

Replacing Beckhoff PC

How to replace a beckhoff PC and install the original project

 Difficulty **Hard**

 Duration **1 hour(s)**

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Comments

Introduction

To replace a broken PLC requires the installation of the original project. This project needs to be made aware of the new hardware, along with the Stuga software

Step 1 - Replace the PC hardware

Take care to ensure all cables are replaced in the same relative positions

Power on



Step 2 - Set up the customer related network settings

Teamviewer in to the new beckhoff PLC ("BE")

Set

- IP Address
- Subnet Mask
- Default Gateway

These addresses should be stored in the DDRIVE of the front end PC in IP.mul

Step 3 - Open the PLC Project

This is done using the TwinCAT Visual Studio interface. The location of the Visual Studio project will depend on the setup and age of the machine. Generally this is one of 3 places, to find out, use teamviewer database to list the computers associated with the machine

1. If the PC has a "VM" virtual machine installed (2023 onwards), a project will be set up on this desktop - use Teamviewer to connect
2. If the PC has a "C" camera machine (only selected customers and older TwinCAT2 machines)
3. On the main front end PC (operator desktop)

Step 4 - Backup (Archive) the current project

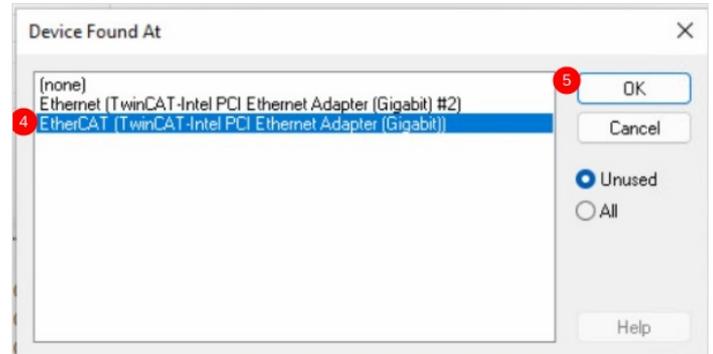
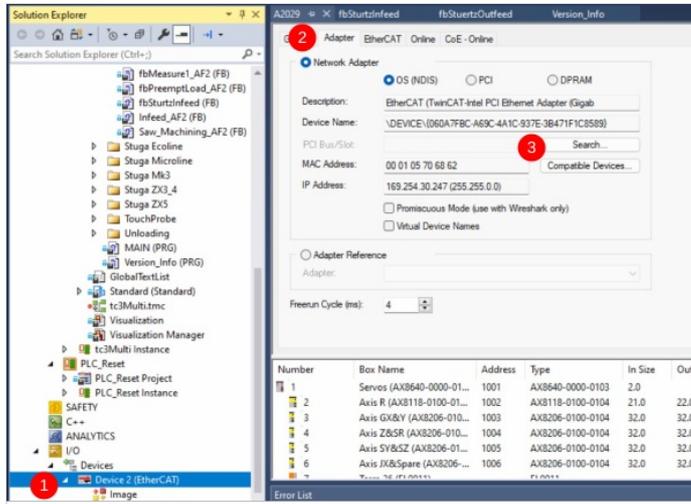
See Archiving a TwinCAT Project

Step 5 - Set the route to the new PLC

Step 6 - Change the Device

This step programs the project with the Mac address of the ethernet port for the system to use as the connection to the TwinCAT system. There are two ports on the front of the Beckhoff unit, Ethernet (Yellow cable) plugs in one, EtherCAT (green cable) in the other.

1. Double click devices
2. Adapter tab
3. Click Search
4. Select the "EtherCAT" Port (This may not be named correctly, one port is used for EtherCAT, the other for Ethernet)
5. Click ok

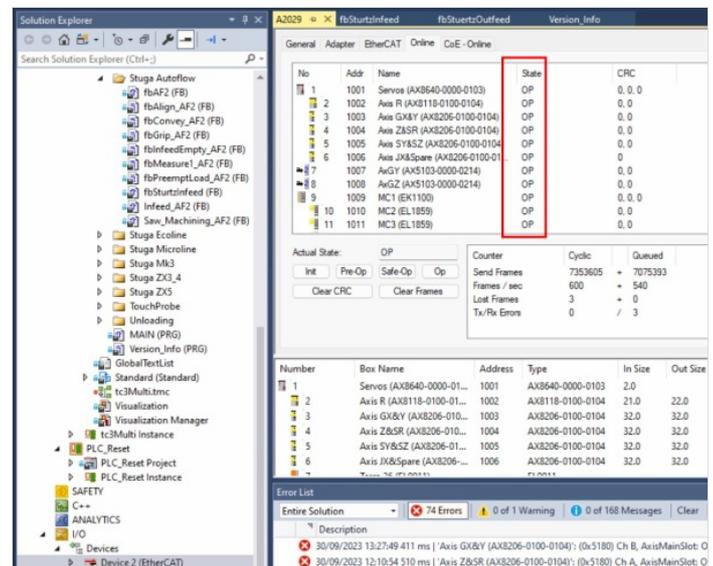


Step 7 - Activate the configuration

Step 8 - Log in both Tc3Multi and PLC_Reset Projects

Step 9 - Check the EtherCAT network

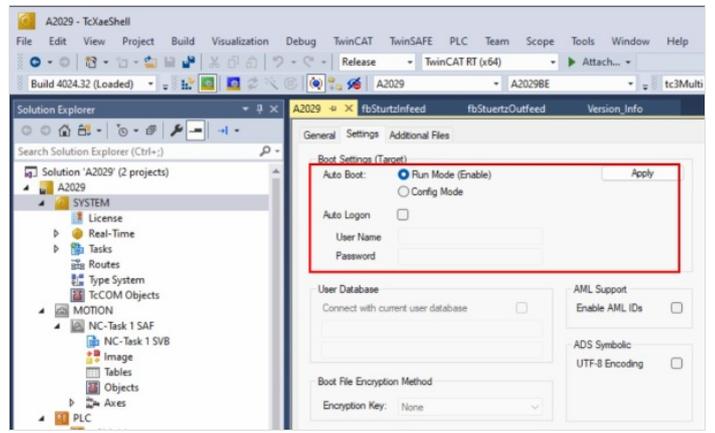
Ensure all devices are in OP mode



Step 10 - Set Boot Settings to Run Mode

Click Apply

Username is Administrator and password is the standard Stuga one

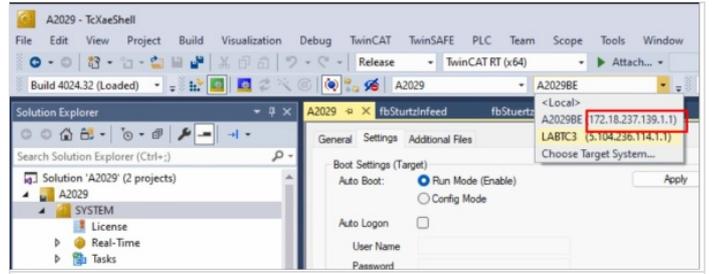


Step 11 - Ensure the params.saw Net ids updated

This step tells the front end the AMS net Id of the backend. The AMS net Id should be different for every Beckhoff PLC created Two parameters need to be set

```
amsNetId=[xxx.xxx.xxx.xxx].1.1
```

```
twinCATAddress=[xxx.xxx.xxx.xxx].1.1
```



Step 12 - Set the route for the front end to the back end PLC

Step 13 - Full shutdown and restart to check

Shut down all the pcs, saving projects, etc and perform a full power cycle