

# Quick Start Ethernet over EtherCAT Jenny Science INTAX®/XENAX® with EtherCAT and TwinCAT

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INTAX® or XENAX® controller and EtherCAT®  
Busmodule

## Document Summary

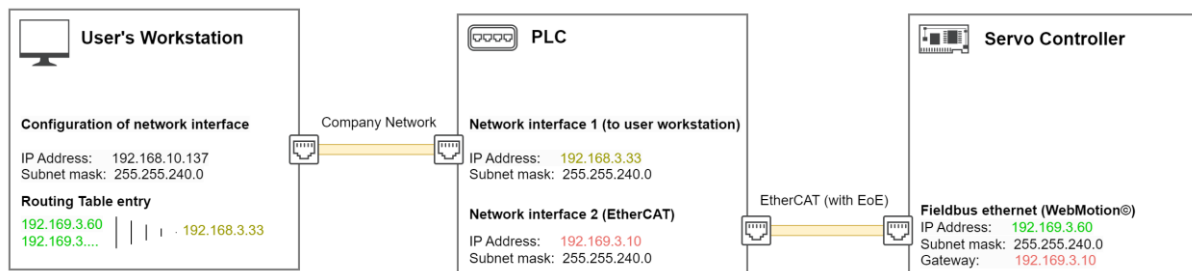
This manual guides the customer through the setup needed to fully utilise the EoE (Ethernet over EtherCAT) functionality.

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## 1 Overview

After following the steps in this manual, this should be the network infrastructure that was setup:



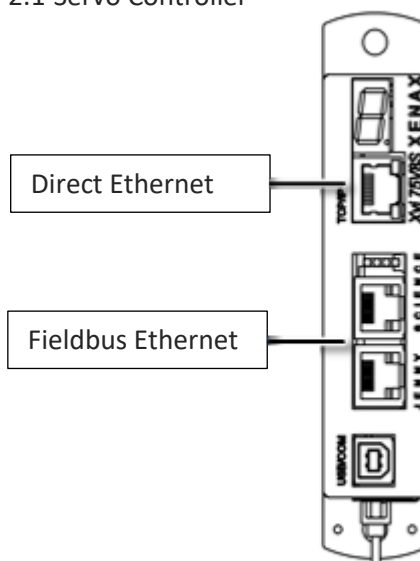
## 2 Setup

The configuration is divided into three parts, one for each involved piece of hardware. First, the servo controller will be configured. In a second step, several settings must be checked on the PLC. Finally, there is some additional setup needed on the Workstation.

## 2.1 Servo Controller

In shared mode (default), Direct Ethernet and Fieldbus Ethernet uses the same IP address. This makes the configuration simpler, but only one interface can be used at a time. If both Ethernet interfaces are connected, Direct Ethernet has priority.

Parallel mode requires two IP addresses, one for each interface. Please ensure that both interfaces are in a different subnet. This configuration allows for simultaneous use of both interfaces.



In shared mode, configure the Ethernet parameters.

application	index	drive I_force	sector I_force	program	I/O	profile	captured pos
setup	state controller	motor	reference	connectivity			

CARD IDENTIFIER	0-255	0
IP MODE	Access	Shared
ETHERNET	IP address	192.168.3.60
	Subnetmask	255.255.240.0
	Gateway	192.169.3.10

In parallel mode, the Fieldbus Ethernet parameter should be modified.

application	index	drive I_force	sector I_force	program	I/O	profile	captured pos
setup	state controller	motor	reference	connectivity			

CARD IDENTIFIER	0-255	0
IP MODE	Access	Parallel
DIRECT ETHERNET	IP address	192.168.3.60
	Subnetmask	255.255.240.0
	Gateway	0.0.0.0
FIELDBUS ETHERNET	IP address	192.169.3.60
	Subnetmask	255.255.240.0
	Gateway	192.169.3.10

The Gateway is the IP address of the PLC.

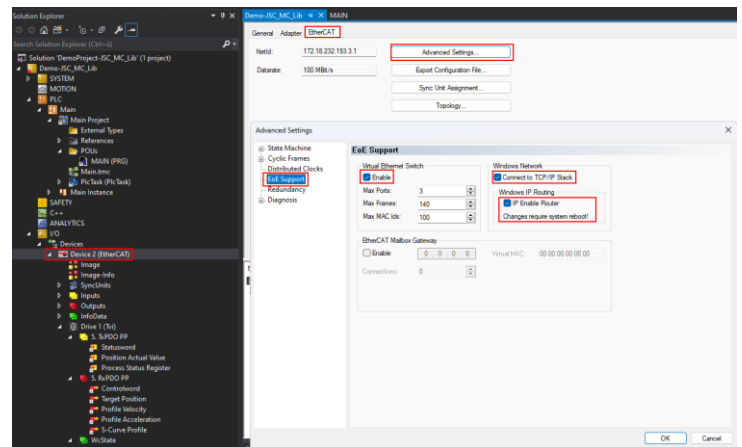
IP address: 192.169.3.60

Subnetmask: 255.255.240.0

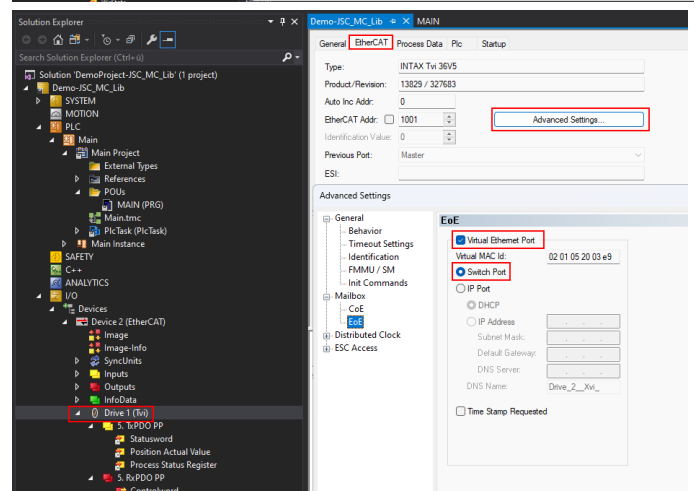
Gateway: 192.169.3.10

## 2.2 PLC

Enable the Virtual Ethernet Switch, Connect the TCP/IP Stack and enable the IP Router.



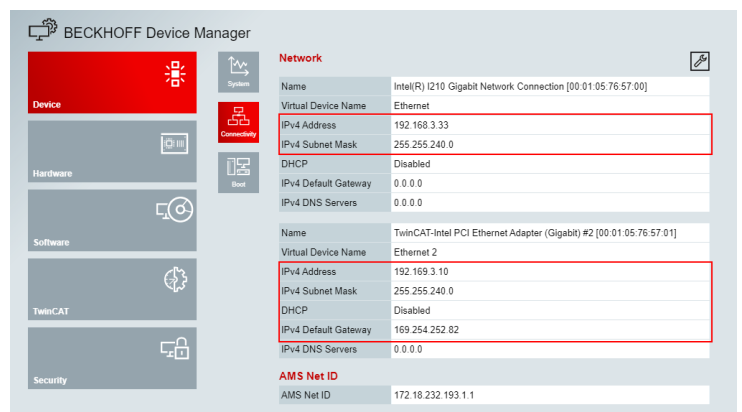
Check if the virtual Ethernet port of the drive is enabled and set to Switch Port.



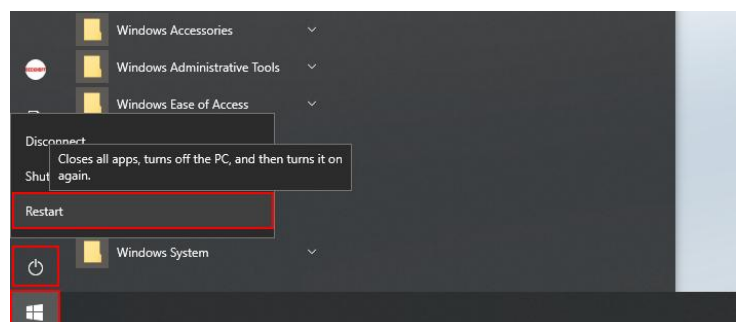
Configure the IP-Addresses with remote Desktop directly on the PLC.

Ethernet:  
IP: 192.168.3.33  
NW: 255.255.240

EtherCAT adapter  
IP: 192.169.3.10  
NW: 255.255.240



Restart PLC with the restart button!



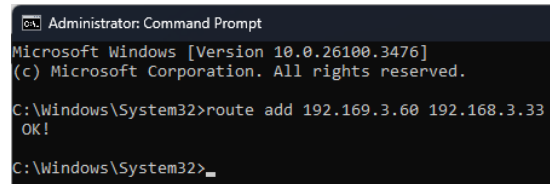
## 2.3 Workstation

The Workstation needs to know that the IP address of the XENAX®/INTAX® is reachable over the PLC. This can be done by manually adding routing entries in Windows with the following command:

```
route add [IP of XENAX®/INTAX®] [IP of PLC]
```

```
route add 192.169.3.60 192.168.3.33
pause
```

Enter the routing entries in the command prompt with admin rights or write them in a cmd file and run it with admin rights.

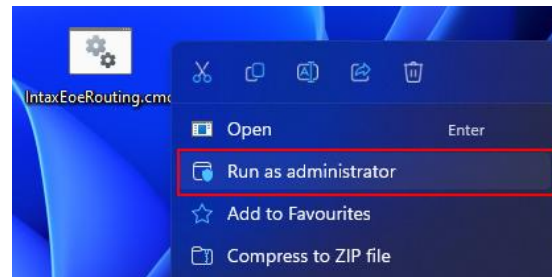


```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.26100.3476]
(c) Microsoft Corporation. All rights reserved.

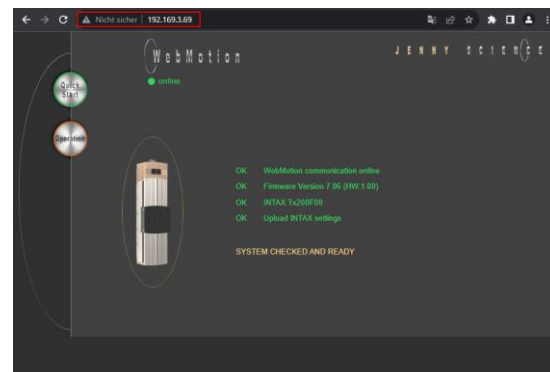
C:\Windows\System32>route add 192.169.3.60 192.168.3.33
OK!

C:\Windows\System32>
```

This script has to be started after every reboot. One solution is to add the script to the Windows Autostart-Function.



Webmotion can now be accessed from the workstation.



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Jenny Science AG  
Sandblatte 11  
CH-6026 Rain

Tel +41 (0) 41 255 25 25

[www.jennyscience.ch](http://www.jennyscience.ch)  
[info@jennyscience.ch](mailto:info@jennyscience.ch)

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