

# WinPC-NC function matrix

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Our multifunctional CNC machine control software **WinPC-NC** is available in different variants.

- Starter** Easy to use controlling software for 2,5D projects like engraving and milling. Sold in combination with specific CNC machines and built in USB 2.0 communication hardware only. Very easy upgrade to **WinPC-NC USB** possible.
- USB Light** Low cost solution for CNC beginners with USB-LPT adapter. Able to run typical applications like engraving, milling of modelling parts, PCB drilling and more. Easy upgrade to **WinPC-NC USB**
- Economy** Control program with direct LPT printer port output and enhanced functions like tangential cutting, fully 3D abilities, mass production support, more import filters for common NC formats, free definable macros, synchronisation with external signals and more
- USB** Software with similar functionality to Economy but controlling the machine by USB port and a small control box including two LPT like and pinout compatible connectors.
- Professional** Full functional CNC control program with external axes controller cpu for all realtime tasks. Absolute reliable and stable for industrial applications and enhancable with optional peripheral modules like teachin keypad, 24V input/output signals, signal conditioner and converters. Special technological functions for laser cutting, automatic tool changer, digitizing sensor, dispensing and much more.

	Starter	USB Light	Economy	USB	Profi
<b>Input/output signals and machine controlling</b>					
Controlling the CNC machine	USB 2.0 machine	USB 2.0 Adapter	LPT (LPT1+2)	USB 2.0 small Box	Controller RS232/USB
Input signals for limit and homing switches	5	5	10	10	up to 256
Additional outputs for drill spindle, cooling, dispensing a.m.	2	4	8	8	up to 256
Motor currenxy by running signal, boost signal	-	√ / -	√ / √	√ / -	√ / √
Inputs/outputs individual definable and assingable	-	√	√	√	√
Industrial conform 24V signals, optional	-	-	-	-	√
Optional converters and adapters for clock/direction signals	-	-	-	-	√
Analog output 0-10V for spindle speed	PWM	-	8Bit - PWM	8Bit - PWM	0-10V PWM
Ready signal for safety control, toggle, chargepump 12.5kHz	√	√	√	√	√
Realtime ability with Windows	best	best	good	best	best
Dependant from background processes in Windows	no	no	yes	no	no
Maximum step rate (kHz)	Mach.dep.	20	24	80	40
Controlled axes	3 (XYZ)	3 (XYZ)	4 (XYZ TABC)	4 (XYZ TABC)	4 (XYZ TABCUVW)
<b>Hardware and operating system requirements</b>					
Runs with Windows versions	2k – Win10 32/64-Bit	2k - Win10 32/64-Bit	2k - Win7 32-Bit	2k - Win10 32/64-Bit	W95-Win10 32/64-Bit
Intel/AMD processors and min. clock frequency	>1GHz	>1GHz	>2GHz	>1GHz	>500MHz
Peripheral ports (onboard or ISA/PCI board)	USB 2.0	USB 2.0	LPT / USB	USB 2.0	RS232/USB
<b>Parameter settings, adjustments to machine</b>					
Individual axes resolutions, steps and distance/revolution	-	√	√	√	√
Speeds, acceleration and deceleration ramps for each axis	√ / -	√ / √	√ / √	√ / √	√ / √
Testing functions for mechanics and switches, motor tuning	- / - / √	√ / √ / √	√ / √ / √	√ / √ / √	√ / √ / √
Backlash compensation	√	√	√	√	√
Synchronisation to different input signals	-	-	√	√	√
Several predefined ramp profiles	-	-	√	√	√
<b>Data formats and import filters</b>					
HPGL, PLT	√	√	√	√	√
DXF (only 2D)	√	√	√	√	√
postscript, vector informations, EPS/AI	√	√	√	√	√
Common drilling formats, Excellon, Sieb&Meyer	√	√	√	√	√
G codes with subroutines and abs./rel. movements	-	-	√	√	√
Multicam 2D and 3D, extended HPGL	-	-	√	√	√
ISEL NCP	-	-	√	√	√

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<b>Program functions</b>					
CAM functions for all 2D file formats (tool diameter compensation)	√	√	√	√	√
Intelligent lookahead for smooth movements w/o interruption	√	√	√	√	√
Automatic reload for NC file at modifications	√	√	√	√	√
Contour smoothing function for perfect edges	√	√	√	√	√
Tool lift for Z axis, safety clearance for rapid movements	√	√	√	√	√
Multi lingual, selectable after installation, 20 most important	√	√	√	√	√
Graphical display, zooming, turning and mirroring of data	√	√	√	√	√
Works with NC files in unlimited size	√	√	√	√	√
Machine positioning simply to a mouse click	√	√	√	√	√
Manual movements step by step or per defined distance	√	√	√	√	√
File origin and parking positions definable by teachin	√	√	√	√	√
Max. tools and different tool parameters	2 / √	10 / √	10 / √	10 / √	10 / √
Automatic identification of NC data	√	√	√	√	√
Electronical hand wheel of different brands possible	√	√	√	√	√
Integrated editor for creating and modifying NC files	-	√	√	√	√
Tool change switchable or simulation	-	√	√	√	√
Definable dwell times at tool movements	-	√	√	√	√
Comfortable wizard for assigning signals to in/out lines	-	√	√	√	√
Special display of drilling jobs	-	√	√	√	√
Orientation of moving buttons adjustable to machine	-	√	√	√	√
Independent scaling factors for each axis	-	√	√	√	√
Speeds and positions in millimeters or inches	-	√	√	√	√
NC program display at jobs	-	√	√	√	√
Tool colors and names free definable	-	√	√	√	√
Tool repetitions and Z axis feed	-	-	√	√	√
Surface block and sensor for automatic zero point definition	-	-	√	√	√
Free programmable 4th axis as U ABC T	-	-	√	√	√
Tool length measurement and compensation of differences	-	-	√	√	√
Tangential axis for foil and paper cutting	-	-	√	√	√
Mass production with definable rows and coloums	-	-	√	√	√
Resume interrupted job exactly to the step	-	-	√	√	√
Cylindric engraving with diameter definition and 4th axis	-	-	√	√	√
Feedrate and spindle override, 5% to 200%	-	-	√	√	√
Software limit switches and machine dimension monitoring	-	-	√	√	√
Comfortable and flexible macro programming	-	-	√	√	√
Free definable reference positions at switches	-	-	√	√	√
Comfortable teachin function	-	-	√	√	√
Start of job from line no. or percent or prev.cancel position	-	-	√	√	√
Automatic tool change support and molette output signal	-	-	√	√	√
Digitizing and reproduction of 3D parts	-	-	-	-	√
Macro for automatic finding Z zero level by surface probe	-	-	-	-	√
Z height correction on the fly by inputs or keys, best for plasma or gascutting applications, surface finding probe	-	-	-	-	√
Dual X axis and special adjusting function at reference move	-	-	-	-	√
Special technological functions for dispensing applications	-	-	-	-	√
Automatic tool change, magazine monitoring sensor signals	-	-	-	-	√
Free definable messages and bitmap display for input lines	-	-	-	-	√
Support of dual and multiple heads	-	-	-	-	√
Different counters and timers, machine/spindle running time	-	-	-	-	√
<b>Includes</b>	CD	CD, cable, nc100	CD, USB dongle	CD, cable, ncUSB	CD, cable, controller
Manual, PDF and optional as printed book	√ / -	√ / -	√ / √	√ / √	√ / √
Price (EUR incl. german sales tax) date 07/2017	-	149	199	299	-