

# Renishaw GUI for Okuma

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## Caution – Software safety

The software you have purchased is used to control the movements of a machine tool. It has been designed to cause the machine to operate in a specified manner under operator control, and has been configured for a particular combination of machine tool hardware and controller.

Renishaw has no control over the exact program configuration of the controller with which the software is to be used, nor over the mechanical layout of the machine. Therefore, it is the responsibility of the person putting the software into operation to:

- ensure that all machine safety guards are in position and are correctly working before commencement of operation;
- ensure that any manual overrides are disabled before commencement of operation;
- verify that the program steps invoked by this software are compatible with the controller for which they are intended;
- ensure that any moves which the machine will be instructed to make under program control would not cause the machine to inflict damage upon itself or upon any person in the vicinity;
- be thoroughly familiar with the machine tool and its controller, understand the operation of work co-ordinate systems, tool offsets, program communication (uploading and downloading) and the location of all emergency stop switches.

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**IMPORTANT:** This software makes use of controller variables in its operation. During its execution, adjustment of these variables, including those listed within this manual, or of tool offsets and work offsets, may lead to malfunction.

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## Important information

Suitable training on how to use the regular Renishaw EasySet and tool setting cycles is assumed.

The EasySet and tool setting cycles must be tested during installation for safe operation and compatibility with your machine.

The Renishaw GUI will run in either inch or metric mode.

## Description

The Renishaw GUI is a user interface for use with Renishaw's Inspection Plus, EasySet and tool setting software. It allows cycles to be selected with minimal user input.

The on-screen selection buttons call up resident Renishaw inspection and tool setting cycles for machining centres. These cycles **MUST** already be loaded into the machine tool part program memory area before use and configured according to their installation documentation.

The results of the EasySet measurements can be displayed in a pop-up window after the cycle has finished.

## Installing the Renishaw GUI

### Software disc numbers

A-4016-1035 (version .0G or higher)	Inspection Plus and EasySet
A-4016-1039 (version .0I or higher for P300M)	Contact tool setting
A-4016-1021 (any version)	Non-contact tool setting. <b>Note:</b> P300M – 8-digit and HA/HB/HC tool offsets are not currently supported. P300M package (in development) will be A-4016-1051-0B.

## Setting subprograms (.SSB) as library files (.LIB)

All probing subprograms must be loaded into the controller, and the files must be renamed to have .LIB extensions (not .SSB).

To enable the subprograms to be called from the MDI screen, these files must then be registered in the controller as library files. This process also involves increasing the BUFFER SIZE to contain these files.

Follow the steps below:

1. Select AUTO mode.
  2. Select LIBRARY PROGRAM (if it does not appear on the screen, press the right arrow key until it appears).
  3. Select BUFFER SIZE. Set this to a value larger than the total size of all .LIB files. (Note that 10000 = 10 KB.)
  4. Select REGIS. and select the .LIB files one at a time to register them into the buffer.
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### NOTES:

If you edit a .LIB file, you will need to re-register the file to load the new version.

The library buffer reduces the size of the program buffer (when running in Method A mode).

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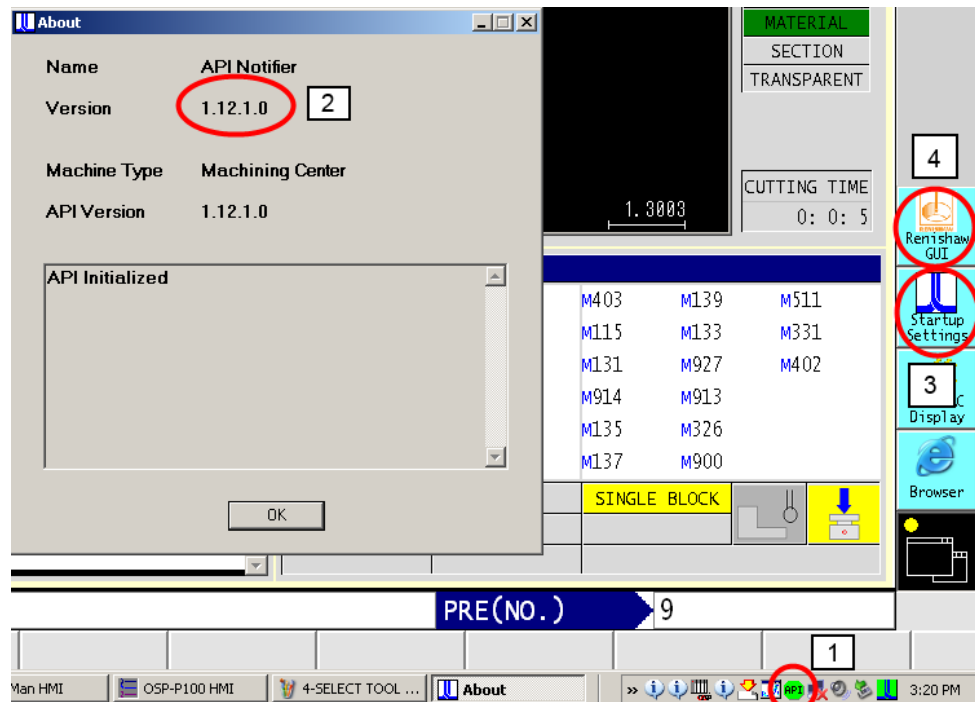
## Okuma/API requirements


The software is compatible only with Okuma P200M/P300M controllers and API version 1.9.1.0 or higher. API version 1.16 onwards is recommended for P300M when tool setting cycles are to be used (previous versions will not load tool data).

Ensure that the API and THINC Startup Service are installed. If there is no API icon displayed at the bottom right of your screen, contact your local Okuma dealer to arrange for the API to be installed. This software is included with all Okuma P200M and P300M controls.

THINC Startup Service is required to ensure that the machine's NC system is fully booted before the application can be run. See the section "Setting up the Renishaw GUI with THINC Startup Service" on page 8.

## Checking the controller configuration



1. If API is installed, this icon will be present (press CTRL and  to view the Windows task bar).
2. Double-click the API icon to show the API version.
3. If this icon is present, then THINC Startup Service is installed. Skip "Setting up the Renishaw GUI with THINC Startup Service (TSS)".
4. This is where the Renishaw GUI icon will be displayed after completing the "Vertical key set-up" instructions.

## Installing the GUI

Copy the file "RenishawGUI.exe" to D:\Program Files\Renishaw. If this folder does not already exist, create it.

## Setting up the Renishaw GUI with THINC Startup Service (TSS)

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**NOTE:** Before proceeding, THINC API must already be installed.

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THINC Startup Service (TSS) is an Okuma application for the Okuma API that runs when the NC is fully booted. The GUI checks that this is installed and running before it will allow the GUI to operate.

In some cases the TSS software can be found on the API installation DVD that was supplied with the machine. To install it, reboot in Windows mode (see procedure for Vertical key set-up) and double-click the setup.exe file located in the THINC Startup Service folder on the Okuma API DVD. If this folder is not on the DVD, please contact your local Okuma dealer or use the version included in this software package (TSS is an Okuma product, so please contact your local Okuma dealer for any support related to TSS installation/operation).

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**NOTE:** TSS version 3.1.0.0 has been used for all API versions since v1.12.1.0.





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### If the Renishaw GUI is required to start on machine power-up (optional):

1. Power down the machine then follow steps 2, 3 and 4 when the correct screen appears after pressing the power ON button.
2. Click New Entry.
3. Click Next.
4. Enter RenishawGUI as Display name.
5. Click Process.
6. Click Next.
7. Browse to D:\Program Files\Renishaw\RenishawGUI.exe.
8. Click Next.
9. Select Wait.
10. Click Next.
11. Click Finish.
12. Click Save.

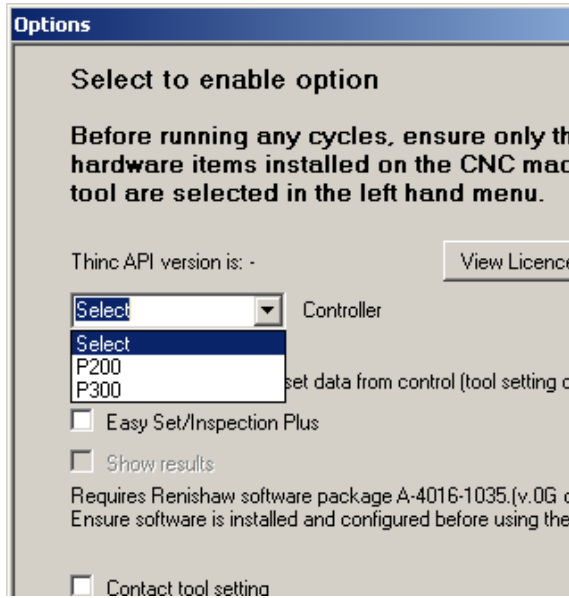
## Vertical key set-up

Proceed as follows to add the Renishaw GUI icon to the supplemental key menu in the vertical function keys:

1. Shut down the machine and reboot the controller.
2. During the boot-up sequence there will be an OSP screen that displays “Launch NC after waiting”. Touch anywhere on the screen to activate it.
3. Press  (located next to the BS and  buttons).
4. Press the on-screen **CANCEL** button or the  button to abort Windows start-up.
5. Press CTRL and  to view the Windows task bar.
6. Select Start > Programs > V-FunctionKeySetting.
7. Select an empty icon then select Edit.
8. Select Browse and find the file RenishawGUI.exe in the folder D:\Program Files\Renishaw (this will automatically assign the name RENISHAWGUI to the icon).
9. In the Name entry, type “\n” between “Renishaw” and “GUI” to make “Renishaw\nGUI”. Depending on the keyboard set-up, the “¥” sign may be used instead of “\”.
10. Select OK twice to finish.
11. Power down (using the NC power off button) and reboot the machine.

## Selecting controller version

Select the Okuma controller version from the drop-down box as shown below.



## Selecting Renishaw packages

Check the boxes next to EasySet, Contact tool setting and/or Non-contact tool setting if you have the appropriate systems and the related Renishaw (not Okuma) software installed.

## Reading existing tool offset data from the control (tool setting only)

Check the box shown below to load the existing tool offset values when using tool setting cycles.

**NOTE:** A P300M control with API version 1.15 and older will not load data (upgrade the API to 1.16 to allow data loading).

**Options**

Select to enable option

Before running any cycles, ensure only the hardware items installed on the CNC machine tool are selected in the left hand menu.

Thinc API version is: -

Controller

Read existing tool offset data from control (tool setting only)

Easy Set/Inspection Plus

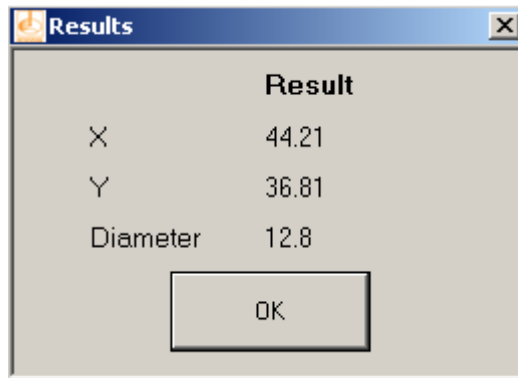
Show results Base number (VC)  (4 VCs req'd)  
Requires Renishaw software package A-4016-1035.(v.0G or higher)  
Ensure software is installed and configured before using these cycles.

Contact tool setting  
Requires Renishaw software package A-4016-1039 (v.0I for P300M).  
Ensure software is installed and configured before using these cycles.

Non contact tool setting  
Requires Renishaw software package A-4016-1021.  
P300M package (in development) will be A-4016-1051.0B  
Ensure software is installed and configured before using these cycles.

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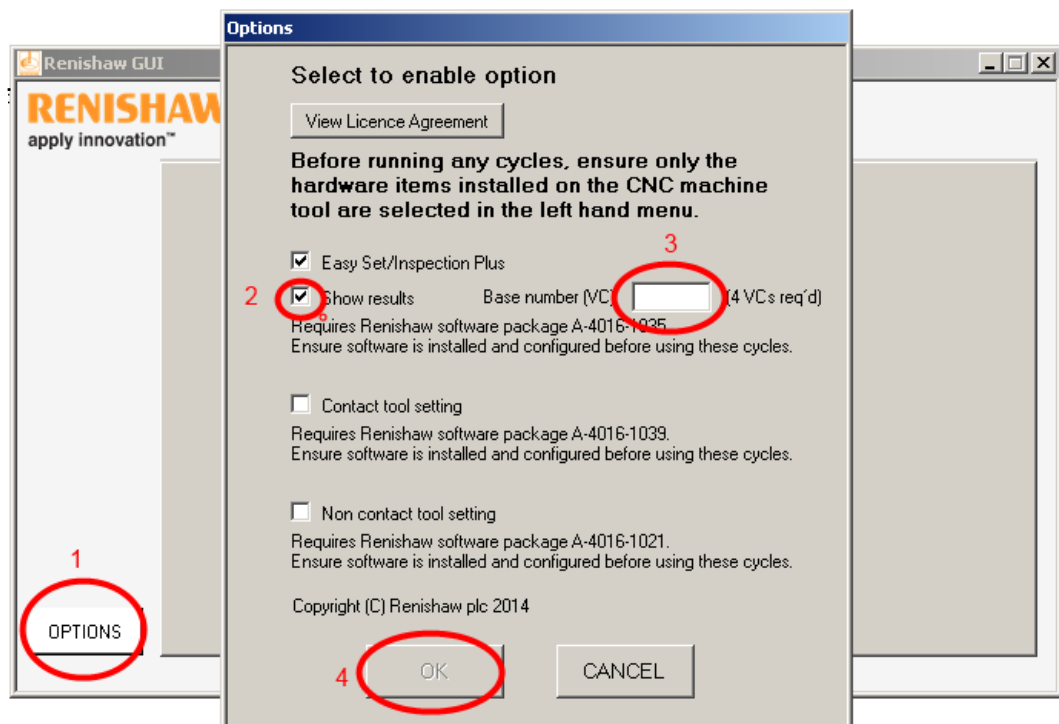
## EasySet results pop-up window



The EasySet results pop-up window can display the measured X, Y, Z (relative to the active work co-ordinate system) and size of the feature probed via the GUI.

To activate the pop-up window:

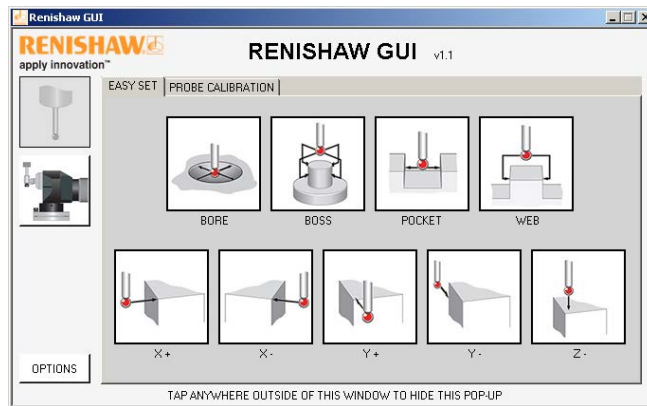
1. Click the OPTIONS button on the GUI.
2. Click the check box next to Show results.
3. Enter the number of a VC (common variable) between 1 and 197 to be used for data storage. Note that three additional sequential variables will also be used.
4. Click OK.



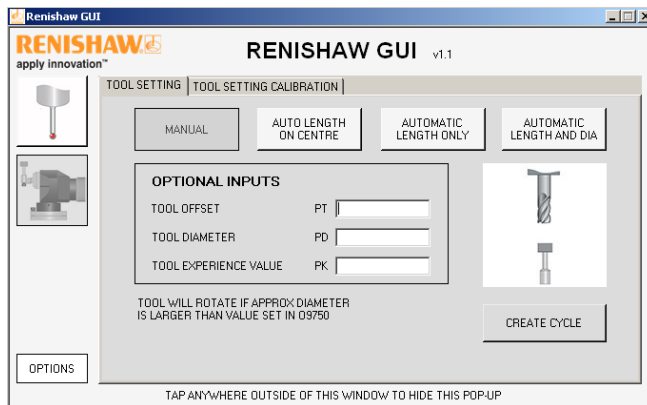


## Renishaw GUI screens

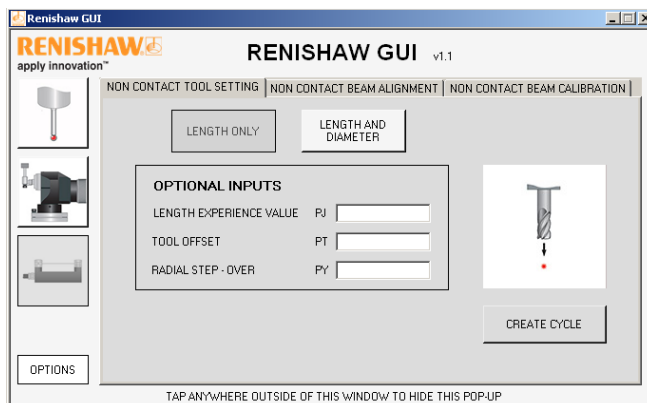
### Probing



### Contact tool setting



### Non-contact tool setting



For details on inputs and optional inputs, see the documentation for the relevant probing package.

## Using the Renishaw GUI

### Available cycles

Icons for probing, tool setting and non-contact tool setting are displayed at the left hand side of the screen. Remove any of these for which the relevant hardware is not installed on the machine. To add or remove cycles, select “Options” and tick or untick as required. Only the selected options will be visible once the “Options” window is closed.

### Use of cycles

MDI must be selected before the program is used. If you try to create a cycle without being in the MDI screen, you will be prompted to select it.

Select a cycle and navigate through the input fields using the “Enter” or “Tab” keys.

If the “Read existing tool offset data from control” check box is checked, then the data from the tool currently loaded into the spindle is entered into the compulsory fields, so you must ensure that the correct tool for the cycle is in the spindle before selecting the cycle. If the incorrect tool was in the spindle, replace the tool, select another cycle, and then reselect the original cycle. The correct tool data will now be automatically inserted into the cycle.

All cycles apart from the probe calibration cycles also have optional inputs. These fields can be left blank, in which case default values will be used.

Once the values for the cycle have been entered, select the “CREATE CYCLE” button. If there is a problem with any of the inputs, a message will appear asking you to correct the boxes highlighted in blue. Select “OK” to remove the message and then correct the highlighted inputs. The cycle will be written to the MDI screen and the Renishaw GUI application will minimise to the taskbar.

If the cycle is a manual cycle, refer to the relevant manual for information on where the tool should be positioned.

To run the cycle, use the Cycle Start button. Once the cycle is complete, the Renishaw GUI application will restore to the original position on the screen.

If an EasySet cycle is used, the results of the cycle measurement will be displayed in a pop-up window after the cycle has finished.



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