

# Connecting to a WAGO Controller via Modbus (TCP)

## Connecting to a WAGO Controller via Modbus (TCP)

### 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

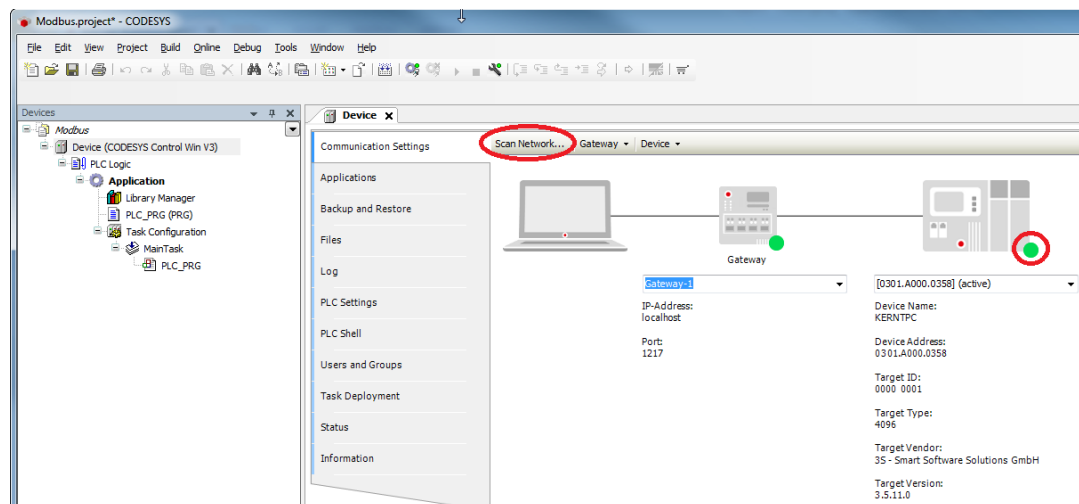
### Requirements for the WAGO controller

- Assign the IP address (for example with the tool [WAGO Ethernet Settings](#)).
- Activate Modbus protocol (TCP) (for example with the tool [WAGO Ethernet Settings Protocol](#)).
- Get the manual for the fieldbus coupler.

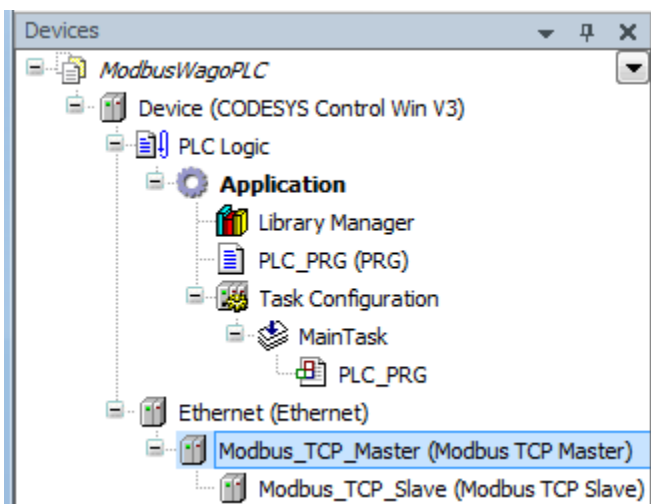
### Requirements for CODESYS

- Create a standard project and define your device (for example [CODESYS Control Win V3](#)).

Scan the network and select the device.



- In the device tree, add an [Ethernet adapter](#), a [Modbus\\_TCP\\_Master](#), and a [Modbus\\_TCP\\_Slave](#).

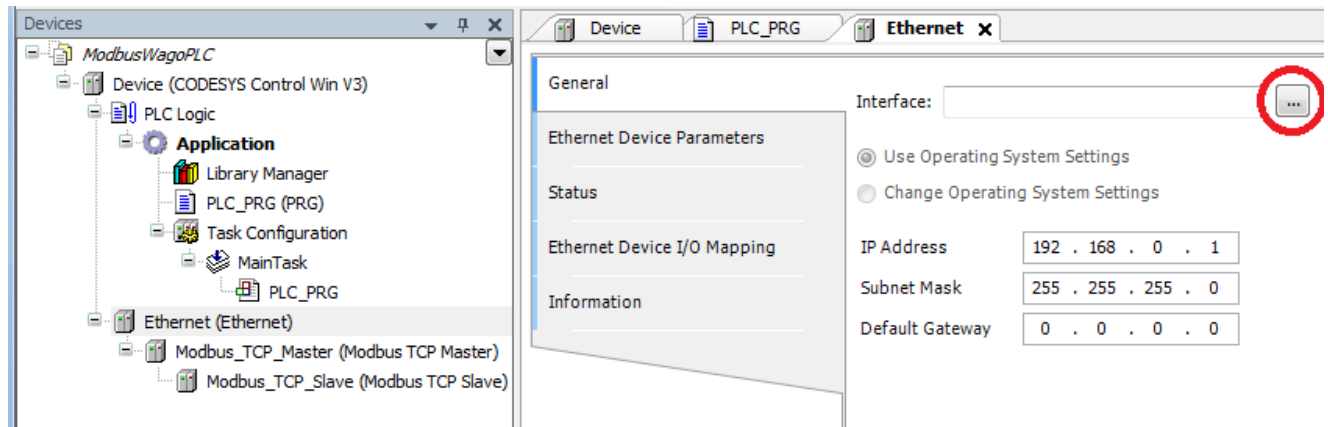


### Settings on the Ethernet adapter

- **Tab General**

Define the network interface to be used.

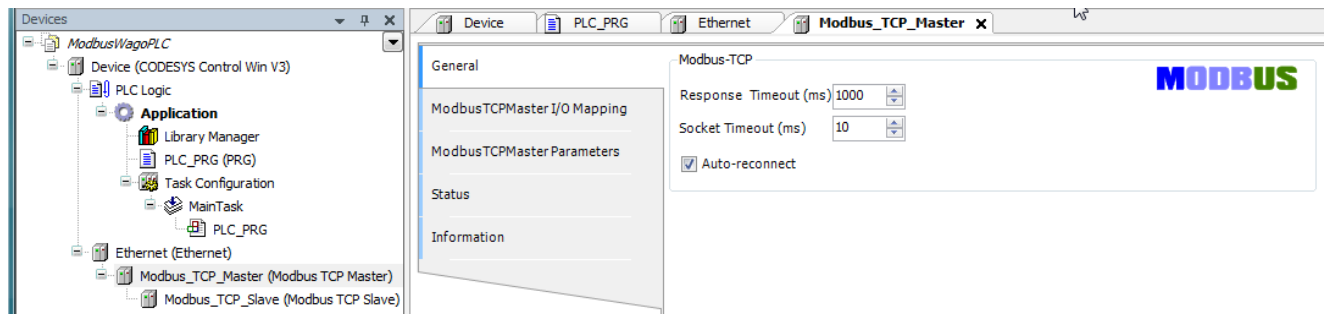
 If a target system is not defined yet, then the error message "Gateway not configured" is displayed.



## Settings on Modbus\_TCP\_Master

- **Tab General**

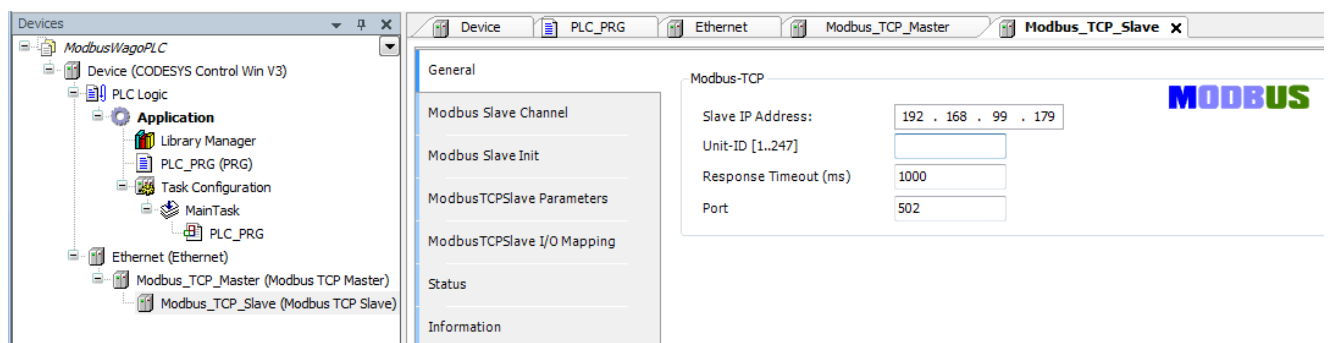
Activate the automatic establishment of a connection after interruption.



## Settings on Modbus\_TCP\_Slave

- **Tab General**

Specify the *IP address* of the WAGO controller and leave the *Unit ID* blank.  
For Modbus via TCP/IP, the slave is identified by means of the IP address.



• **Tab *Modbus Slave Channel***

Create a channel for reading the input adapter:

ModbusChannel

Channel

Name: Channel 0

Access Type: Read Coils (Function Code 1)

Trigger: Cyclic Cycle Time (ms): 100

Comment:

READ Register

Offset:

Length: 1

Error Handling: Keep last Value

WRITE Register

Offset:

Length: 1

OK Cancel

Create a channel for switching the contacts of the output adapter:

ModbusChannel

Channel

Name: Channel 1

Access Type: Write Multiple Registers (Function Code 16)

Trigger: Rising edge Cycle Time (ms): 100

Comment:

READ Register

Offset: 0x0000

Length: 0

Error Handling: Keep last Value

WRITE Register

Offset: 0x0000

Length: 1

OK Cancel

Devices

ModbusSlavePLC

Device (CODESYS Control Win V3)

PLC Logic

Application

Library Manager

PLC\_PRG (PRG)

Task Configuration

MainTask

PLC\_PRG

Ethernet (Ethernet)

Modbus\_TCP\_Master (Modbus TCP Master)

Modbus\_TCP\_Slave (Modbus TCP Slave)

General

Name	Access Type	Trigger	READ Offset	Length	Error Handling	WRITE Offset	Length	Comme
0 Channel 0	Read Coils (Function Code 01)	Cyclic, t#100ms	16#0000	1	Keep last Value			
1 Channel 1	Write Multiple Registers (Function Code 16)	Rising edge				16#0000	1	

Modbus Slave Channel

Modbus Slave Init

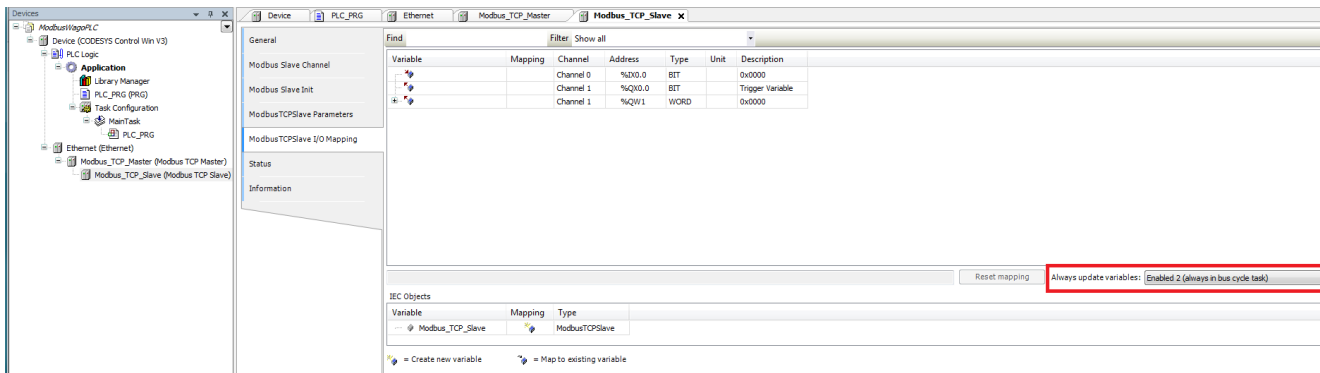
ModbusTCPSlave Parameters

ModbusTCPSlave I/O Mapping

Status

• Tab *Modbus TCP Slave I/O Mapping*

So that the Modbus addresses are updated even without variable mapping, you have to activate this explicitly:



Download the project to the controller and start it

