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Technical Software Engineering

WinPC-NC Pendant HR-20

Quick guide for the *WinPC-NC pendant HR-20* and explanation of the individual buttons.

WinPC-NC pendant HR-20

The **HR-20 pendant** is equipped with a 3m long cable and USB plug for connection to a free port on the computer. Immediately after plugging it in, the hardware detection of Windows usually starts and the pendant is recognized as a USB input device (HID) and logged into the system.

The connection cable is a standard USB-C to USB-A cable and can be replaced.

At least version V2.50/14 is required for use in **WinPC-NC**. If you are still using an older version, you can find the appropriate update in our store or send us an e-mail.


In **WinPC-NC** the activation is done in the parameter dialog under *Basic settings - Interface pendant* and there the selection **WinPC-NC HR-10/HR-20** (or the former name **WinPC-NC HR-10**). Then save the parameters and restart **WinPC-NC**.

Manual control with the pendant

In **WinPC-NC** is a new dialog for manual movement, which is either activated automatically with an action on the pendant or by clicking on the new button next to the STOP button.

All current pendant settings are displayed here, the activated axis, the movement mode and the states of the spindle and cooling signal. As before, the exact axis positions are also displayed. On the handwheel itself, blue LEDs and the position of the selector switch indicate the active settings.

The **HR-20 pendant** uses three different modes to move the axes in manual setup.
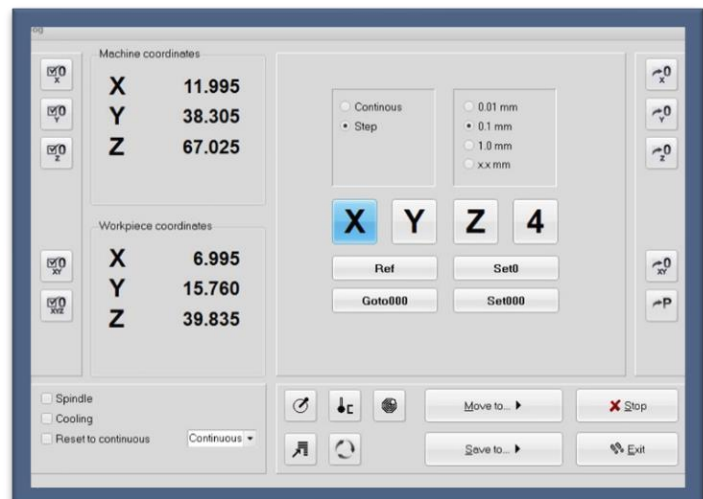
In step mode, an increment of 0.01 or 0.1 or 1 mm can be defined and **WinPC-NC** moves the set distance with the active axis each time the upper encoder wheel is turned. This allows precise positioning and distances to be moved and the axis movement takes place with every noticable snap-in position.

If the encoder wheel is turned continuously and faster in step mode and the axis can no longer follow the individual detent positions, a permanent and constant movement starts and the axis moves as long as the encoder is turned. As soon as the rotation of the encoder wheel stops, the axis stops its movement with a brake ramp. For safety reasons, the axis does not run on, even if many more snap-in positions have been turned.

In speed mode (continuous mode), the selected axis can be moved at variable speed. A small turn of the encoder wheel produces a slow movement and a larger angle of rotation moves the axis faster. This makes it very easy to move an axis quickly over long distances and then slow down or approach the position very slowly shortly before the destination. When turning backwards beyond the starting point, the axis stops.

The buttons and their functions

	Starts a loaded job
	Stops a running job or a running movement or terminates the Manual Move
	Selects the active axis, which is then moved by turning the encoder wheel
	Selects the movement mode for the active axis, either step mode or speed mode (Continuous) and thus defines how the movement is done with subsequent rotation of the encoder wheel.
	Defines the step width or speed in step mode. With individual detents of the encoder wheel, a movement takes place over the set distance of 0.01 or 0.1 or 1 mm and with continuous rotation, a continuous movement takes place at one of three speeds.
	Moves the XYZ axes to the defined zero point
	Starts the homing sequence on the machine

Switches the cooling signal on/off during manual operation

Performs an automatic Z zero point measurement with a surface sensor applied and saves this as a zero point parameter. The *surface block* function and a suitable flying sensor must be activated for this.

Saves the current position of the XYZ axes as the zero point

Saves the current position of the active axis as the zero point

During a running job, the feed speed can be adjusted and changed by turning the knob between 10% and 200% and the speed change is executed immediately. Pressing the knob resets the feed rate to 100%.

In the Manual travel function, the milling spindle can be switched on/off by pressing the knob. During a running job, the spindle speed can be adjusted between 10% and 200% by turning the knob and reset to 100% by pressing the knob.