Hard- and Software Burkhard Lewetz

Technical software engineering

How does it work …
… with *WinPC-NC* ?

Setup of *WinPC-NC* at a well known or completely unknown machine

X	Light
X	USB
X	NET
X	Professional

Contents

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B.L.

1. Keep existing settings

If you want to transfer an existing installation or license, for example because you are using a new computer or the ***WinPC-NC*** license has already been installed and used, you can transfer the old settings directly and save yourself the trouble of selecting settings or determining parameters.

For this purpose, we have created detailed instructions on how to do this, which describe various options such as profile transfer or simply copying individual files.

You can find this information at the following link…
https://www.lewetz.de/files/HowTo/HowTo_E_Parameter.pdf

2. Predefined settings of a well-known machine

We have collected the default settings from several well-known machine manufacturers and can provide them either separately or in the installation package. If you download the software with the license card data from our homepage and also specify the machine manufacturer, the default settings are included in the download package and are automatically installed.

Otherwise, you can download the default settings separately at any time and copy them to the installation directory. The next time you start ***WinPC-NC***, you will see a selection menu for the program language and the connected machine. When you select the correct machine and, if applicable, the existing machine control, all basic settings are made automatically.

You can download the default settings for well-known machine manufacturers here...

Stepcraft-Systems (all machines D1/D2/D3/M1/M2/Q mchines)
https://www.lewetz.de/files/current/StepcraftMaschinenAuswahl2025.zip

CNC-Step (S-400,S-400T,S-720,S-720T,S-1000,S-1000T,S-1400,S-1400T,Raptor-S, Raptor-XAL,GranitoGraph,PlasCut each with controller Zero2,Zero3,SMS1)
https://www.lewetz.de/files/current/CNCStepMaschinenAuswahl.zip

Sorotec (CL-Line and Hobby-Line in different sizes)
https://www.lewetz.de/files/current/SorotecMaschinenAuswahl.zip

Proxxon (MF70 and FF500 each with controller CU4)
https://www.lewetz.de/files/current/Proxxon.zip

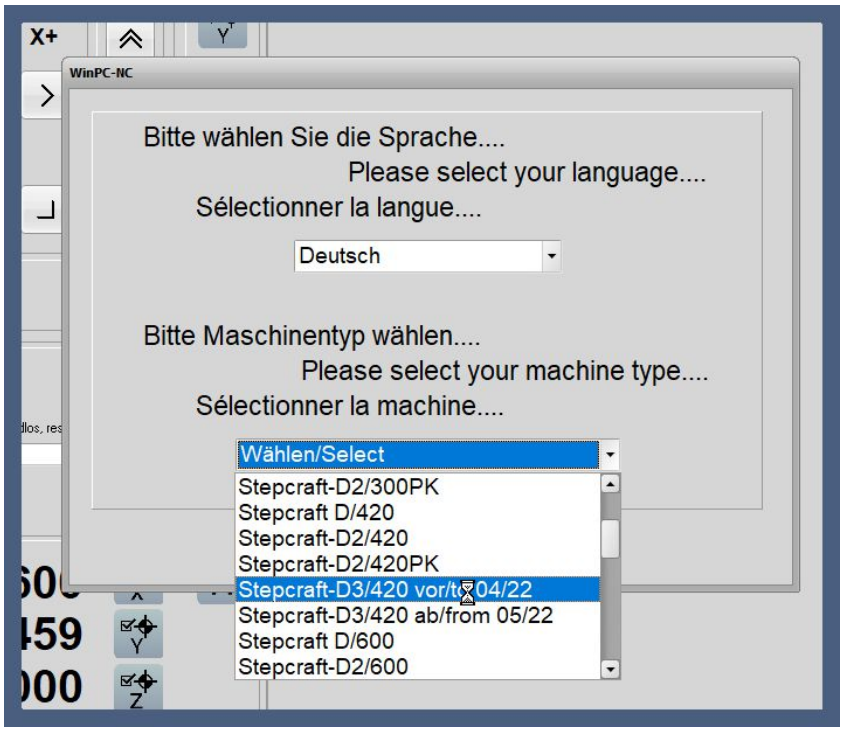
GoCNC (Next3D,HobbyA4,Nano)
https://www.lewetz.de/files/current/GoCNC.zip

Felder (Hammer HNC3-825 and Hammer HNC47-82)
https://www.lewetz.de/files/current/HammerMaschinenAuswahl.zip

After downloading the collected default settings, please proceed as follows...

- Exit ***WinPC-NC***
- Open the ZIP file with a double click
- Select all files contained therein and copy them to the clipboard
- Open the ***WinPC-NC*** installation directory in a Windows Explorer window (this can also be done in ***WinPC-NC*** under the menu item *File-Show installation directory*)
- Paste all files from the clipboard into the installation directory
- Restart ***WinPC-NC***

You will now see a selection menu for the program language and the connected machine on the main screen. Please select YOUR machine and, if necessary, the control system and confirm your selection. All basic settings will then be applied correctly.



Please note :

With some machine manufacturers, you have to pay close attention to the model names and sometimes also the year of manufacture. With Stepcraft machines, for example, there are differences between the D420 and the D2-420 or D3-420, and with CNC-Step machines, it is important to know whether they have a Zero2 or Zero3 control system.

Please select your machine carefully and make sure that there are no more suitable entries further down the list.

If you have selected the wrong machine or have completely lost your way in the parameter settings, you can reactivate this selection menu at any time via the menu item *Special functions-Factory settings* and make a new or different selection.

3. Predefined setting of machine manufacturers

For many other manufacturers, we do not have comprehensive presets for the machine types, but we do have the basic settings. In most cases, the most important parameters such as axis resolutions, signal assignments, reference parameters, etc. are the same and these parameter files can be transferred.

However, you should then carefully check the movements, dimensional accuracy, and all other functions, and you will certainly need to remeasure and redefine the machine dimensions. This must be done under *Basic Settings-Dimensions and Measurements*.

Individual parameter files are available for the following manufacturers...

Haase-CNC-Technik
https://www.lewetz.de/files/current/Haase.zip

Mechaplus - CNC-Modellbau - Matthias Pech
https://www.lewetz.de/files/current/Mechaplus.zip

Stämpfli Engineering - CH-Hundwil - Cutty-Maschinen
https://www.lewetz.de/files/current/Staempfli.zip

StepFour
auf Anfrage

Dr.Müller Datentechnik
https://www.lewetz.de/files/current/DrMueller.zip

Benezan Tripple-Beast
https://www.lewetz.de/files/current/Benezan.zip

BZT Bothur
https://www.lewetz.de/files/current/Bzt.zip

CNC-Concept
https://www.lewetz.de/files/current/CNC-Concept.zip

ISEL
https://www.lewetz.de/files/current/Isel.zip

Schwanekamp
https://www.lewetz.de/files/current/Schwanekamp.zip

StepGo Schulz
https://www.lewetz.de/files/current/StepGo.zip

These default settings are the two parameter files *WCNCCON.SYS* and *WINPCNC.WPI*, which you simply unzip and copy to the installation directory and restart *WinPC-NC*.

Please proceed as follows...

- Exit ***WinPC-NC***
- Open the downloaded ZIP file with a double click
- Select the files with the mouse and copy them to the clipboard
- Open the Explorer window of the ***WinPC-NC*** installation directory
- Right-click and paste the two files here
- Restart ***WinPC-NC***

You are welcome to download and use these default settings via the links above. If you have any questions or problems with the data, please send a short message by email to info@lewetz.de. We will be happy to help you.

4. Settings for an unknown machine

If you want to start using ***WinPC-NC*** on a machine you built yourself, an unknown machine, or an imported machine for which there are no default settings, we've got detailed instructions for a targeted and structured approach.

The manual contains a chapter on *First machine setup*, which describes the steps we recommend in the optimal order. If you follow these instructions and proceed accordingly, you will quickly achieve your first results.

You should proceed in the following order and observe these steps...

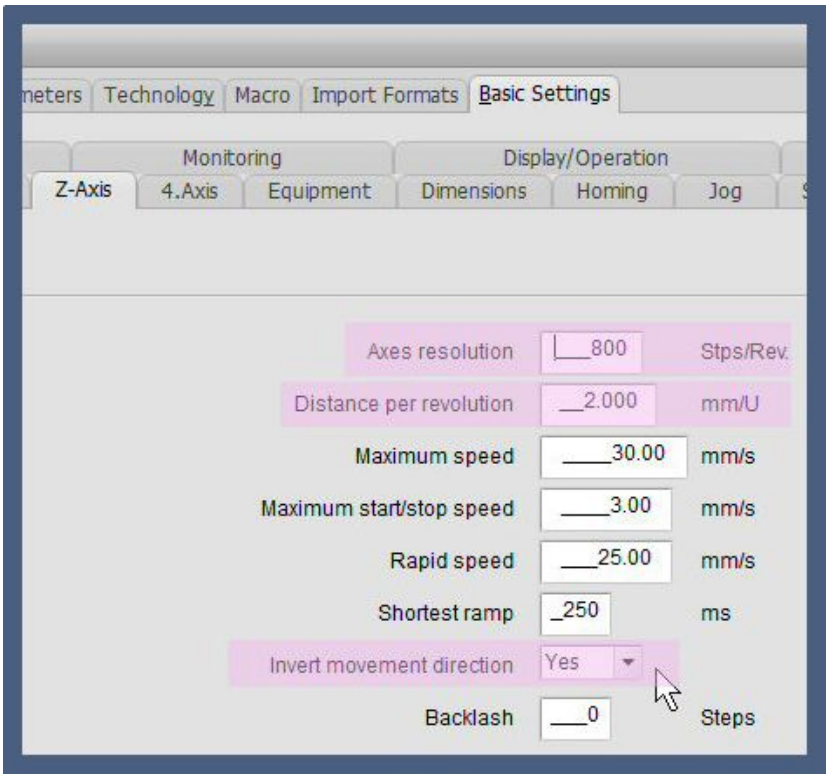
1. Set the directions of movements of the axes so that the arrow keys correspond exactly to the directions of movement of the axes during manual operation. This is done in the dialog

Parameter-Basic settings-Axes XYZ and can be tested immediately in manual mode.

2. Set the axis resolutions using the two parameters *Steps per revolution* and *Distance per revolution* for the installed electronics and motors. The first parameter specifies how many

individual steps a stepper motor needs for a full revolution, and the second parameter is normally used to define the spindle pitch and thus the distance for a full motor revolution.

This is defined under *Parameter-Basic Settings-Axes XYZ*.



There is also a video on our homepage explaining how to determine the axis resolution.
https://www.lewetz.de/files/HowTo/HT10_Achsaufloesung/My MovieH264AVC.mp4

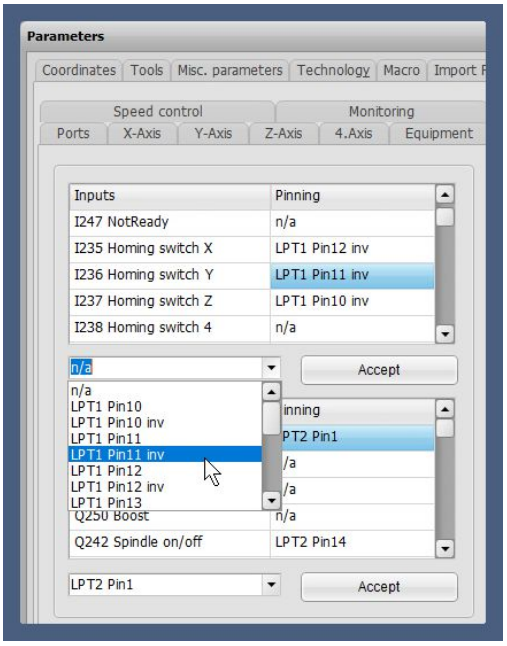
3. For manual driving, in which two different speeds are possible, these can now be set and tested. In the *Move-Manual move* dialog, you can either execute a single motor step with a short mouse click or move slowly or quickly using the single and double arrow keys. As an example, you can set 1 mm/sec for slow travel and 10-20 mm/sec for rapid travel.

The speeds are defined under *Parameter-Basic settings-Manual move*.

4. Next, the settings for a reference move or homing can be defined, provided that reference switches are installed on the machine. First, the *Signal Wizard* is used to determine and assign the electrically wired input signals.

A detailed description of how the pins used by the interface are determined and then assigned to the signals is provided in a special chapter in the manual.

Then, under *Basic Settings-Reference*, you should set the directions and speeds for the reference run of all axes to the switches. The machine is stopped directly at the switches and the machine position is reset to zero.

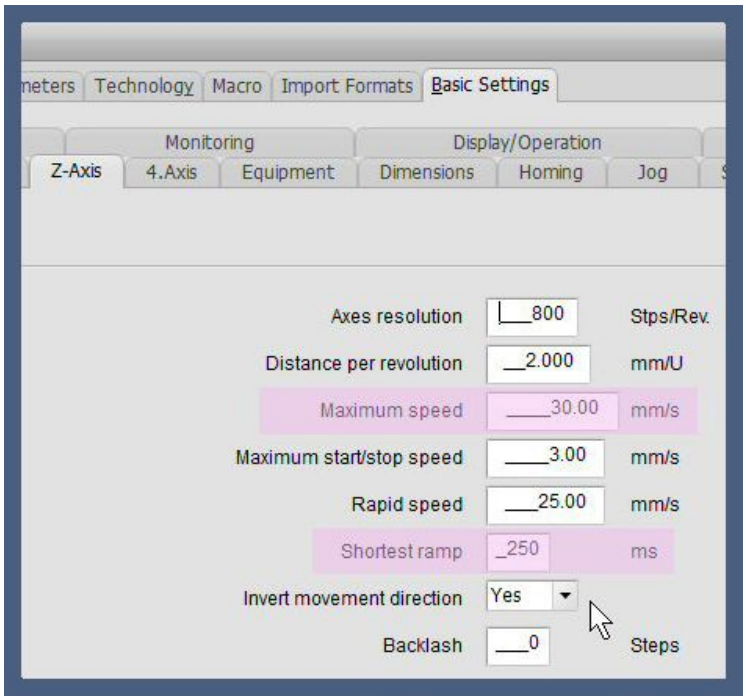


5. Optionally, you can define the reference positions and offsets in a next step. If the reference switch does not mark the maximum moving distance of the axis and it is possible to continue moving a certain distance after the switch without touching the fixed stop, you can use the offset settings to cover this distance and then set the zero points of the axes or reference positions. This parameter can also be used to move a short distance away from the switch after referencing for safety reasons.

Defining a reference position is useful if a reference switch is NOT located at the negative end of the axis and you do not want the zero position of the axis to be there. With this parameter, any value can be set for this axis position at the switch, so that the coordinate zero point is always set at the bottom left, as intuitively expected.

6. As a next step, we recommend conducting tests to determine the maximum possible speeds and ramp lengths during acceleration and deceleration. There is a special calibration function for this under *Special Functions-Motor Test.*

Here, you can experimentally test the maximum possible speeds and rapid ramps, and the values determined in this way can be adopted as parameters for each axis. A precise and detailed description of the motor test function can be found in the manual.

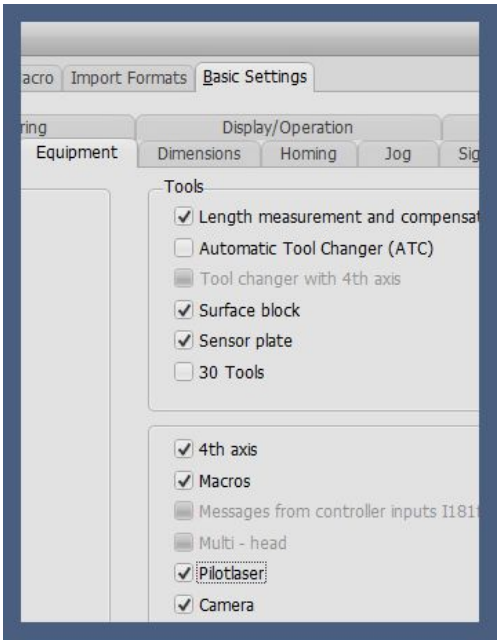


7. We recommend adjusting the view settings. The *Basic Settings Display* dialog box allows you to adjust the window size, font, and buttons to suit your monitor, and you can choose from a range of color schemes to create a colorful or black and dark color design. This allows everyone to choose a design that suits their personal preferences and taste.

Regardless of the selected window size, you can still use the mouse to enlarge and reduce the various ***WinPC-NC*** windows and move them to the desired positions. ***WinPC-NC*** remembers the sizes and positions of the windows when it is closed and restores them the next time the program is started.

8. The final step should be to install accessories such as spindles, probes, cameras, lasers, handwheels, keypads, and other components.

Special instructions and documents are often supplied with these accessories, describing exactly how they should be integrated and connected. Unfortunately, it is not possible to provide general instructions for accessories here.



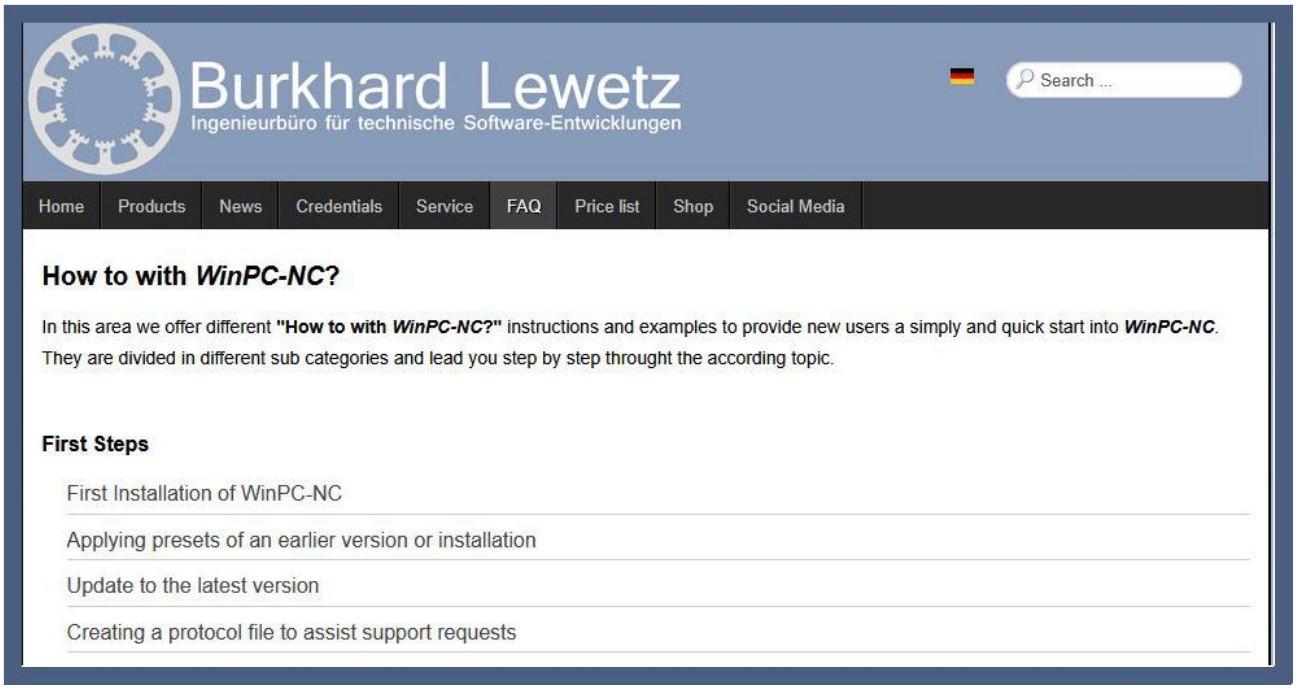
5. Further informations

For many basic questions, we have created brief information sheets in our series *How does it work...?*, which address specific questions or problems and provide the necessary information in a targeted manner.

There you will find a wealth of information on installation, updates, necessary settings, the use of accessories, and there are even descriptions of projects you can try yourself.

You can find a collection of all the brief guides on our homepage in the *FAQ section- How does it work...?*

https://www.lewetz.de/en/faq/how-to-with-winpc-nc



Examples of these quick guides are...

Applying presets of an earlier installation to another
https://www.lewetz.de/files/HowTo/HowTo_E_Parameter.pdf

Updating to the latest version
https://www.lewetz.de/files/HowTo/HowTo_E_Update.pdf

First insallation of ***WinPC-NC***
https://www.lewetz.de/files/HowTo/HowTo_E_Installation.pdf

Reporting a problem
https://www.lewetz.de/files/HowTo/HowTo_ReportAProblem.pdf

Setting up an automatic tool changer
https://www.lewetz.de/files/HowTo/HowTo_E_ATC.pdf

Z zero point adjustment
https://www.lewetz.de/files/HowTo/HowTo_E_Z zero point settings.pdf

...And there's much more. Just take a look.