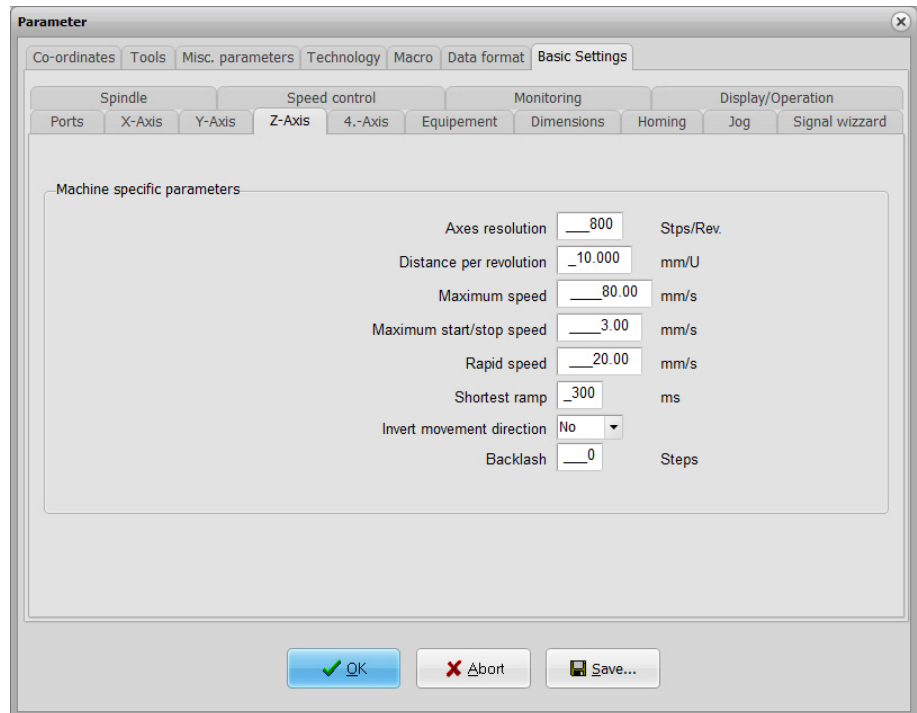


Basic settings- X-,Y-,Z-axis



Parameter Basic setting Z-axis

Axis resolution

The resolution boxes define the number of motorsteps per rotation. If you are using gear units or step down/step up ratios, you can enter the calculated values here directly. The unit is indicated in steps.

Distance per rotation

You have to use this parameter to define what distance is moved during one motor rotation. Defining the axis resolution with two parameters offers the advantage that no calculation inaccuracies can arise. The unit is millimeters with decimal places.

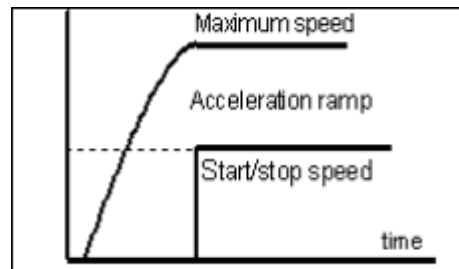
Maximum speed

You should use the MOTOR TEST function to ascertain the maximum speed of each axis. This represents the absolute top limit speed with which the axis can be moved.

WinPC-NC monitors the speed entries made in all other parameter windows and always corrects them to the value defined here. The unit is millimeters with decimal places.

Maximum start/stop speed

The start/stop speed specifies the fastest possible speed with which the stepper motors can start up without ramps. The value is important for calculating path control, because braking at sharp edges or corners does not have to be to a standstill, but only down to this start/stop speed.



Start/stopp speed and ramps

The optimum value can be ascertained with tests, e. g. by the function MOTOR TEST. Therefore it is necessary to switch off the ramp and accelerate the speed until step losses are caused. The value, detected in this way, should be reduced by 30% as a precaution.

Rapid speed

*Speed with the
tool raised*

Rapid speed is used for moving to a new position with the tool lifted out of the workpiece.

These are unproductive movements which **WinPC-NC** always moves at the fastest possible speed.

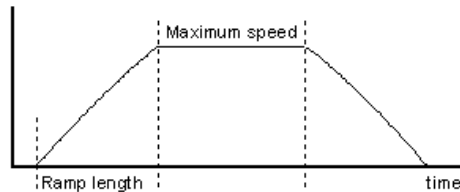
Shortest ramp

The ramp parameter specifies the length of the acceleration ramp until maximum speed is reached, or the deceleration ramp from maximum speed to stationary, in milliseconds.

*Individually
adjustable
ramp
length*

During each movement, the speed is increased until the maximum speed is reached. At the end of each motor movement, the speed is slowly reduced until the motor ramp length comes to a stop.

Accelerating and braking with ramps prevents step losses of the motors and allows faster maximum speeds. The gradient of the ramp remains unchanged in all movements, i.e. the ramp time is shorter for movements at slower speed.



speed profile of a motor movement

Invert movement direction

There are two possible remedies if one of the motors is moving in the wrong direction.

Changing over the movement direction.

Either swap over the motor winding connections or change the movement direction with this parameter. The direction signal for controlling the motor is then inverted before being output.

Backlash compensation

Drives which can not be adjusted absolutely close may cause insignificant differences during reversal of direction. These differences can be added up within the job process. This reversal drive can be compensated by these parameters.

Parameters for any axes are available in order to define the open circuit steps. The number of the motor steps are additionally indicated with any direction reversal.

Standard value means 0 steps and should remain unchanged if drives are closely adjusted.