

Connecting to a WAGO Fieldbus Coupler via Ethernet/IP (IP scanner)

Hardware

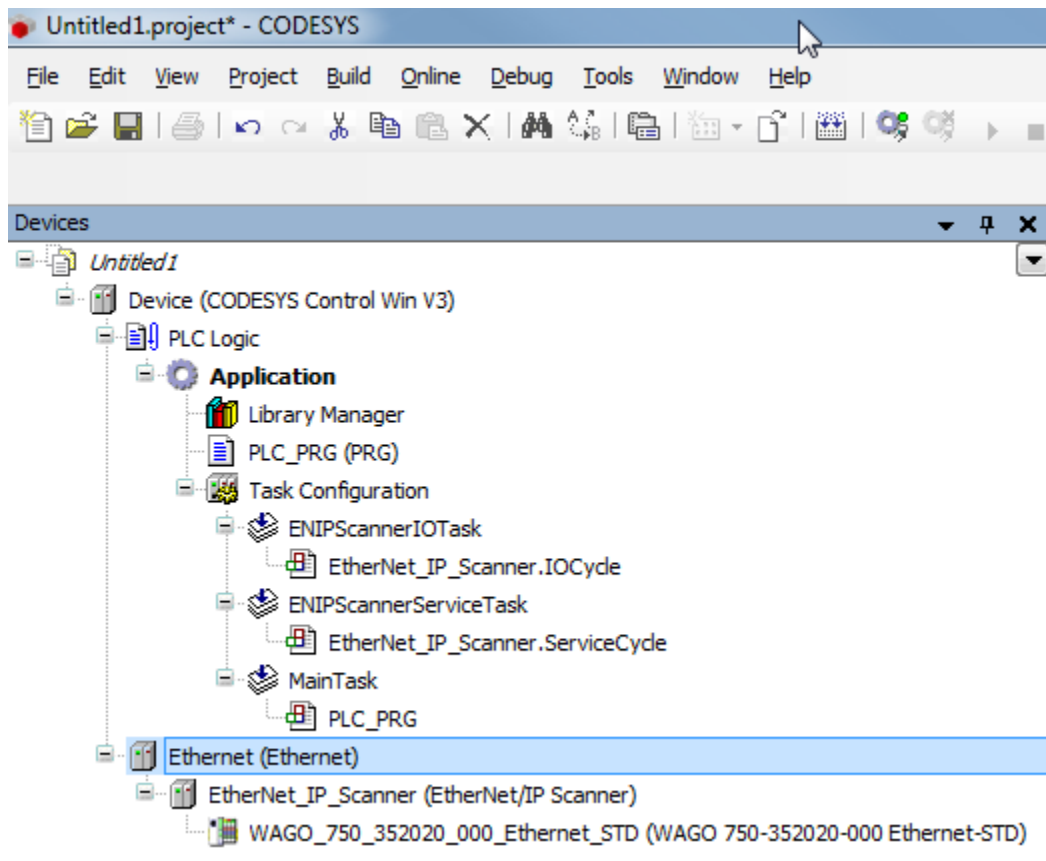
- 1x WAGO fieldbus coupler 750-352/000-001
- 1x digital input terminal 750-401
- 1x digital output terminal 750-504
- 1x end terminal 750-600

Requirements for the Wago controller

- Issue the IP address (e.g. using the tool [WAGO Ethernet Settings](#)).
- Activate output variables (e.g. using the tool [WAGO Ethernet Settings Ethernet/IP](#)).
- Procure the manual for the fieldbus coupler.
- Download the current EDS file for the device from the WAGO website.

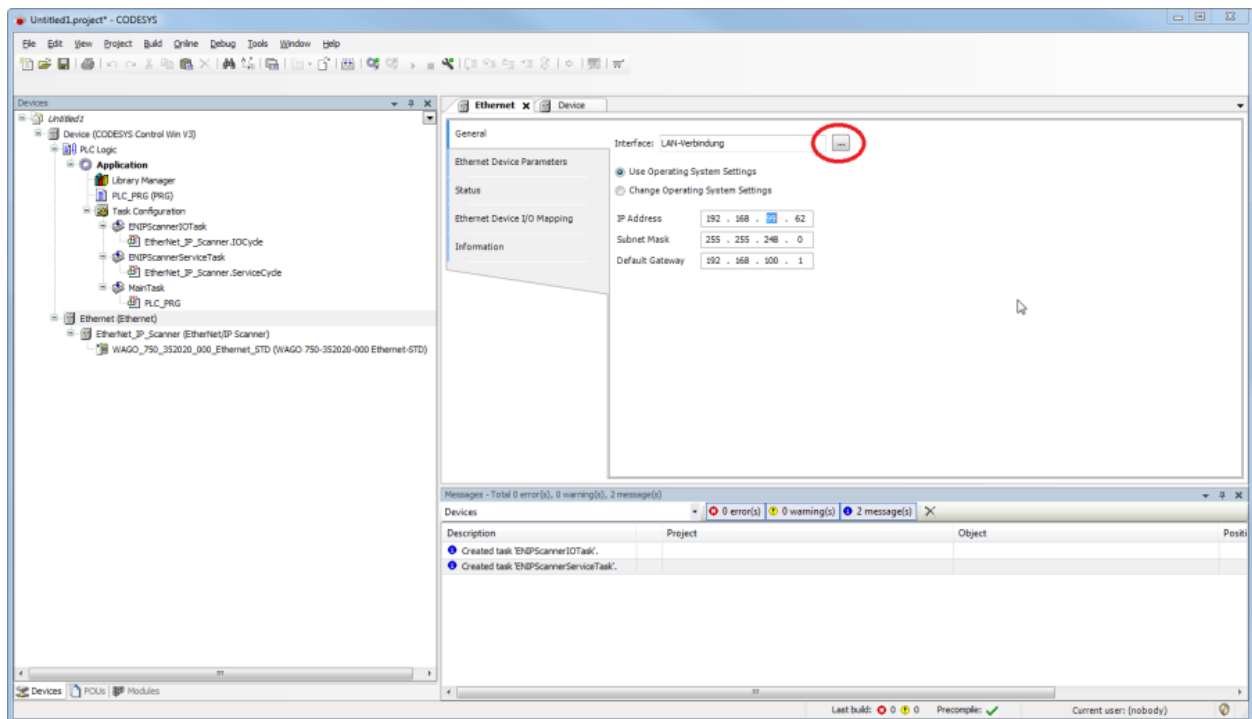
Requirements for CODESYS

- Install the Wago EDS file via [Tools Device Repository... Install...](#)
- Create a standard project and define your own device (e.g. [CODESYS Control Win V3](#)) Scan the network and select the device.
- Insert an Ethernet adapter, an Ethernet/IP scanner and a Wago fieldbus coupler in the project.



Settings on the Ethernet adapter

- Define the network interface to be used.



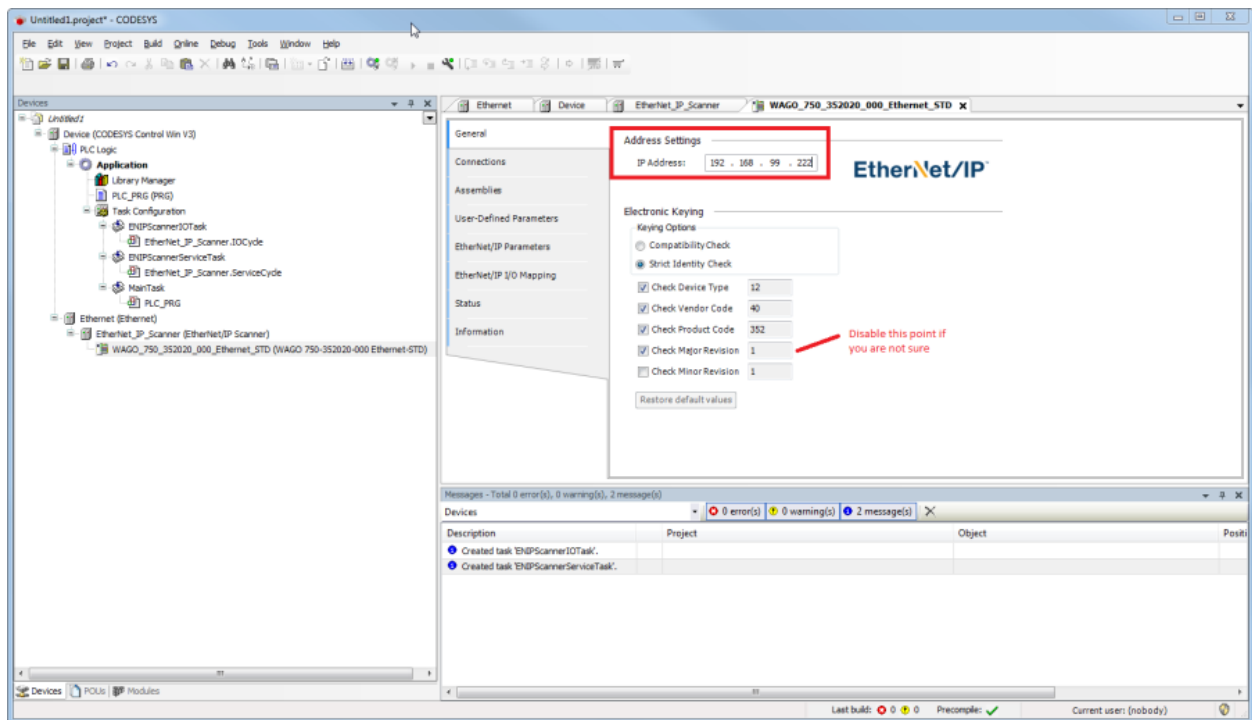
Settings on the device

Tab *General*

- Enter the IP address of the device.

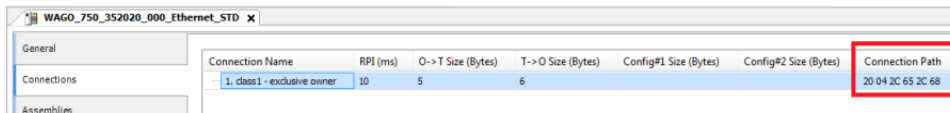


The option *Check Major Revision* can be deactivated in order to avoid errors.



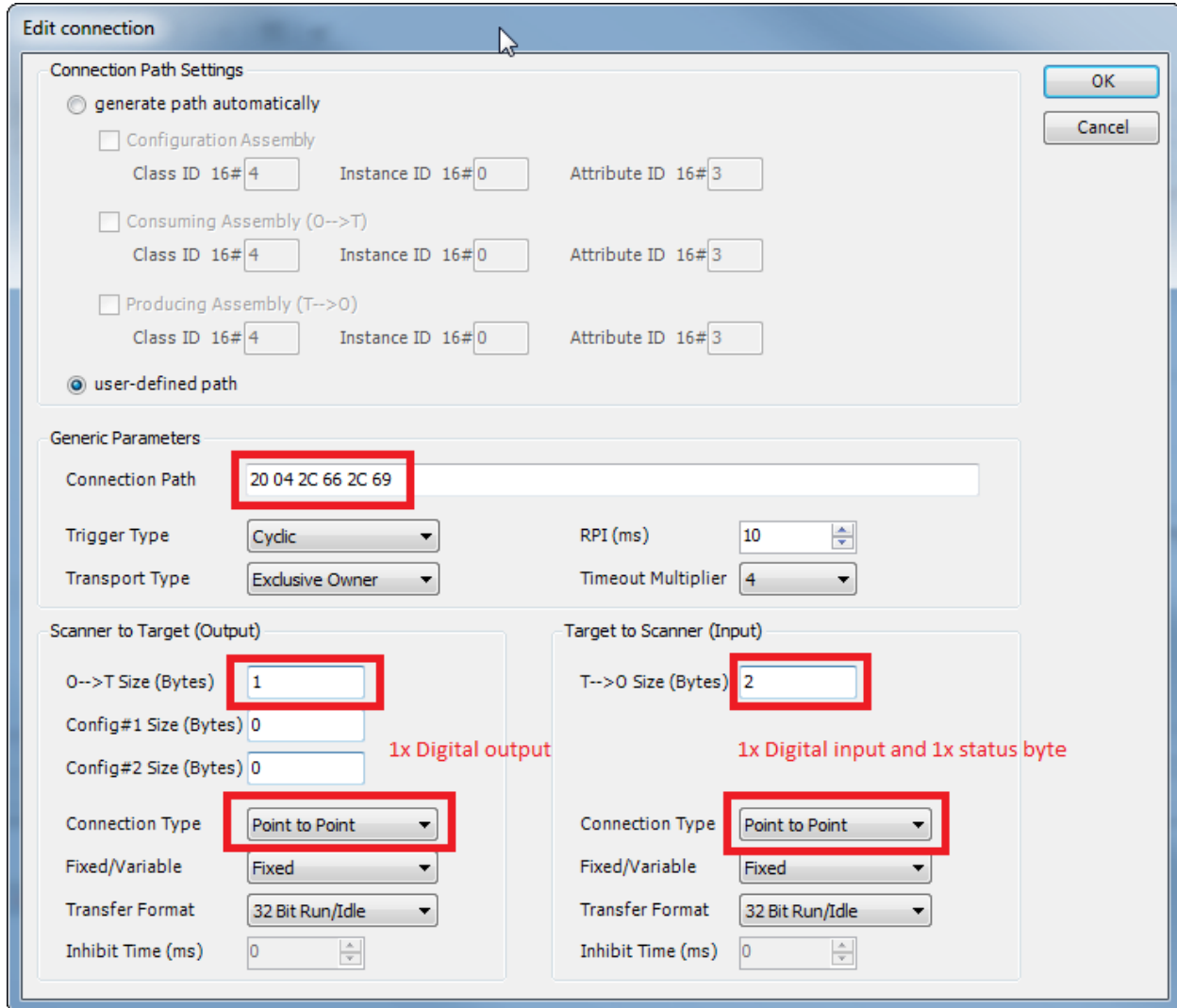
Tab *Connections*

- Through the EDS file a standard connection is created with the connection path *20 04 2C 65 2C 68*.



Connection Name	RPI (ms)	O->T Size (Bytes)	T->O Size (Bytes)	Config#1 Size (Bytes)	Config#2 Size (Bytes)	Connection Path
1. class1 - exclusive owner	10	5	6			20 04 2C 65 2C 68

From the Wago manual (WAGO Assembly Instances) it can be seen that *0x65 (101)* in the connection path means the following: *0x65 (101) for a **analog and digital** output data* Since we are only using a digital output terminal, you need to change this value to *0x66 (102): 0x66 (102) for **digital** output data* Also, change the value *0x68 (104) for analog and digital input data with status byte* to *0x69 (105) for digital input data with status byte*. This produces the following connection path: *20 04 2C 66 2C 69* To be able to change the connection path you have to delete the existing connection and add a new one. Set the new connection to *generic connection (freely configurable)* and the settings for the connection path to *user-defined path*. In addition, make the following settings:



Edit connection

Connection Path Settings

- ☒ generate path automatically
 - ☐ Configuration Assembly
 - Class ID 16# 4
 - Instance ID 16# 0
 - Attribute ID 16# 3
 - ☐ Consuming Assembly (O->T)
 - Class ID 16# 4
 - Instance ID 16# 0
 - Attribute ID 16# 3
 - ☐ Producing Assembly (T->O)
 - Class ID 16# 4
 - Instance ID 16# 0
 - Attribute ID 16# 3
- ☒ user-defined path

Generic Parameters

- Connection Path: 20 04 2C 66 2C 69
- Trigger Type: Cyclic
- RPI (ms): 10
- Transport Type: Exclusive Owner
- Timeout Multiplier: 4

Scanner to Target (Output)

- O->T Size (Bytes): 1
- Config#1 Size (Bytes): 0
- Config#2 Size (Bytes): 0
- Connection Type: Point to Point
- Fixed/Variable: Fixed
- Transfer Format: 32 Bit Run/Idle
- Inhibit Time (ms): 0

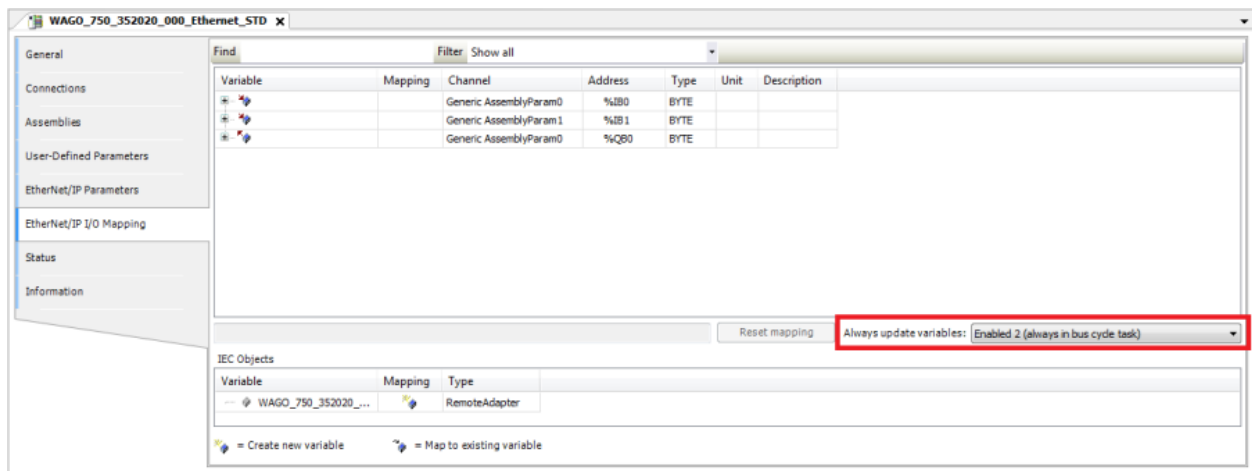
Target to Scanner (Input)

- T->O Size (Bytes): 2
- Connection Type: Point to Point
- Fixed/Variable: Fixed
- Transfer Format: 32 Bit Run/Idle
- Inhibit Time (ms): 0

1x Digital output (next to Scanner to Target settings)
1x Digital input and 1x status byte (next to Target to Scanner settings)

Tab *Ethernet/IP I/O mapping*

- So that the values from the bus are displayed without variable connection, set updating to *Activated 2 (always in the bus cycle task)*.



Loading the project to the controller and starting it

