


# TB0422 Commissioning ZX5 Software 2018

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 Difficulty **Medium**

 Duration **6 hour(s)**

## Contents

- Introduction
- Step 1 - Setup Front End PC
- Step 2 - Setup Back End PC
- Step 3 - Install TwinCAT if Required
- Step 4 - Set up a route
- Step 5 - Build the Visual Studio Project
- Step 6 - Select Auto-start boot project for BOTH projects
- Step 7 - Log on to the machine into tc3Multi and PLCreset
- Step 8 - Set the PLC to Run Mode on Boot
- Step 9 - TwinCAT NetId
- Step 10 - Customer and Build No
- Step 11 - Reset Parameters
- Step 12 - Reset userVariables
- Comments

## Introduction

The first step in commissioning a new machine is to get the basic software setup correctly installed. Because the software is designed to be very flexible across many machine types, the simplest way to do this is to copy from a recently built similar machine.


## Step 1 - Setup Front End PC

Follow technical bulletin 409 to setup PC with correct naming conventions and TeamViewer.

## Step 2 - Setup Back End PC

Follow TB0451 to set up the Beckhoff PC

## Step 3 - Install TwinCAT if Required

 ...All Netmatters CNC machines will have TwinCAT already installed, so you can normally skip this step

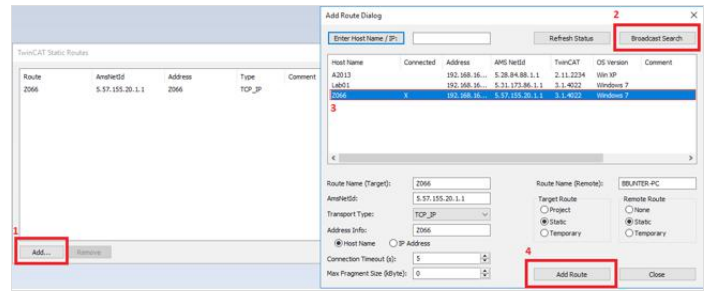
Install TwinCAT 3.16 from the mainserver (G:\Design\TwinCAT3\TC31-Full-Setup.3.1.4022.16). Go through the wizard and when prompted restart the PC. (2019 PCs will have this)



## Step 4 - Set up a route

Once restarted the TwinCAT icon will appear in the bottom right toolbar. We can now set up a route. Left click the TwinCAT icon once. There will be a menu, go to "Route" then "Add Route...". This is where the machine and the program can be linked. Making sure the machine infeed is on and connected to the local network,

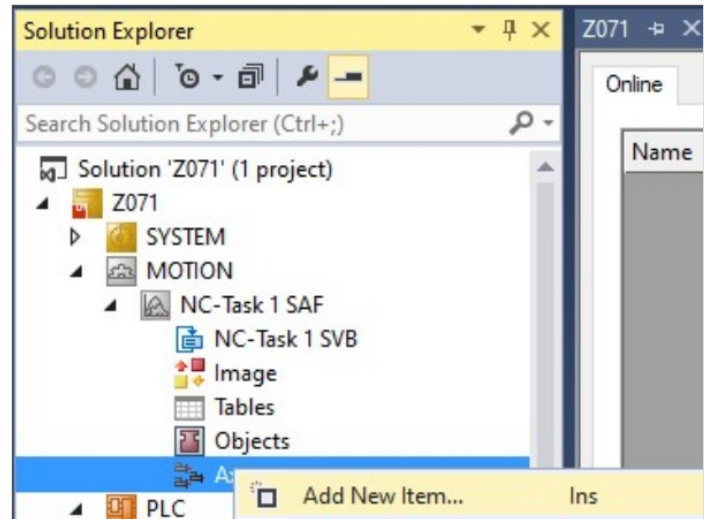
1. Press on add in the bottom left of the window (1).
2. From here perform a broadcast search (2), this will search for any Beckhoff devices on the network.
3. When the machine is found select it (3)
4. and press add route (4).



## Step 5 - Build the Visual Studio Project

There are two ways to approach this

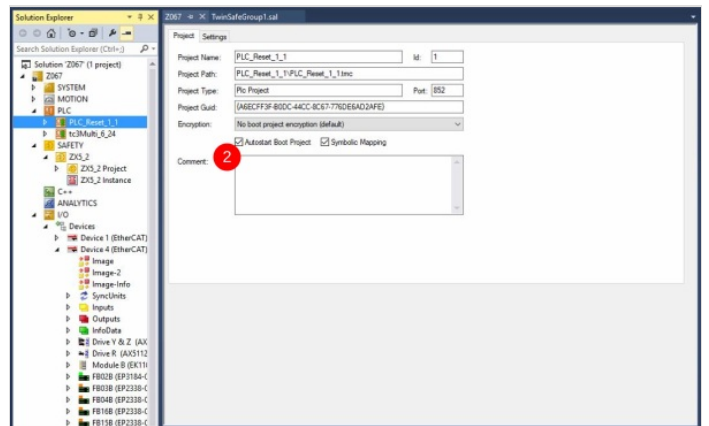
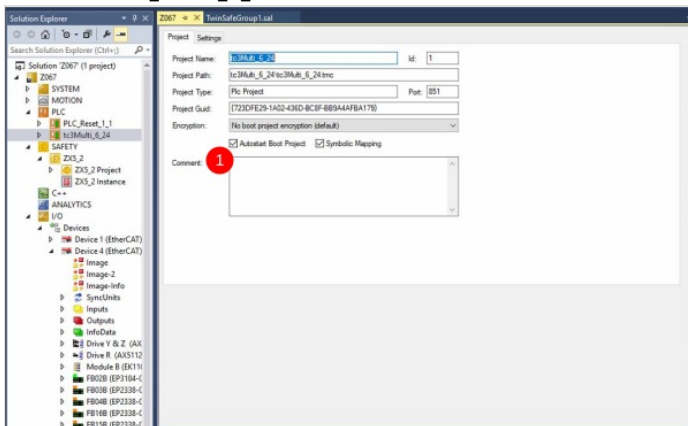
1. Use an existing project from a similar, older machine. This is a shortcut method but relies on having a copy of the setup from a machine with the same EtherCAT setup
2. Build a new project from scratch - use this method if this is the first machine of its type



## Step 6 - Select Auto-start boot project for BOTH projects

Select **Auto-start boot project**. This can be found under

1. PLC > tc3Multi\_6\_24
2. PLC > PLC\_Reset\_1\_1 and



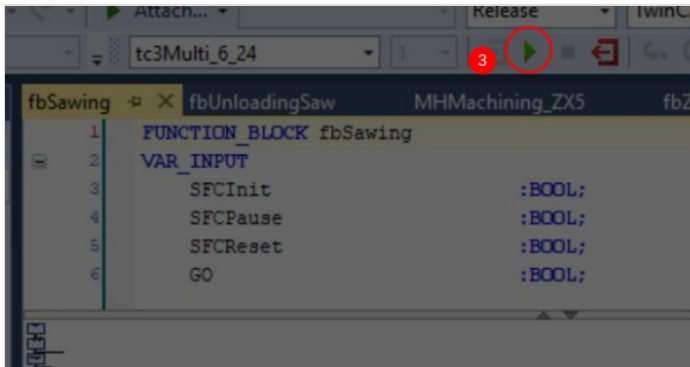
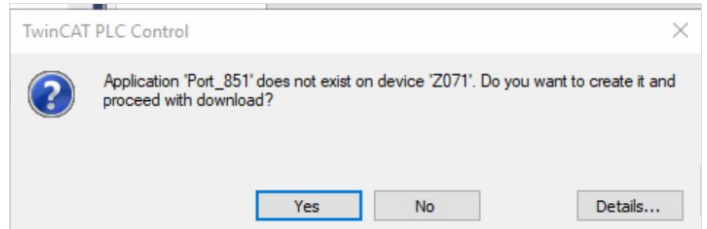
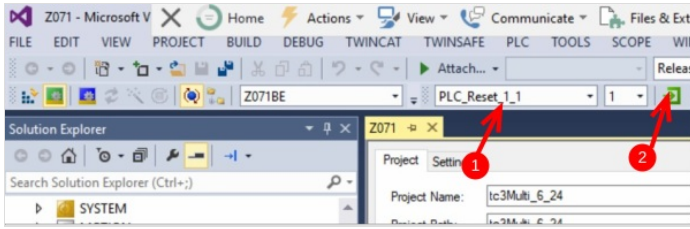
## Step 7 - Log on to the machine into tc3Multi and PLCreset

Make sure to log onto the machine in **tc3Multi** AND **PLCreset**

Select from the dropdown box at the top (1) and click the green Download icon (2)

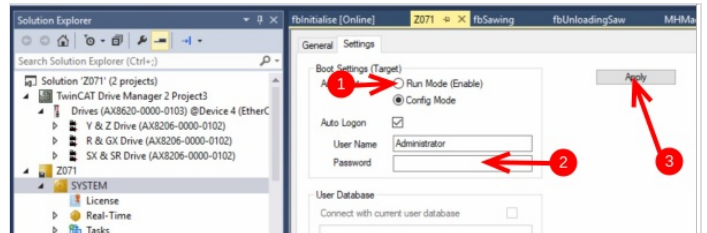
You may need to run the program (if this is the first time download) click the green play triangle (3)

💡 ...this needs to be done for both PLCReset and tc3Multi. If this is the first time, you will be asked to create the port, click OK



## Step 8 - Set the PLC to Run Mode on Boot

1. Select Run Mode radio button
2. Type the password (Stuga001)
3. Click Apply



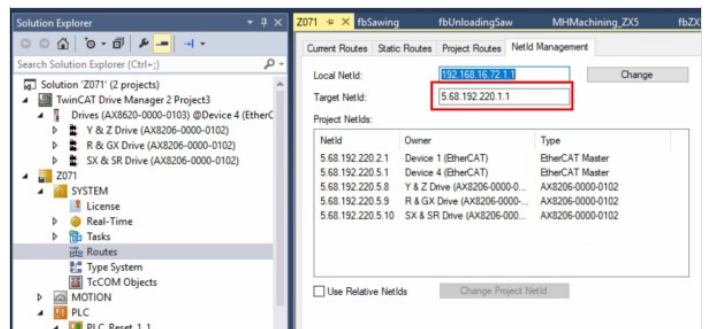
## Step 9 - TwinCAT NetId

Find the target NetId from System->Routes

Copy it

Paste it into two parameters in c:\ddrive\params.saw

```
amsNetId=5.68.192.220.1.1
...
twinCATAddress=5.68.192.220.1.1
```



## Step 10 - Customer and Build No

Set these parameters in c:\ddrive\params.saw according to the customer and build number

```
buildNo=Z071
...
customer=WindowPlas
```

## Step 11 - Reset Parameters

Set these parameters in c:\ddrive\params.saw to ensure any old customer data will not "get in the way"

```
autoLoadLength=5500
beamStrokeLength=700
bladeOffset/=67.5
bladeOffset\=67.5
networkdir=c:\batches\
password=none
printerIPAddress=[IP Address of printer]
productionRecipients=none
remakesPassword=none
sawSYType=2
throwaway=320
throwawayChunkSize=100
usePLCEstop=0          (1 is for TwinSAFE systems)
zTurretSawType=2
```

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## Step 12 - Reset userVariables

Set these parameters in c:\ddrive\uservariables.mul to reset mechanical adjustments to zero

```
DOFFSETWO=0
DOFFSETWI=0
DOFFSETVO=0
DOFFSETVI=0
xOFFSETWO=560
xOFFSETWI=560
xOFFSETVO=560
xOFFSETVI=560
tool1XOffset=0.0
tool2XOffset=0.0
tool3XOffset=0.0
tool4XOffset=0.0
tool7XOffset=0.0
tool8XOffset=0.0
tool1SPDOffset=0
tool2SPDOffset=0
tool3SPDOffset=0
tool4SPDOffset=0
tool7SPDOffset=0
tool8SPDOffset=0
```