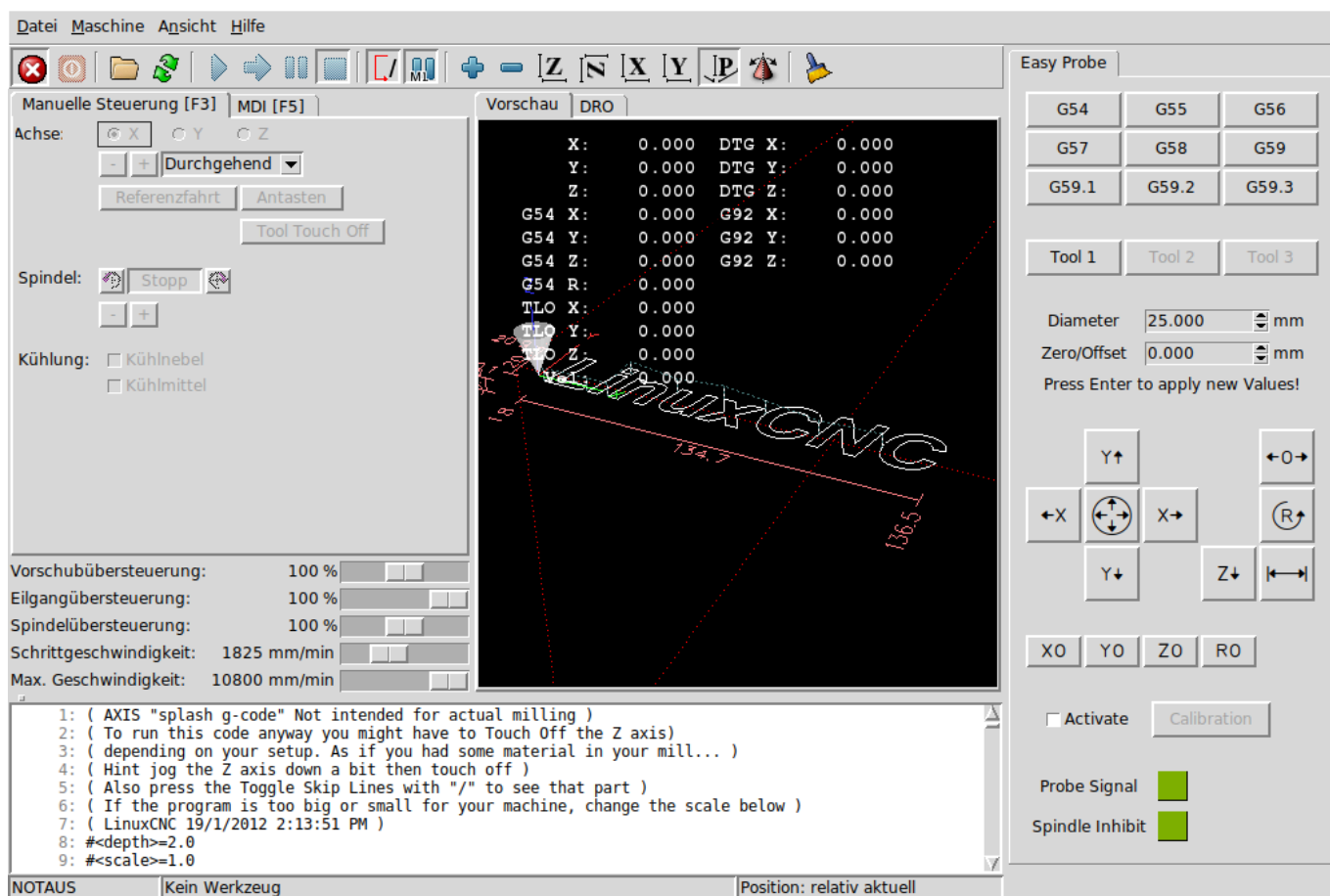


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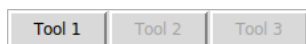


## 1) Coordinate system



Select the current coordinate system with the buttons G54 to G59.3 before you start probing.

## 2) Probe tool

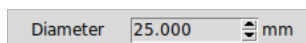


Select your probe tool here. Up to three different probe tools or one probe tool with up to three different probe tips can be user defined in your INI file. Each probe tool will be calibrated individually.

Note: Buttons for unused probe tools will automatically be disabled.

Be aware that pressing the tool buttons leads to a toolchange (M6) and also adds a tool length offset (G43) to the system.

## 3) Diameter



a) In case of a probe tool calibration, enter the exact diameter of the calibration ring.

b) In case of a pocket probe, enter the estimated diameter of the pocket.

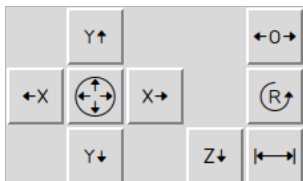
Note: Instead of scrolling you can click on the number, enter a new value and hit enter.

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## 4) Zero/Offset

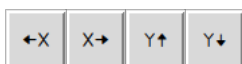
If your probe target value should be anything else than zero, set it to the desired value before probing.  
Note: Instead of scrolling you can click on the number, enter a new value and hit enter.

## 5) Probe buttons



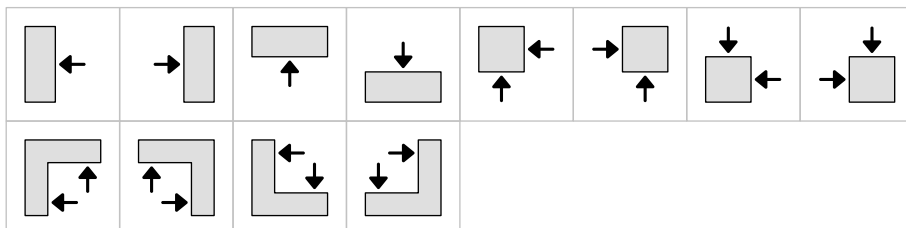
To perform any of the probe actions, please make sure that  
a) the right coordinate system has been selected  
b) the right tool has been selected and calibrated once before  
c) zero/offset has been set to the desired value

Please note that any probe action only affects the currently selected coordinate system.



For edge probe move the tip at least as close to the edge as the MAX\_XY\_DISTANCE value from your INI file.  
For probing corners (either inside or outside) perform two separate edge probes for X and Y

Edge/corner probe samples:



For top probe move the tip at least as close to the top as the MAX\_Z\_DISTANCE value from your INI file and click the top probe button.



For pocket probe move the tip as close to the center as possible. Enter the estimated diameter in the input field above and click the pocket probe button.



After clicking the width/midpoint button, probe two points in the same axis (X or Y).  
The calculated midpoint will be set to zero/offset value. The Distance will be shown in the probed axis.

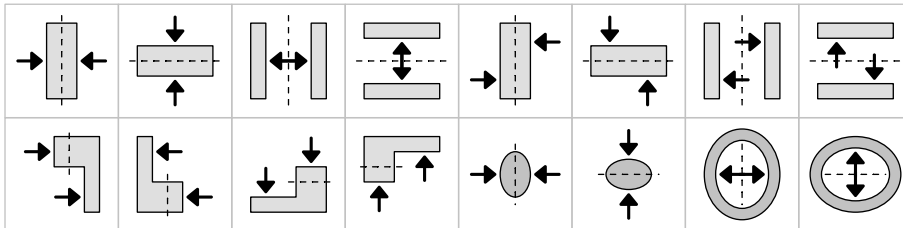
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Note that

- jogging of the non-probed axis is allowed and will be ignored
- you can use the function to find the midpoint of any kind of workpiece such as cuboids or tubes
- both probe actions may be performed in the same direction, i.e. to find the midpoint between two steps
- clicking the button a second time without probing will cancel the function

Hint: To get the exact width and height of an oval, first perform a probe action in X to get the midpoint, then perform a probe action in Y to get the height and a second one in X to get the width.

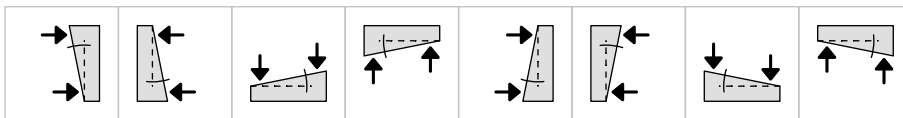
Width/midpoint probe samples:



After clicking the rotation button, probe two points in the same axis. The rotation will be set so that the probed axis will be pointing towards the second probe point.

Note that clicking the button a second time without probing will cancel the function.

Rotation probe samples:

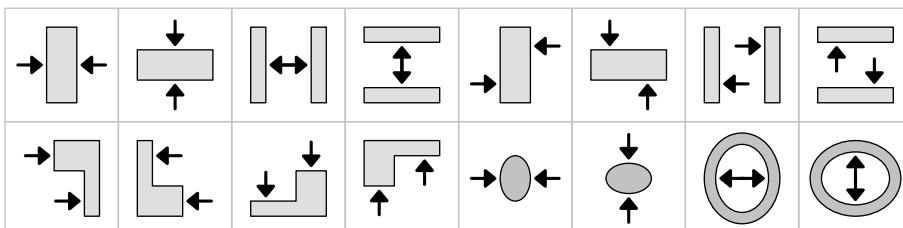


After clicking the measuring button, probe two points in the same axis to measure the distance between both points. The coordinate system will not be affected.

Note that

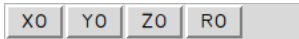
- jogging of the non-probed axis is allowed and will be ignored
- both probe actions may be performed in the same direction, i.e. to measure the distance between two steps
- clicking the button a second time without probing will cancel the function

Measuring samples:



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## 6) Reset axis to zero



If you just need a rough zero position and there is no need for a precise probing, you can use the buttons to zero your current position. Note that it only affects the currently selected coordinate system.

R0 will reset the rotation of your currently selected coordinate system.

## 7) Calibration



Each probe tool and tip combination must be calibrated with a calibration ring at least once before use. The calibration corresponds to a pocket probe with multiple probe trips. The determined values will be matched to the exact diameter of the calibration ring.

To perform a calibration

1. fix the calibration ring on your machine
2. enter the exact diameter
3. move the probe tip as close to the center as possible
4. check the checkbox to activate the calibration button
5. click the button and follow the LinuxCNC messages.

Once a tool is calibrated, its values will be stored permanently.

Note that

- the number of probe trips can be defined in your INI file. A higher number will lead to better results
- it is recommended to recalibrate your tools from time to time
- the calibration values will be stored in your tool table file

## 8) Probe signal



The square LED indicates an active probe signal. This may help you to check your probe tool manually and make sure that it is properly connected and in working order.

## 9) Spindle inhibit



The square LED indicates that spindle.0.inhibit has been set to true. This is the case when you switch to one of the three defined probe tools. For enabling the spindle again, simply switch to any other tool.