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Technical Software Engineering

How does it work...

...with *WinPC-NC* ?

**Save the job permanently at the
WinPC-NC Professional controller
and run it without a Windows PC for
series production**

	Light
X	USB
X	Professional

In this quick guide, you will learn how to permanently store a single job on the controller, which settings are necessary for this and how this is to be carried out in a mass production with digital signals for reference and start.

WinPC-NC Professional and the associated axis controller can permanently store and save a single job on the controller CPU and then execute it permanently and repeatedly without a connected computer and without any *WinPC-NC* running at all.

This makes it possible to realise mass and serial productions that are only dependent on a few input signals and are synchronised with these. Jobs up to a size of several MB can be stored and the total size depends only on the remaining capacity of the flash modules used (usually 128MB).

This function is possible with all **CNCCON** and **CNCMAX** controls that contain the corresponding CPU.



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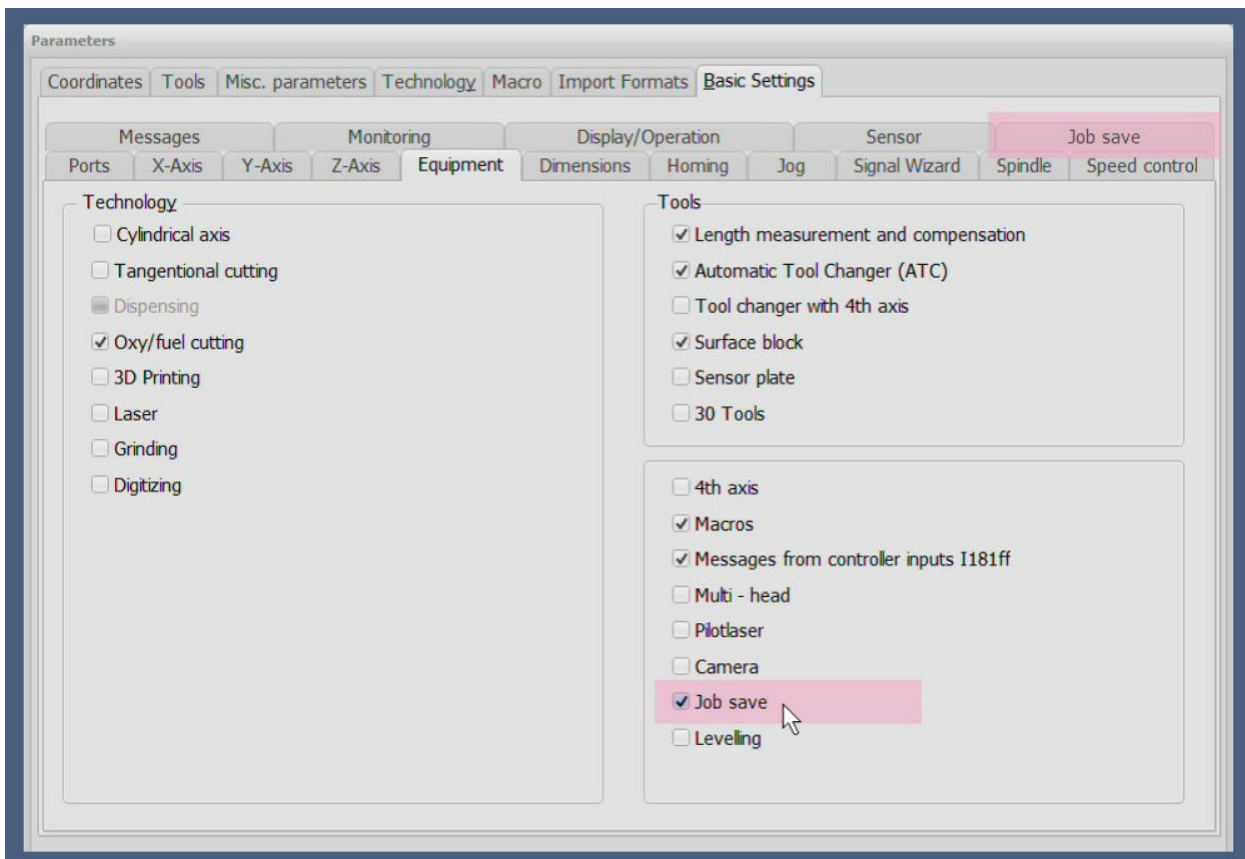
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1. Prerequisites

- **Controller firmware 1.60/83R**, which will be delivered from May 2020.
- The job storage function is not active by default and must be enabled in the controller. This can either be done at delivery or with a macro. Please contact the manufacturer for this.
- **WinPC-NC Professional** as of version 3.40/65

2. Setting up the job storage

If the function is available in the controller, then the corresponding checkbox appears in the Basic Settings-Accessories dialogue and can be activated.

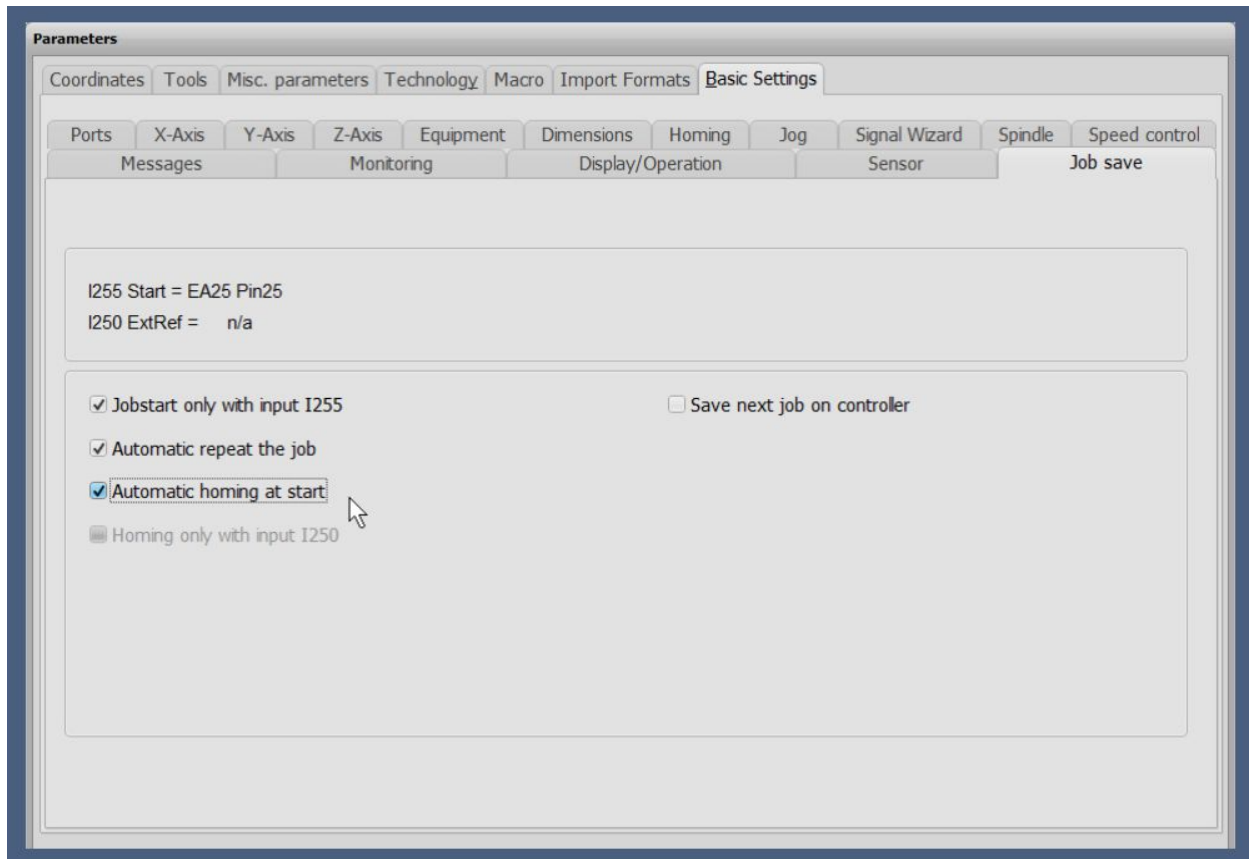




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After that, an additional tab appears in the upper list and provides another dialog for the relevant settings.



In this dialog, the defined inputs are displayed in the upper part, e.g. a start signal under **I255 Start** and shows whether a signal is available to trigger the reference run. This is the signal **I250 ExternalReference**.

Below this are some checkboxes whose functions are explained below.

Job start only with input I255

The job loaded on the controller is only triggered with a rising signal edge at input **I255 Start**. Otherwise, the job starts automatically after completion of the reference run.

A synchronisation of the job start with signals can either be programmed within the job with Gcode commands or also be realised in *WinPC-NC* with a macro at the job start. These would be further alternatives to activating the start signal with this checkbox.

Automatic repetition of the job

This checkbox triggers the continuous repetition of the job. After completion, either the next job execution starts immediately or the system waits again for a rising edge at the start signal.



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Automatic reference run at switch-on

If this function is active, a reference run on all selected axes starts automatically when the controller is switched on, in the selected sequence and with the currently set parameters and speeds.

After the reference run, the first job can be executed.

Homing only with input I 250

A reference run can also be started only and exclusively with a rising edge at signal input **I250 ExternalReference**. This is sometimes necessary for safety reasons. The signal can also be used to repeat a homing run over and over again between jobs.

The controller displays a running reference run with the output **Q252 ReferenceRunning** and with this you can have the sequence monitored by external components.

Save next job to controller

This checkbox activates the actual saving with the next job execution. When all settings have been made, a test run has been completed successfully and you are sure that everything is running correctly, then saving can be triggered.

By activating this checkbox, the next transmitted and executed job is permanently saved on the controller and prepared for independent processing without a connected Windows PC.

Please note that a set start signal for the job start may be necessary and must be supplied.

After the transfer, the checkbox is automatically deleted and deactivated, i.e. it is only saved once during job execution. Of course, a new job can always be transmitted and saved, in which case the existing job on the controller is overwritten.

Aborting trips and evaluating errors

All movements, i.e. a reference movement or a running job, can be interrupted at any time with a signal at input **I254 Stop**. This triggers an error situation just like other inputs, e.g. limit switches or a missing ready signal.

If an error occurs, the automatic job execution is switched off and cannot be continued or restarted. The controller must be reset to the operating state after the error has been rectified.

An automatic job execution is also always interrupted with a connection establishment of **WinPC-NC** or the **CNC-Control Configurator**. Also a test of the automatic job execution after the transmission is only possible without running **WinPC-NC**.