TigoMaster 2TH Profinet PLC Integration - W-Ports Configuration Via PLC

<Apr-7th, 2022 10:52>**Version:1**

This article describes how to integrate TigoMaster 2TH with PROFINET using Siemens PLC.

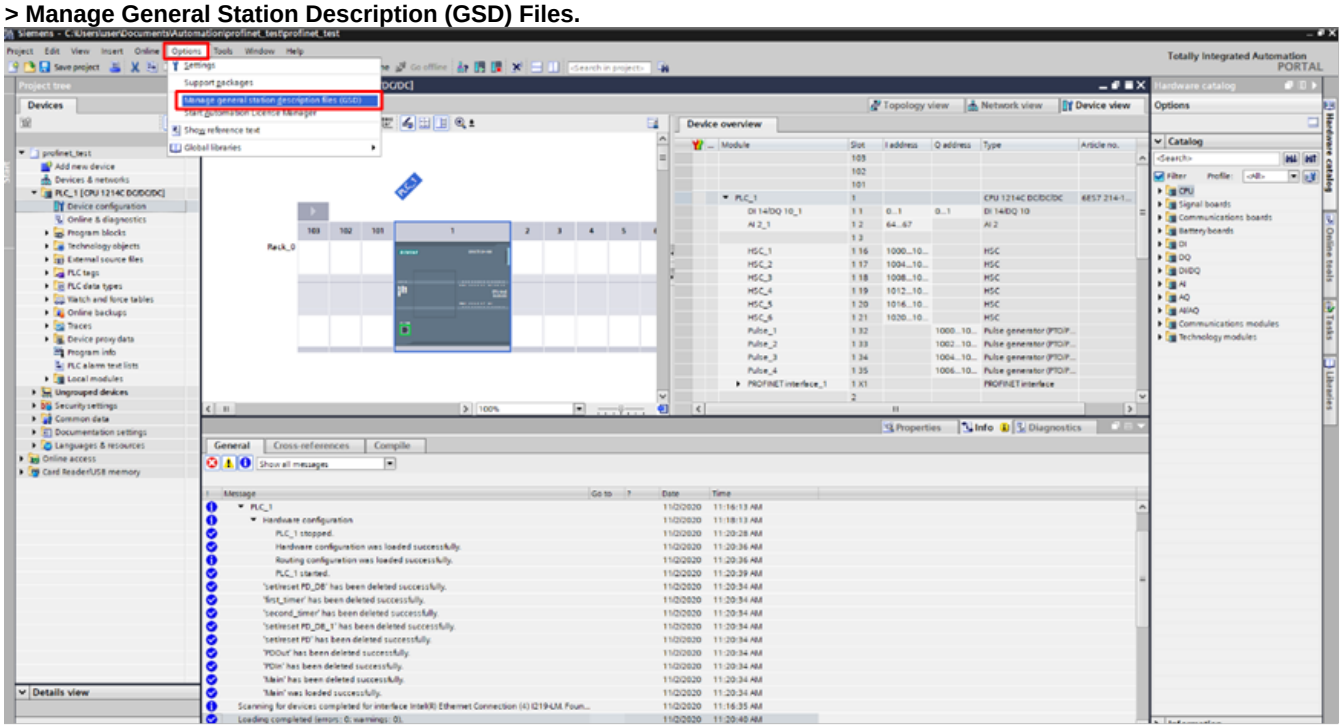
The w-ports configuration will be done via PLC. In case w-ports configuration required via TigoEngine, please refer to the article TigoMaster 2TH Profinet PLC Integration - W-Ports Configuration Via TigoEngine

You can watch a video or follow the steps written below to integrate TigoMaster 2TH with PROFINET using Siemens PLC:

Video Link - 2TH_PROFINET_Integration_WPorts_Configuration_Via_PLC

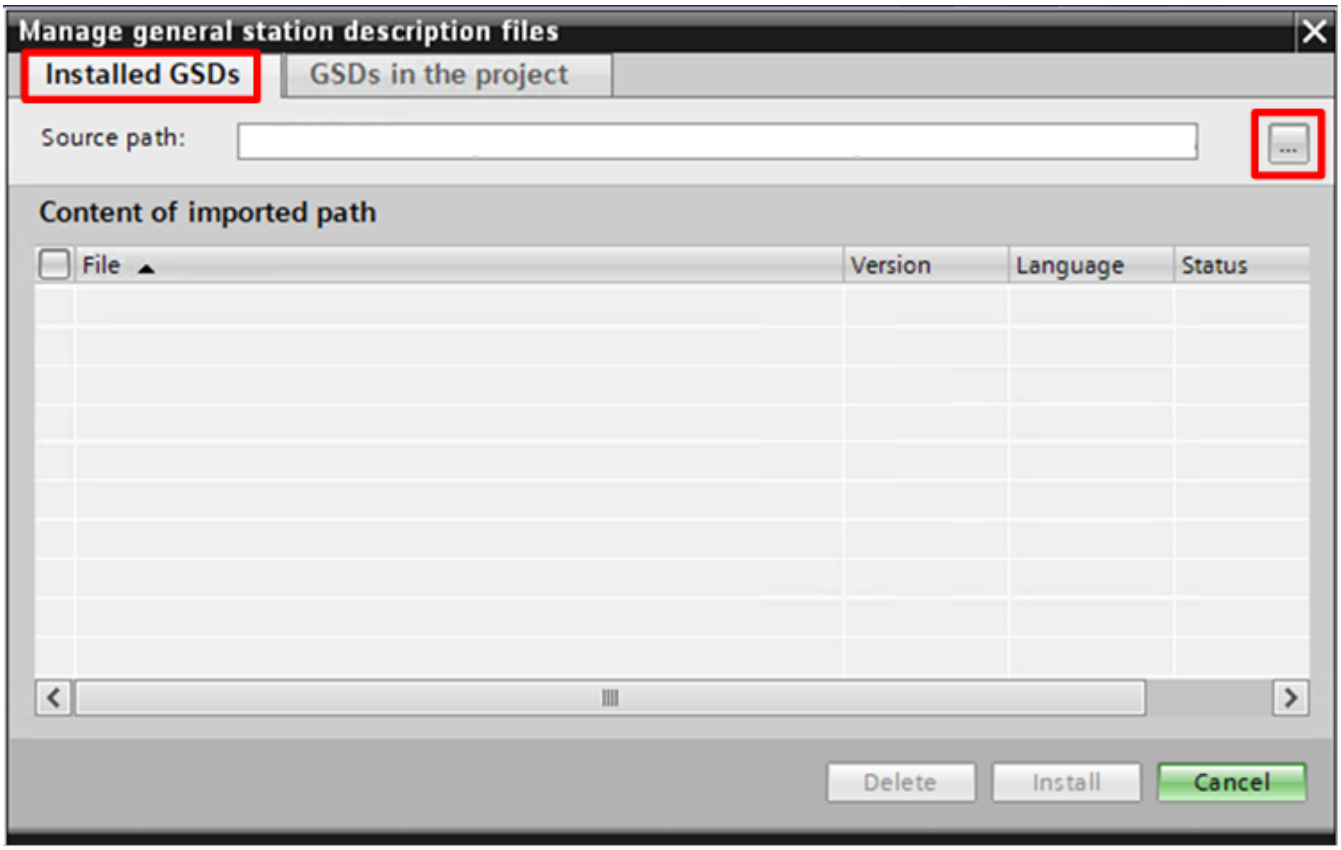
Importing GSD & Connecting to the PLC:

Select Options
> Manage General Station Description (GSD) Files.



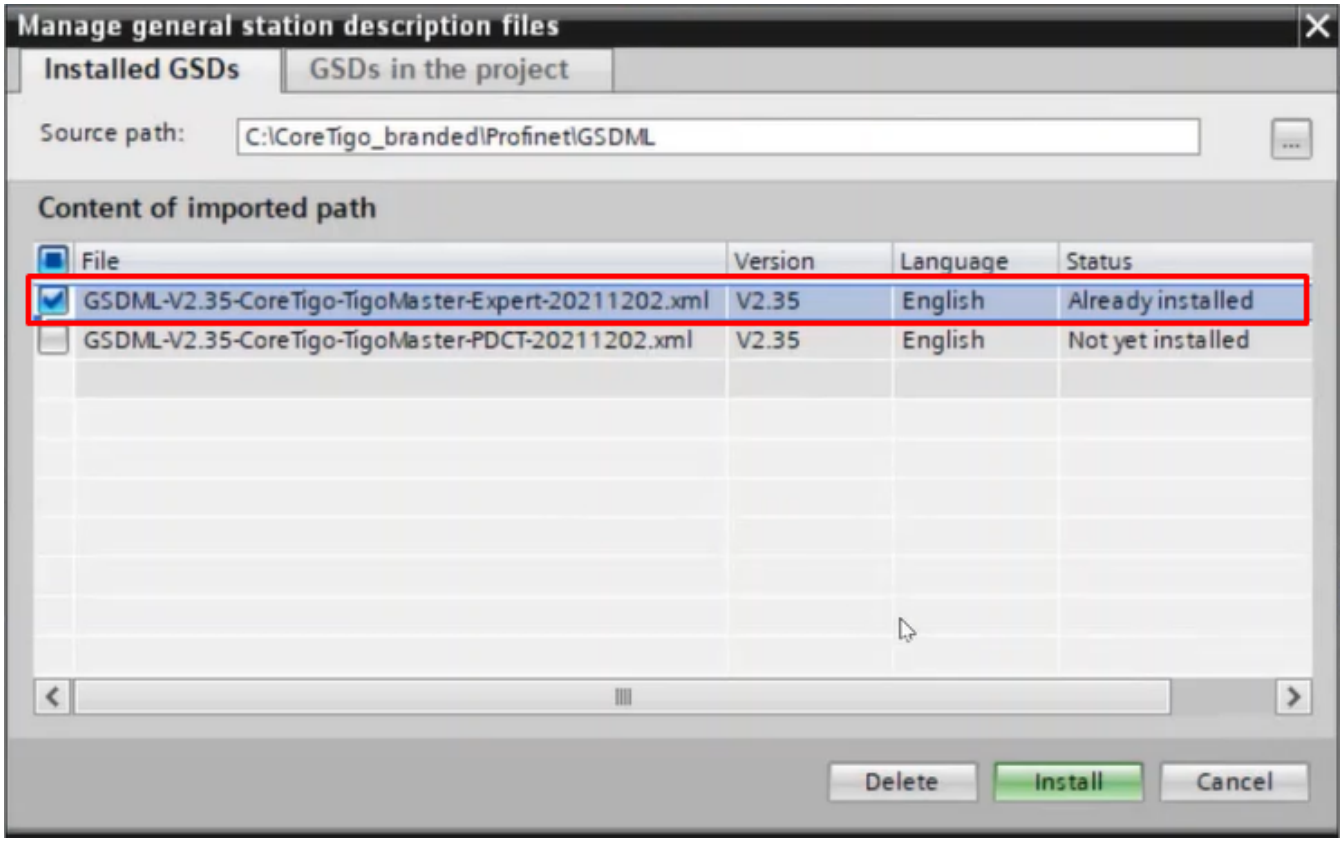
2.In the Manage General Station Description Files window, make sure that the Installed GSDs tab is selected.

3. Click the ellipsis (…) button.



4. Select the Source Path for the GSDML file.

5. A list of available GSD files appears under Content of imported path.

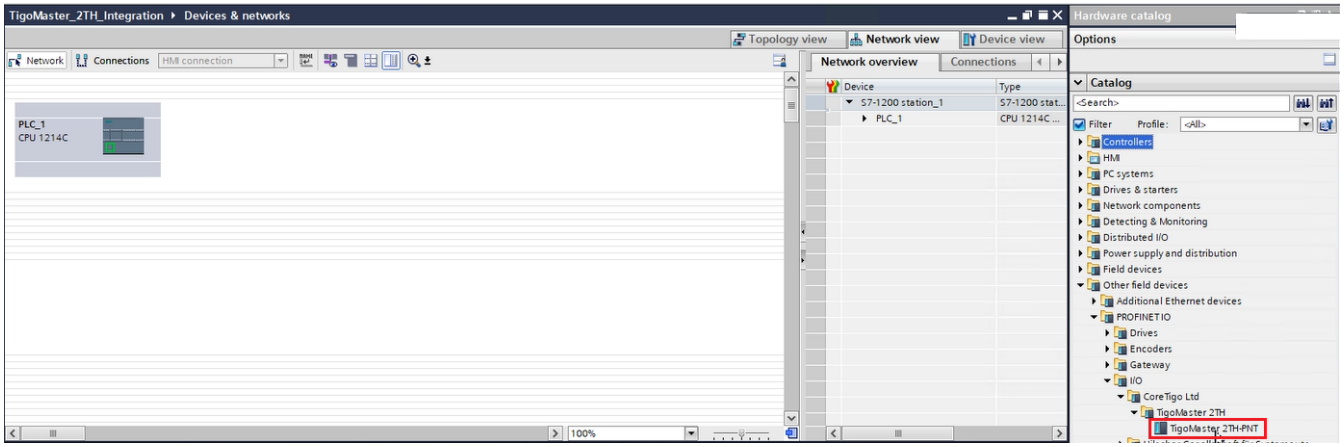


6. Select the relevant GSDML file from the list. (There are 2 options: PDCT and Expert. In this article, the

Expert option provides the capability to configure the wireless ports via the PLC programming environment)

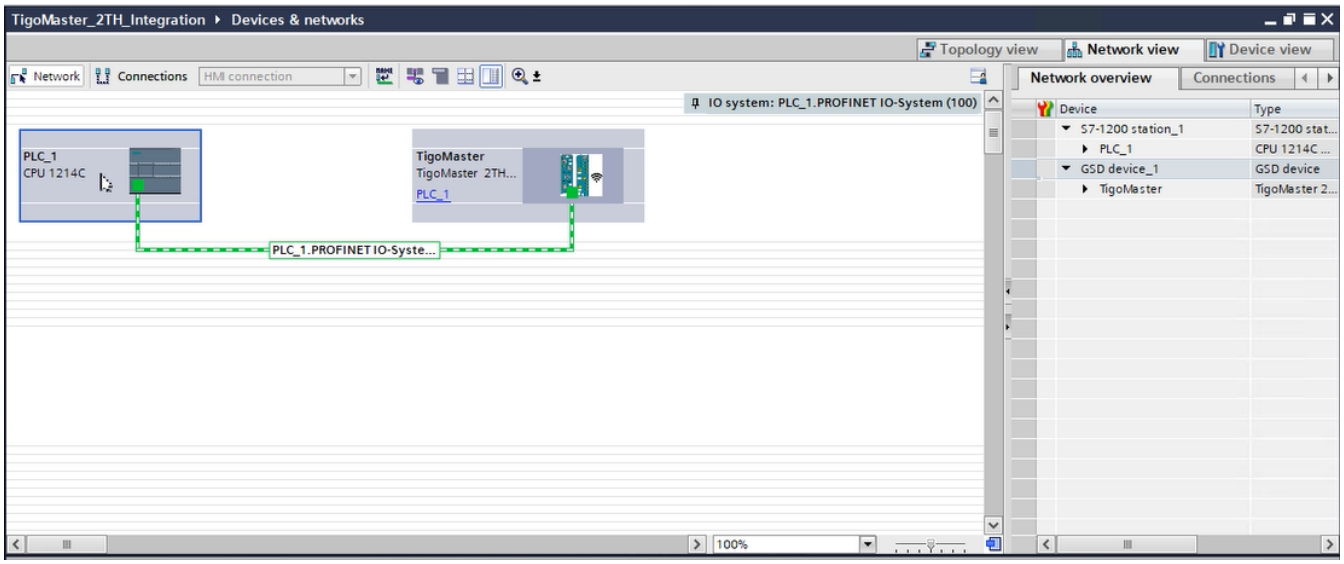
7. Click the Install button.

8.When the installation is complete, a new module (TigoMaster 2TH) is added to the Hardware catalog under Other field devices > PROFINET IO > I/O > CoreTigo Ltd > TigoMaster 2TH-PNT



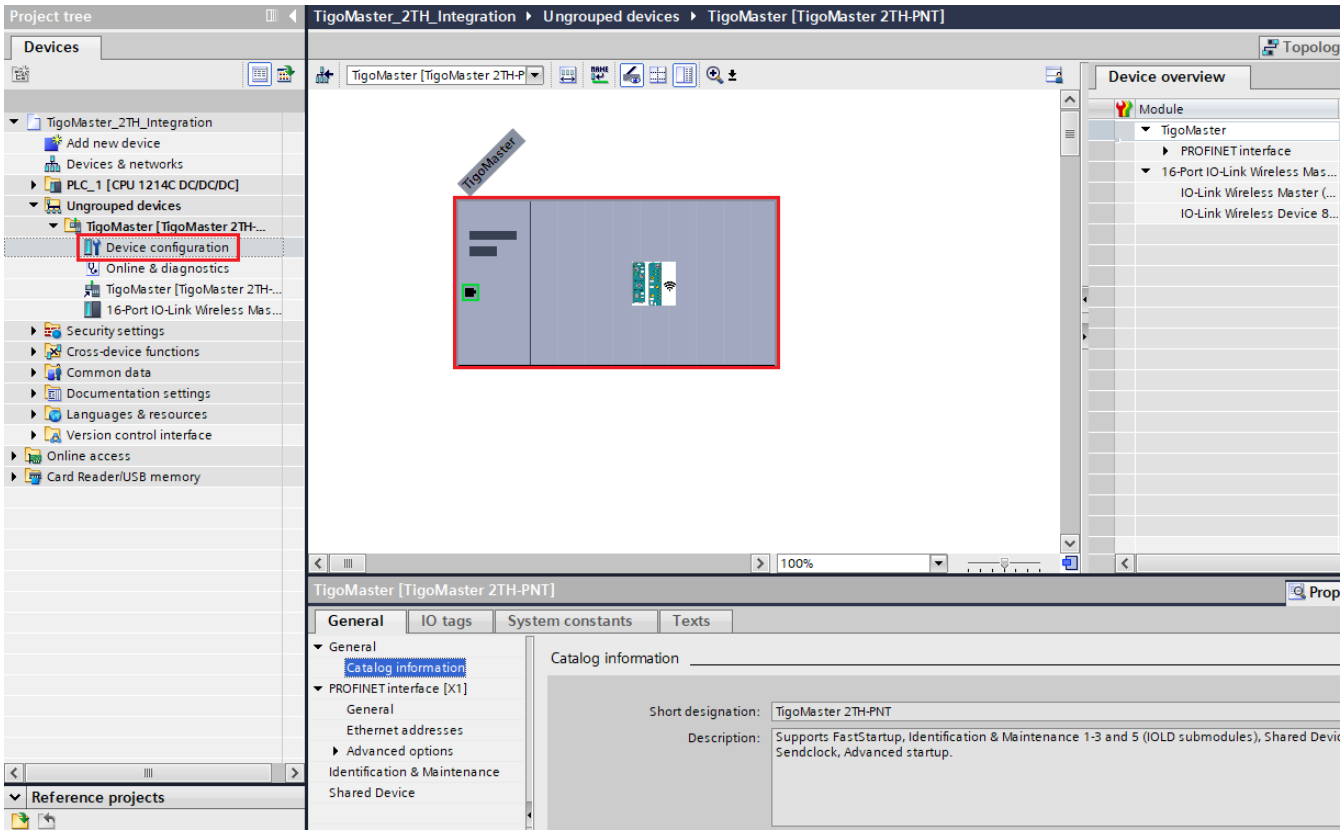
9. In the Hardware catalog pane, locate the TigoMaster 2TH-PNT, and then drag it to Devices & networks > Topology view.

10. In the Network View tab, draw a connection between the TigoMaster 2TH and PLC .



11. Select the TigoMaster 2TH and go to the Device view tab.

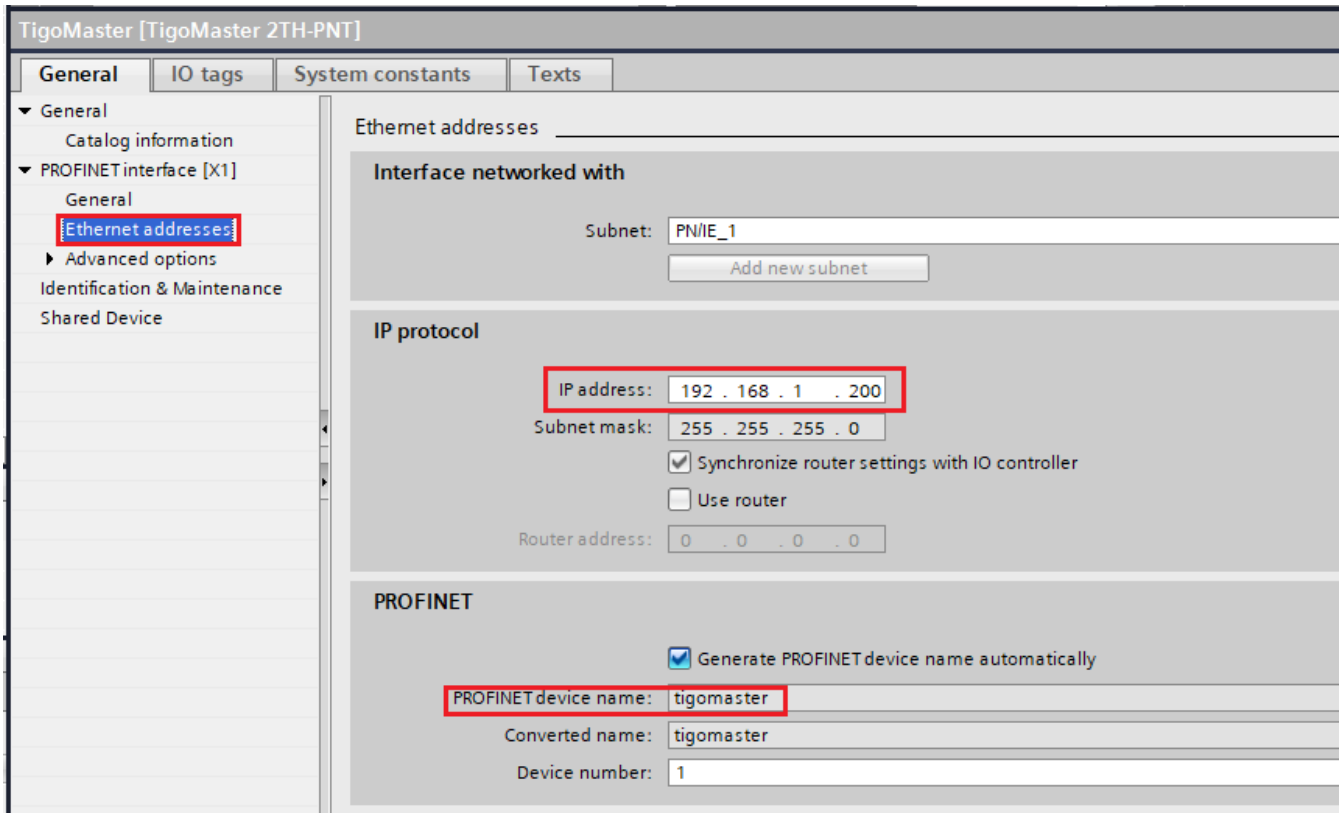
12. Click on the Master (which is outlined in red) to open configuration fields.



13. In the General tab, go to PROFINET interface [x1] > Ethernet addresses.

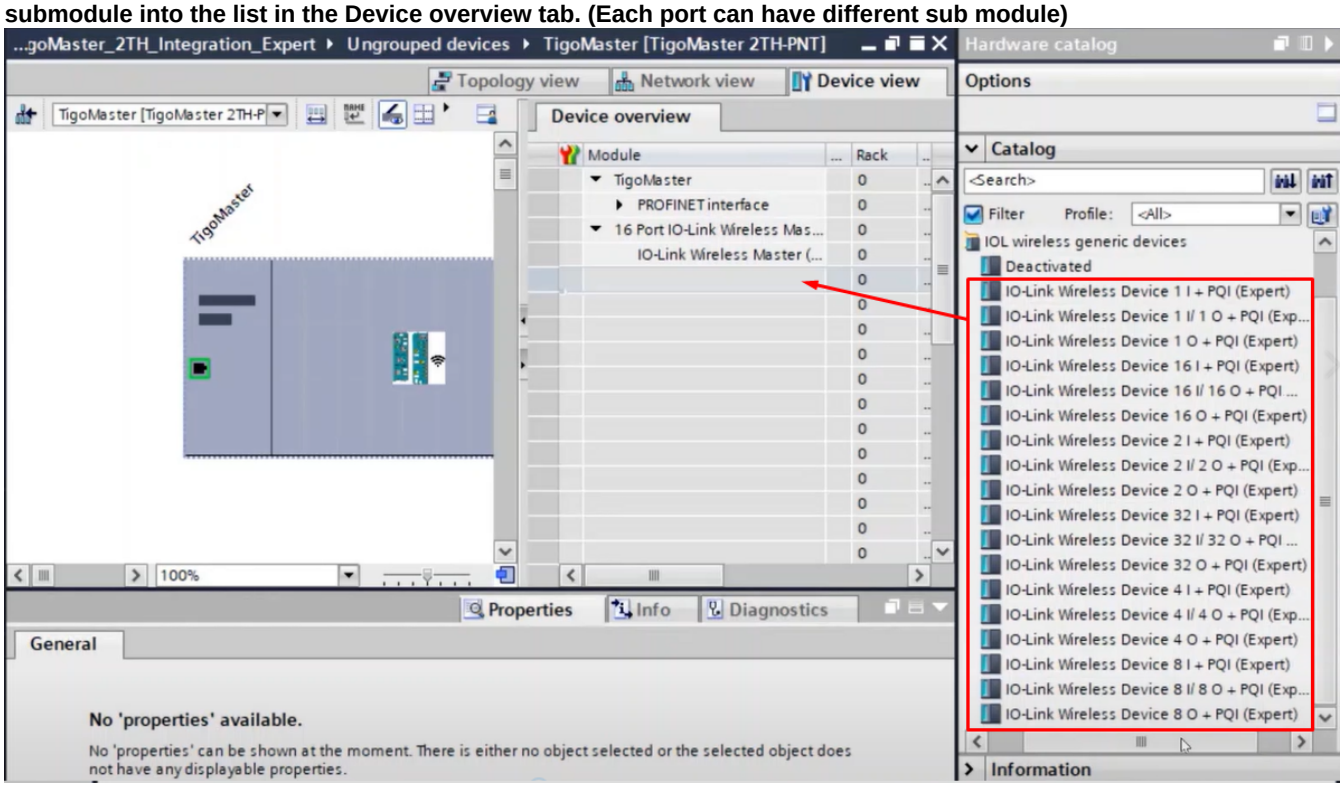
14. Under IP protocol, set the desired IP address.

15. Under PROFINET, make sure the PROFINET device name is correct.

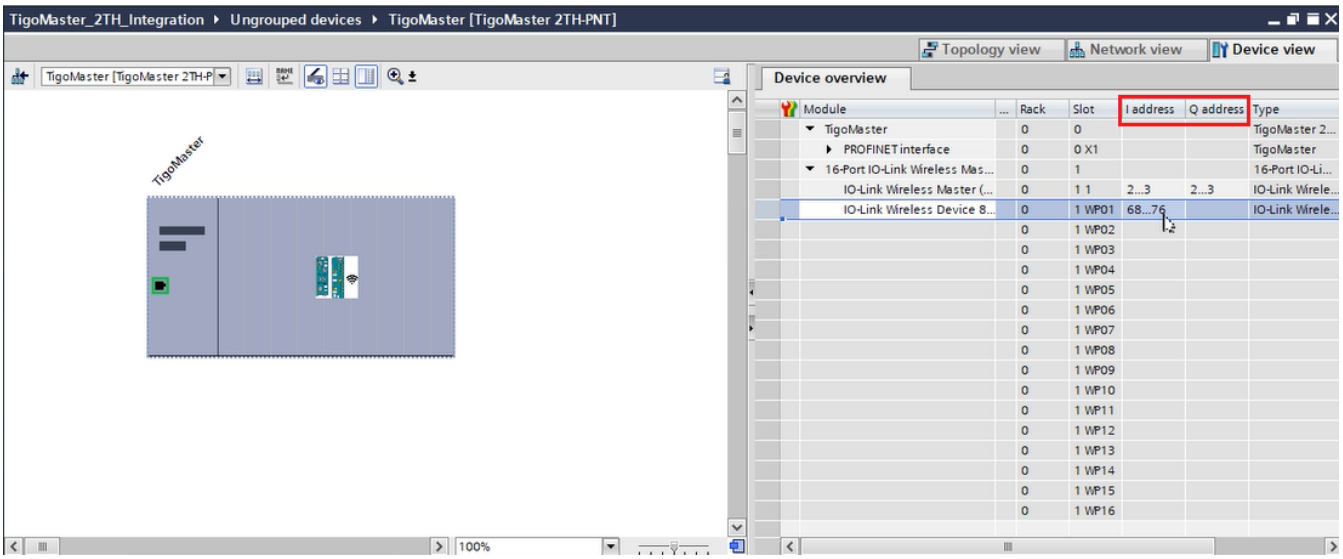


Configuring Submodules:

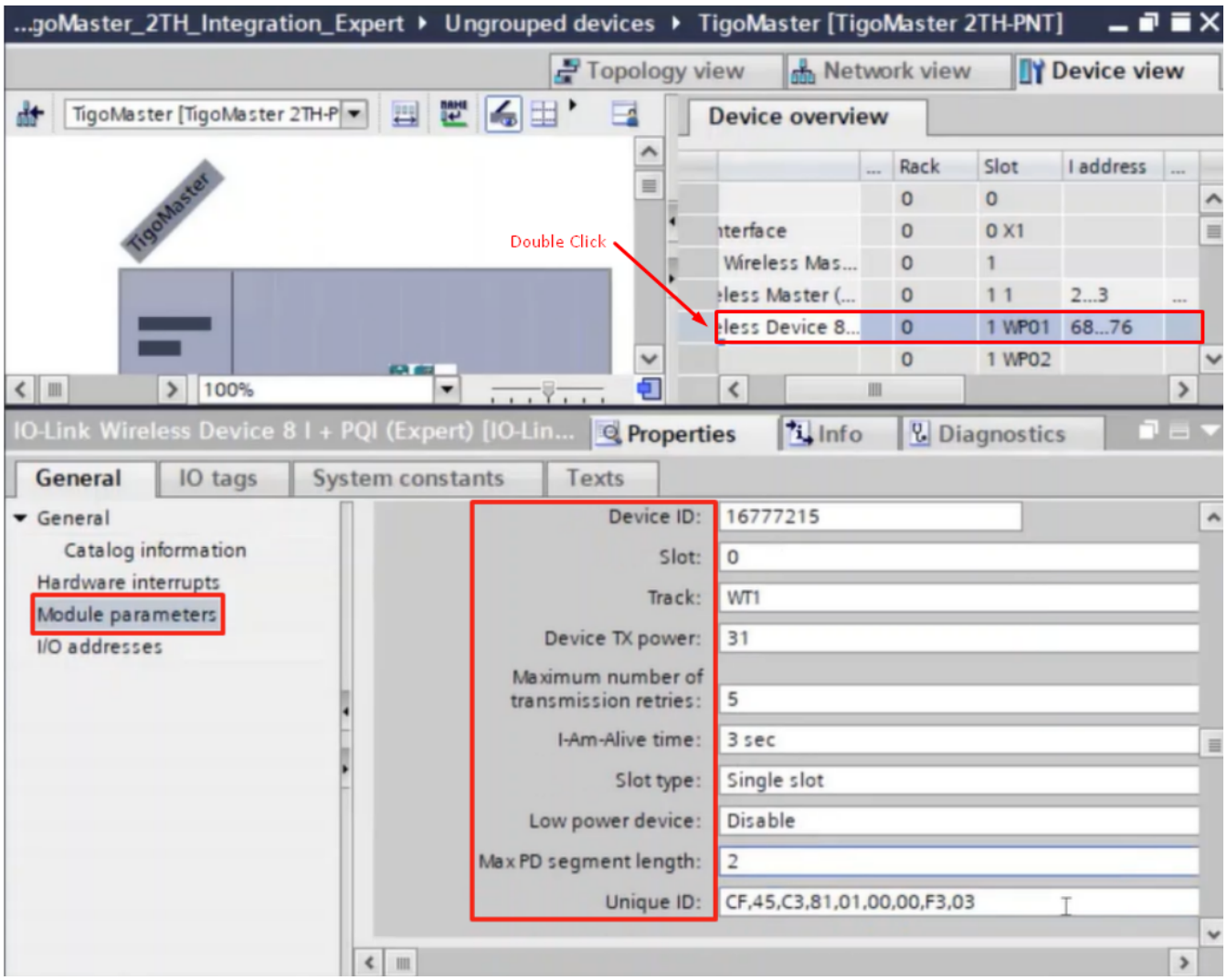
Go to the Device Overview tab.If under the module column all W-ports appear as deactivated, select the rows and press delete in order to activate it. In the Catalog pane, go to Submodules -> IOL wireless generic devices, and select the desired submodule. (The sub module will be selected according to the device process data size - please see table at the end of this article)Drag the selected submodule into the list in the Device overview tab. (Each port can have different sub module)



5. Under the I address the system will allocate addresses for the PDIN and under the Q address the system will allocate addresses for the PDOUT:

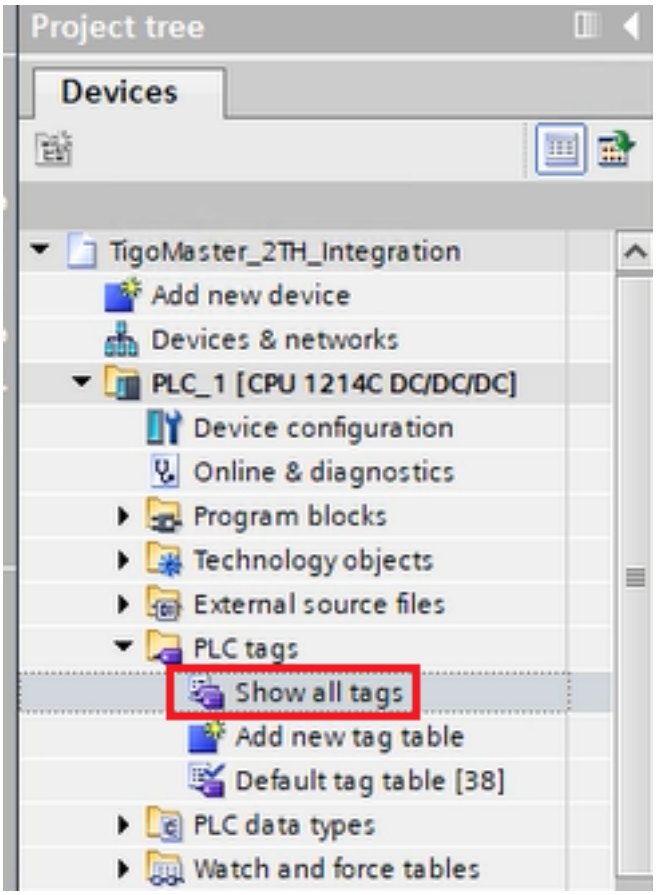


6. After double-clicking on the sub module, you can see and set all the parameters for the configuration including the slot number, track number, validation & backup, the UID of the device, etc.



6. After setting all the parameters, compile & download in order to apply the current settings.

7. In the Project Tree, under the relevant PLC go to PLC Tags > Show All Tags.



8. In the Tags tab, enter the addresses that were assigned to the W-ports in order to see the data in online.

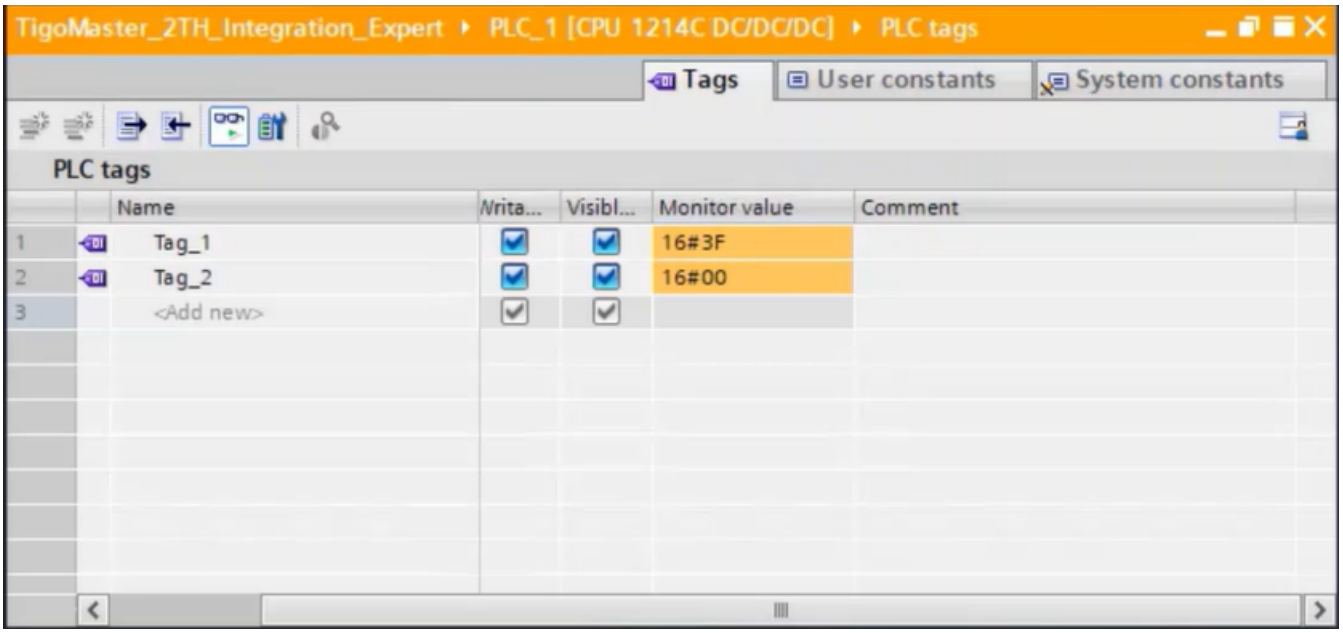


Table - Port Submodule Parameters:

Parameter

Description	Input Process Data Size (PD_IN)	Output Process Data Size (PD_OUT)
IO-Link 1 I + PQI	IO-Link with 1 byte input data and PQI	1 byte + 1 byte PQI	-
IO-Link 1 I / 1 O + PQI	IO-Link with 1 byte input data and 1 byte output data and PQI	1 byte + 1 byte PQI	1 byte
IO-Link 1 O + PQI	IO-Link with 1 byte output data and PQI	-	1 byte
IO-Link 16 I + PQI	IO-Link with 16 bytes input data and PQI	16 bytes + 1 byte PQI	

-

IO-Link 16 I / 16 O + PQI

IO-Link with 16 bytes input data and 16 bytes output data and PQI

16 bytes + 1 byte PQI

16 bytes

IO-Link 16 O + PQI

IO-Link with 16 bytes output data and PQI

-

16 bytes

IO-Link 2 I + PQI

IO-Link with 2 bytes input data and PQI

2 bytes + 1 byte PQI

-

IO-Link 2 I / 2 O + PQI

IO-Link with 2 bytes input data and 2 bytes output data and PQI

2 bytes + 1 byte PQI

2 bytes

IO-Link 2 O + PQI

IO-Link with 2 bytes output

data and PQI

-

2 bytes

IO-Link 32 I + PQI

IO-Link with 32 bytes input

data and PQI

32 bytes + 1 byte PQI

-

IO-Link 32 I / 32 O + PQI

IO-Link with 32 bytes input data and

32 bytes output data and PQI

32 bytes + 1 byte PQI

32 bytes

IO-Link 32 O + PQI

IO-Link with 32 bytes output

data and PQI

-

32 bytes

IO-Link 4 I + PQI

IO-Link with 4 bytes input

data and PQI

4 bytes + 4 bytes PQI

-

IO-Link 4 I / 4 O + PQI

IO-Link with 4 bytes input data and 4 bytes output data and PQI

4 bytes + 4 bytes PQI

4 bytes

IO-Link 4 O + PQI

IO-Link with 4 bytes output data and PQI

-

4 bytes

IO-Link 8 I + PQI

IO-Link with 8 bytes input data and PQI

8 bytes + 8 bytes PQI

-

IO-Link 8 I / 8 O + PQI

IO-Link with 8 bytes input data and 8 bytes output data and PQI

8 bytes + 8 bytes PQI

8 bytes

IO-Link 8 O + PQI

IO-Link with 8 bytes output data and PQI

-

8 bytes

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