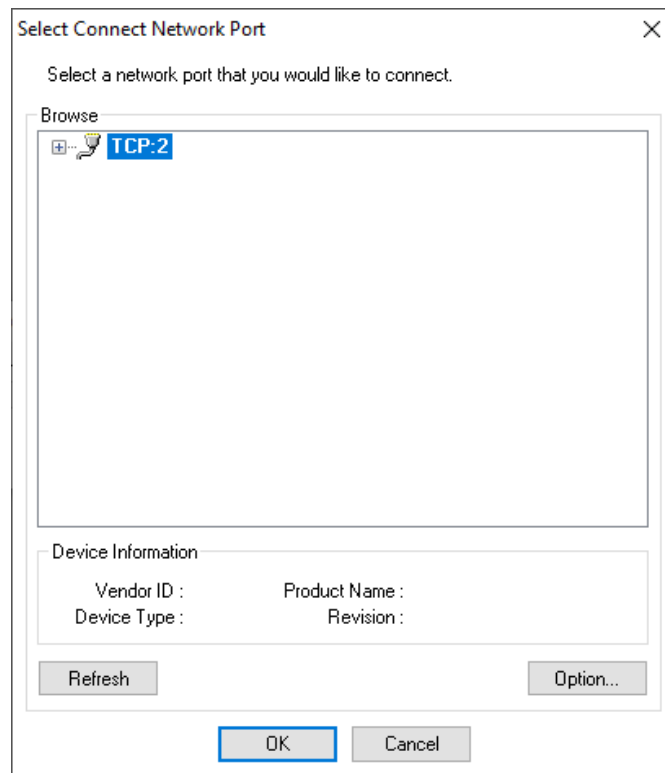
PC and IO-Link devices must be connected and powered-up.

- **Scan** the network

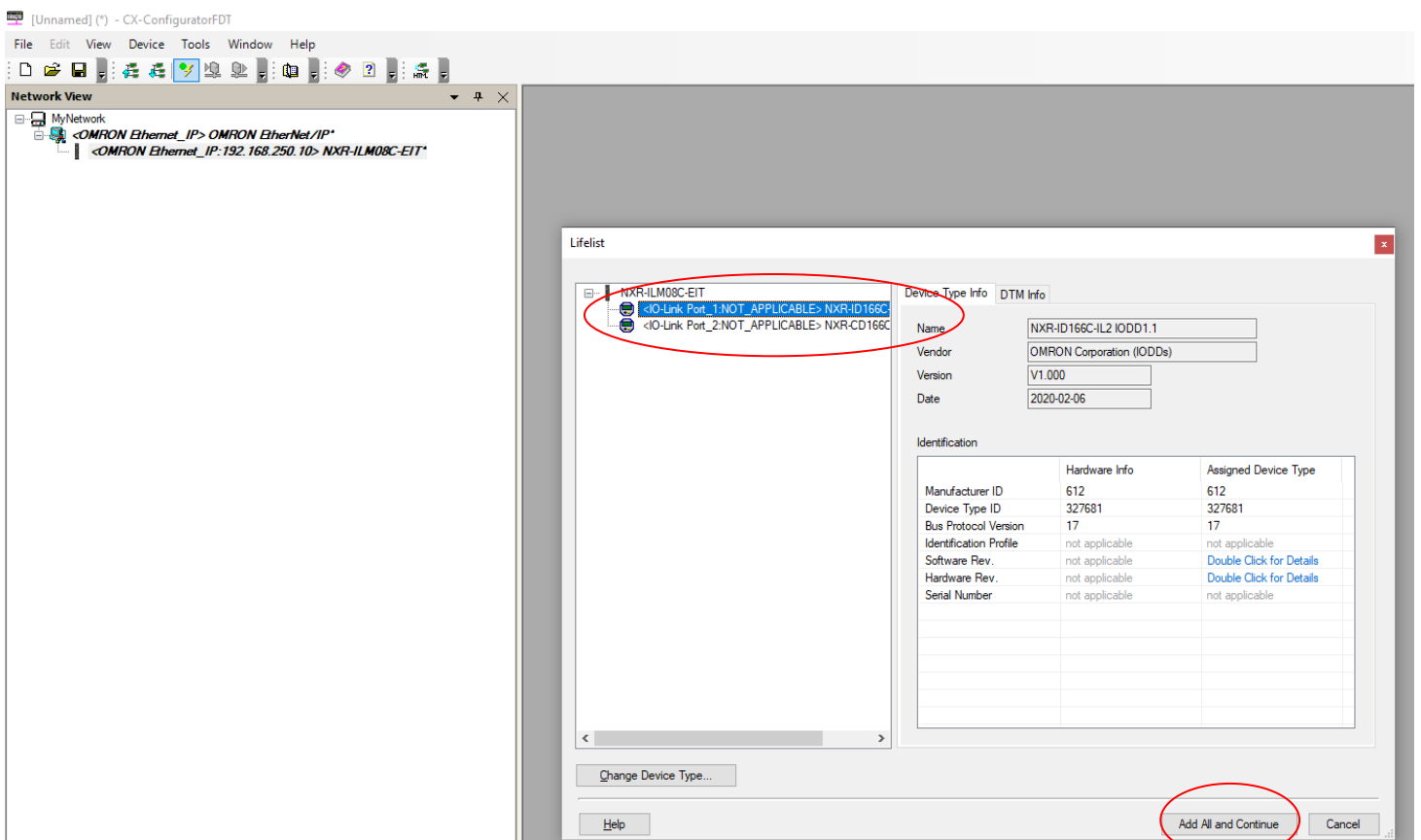


- Chose the right PC ethernet interface

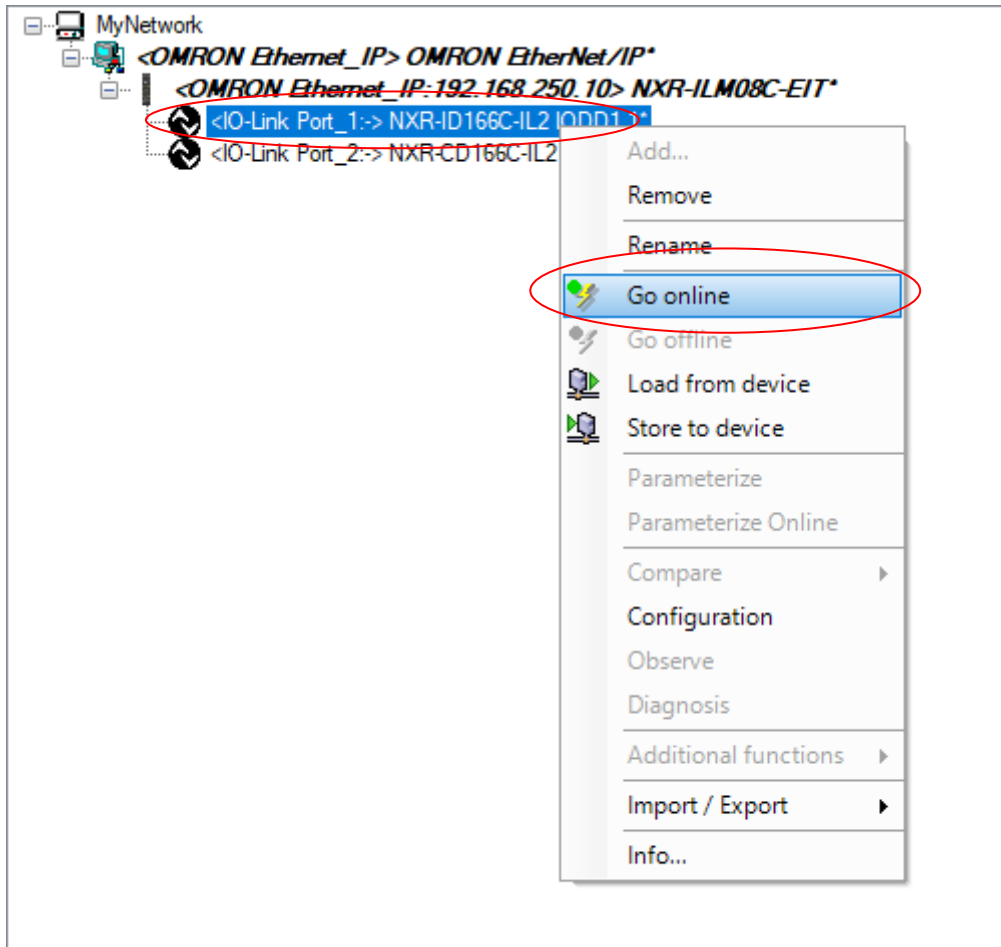




- Add All and Conitue



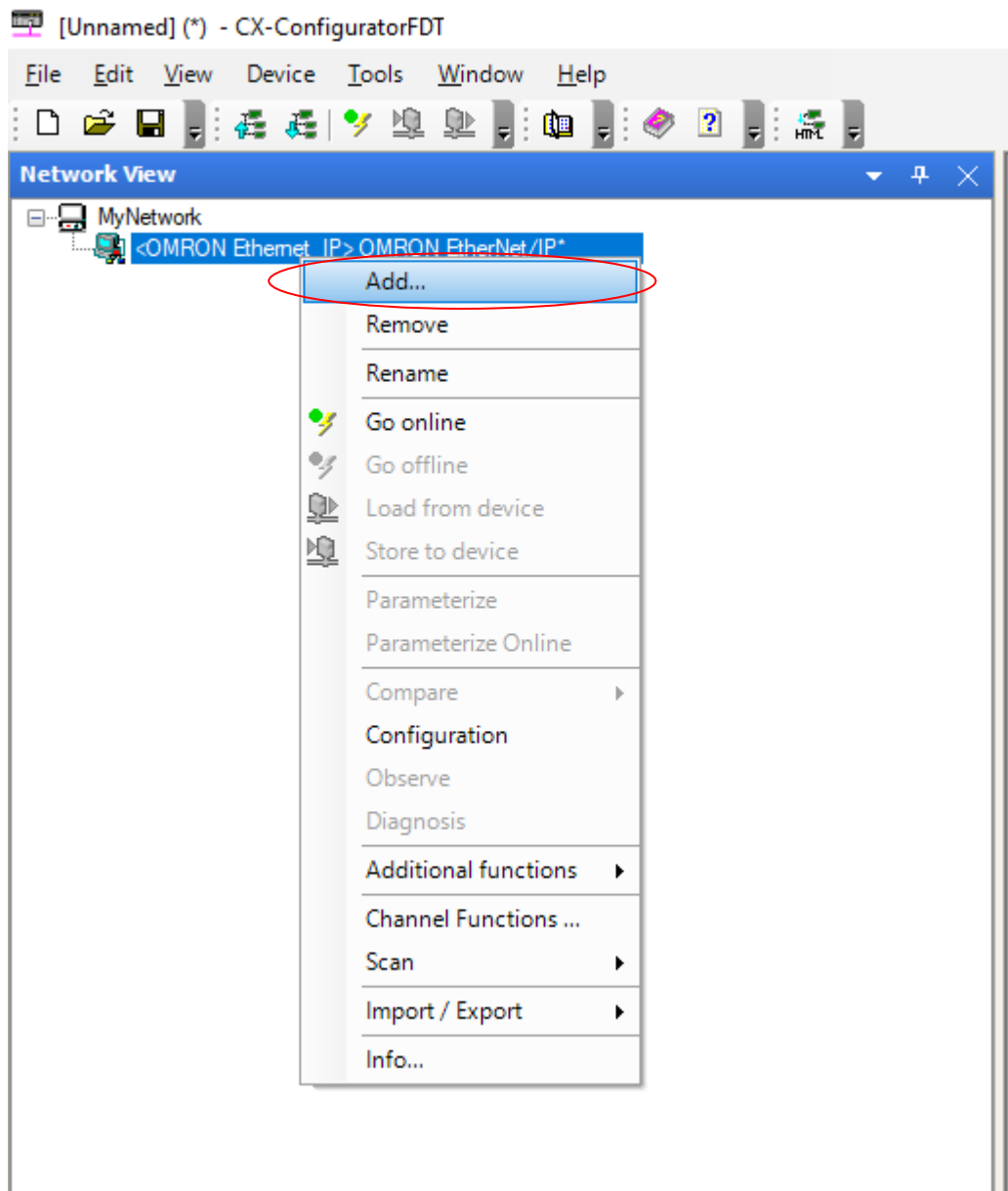
- Choose the IO-Link device (NXR-HUB in this case) and Go online

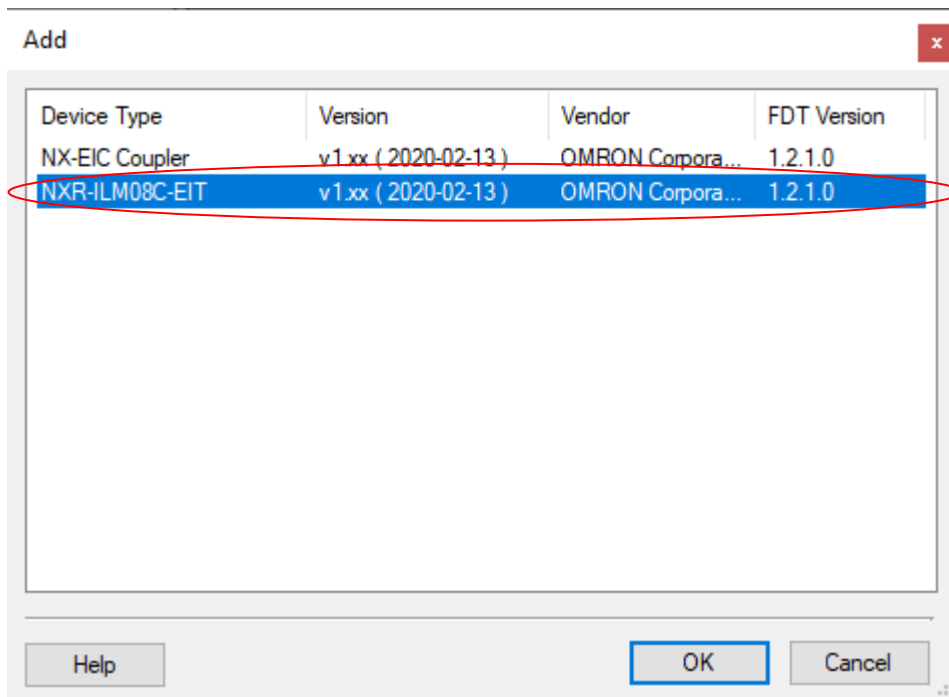




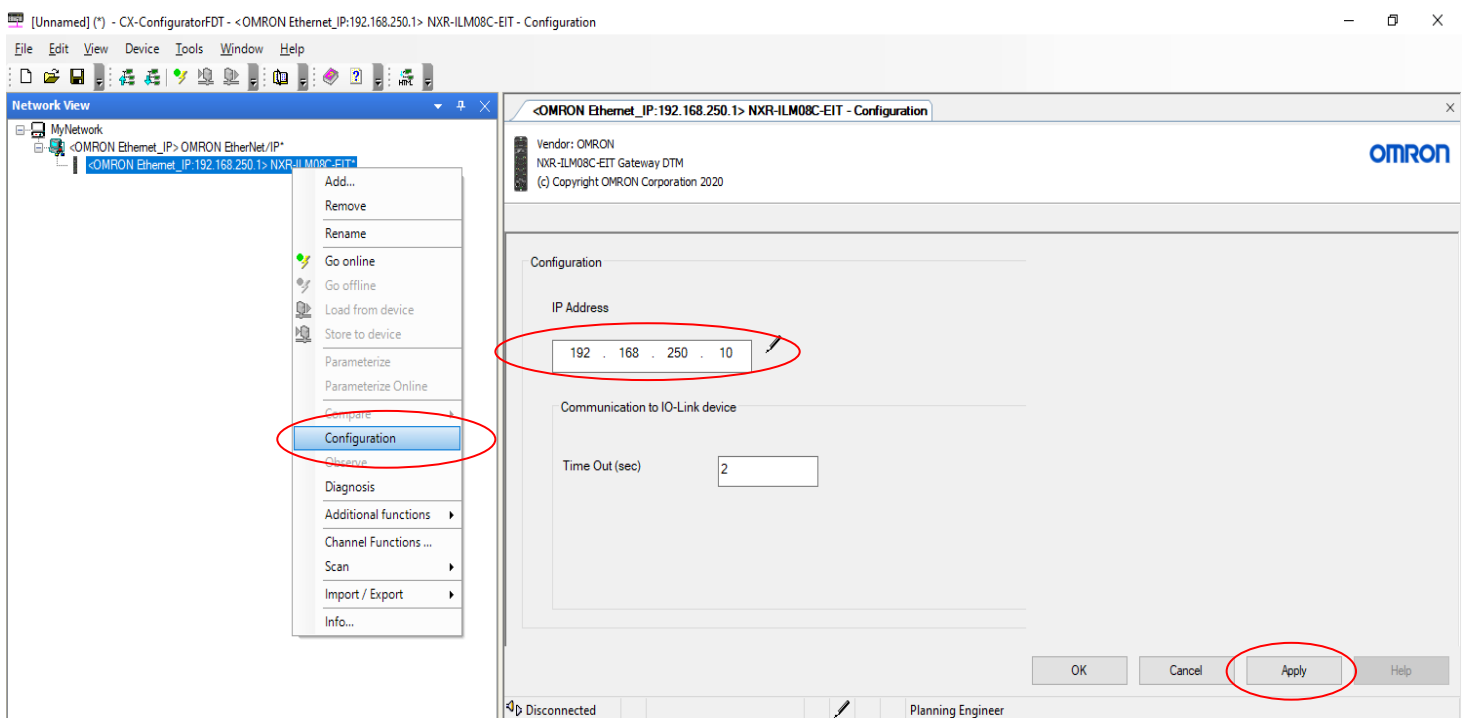
## MANUAL network configuration

- **Add** NXR-ILM08C-EIT device

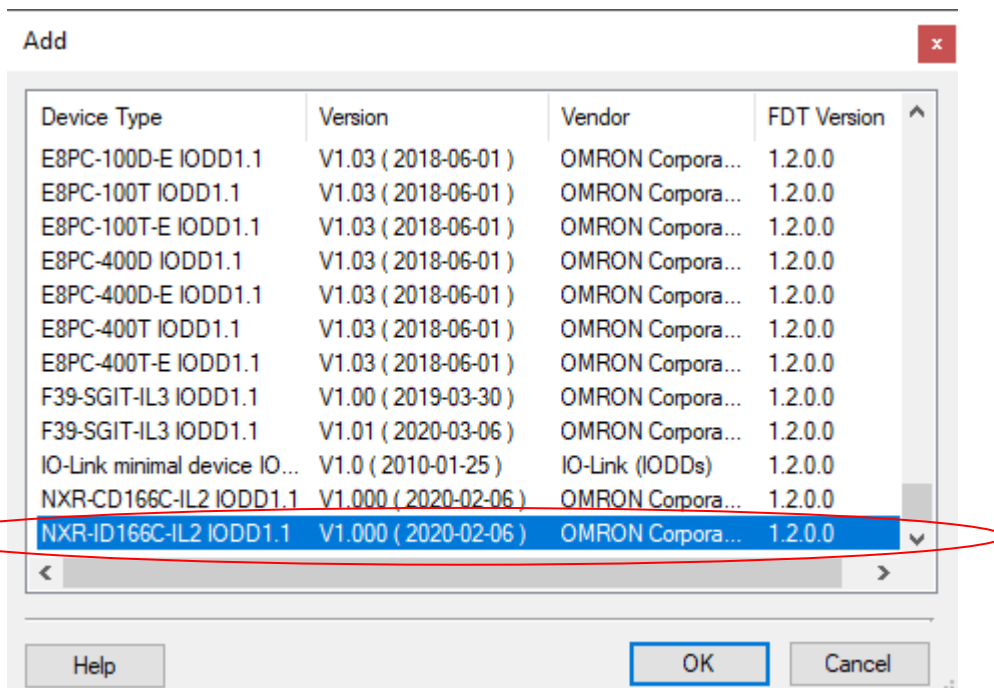
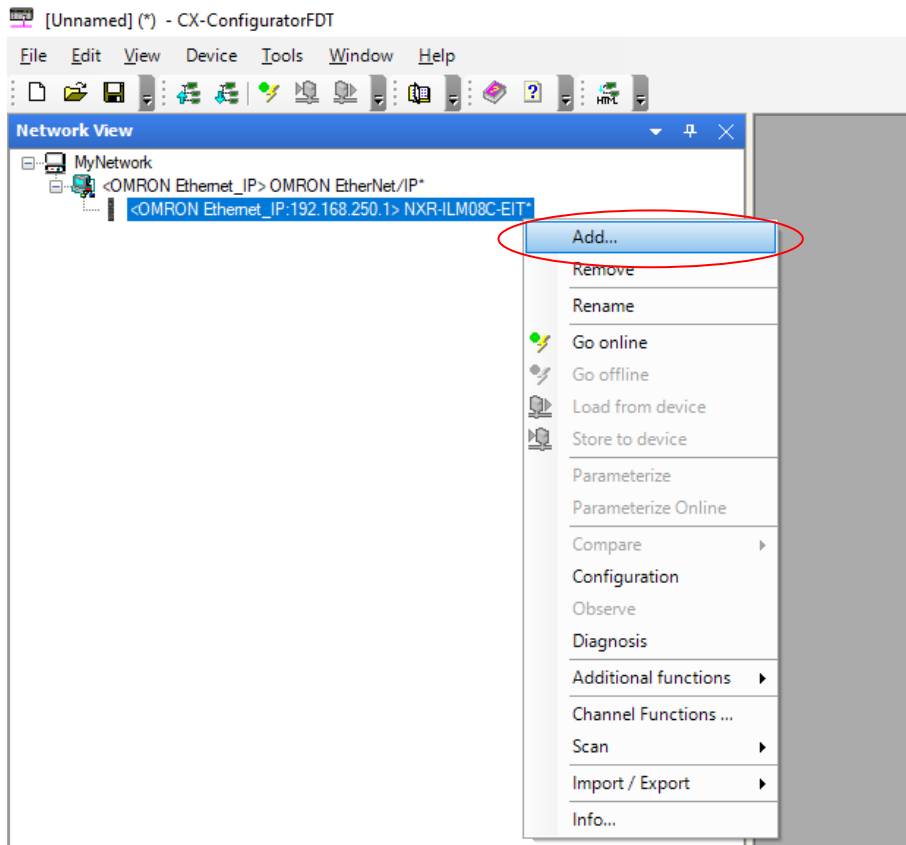




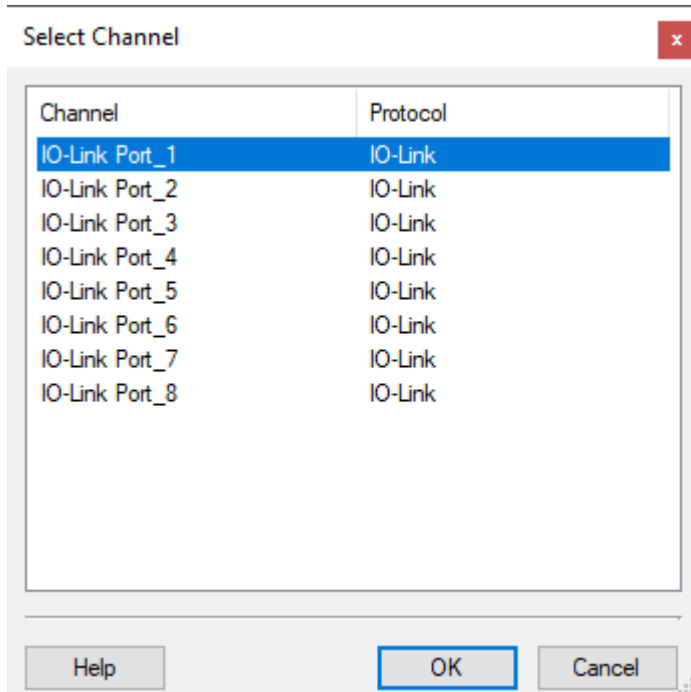
- **Configure the IP address** for NXR-ILM08C-EIT device



- **Add IO-Link devices**



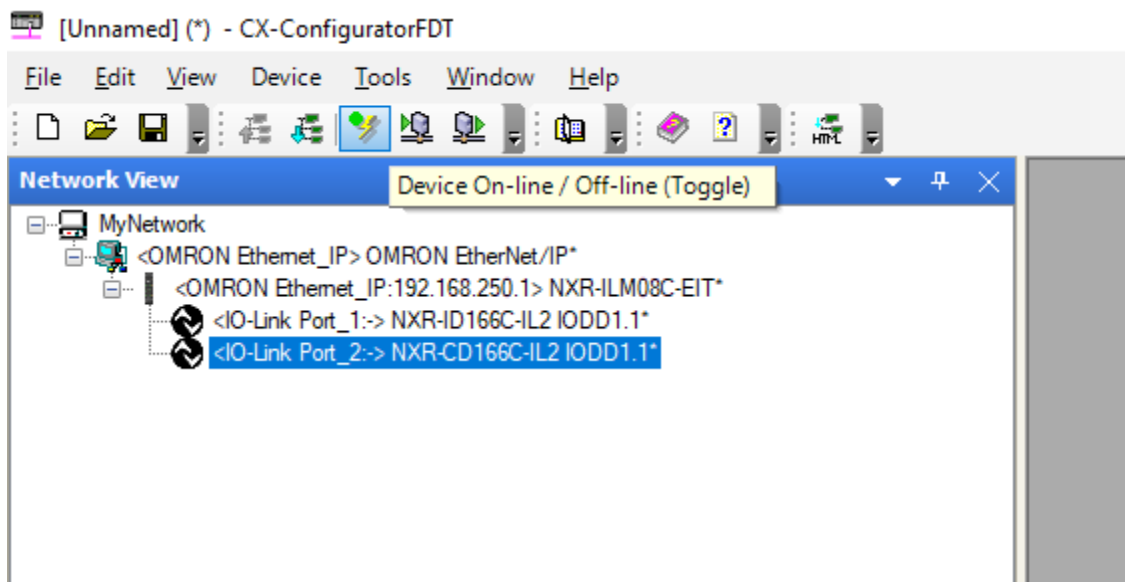
- **Select the port**



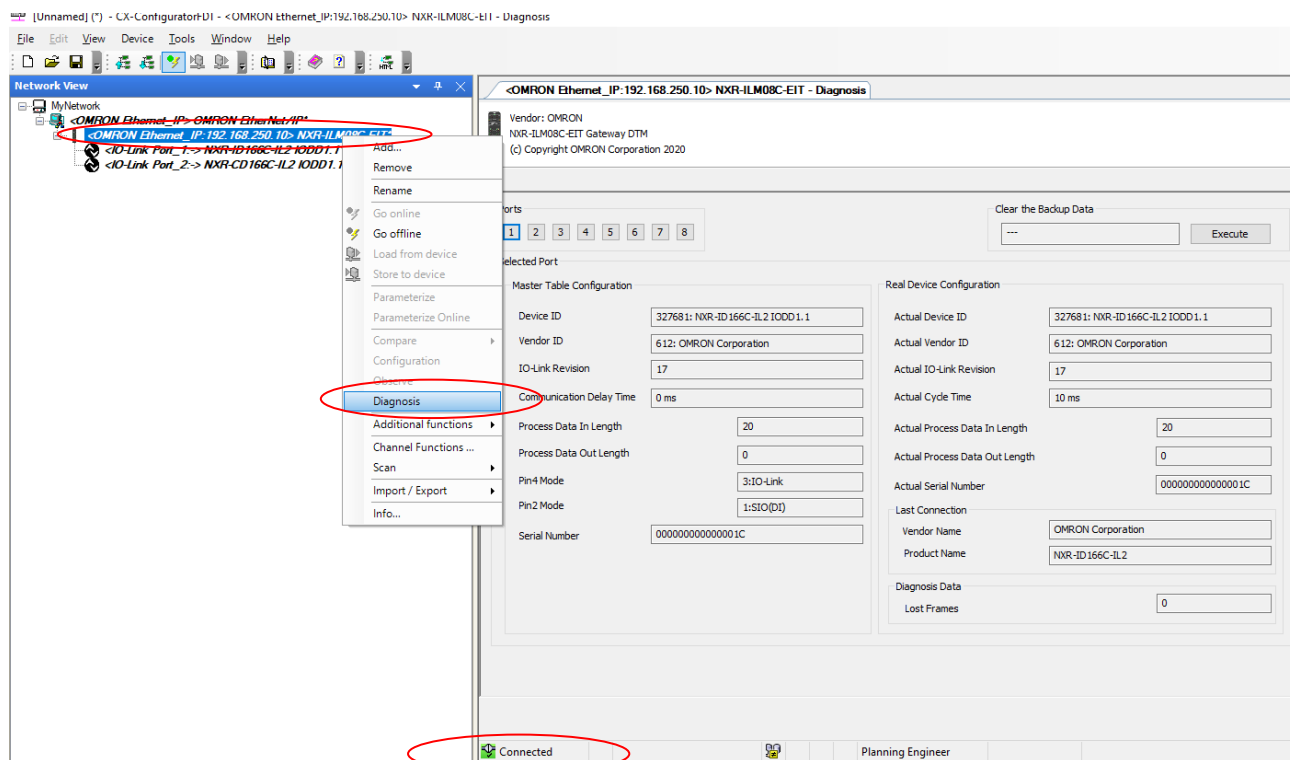
**Port1:** NXR-ID166C-IL2

**Port2:** NXR-CD166C-IL2

- Choose the IO-Link device (NXR-HUB in this case) and Go online

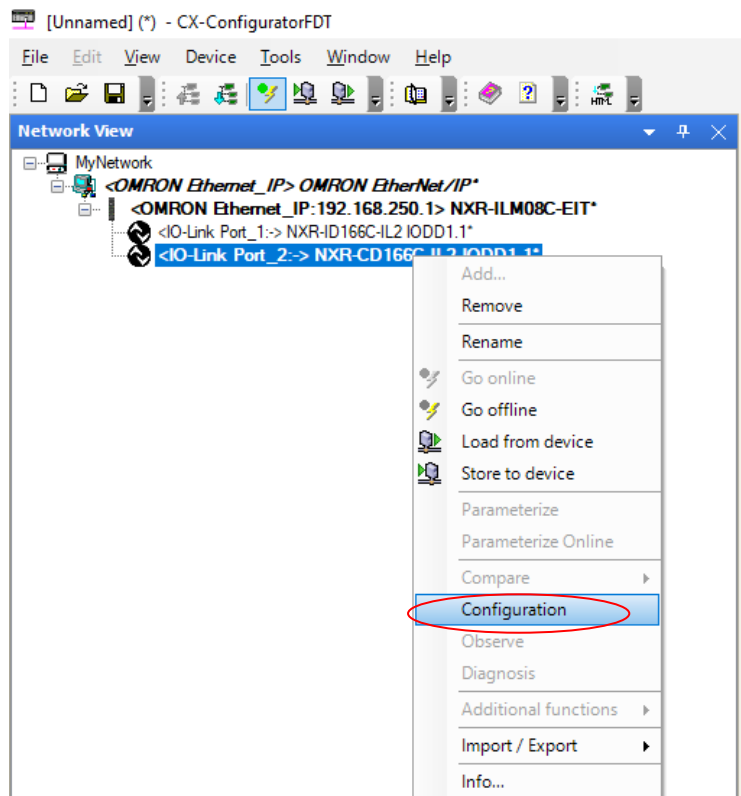


## IO-Link Master NXR-ILM08C0-EIT diagnosis

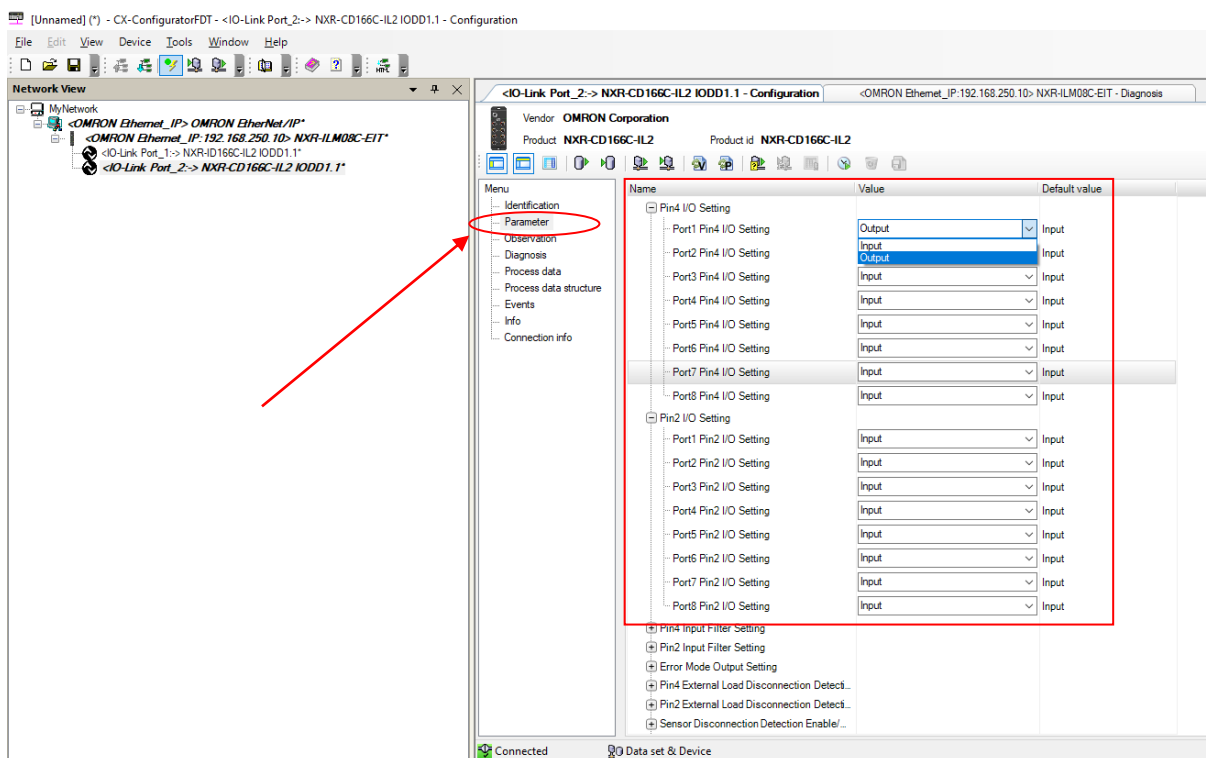


## IO-Link device NXR-CD166C-IL2 : hub port configuration

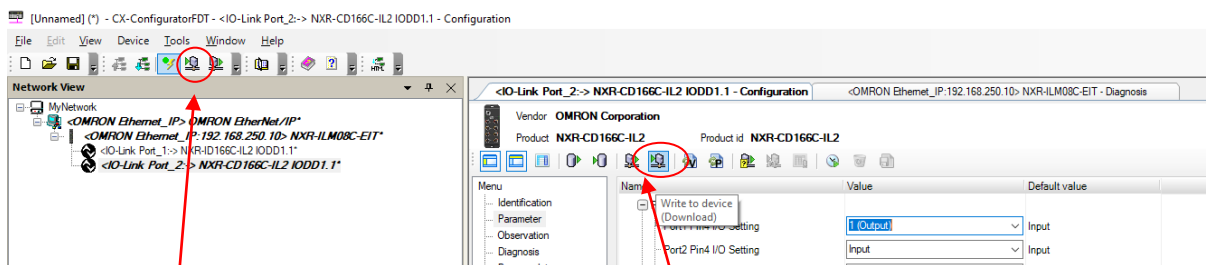
- **Open** device configuration tab page



- **Configure** the parameter (port input/output)



- After the setup, write the new **parameter** configuration to the device



Write all network parameters  
(for all devices)

OR

Write device parameters

CX-ConfiguratorFDT: Write the new parameter settings.

## 5 Appendix: data mapping

### NXR IO-Link Master data assembly mapping

Connection I/O type	Output Tag Set		Input Tag Set	
	Input Assembly Instance Number	Data size [bytes]	Output Assembly Instance Number	Data size [bytes]
EO Digital I/O with Status	126	30	148	2
EO Digital I/O, IO-Link 2 byte with Status	110	46	132	18
EO Digital I/O, IO-Link 8 byte with Status	111	94	133	66
EO Digital I/O, IO-Link 32 byte with Status	112	286	134	258

#### ● Input Assembly Instance Number 110

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 9	Unit Status	10	46
10 to 25	I/O Port Error Status	16	
26 to 27	Pin 4/Pin 2 Digital Input Data	2	
28 to 29	Integrated IO-Link Input Data	2	
30 to 45	IO-Link Input Data 2 bytes × 8 ports	16	

#### ● Input Assembly Instance Number 111

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 9	Unit Status	10	94
10 to 25	I/O Port Error Status	16	
26 to 27	Pin 4/Pin 2 Digital Input Data	2	
28 to 29	Integrated IO-Link Input Data	2	
30 to 93	IO-Link Input Data 8 bytes × 8 ports	64	

#### ● Input Assembly Instance Number 112

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 9	Unit Status	10	286
10 to 25	I/O Port Error Status	16	
26 to 27	Pin 4/Pin 2 Digital Input Data	2	
28 to 29	Integrated IO-Link Input Data	2	
30 to 285	IO-Link Input Data 32 bytes × 8 ports	256	

#### ● Input Assembly Instance Number 126

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 9	Unit Status	10	30
10 to 25	I/O Port Error Status	16	
26 to 27	Pin 4/Pin 2 Digital Input Data	2	
28 to 29	Integrated IO-Link Input Data	2	

● Output Assembly Instance Number 132

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 1	Pin 4/Pin 2 Digital Output Data	2	18
2 to 17	IO-Link Output Data 2 bytes × 8 ports	16	

● Output Assembly Instance Number 133

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 1	Pin 4/Pin 2 Digital Output Data	2	66
2 to 65	IO-Link Output Data 8 bytes × 8 ports	64	

● Output Assembly Instance Number 134

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 1	Pin 4/Pin 2 Digital Output Data	2	258
2 to 257	IO-Link Output Data 32 bytes × 8 ports	256	

● Output Assembly Instance Number 148

Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 1	Pin 4/Pin 2 Digital Output Data	2	2

Connection I/O type	Output Tag Set		Input Tag Set	
	Input Assembly Instance Number	Data size [bytes]	Output Assembly Instance Number	Data size [bytes]
EO Digital I/O with Status	126	30	148	2
EO Digital I/O, IO-Link 2 byte with Status	110	46	132	18
EO Digital I/O, IO-Link 8 byte with Status	111	94	133	66
EO Digital I/O, IO-Link 32 byte with Status	112	286	134	258



Bytes	Data name	Size [bytes]	Total size [bytes]
0 to 9	Unit Status	10	286
10 to 25	I/O Port Error Status	16	
26 to 27	Pin 4/Pin 2 Digital Input Data	2	
28 to 29	Integrated IO-Link Input Data	2	

REF: W619-E1-02IO-Link Master Unit (NXR-ILM ) for EIP User's Manual



Connection I/O type	Output Tag Set		Input Tag Set	
	Input As-sembly In-stance Number	Data size [bytes]	Output As-sembly In-stance Number	Data size [bytes]
EO Digital I/O with Status	126	30	148	2
EO Digital I/O, IO-Link 2 byte with Status	110	46	132	18
EO Digital I/O, IO-Link 8 byte with Status	111	94	133	66
EO Digital I/O, IO-Link 32 byte with Status	112	286	134	258

● **IO-Link Input Data (2 Bytes × 8 Ports)**

The data configuration of the IO-Link Input Data (2 bytes × 8 ports) is shown below. The total data size is 16 bytes.

Offset	Bit	
	15	00
m	Port 1 IO-Link Input Data	
m+1	Port 2 IO-Link Input Data	
m+2	Port 3 IO-Link Input Data	
m+3	Port 4 IO-Link Input Data	
m+4	Port 5 IO-Link Input Data	
m+5	Port 6 IO-Link Input Data	
m+6	Port 7 IO-Link Input Data	
m+7	Port 8 IO-Link Input Data	

● **IO-Link Input Data (32 Bytes × 8 Ports)**

The data configuration of the IO-Link Input Data (32 bytes × 8 ports) is shown below. The total data size is 256 bytes.

Offset	Bit	
	15	00
m to m+15	Port 1 IO-Link Input Data	
m+16 to m+31	Port 2 IO-Link Input Data	
m+32 to m+47	Port 3 IO-Link Input Data	
m+48 to m+63	Port 4 IO-Link Input Data	
m+64 to m+79	Port 5 IO-Link Input Data	
m+80 to m+95	Port 6 IO-Link Input Data	
m+96 to m+111	Port 7 IO-Link Input Data	
m+112 to m+127	Port 8 IO-Link Input Data	

● **IO-Link Input Data (8 Bytes × 8 Ports)**

The data configuration of the IO-Link Input Data (8 bytes × 8 ports) is shown below. The total data size is 64 bytes.

Offset	Bit	
	15	00
m to m+3	Port 1 IO-Link Input Data	
m+4 to m+7	Port 2 IO-Link Input Data	
m+8 to m+11	Port 3 IO-Link Input Data	
m+12 to m+15	Port 4 IO-Link Input Data	
m+16 to m+19	Port 5 IO-Link Input Data	
m+20 to m+23	Port 6 IO-Link Input Data	
m+24 to m+27	Port 7 IO-Link Input Data	
m+28 to m+31	Port 8 IO-Link Input Data	

Connection I/O type	Output Tag Set		Input Tag Set	
	Input As-sembly In-stance Number	Data size [bytes]	Output As-sembly In-stance Number	Data size [bytes]
EO Digital I/O with Status	126	30	148	2
EO Digital I/O, IO-Link 2 byte with Status	110	46	132	18
EO Digital I/O, IO-Link 8 byte with Status	111	94	133	66
EO Digital I/O, IO-Link 32 byte with Status	112	286	134	258



The function of each bit of the Pin 4/Pin 2 Digital Output Data is given in the following table.  
In modes other than SIO (DO) Mode, setting a value in Pin 4/Pin 2 Digital Output Data does not produce output.

Bit	Name	Default	Description
00	Port 1 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 1 Pin 4 Digital Output Bit is ON. FALSE: The Port 1 Pin 4 Digital Output Bit is OFF.
01	Port 1 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 1 Pin 2 Digital Output Bit is ON. FALSE: The Port 1 Pin 2 Digital Output Bit is OFF.
02	Port 2 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 2 Pin 4 Digital Output Bit is ON. FALSE: The Port 2 Pin 4 Digital Output Bit is OFF.
03	Port 2 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 2 Pin 2 Digital Output Bit is ON. FALSE: The Port 2 Pin 2 Digital Output Bit is OFF.
04	Port 3 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 3 Pin 4 Digital Output Bit is ON. FALSE: The Port 3 Pin 4 Digital Output Bit is OFF.
05	Port 3 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 3 Pin 2 Digital Output Bit is ON. FALSE: The Port 3 Pin 2 Digital Output Bit is OFF.
06	Port 4 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 4 Pin 4 Digital Output Bit is ON. FALSE: The Port 4 Pin 4 Digital Output Bit is OFF.
07	Port 4 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 4 Pin 2 Digital Output Bit is ON. FALSE: The Port 4 Pin 2 Digital Output Bit is OFF.
08	Port 5 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 5 Pin 4 Digital Output Bit is ON. FALSE: The Port 5 Pin 4 Digital Output Bit is OFF.
09	Port 5 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 5 Pin 2 Digital Output Bit is ON. FALSE: The Port 5 Pin 2 Digital Output Bit is OFF.
10	Port 6 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 6 Pin 4 Digital Output Bit is ON. FALSE: The Port 6 Pin 4 Digital Output Bit is OFF.
11	Port 6 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 6 Pin 2 Digital Output Bit is ON. FALSE: The Port 6 Pin 2 Digital Output Bit is OFF.
12	Port 7 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 7 Pin 4 Digital Output Bit is ON. FALSE: The Port 7 Pin 4 Digital Output Bit is OFF.
13	Port 7 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 7 Pin 2 Digital Output Bit is ON. FALSE: The Port 7 Pin 2 Digital Output Bit is OFF.
14	Port 8 Pin 4 Digital Output Bit	FALSE	TRUE: The Port 8 Pin 4 Digital Output Bit is ON. FALSE: The Port 8 Pin 4 Digital Output Bit is OFF.
15	Port 8 Pin 2 Digital Output Bit	FALSE	TRUE: The Port 8 Pin 2 Digital Output Bit is ON. FALSE: The Port 8 Pin 2 Digital Output Bit is OFF.

REF: W619-E1-02IO-Link Master Unit (NXR-ILM ) for EIP User's Manual

## Process Input Data of Digital I/O Variable Hub (NXR-**I**D166C-IL2 and NXR-**C**D166C-IL2)

	Bit							
	7	6	5	4	3	2	1	0
PD0	Input Data							
PD1								
PD2	Smart Status							
PD3								
PD4	Port1 Status							
PD5								
PD6	Port2 Status							
PD7								
PD8	Port3 Status							
PD9								
PD10	Port4 Status							
PD11								
PD12	Port5 Status							
PD13								
PD14	Port6 Status							
PD15								
PD16	Port7 Status							
PD17								
PD18	Port8 Status							
PD19								

PD	Bit	Assignment	Description
PD0	0	Port1 Pin4 Input Bit	1: The relevant input is ON. 0: The relevant input is OFF.
	1	Port1 Pin2 Input Bit	
	2	Port2 Pin4 Input Bit	
	3	Port2 Pin2 Input Bit	
	4	Port3 Pin4 Input Bit	
	5	Port3 Pin2 Input Bit	
	6	Port4 Pin4 Input Bit	
7	Port4 Pin2 Input Bit		
PD1	0	Port5 Pin4 Input Bit	1: The relevant input is ON. 0: The relevant input is OFF.
	1	Port5 Pin2 Input Bit	
	2	Port6 Pin4 Input Bit	
	3	Port6 Pin2 Input Bit	
	4	Port7 Pin4 Input Bit	
	5	Port7 Pin2 Input Bit	
	6	Port8 Pin4 Input Bit	
7	Port8 Pin2 Input Bit		

PD	Bit	Assignment	Description
PD2	0	Unit/Input Power Supply Voltage Drop Detection Bit	1: The Unit/input power supply voltage is below the monitored voltage. 0: The Unit/input power supply voltage is equal to or higher than the monitored voltage.
	1	Unit/Input Power Supply Voltage Drop Detection Hold Bit	1: The status of the Unit/input power supply voltage drop detection is retained. 0: The status of the Unit/input power supply voltage drop detection was reset.
	2 to 7	Reserved	Not available. They are fixed to 0.
PD3	0	Port1 Status Summary Bit	1: Of Port□ Status, any bit except the hold bits is ON. 0: Of Port□ Status, all bits except the hold bits are OFF.  □ refers to port numbers 1 to 8. Refer to <i>Port□ Status</i> on page 6-4 for details on Port□ Status. A status summary bit is the logical OR of Port□ Status excluding the hold bits.
	1	Port2 Status Summary Bit	
	2	Port3 Status Summary Bit	
	3	Port4 Status Summary Bit	
	4	Port5 Status Summary Bit	
	5	Port6 Status Summary Bit	
	6	Port7 Status Summary Bit	
	7	Port8 Status Summary Bit	

The data indicate the detailed status of each port. □ refers to port numbers 1 to 8.

PD	Bit	Assignment	Description
PD*1	0	Port□ Sensor Disconnection Detection Bit	1: A sensor disconnection was detected. 0: A sensor disconnection was not detected.
	1	Port□ Sensor Short Circuit Detection Bit	1: A sensor power supply short circuit was detected. 0: A sensor power supply short circuit was not detected.
	2	Port□ Sensor Disconnection Detection Hold Bit	1: The status of sensor disconnection detection is retained. 0: The status of sensor disconnection detection was reset.
	3	Port□ Sensor Short Circuit Detection Hold Bit	1: The status of sensor power supply short circuit detection is retained. 0: The status of sensor power supply short circuit detection was reset.
	4 to 7	Reserved	Not available. They are fixed to 0.

\*1. The number following PD is  $(2 \times \text{port number}) + 2$ . For port 2, for example, the number is  $(2 \times 2) + 2 = 6$ , or PD6.

PD5, PD7, PD9, PD11, PD13, PD15, PD17, and PD19 are reserved. They are not available. They are fixed to 0.

## Process Output Data of Digital I/O Variable Hub (only for NXR-CD166C-IL2)

	Bit							
	7	6	5	4	3	2	1	0
PD0	Input Data							
PD1	Smart Status							
PD2	Port1 Status							
PD3								
PD4	Port2 Status							
PD5								
PD6	Port3 Status							
PD7								
PD8	Port4 Status							
PD9								
PD10	Port5 Status							
PD11								
PD12	Port6 Status							
PD13								
PD14	Port7 Status							
PD15								
PD16	Port8 Status							
PD17								
PD18								
PD19								

PD	Bit	Assignment	Description
PD0	0	Port1 Pin4 Input Bit	1: The relevant input is ON. 0: The relevant input is OFF.
	1	Port1 Pin2 Input Bit	
	2	Port2 Pin4 Input Bit	
	3	Port2 Pin2 Input Bit	
	4	Port3 Pin4 Input Bit	
	5	Port3 Pin2 Input Bit	
	6	Port4 Pin4 Input Bit	
PD1	7	Port4 Pin2 Input Bit	
	0	Port5 Pin4 Input Bit	1: The relevant input is ON. 0: The relevant input is OFF.
	1	Port5 Pin2 Input Bit	
	2	Port6 Pin4 Input Bit	
	3	Port6 Pin2 Input Bit	
	4	Port7 Pin4 Input Bit	
	5	Port7 Pin2 Input Bit	
6	Port8 Pin4 Input Bit		
7	Port8 Pin2 Input Bit		

A contact that was set to output through the I/O function configuration is always 0.

PD	Bit	Assignment	Description
PD2	0	Unit/Input Power Supply Voltage Drop Detection Bit	1: The Unit/input power supply voltage is below the monitored voltage. 0: The Unit/input power supply voltage is equal to or higher than the monitored voltage.
	1	Unit/Input Power Supply Voltage Drop Detection Hold Bit	1: The status of the Unit/input power supply voltage drop detection is retained. 0: The status of the Unit/input power supply voltage drop detection was reset.
	2	Output Power Supply Voltage Drop Detection Bit	1: The output power supply voltage is below the monitored voltage. 0: The output power supply voltage is equal to or more than the monitored voltage.
	3	Output Power Supply Voltage Drop Detection Hold Bit	1: The status of the output power supply voltage drop detection is retained. 0: The status of the output power supply voltage drop detection was reset.
	4 to 7	Reserved	Not available. They are fixed to 0.
PD3	0	Port1 Status Summary Bit	1: Of Port□ Status, any bit except the hold bits is ON. 0: Of Port□ Status, all bits except the hold bits are OFF.  □ refers to port numbers 1 to 8. Refer to <i>Port□ Status</i> on page 6-6 for details on Port□ Status. A status summary bit is the logical OR of Port□ Status excluding the hold bits.
	1	Port2 Status Summary Bit	
	2	Port3 Status Summary Bit	
	3	Port4 Status Summary Bit	
	4	Port5 Status Summary Bit	
	5	Port6 Status Summary Bit	
	6	Port7 Status Summary Bit	
	7	Port8 Status Summary Bit	

## Process Output Data of Digital I/O Variable Hub (only for NXR-CD166C-IL2)

	Bit							
	7	6	5	4	3	2	1	0
PD0	Input Data							
PD1								
PD2	Smart Status							
PD3								
PD4	Port1 Status							
PD5								
PD6	Port2 Status							
PD7								
PD8	Port3 Status							
PD9								
PD10	Port4 Status							
PD11								
PD12	Port5 Status							
PD13								
PD14	Port6 Status							
PD15								
PD16	Port7 Status							
PD17								
PD18	Port8 Status							
PD19								

PD	Bit	Assignment	Description
PD <sup>*1</sup>	0	Port□ Sensor Disconnection Detection Bit	1: A sensor disconnection was detected. 0: A sensor disconnection was not detected.
	1	Port□ Sensor Short Circuit Detection Bit	1: A sensor power supply short circuit was detected. 0: A sensor power supply short circuit was not detected.
	2	Port□ Sensor Disconnection Detection Hold Bit	1: The status of sensor disconnection detection is retained. 0: The status of sensor disconnection detection was reset.
	3	Port□ Sensor Short Circuit Detection Hold Bit	1: The status of sensor power supply short circuit detection is retained. 0: The status of sensor power supply short circuit detection was reset.
	4 to 7	Reserved	Not available. They are fixed to 0.

\*1. The number following PD is  $(2 \times \text{port number}) + 2$ . For port 2, for example, the number is  $(2 \times 2) + 2 = 6$ , or PD6.

PD	Bit	Assignment	Description
PD <sup>*1</sup>	0	Port□ Pin4 External Load Disconnection Detection Bit	1: A pin 4 external load disconnection was detected. 0: A pin 4 external load disconnection was not detected.
	1	Port□ Pin4 External Load Short Circuit Detection Bit	1: A pin 4 external load short circuit was detected. 0: A pin 4 external load short circuit was not detected.
	2	Port□ Pin4 External Load Disconnection Detection Hold Bit	1: The status of pin 4 external load disconnection detection is retained. 0: The status of pin 4 external load detection was reset.
	3	Port□ Pin4 External Load Short Circuit Detection Hold Bit	1: The status of pin 4 external load short circuit detection is retained. 0: The status of pin 4 external load short circuit was reset.
	4	Port□ Pin2 External Load Disconnection Detection Bit	1: A pin 2 external load disconnection was detected. 0: A pin 2 external load disconnection was not detected.
	5	Port□ Pin2 External Load Short Circuit Detection Bit	1: A pin 2 external load short circuit was detected. 0: A pin 2 external load short circuit was not detected.
	6	Port□ Pin2 External Load Disconnection Detection Hold Bit	1: The status of pin 2 external load disconnection detection is retained. 0: The status of pin 2 external load detection was reset.
	7	Port□ Pin2 External Load Short Circuit Detection Hold Bit	1: The status of pin 2 external load short circuit detection is retained. 0: The status of pin 2 external load short circuit was reset.

\*1. The number following PD is  $(2 \times \text{port number}) + 3$ . For port 2, for example, the number is  $(2 \times 2) + 3 = 7$ , or PD7.

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