



PCE  
Inst.



English

# User Manual

PC Software PCE-RT 2000



User manuals in various languages (deutsch, français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: [www.pce-instruments.com](http://www.pce-instruments.com)

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## Contents

<b>1</b>	<b>Safety notes</b> .....	<b>1</b>
<b>2</b>	<b>System requirements</b> .....	<b>1</b>
<b>3</b>	<b>Installation</b> .....	<b>1</b>
<b>4</b>	<b>Operation</b> .....	<b>2</b>
4.1	Description of the user interface .....	2
<b>5</b>	<b>Meaning of the individual icons on the toolbar</b> .....	<b>3</b>
<b>6</b>	<b>Operation</b> .....	<b>4</b>
6.1	The first use of the software .....	4
6.2	Connect to the PCE-RT 2000 .....	5
6.3	Disconnect from the PCE-RT 2000 .....	5
6.4	List of measurement series .....	5
6.5	Statistical data .....	6
6.6	Graphical representation .....	6
6.7	Performing the measurement .....	8
6.8	Data import .....	8
6.9	Export of series of measurements .....	8
6.10	Loading and saving series of measurements .....	8

## 1 Safety notes

Acquaint yourself with the operation of the measuring device before using it in combination with the PC software. For this purpose, use the instruction manual which comes with your PCE product. All safety notes from the device's manual have to be observed as well when the device is used with this software.

The device and the software may only be used by qualified personnel. Damage or injuries caused by non-observance of the manuals are excluded from our liability and not covered by our warranty.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general warranty terms which can be found in our general terms of business.

If you have any questions, please contact PCE Instruments. The contact details can be found at the end of this manual.

## 2 System requirements

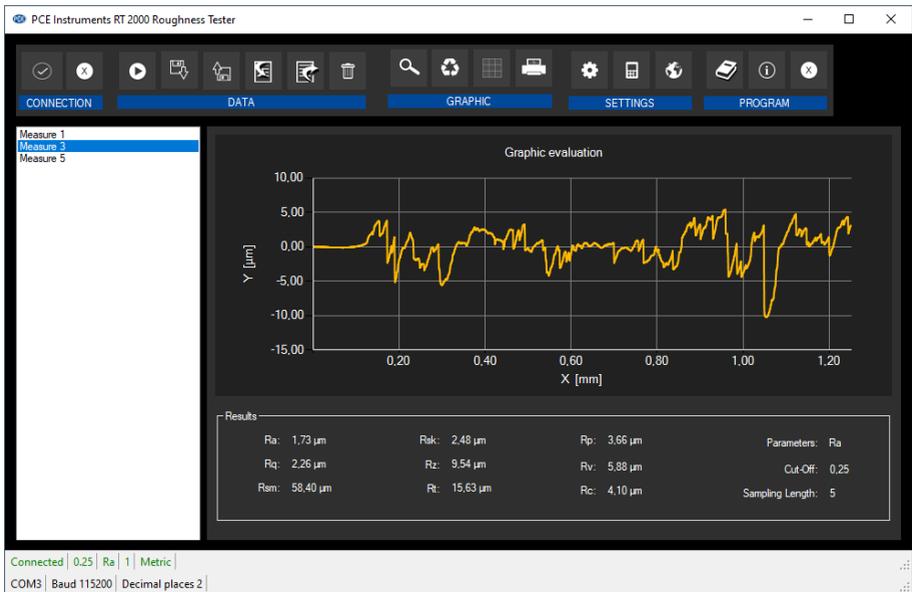
- Operating system Windows 7 or higher
- USB port (2.0 or higher)
- An installed .NET framework 4.0
- A minimum resolution of 800x600 pixels
- Optional: a printer
- Processor with 1 GHz
- 4 GB RAM recommended
- CD ROM drive

## 3 Installation

Please run the "Setup PCE-RT 2000.exe" and follow the instructions of the setup.

## 4 Operation

### 4.1 Description of the user interface



The main window consists of several areas:

Below the title bar, there is a "toolbar" the icons of which are functionally grouped.

Below this toolbar, there is a list of measurement series, in the left part of the window. The right part of the window is the area for graphical representation of the measured values.

The lower part of the screen provides an overview of statistical data with the values obtained by the roughness tester.

At the bottom of the main window, there are two "status bars" containing important information, directly above each other.

The lower of the two shows the static settings of the program which can be set via a settings dialog.

The upper status bar shows the dynamic settings of the PCE-RT 2000 which are retrieved directly from the connected device.

## 5 Meaning of the individual icons on the toolbar

Group "Connection"		
		Connect to the PCE-RT 2000
		Disconnect from the PCE-RT 2000
Group "Data"		
		Start a measurement
		Import a series of measurements from the PCE-RT 2000
		Export a series of measurements to a CSV file
		Load a series of measurements from a file
		Save a series of measurements in a file
		Delete the selected measurement value
Group "Graphics"		
		Enlarge the graphics area ("Zooming") or move the enlarged graphics
		
		Restore the original graphics
		Change the background and representation of the graphics
		Print the currently visible graphics

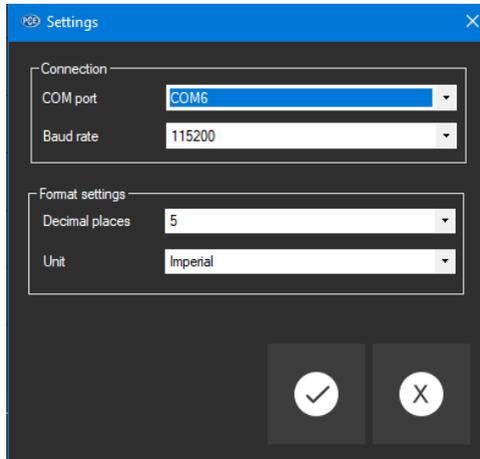


Group "Settings"		
		Open settings dialogue
		Select one of the languages supported by the programme
Group "Program"		
		Display an information dialog
		Exit the program

## 6 Operation

### 6.1 The first use of the software

Before the PCE-RT 2000 can work with the software, the assigned COM port must be set in the software once. It can be set via the "settings dialog" 



In addition to the connection data, further settings for the date and time format can be made here.

## 6.2 Connect to the PCE-RT 2000

After the desired settings have been made and the settings dialog has been closed with a click on the "Apply" button, the connection to the PCE-RT 2000 can be established by clicking on the



If the connection could be successfully established, the term "Connected" is displayed in green on the status bar for the dynamic data.

If, however, no connection is established, the term "Disconnected" is displayed in red.

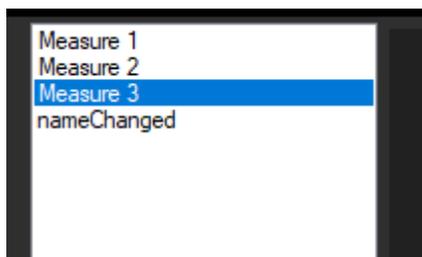
## 6.3 Disconnect from the PCE-RT 2000

By clicking on the  icon, an active connection to the PCE-RT 2000 can be terminated.

If you exit the software while the connection is active, the connection will also be terminated.

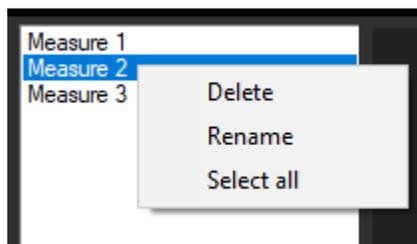
## 6.4 List of measurement series

In the left part of the main window, all series of measurements which are currently in the memory of the PCE RT 2000 are listed. Each series of measurements is represented in the list with its name and number. This number is obtained from the device. If you import a measurement, the name of the file will be the name of your measurement.



Depending on what series of measurements has been selected, the graphics, the chart and also the statistical data are updated.

A right click allows you to delete highlighted series of measurements.



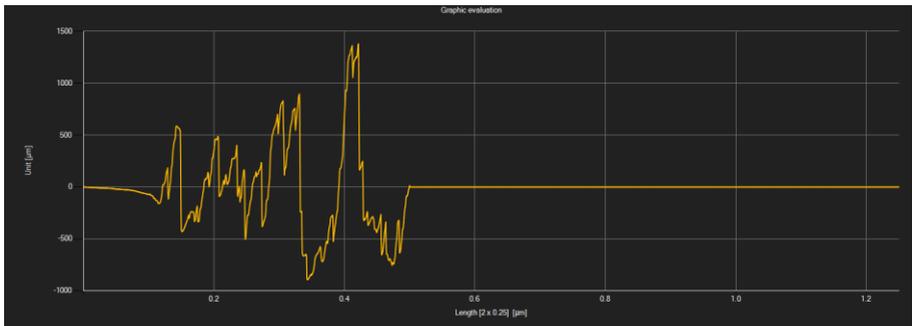
## 6.5 Statistical data

Results			
Ra: 1.73 $\mu\text{m}$	Rak: 2.48 $\mu\text{m}$	Rp: 3.66 $\mu\text{m}$	Parameters: Ra
Rq: 2.26 $\mu\text{m}$	Rz: 9.54 $\mu\text{m}$	Rv: 5.88 $\mu\text{m}$	Cut-Off: 0.25
Rsm: 58.40 $\mu\text{m}$	Rt: 15.63 $\mu\text{m}$	Rc: 4.10 $\mu\text{m}$	Sampling Length: 5

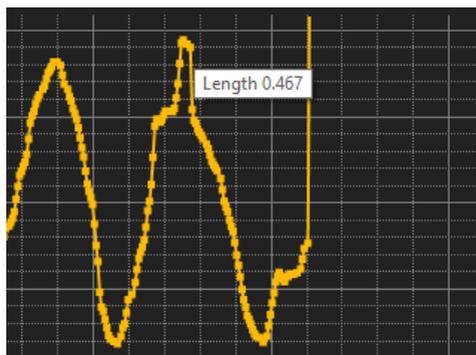
The statistics include all R values calculated. They also show three configuration records (parameter, sampling length and evaluation length).

## 6.6 Graphical representation

In the area for the graphical evaluation, the unit ( $\mu\text{m}$  or mil) is shown on the y axis and the length ( $\mu\text{m}$  or mil) is shown on the x axis.



Moving the mouse cursor to a point in the displayed line makes a small information window with the data of the currently selected measurement value pop up after a short time.



A freely selectable part of the displayed graphics can be enlarged. For this purpose, the corresponding icon in the toolbar ("Enlarge the graphics area ("Zooming") or move the enlarged graphics) must be a magnifying glass . Then, a rectangle can be drawn over a part of the graphics by holding the mouse button down. When the mouse is released, the selected area appears as a new graphic.

As soon as at least one enlargement has been made, it is possible to switch from enlargement mode to shift mode by clicking the icon ("Enlarge the graphics area ("Zooming") or "Move the enlarged graphics").

Shift mode is represented by the  icon.

If the mouse is now placed over the graphics area and then the left mouse button is pressed, the depicted section can be moved by holding the mouse button down.

Another click on the  icon changes back to the enlargement mode, which is recognizable by the  icon.

The original graphics can be restored at any time by clicking on the  icon next to the magnifying glass or hand.

The background of the graphics and its representation can be changed via the  icon to the right. A click on the icon works like a switch:

A single click makes the division of the background finer and adds some more dots to the graphics. A further click on the icon changes back to standard view.

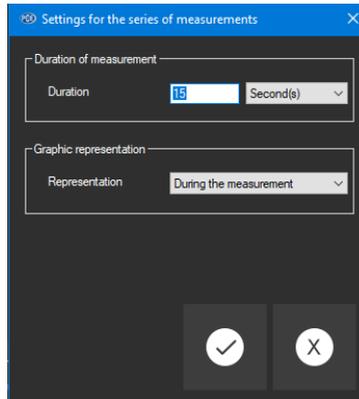
The currently displayed graphics can also be printed.

A click on the  icon opens the "Print" dialog.

## 6.7 Performing the measurement

If a connection to the PCE-RT 2000 is active, a new measurement can be started.

After clicking on the corresponding icon in the toolbar ("Start a measurement"), a new dialog is displayed. With the help of this dialog, additional settings relevant for the upcoming measurement can be made.



A running measurement can be terminated by clicking on the  icon in the toolbar.

## 6.8 Data import

The internal device memory can then be read out using the software and thus the recorded series of measurements can be made available via an import.

Just click on the  icon in the toolbar. You will then be asked if you really want to import the series of measurements from the device. This can take a few minutes, depending on the extent.

## 6.9 Export of series of measurements

Measurement series can also be exported. The entire content of one measurement series can be exported in CSV format by using the  icon of the toolbar.

## 6.10 Loading and saving series of measurements

A series of measurements can be loaded and saved via the  and the  icon respectively in the toolbar.

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