



# HEXAGON

## USER MANUAL

**PC-DMIS PRESET & MEASURE INSPECTION  
PLANNER  
VERSION 2.XXXX.Y.ZZ**

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## 1. General

### 1.1. Introduction

The aim of this manual is to support you in dealing with the PC-DMIS Preset & Measure Inspection Planner (referred to below as “Inspection Planner”).

We have tried to describe all options of this software as best as possible and in a way that is understandable. However, we ask for your understanding that all features may possibly not be described. This may be due among other things to technical innovations, new options or similar influences.

The Inspection Planner is used among other things for the control of top-quality measurement technology. Settings in this software have a direct influence on the program sequence and therefore have to be selected carefully.

For this reason we point out by way of precaution that this manual cannot replace training. Should you be interested in a course in this respect, we look forward to hearing from you. You can find the corresponding data at the end of this text.

It cannot be ruled out even after careful examination that this manual is not free of errors.

For this reason we reserve the right to make typographical errors and mistakes.

Irrespective of this, we are thankful for suggestions, tips and proposals for improvements resulting from daily dealings with the Inspection Planner.

If you need assistance, please contact your local Hexagon support.

## 1.2. Notes on the use of this user´s manual

- Find terms or functions that are not listed in the table of contents

The terms used in this user manual for functions etc. are identical to those used in the software. If certain functions cannot be found via the table of contents, use the search function in the PDF. To do this, enter the desired term in the notation in which it is used in the user interface.

- Use links

If text passages are related to other chapters, they are linked to each other. These links can be recognized by the underlined and blue colored text. Clicking on this text jumps to the corresponding passage.

In order to be able to find these passages in a printed operator's manual, the complete outline is preferably given.

Example:

Chapter: [Menu option "Extras"](#), section: [Settings](#), point: [Use PC-DMIS CAD file](#)

or (corresponds to the navigation in the software):

Menu option „[Extras](#)“ → [Settings](#) → [Use PC-DMIS CAD file](#)

In principle, the last term will lead to the desired information (in the example above: point: [Use PC-DMIS CAD file](#)).

The complete structure is not indicated if the linked passage is located in the immediate vicinity of the text (example: see [Example](#) above).

If text passage to which was jumped does not contain a link to the original text, it is possible to jump to the source text with the key combination "Alt" + "⇐" (To-Left).

- Used symbols



This symbol serves as a hint to read the corresponding text particularly carefully.

### 1.3. Meaning mouse click, click or similar.

This term is used for the left mouse button. If the right mouse button must be clicked, this is explicitly mentioned.

### 1.4. Recommended qualification

- Installation of the software

The software should be installed by personnel who have the following knowledge and permissions:

- PC skills
  - Windows skills
  - Installation of Windows – programs
  - Extract compressed files
  - Changing access permissions in the File System and Registry
- Typical: Network administrators

- Using the software

The use and configuration of the software should be carried out by personnel who have the following knowledge:

- PC skills
  - Windows skills
  - PC-DMIS skills (e.g. working with CAD, collision detection etc.)
  - Detailed training by the Hexagon application engineering department
- Typical: employees in quality assurance or work preparation

## 2. Software licence agreement

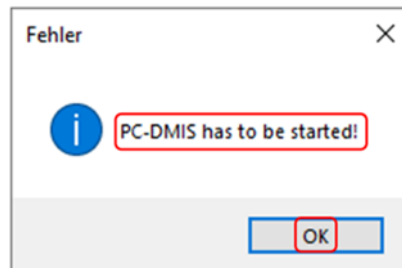
The use of the software is subject to acceptance of all provisions contained in the software license agreement. For details, refer to the document "EN\_EULA.pdf", which you will find in the same folder in which the user manual is located.

## 3. Operation

### 3.1. Starting the Inspection Planner

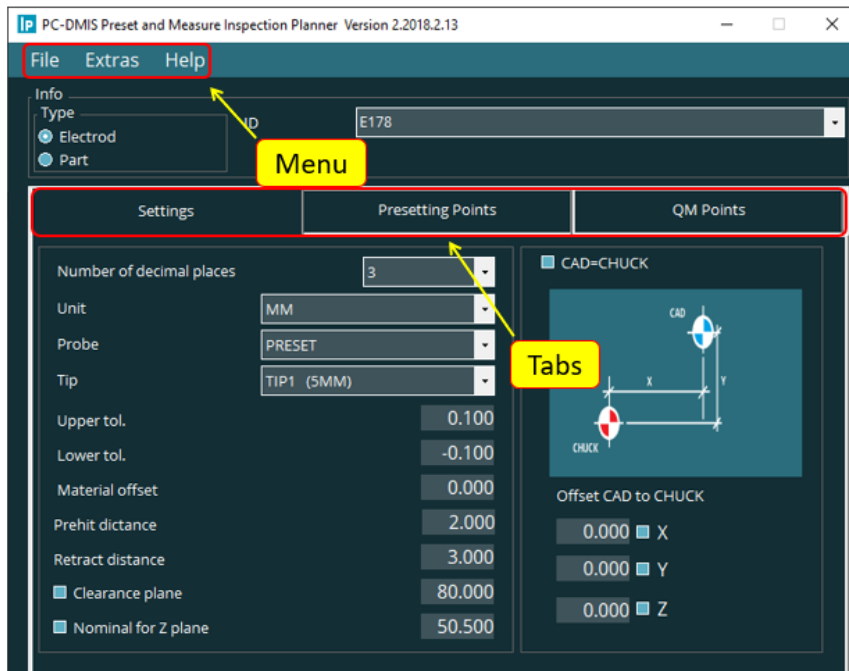
PC-DMIS must first be started in order to start the Inspection Planner. The Inspection Planner can then be started by double clicking with the left mouse button on the link on the desktop. Both PC-DMIS and the Inspection Planner must have identical entitlements.

If PC-DMIS is not started, the following reference appears:

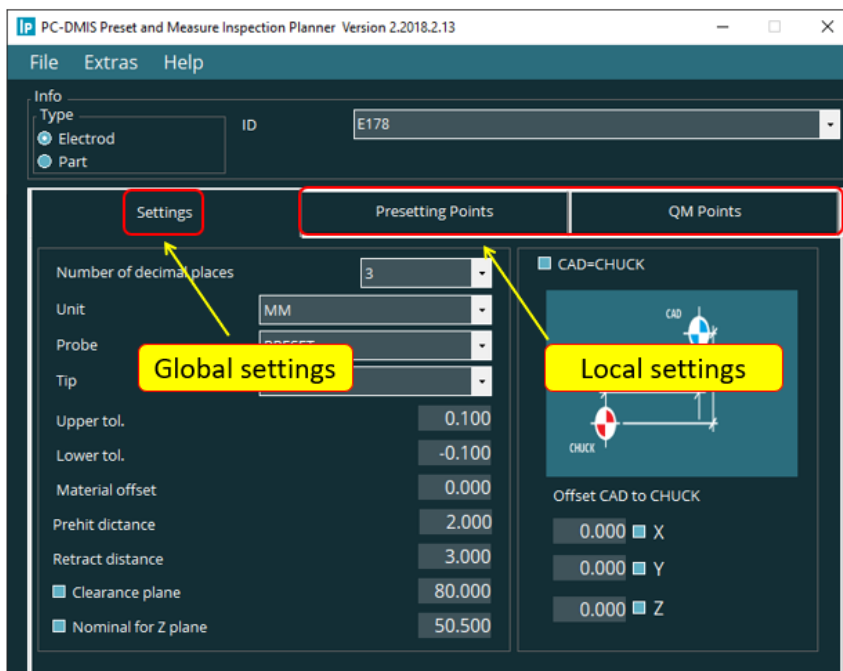


After confirming the message per left mouse-click on the "OK" button, the message is closed. The Inspection Planner can then be started as described above after starting PC-DMIS.

### 3.2. Terms used



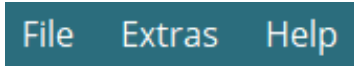
### 3.3. User interface



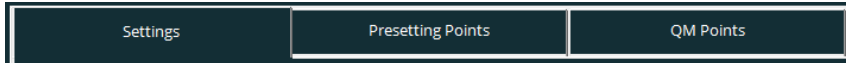


The software user interface can be divided into the following sub-segments:

- The menu bar



- Tabs



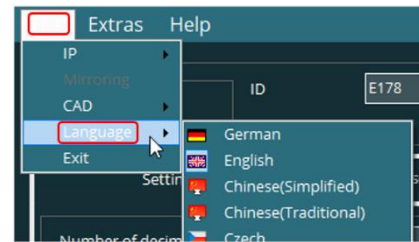
## 4. Configuration of the software

For the configuration of the software, the knowledge and permissions recommended in chapter: [Operation](#), section: [Recommended Qualification](#), point: [Using the software](#) must be taken into account.

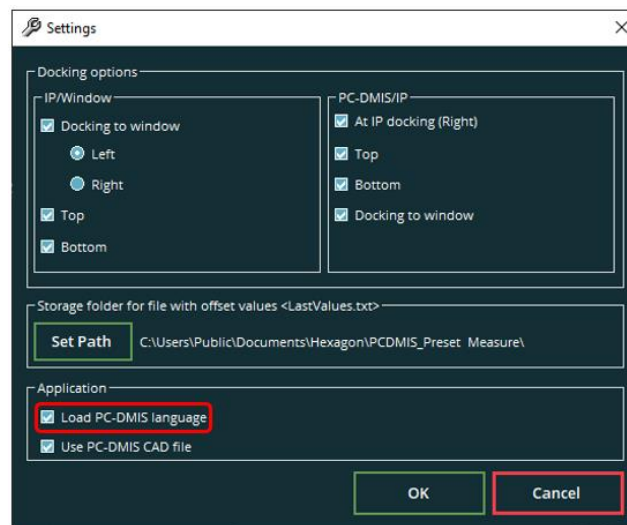
Before you use the software, it must be adjusted to your environment. Both PC-DMIS and the Inspection Planner must be started with administrator rights. After configuration has been carried out these are no longer required.

### 4.1. Language setting

The desired language can be set in the menu “File → Language”. If no changes are carried out in the settings, the language selected in PC-DMIS has no influence on the Inspection Planner.



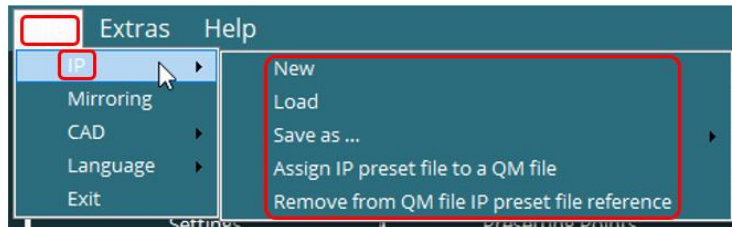
If the Inspection Planner is to start in the language selected in PC-DMIS, then the checkbox at “[Load PC-DMIS language](#)” under “[Extras](#)” → [Settings](#)” must be activated (default: checkbox deactivated).



Should a language be required which is not available for selection, please get in contact with the supplier of the software or the manufacturer.

## 5. Menu option “File”

### 5.1. IP



- **New**

A new project is generated. This function is only available for the tabs “Settings” and “QM Points” (see chapter: [The tabs](#), section: [Settings](#) and section: [QM Points](#)). With "Save as ..." this project can be saved (see point: [Save as ...](#) below).

If this function is selected in the "[QM Points](#)" tab, all quality measurement points are deleted. Then it will switch to the "[Settings](#)" tab.

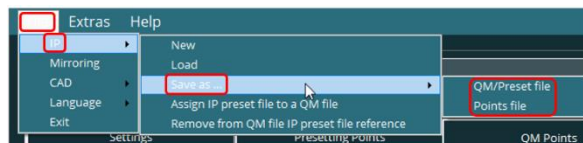
Regardless of the tab selected, a CAD model loaded in PC-DMIS is deleted.

- **Load**

An existing project (\*.txt – file) can be loaded.

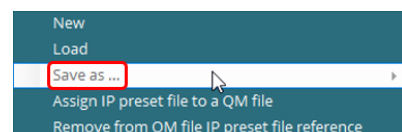
- **Save as ...**

This function is only available for the tabs “Presetting Points” and “QM Points” (see chapter: [The tabs](#), section: [Presetting points](#) and section: [QM Points](#)).



- “[QM Points](#)” tab active

If at least one checkbox is activated in the "[Additional parameters](#)" tab (see below) and the "[Points information](#)" tab is currently selected, this function is not available.



In this case, the "[Additional parameters](#)" tab must be selected. The checkboxes should be checked. If the settings are correct, the file can be saved.

If no checkbox is active in the "[Additional parameters](#)" tab and the "[Points information](#)" tab is currently selected, this function is available.

If the "[Additional parameters](#)" tab is active, this function is available regardless of the state of the checkboxes.

- QM/Preset file:

Depending on the selected [tab](#), a file with the measurement points for the offset data or file with the quality measuring points is generated (\*.TXT).

This file can be automatically executed in PC-DMIS Preset & Measure (see also the user manual for PC-DMIS Preset & Measure).

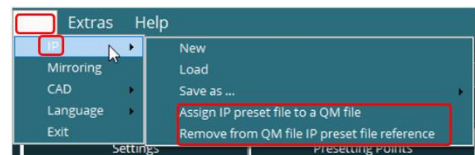
- Points file:

If the "QM Points" tab (see chapter: [The tabs](#), section: [QM Points](#)) is active, a \*.IPPNT file with the quality measurement points is generated. This can be processed by means of a specially created measuring routine (measuring routine not included).

If the "Presetting Points" tab is active (see chapter: [The tabs](#), section: [Presetting points](#)), this function is not available.

- Assign IP preset file to a QM file

This function makes it possible to create a \*.txt file with which the preset values and quality measurement points in Preset & Measure are determined in a measurement sequence. For this purpose first of all the desired file with the quality measuring points and then the file with the presetting points is selected. A reference to the file with the presetting points is automatically inserted into the file with the quality measuring points.

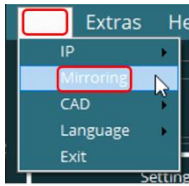


This file can be automatically executed in PC-DMIS Preset & Measure (see also the user manual for PC-DMIS Preset & Measure).

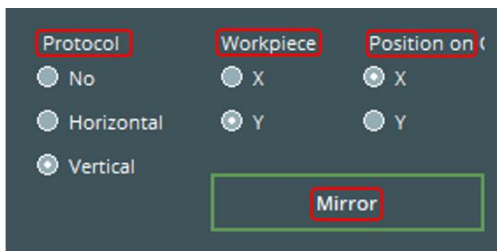
- Remove from QM file IP preset file reference

The reference in the file with the quality measuring points to the file with the presetting points is removed.

## 5.2. Mirroring



This function is only available in the "QM Points" tab after creating a measurement point. After clicking on "Mirror", a window opens in which the mirroring axes can be defined.



- Protocol

The geometrical position (horizontal or vertical) for the output of the measured values in the measurement protocol is defined.

If the PC-DMIS CAD model is used (see Chapter: [Menu option "Extras"](#), section: [Settings](#), point: [Application](#) → [Use PC-DMIS CAD file](#)) it will be saved with a new name. The name is formed as follows:

{name of CAD model}\_\_\_{geometric position}

If no mirroring is to take place, the radio button "None" is selected.

- Workpiece

The mirroring axis (X or Y) for the workpiece is defined.

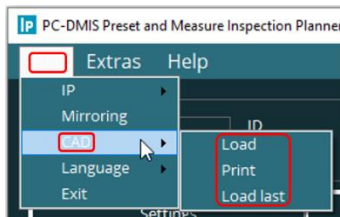
- Position on

The mirror axis (X or Y) for the virtual machine is set.



In PC-DMIS, the view of the CAD model is updated in the graphic display window according to the selected mirroring variant.

### 5.3. CAD



- Load

A CAD model can be loaded. All formats available in PC-DMIS can be processed.

- Print

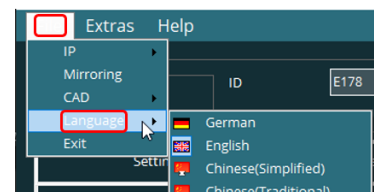
If the "Presetting points" or "QM Points" tab is active (see chapter: [The tabs](#), section: [Presetting points](#) and section: [QM Points](#)), a loaded CAD model can be printed (CAD window in PC-DMIS). The printer used is the default printer selected in the Windows Control Panel.

- Load last

This function can be used to load the last CAD used in Inspection Planner.

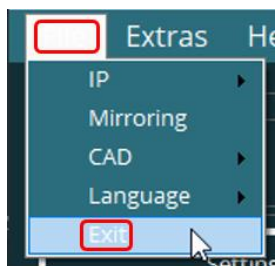
### 5.4. Language

The language of the Inspection Planner can be changed (see also chapter: [Configuration of the software](#), section: [Language setting](#)).



### 5.5. Exit

Closes the software.



Alternatively, this can be done by clicking on the "X" icon located in the upper right corner.

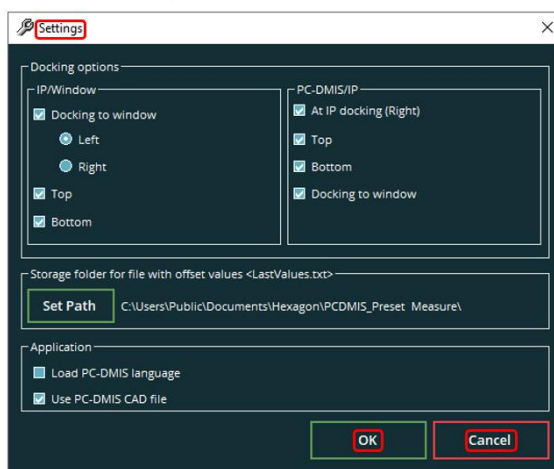
## 6. Menu option “Extras”

### 6.1. Settings

Various settings (e.g.: position of the user interface, etc.) can be made at this point.



After clicking with the mouse the following window opens:



Changes made are accepted with the "OK" button. The "Cancel" button cancels the changes.

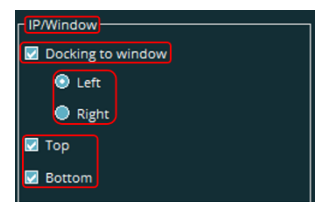
### 6.2. Docking options

- IP/Window

Specifies the position of the Inspection Planner window on the screen.

- Docking to window (options: “Left” or “Right”):

It is determined whether the user interface of the Inspection Planner appears on the left or right edge of the screen. If the checkbox is deactivated, the window can be positioned as desired (depending on the further “Docking options”).



- Top:

Fixes the position of the user interface at the top of the screen. If the checkbox is deactivated, it can be positioned freely (depending on the other "Docking options").

- Bottom:

Fixes the position of the user interface at the bottom of the screen. If the checkbox is deactivated, the window can be positioned freely (depending on the other "Docking options").

- PC-DMIS/IP

Defines the position of the user interface between PC-DMIS and Inspection Planner on the screen.

- At IP docking (selection: "Left" or "Right"):

If the checkbox is activated, PC- DMIS is fixed at the right of the Inspection Planner user interface. If the checkbox is deactivated, the PC-DMIS window can be positioned as desired (depending on the further "Docking options").

- Top:

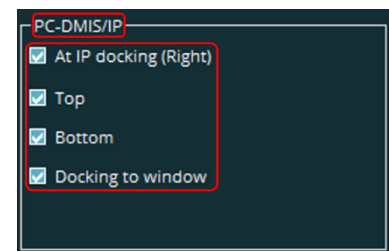
Fixes the position of the user interface at the top of the screen. If the checkbox is deactivated, the PC-DMIS window can be positioned as desired (depending on the further "Docking options").

- Bottom:

Fixes the position of the user interface at the bottom of the screen. If the checkbox is deactivated, the PC-DMIS window can be positioned as desired (depending on the further "Docking options").

- Docking to window:

If the checkbox is activated, PC-DMIS is fixed on the edge of the screen which is opposite the Inspection Planner user interface (e.g: Inspection Planner left is fixed on the left →, PC-DMS on the left of the screen). If the checkbox is deactivated, the user interface can be positioned as desired (depending on the further "Docking options").



### 6.3. Storage folder for file with offset values <LastValues.txt>

By clicking on the "Set Folder" button, it is possible to specify in which directory the "Last Values.txt" file created in PC-DMIS Preset & Measure should be saved.

This setting is important if the preset offsets are to be displayed and taken into account in the "Presetting Points" and "QM Points" tabs based on the electrode or workpiece name entered in the "ID" field (see chapter: [The Tabs](#), section: [Area: Info](#), point: [ID](#)). These settings must be identical both in Preset & Measure (see Preset & Measure user manual) and in Inspection Planner.





## 6.4. Application



- Load PC-DMIS language
  - Checkbox activated

If the checkbox is activated, Inspection Planner starts in the language set in PC-DMIS.
  - Checkbox deactivated

If the checkbox is deactivated, the last selected language will be used (see chapter: [Configuration of the software](#), section: [Language setting](#)).
- Use PC-DMIS CAD file
  - Checkbox activated

If the checkbox is activated, the PC-DMIS \*.CAD file is copied to the folder where the currently used CAD file (e.g.: IGES, STEP etc.) is located. This file will be used when restarting Inspection Planner. Any changes made to this file (e.g.: transformation) are retained.

In parallel, the speed of loading the CAD file is increased for very large original data sets (see also chapter: [Menu option "File"](#), section: [CAD](#), point: [Load](#) and [Load last](#)).
  - Checkbox deactivated

If the Inspection Planner is closed and restarted, the Inspection Planner uses the last CAD file used (e.g.: IGES, STEP etc.). Any changes made (e.g.: transformation) to this data set are no longer available restart.

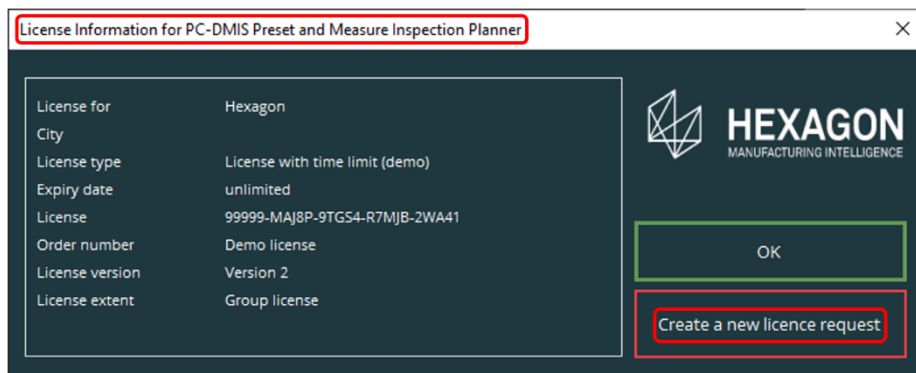
## 7. Menu option “Help”



### 7.1. License

With "License" you get information about your software license (e.g.: license type and expiration date) in the following window "License Information for PC-DMIS Preset and Measure Inspection Planner".

A new license request can be generated using the "Create a new license request" button.



### 7.2. User manual

This opens the user manual.

### 7.3. Information about ...

With "Information about ..." you get more information (e.g. version number of the software) about this application.

## 8. The tabs

It is only possible to change the tabs if no other windows are open (e.g.: Auto element "Circle" - see section: [Presetting points](#), point: [Circle tab](#) → [CIRCLE\\_D](#) in this chapter).

If the tab is changed, the Inspection Planner waits until all settings are completely loaded. If another tab is selected during this time, the Inspection Planner switches to this tab only after the settings have been loaded.

### 8.1. Area: Info

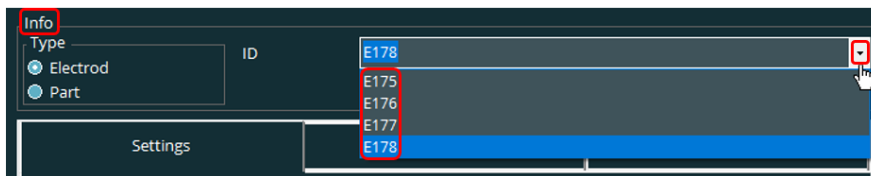
This area is available in all tabs.

- Typ:

The type "Electrod" or "Part" can be specified. This value is taken over as the default in the tabs "[Presetting points](#)" and "[QM Points](#)".

- ID

Clicking on the "▼" icon opens a drop-down list. Each electrode or workpiece measured in Preset & Measure can be selected. The prerequisite is that a designation (Display/Output tab ID Part) has been assigned in Preset & Measure and the path for the "LastValues.txt" file is identical both in Preset & Measure and in Inspection Planner.



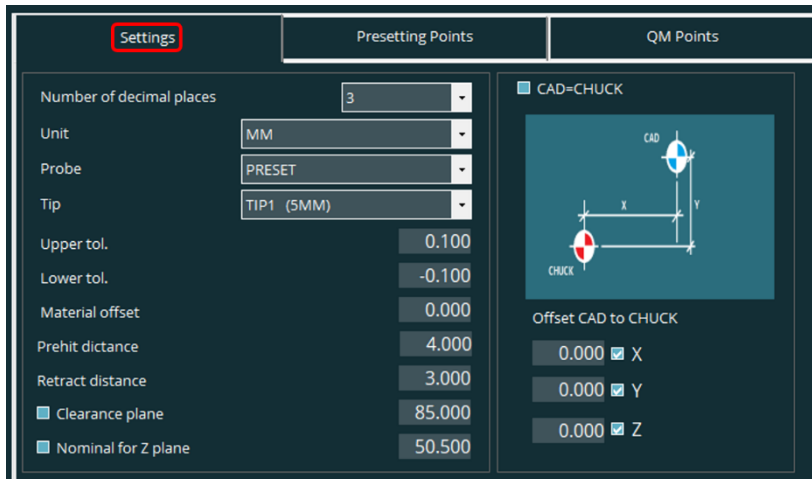
Alternatively, the value can be entered via the keyboard.

These values can be adopted in the respective tabs by mouse click (see: section: [Presetting points](#), point: [Fixure offset's holder to part](#) and section: [QM Points](#), point: [Preset offsets](#) in this chapter).

## 8.2. Settings

Settings carried out here are taken over as the default in the tabs “Presetting points” and “QM Points” (see in this chapter: section: [Presetting points](#), point: [Rectangle tab](#) and [Circle tab](#) as well as section: [QM Points](#)).

Some of these values can be changed in the respective tabs.

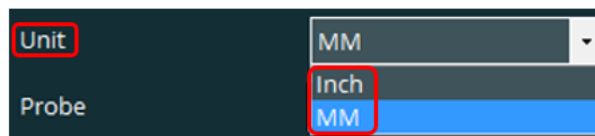


- Number of decimal places

Clicking on the "▼" icon opens a drop-down list in which the number of decimal places between "0" and "5" can be specified. The number of decimal places in the "[Presetting Points](#)" and "[QM Points](#)" tabs for the vectors (I,J,K) remains unaffected by this setting.

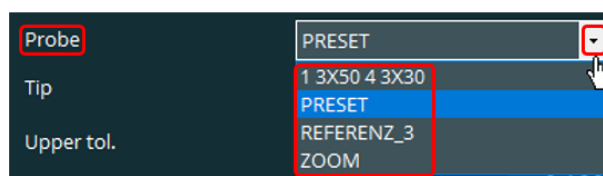
- Unit

Clicking on the "▼" icon opens a drop-down list where the unit can be selected in "inches" or "MM".



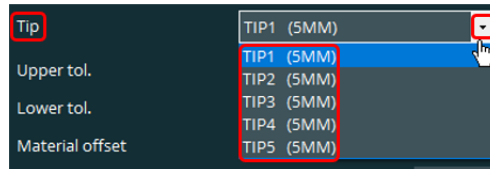
- Probe

Clicking on the "▼" icon opens a drop-down list in which the probe can be selected. All probes available in PC-DMIS with a valid stylus can be selected.



- Tip (diameter of the probe ball)

Clicking on the "▼" symbol opens a drop-down list in which the tip can be selected. All tips available in PC-DMIS are available for the selected [probe](#) (see above).



- Upper tol.

The upper tolerance for the quality measuring points is predefined (see chapter: [The tabs](#), section: [QM Points](#), point: [U-Tol](#)). This value can be changed in the "[QM Points](#)" tab for each measuring point.

By simply clicking with the left mouse button, the cursor jumps to the position of the mouse pointer. By double-clicking, the complete value is marked and can be overwritten. When exiting the line, the value is accepted.

- Lower tol.

The lower tolerance for the quality measuring points is predefined (see chapter: [The tabs](#), section: [QM Points](#), point: [L-Tol](#)). This value can be changed in the "[QM Points](#)" tab for each measuring point.

The procedure for changing the value is identical to "[Upper Tol.](#)" above in the text.

- Material offset

If the nominal contour of the electrode deviates by a defined amount from the actual contour (e.g.: spark gap), the value is entered in signed form.

The procedure for changing the value is identical to "[Upper Tol.](#)" above in the text.

- Prehit distance

The distance to the measuring point before touching can be stipulated.

The procedure for changing the value is identical to "[Upper Tol.](#)" above in the text.

- **Retract distance**

The distance to the measuring point after touching can be stipulated.

The procedure for changing the value is identical to "[Upper Tol.](#)" above in the text.

- **Clearance plane**

The value for the clearance plane can be determined as follows:

- **Checkbox activated:**

The value can be taken over from the CAD model by mouse click. This value can be corrected again manually. In order to avoid collisions with the component, the ball tip diameter is added to the value determined.

After the value has been accepted by clicking on the CAD model, the checkbox is automatically activated in the "[Nominal for Z plane](#)" function (see below).

- **Checkbox deactivated:**

The value can be entered manually.

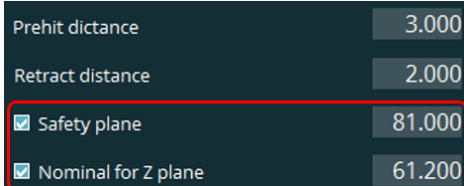
The procedure for changing the value is identical to "[Upper Tol.](#)" above in the text.

- **Nominal for Z plane**

The value for Z can be determined as follows:

- **Checkbox activated:**

The value can be taken over from the CAD model by mouse click. This value can be corrected again manually. In order to avoid collisions with the component, the ball tip radius is added to the value determined.



Prehit distance	3.000
Retract distance	2.000
<input checked="" type="checkbox"/> Safety plane	81.000
<input checked="" type="checkbox"/> Nominal for Z plane	61.200

- **Checkbox deactivated:**

The value can be entered manually:

The procedure for manually changing the values is identical to "[Upper Tol.](#)" above in the text.

- CAD=CHUCK

At this point it is decided whether or not the origins in the CAD model tally with the chuck. The origin in the chuck must correspond to the alignment selected in Preset & Measure.

- Checkbox activated (standard):

The zero points of the CAD model and the chuck are identical. The fields for X, Y and Z are not available.

- Checkbox deactivated:

The zero points of the CAD model and the chuck are not identical. The difference for X, Y and Z is entered in the corresponding fields.

Alternatively the value can be determined per mouse click on the CAD model (Checkbox in the field next to the respective axis is activated). If the value was determined on the CAD model, the next checkbox is automatically activated. If the value for "Z" was generated on the CAD model, no further checkbox is activated. If several checkboxes are activated, the values for these are adopted after clicking on the CAD model.

The sign is determined by the direction "From CAD to chuck - origin".

The procedure for changing the values is identical to "[Upper Tol.](#)" above in the text.

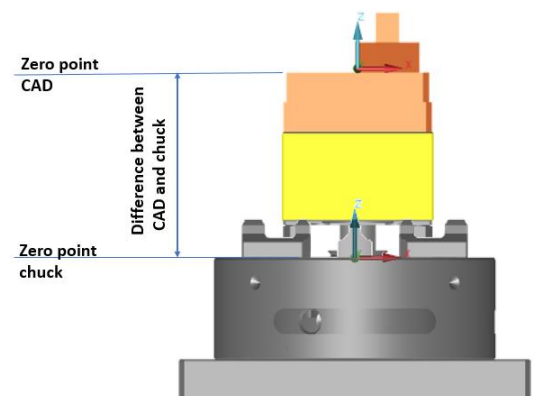
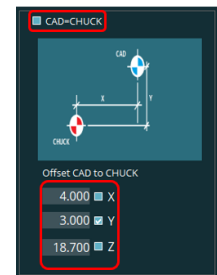
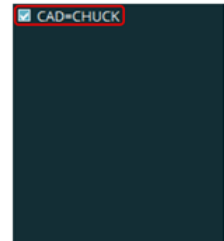
Right at the example Z value:

The "zero point CAD" can be taken over from the CAD model with a mouse click (see [Nominal for Z plane](#) at the top of the text).

The "zero point chuck" corresponds to the alignment selected in Preset & Measure (see user manual "Preset & Measure").

The "Difference between CAD and chuck" is entered in signed form (in the example: negative value).

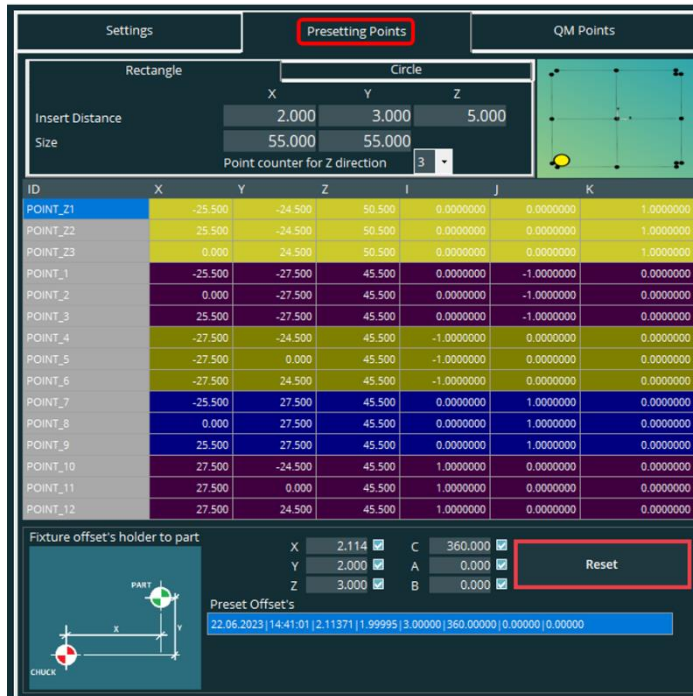
If the project is saved (see chapter: [Menu option "File"](#), section: [IP](#), item: [Save as ...](#)) the measuring points are corrected accordingly in the file (in the example increased by the entered value). The values for the "[Clearance plane](#)" and the "[Nominal for Z plane](#)" are also corrected.



### 8.3. Presetting points

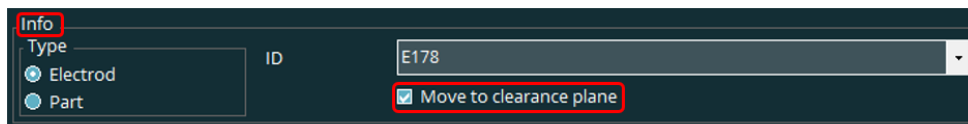
The tab “Presetting points” serves the generation of a new or the amendment of an already existing and loaded \*.txt file (see chapter: [Menu option “File”](#), section: [IP](#)).

This file enables Preset & Measure to automatically determine the offset data. The procedure is described in detail in the "Preset & Measure" user manual and is not the subject of this manual.



- Area “Info”: Move to clearance plane

To avoid collisions, it can be decided whether the clearance plane is approached after every touch or after each element. The value of the clearance plane is defined in the tab “Settings” (see chapter: [The tabs](#), section: [Settings](#), point: [Clearance plane](#)).



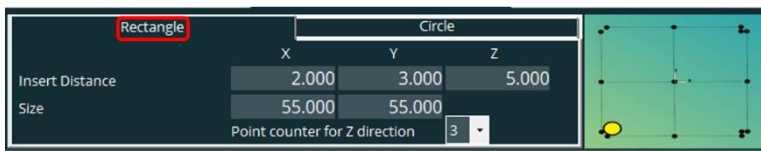
- Checkbox activated:  
The clearance plane is approached after each touch.
- Checkbox deactivated:  
The clearance plane is approached after each element (plane, straight line or circle).



- Rectangle tap

The \*.TXT file is generated for a rectangular component.

To transfer the setpoint values from the CAD, a corresponding CAD model must have been loaded and the necessary settings carried out (see chapter: [Menu option "File"](#), section: [CAD](#) and chapter: [The tabs](#), section: [Settings](#)).



- Insert distance:

This function is used if the measuring points are generated automatically with the function "Distribute points" (see chapter: [The tabs](#), section: [Presetting points](#), point: [Rectangle tap](#) → [Automatic distribution of the measurement points](#)).

To ensure that the measuring point is recorded on the surface (and not on the edge), the distance to the edge is set here.

With a single click the cursor jumps to the position of the mouse pointer. At this position the value can be changed. With a double click the complete value is marked and can be overwritten. When exiting the line, the value is accepted.

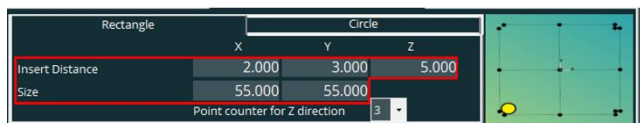
For the measurement of the straight lines, the measuring point in Z is recorded lower (in Z minus) by the value from the input field "Z". The measuring points for the straight lines and the plane are recorded offset by the values from the input fields in "X" and "Y" in the direction of the middle of the part.

- Size

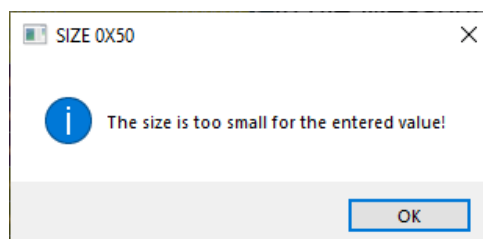
This function is used if the measuring points are generated automatically with the function "Distribute points" (see chapter: [The tabs](#), section: [Presetting points](#), point: [Rectangle tap](#) → [Automatic distribution of the measurement points](#)).

The size in X and Y is determined. The measuring points are shifted by the value set under "Distance to the edge".

The procedure for changing the value is identical to "[Insert distance](#)" above in the text.

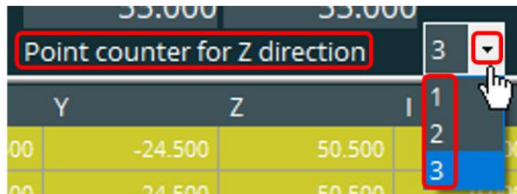


The value must be greater than zero and plausible with the value "[Insert distance](#)". If this is not the case, the following error message appears:



- Point counter for Z direction

If the determination of the offset value and quality measurement points in Preset & Measure is to be carried out in one measuring sequence (see chapter: [Menu option "File"](#), section: [Assign IP preset file to a QM file](#)), the number of measurement points in Z is defined at this point. To do this, click on the "▼" icon to open the drop-down list and select the desired value.



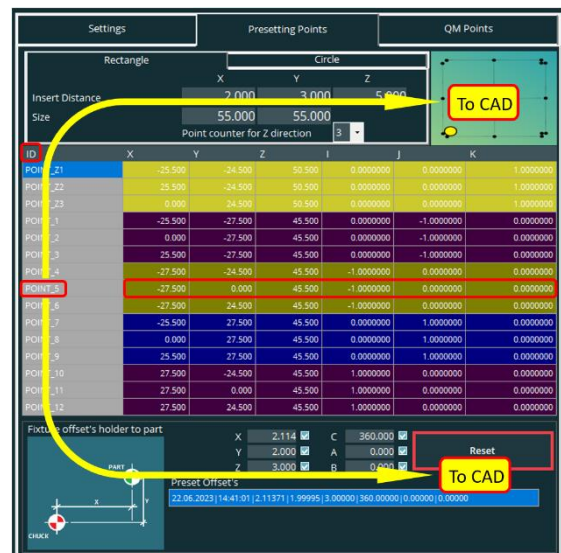
- Manual measurement on the CAD model

It is a requirement that a corresponding CAD model has been loaded and the necessary settings carried out (see chapter: [Menu option "File"](#), section: [CAD](#) and chapter: [The tabs](#), section: [Settings](#)).

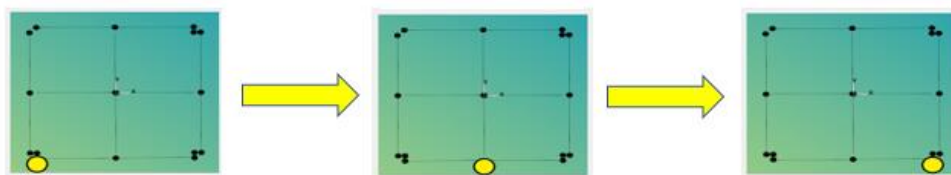
In order to create new measurement points or to correct existing ones, the desired line can be marked by clicking into the column "ID".

To generate the measurement point, the mouse pointer must not be moved into the columns "X, Y, Z, I, J or K". The mouse pointer must be moved above or below the table to the CAD model. Otherwise the line will be demarked and the measurement point will not be overwritten.

After the values for this point have been taken over by clicking on the CAD model, the next line is marked and the values for this point can be taken over from the CAD model.



A graphic in the upper right corner shows in which order and direction the measurement points on the CAD model are to be probed (picture below: touch points for the straight line in X direction).



Repeat this process until all measurement points have been generated.


**Recommendation:**

As an alternative to the procedure described above, a single cell (e.g.: "Z") can be selected by mouse click. To ensure that the correct point is selected, the selected point is highlighted in color in the "ID" column. In this case, the path to the CAD model is freely selectable.

POINT_2	51.587	-27.500	44.440	0.0000000	-1.0000000	0.0000000
POINT_3	68.015	-27.500	43.637	0.0000000	-1.0000000	0.0000000
POINT_4	77.500	-21.700	46.374	1.0000000	0.0000000	0.0000000
POINT_5	77.500	18.340	44.646	1.0000000	0.0000000	0.0000000
POINT_6	71.797	27.500	45.698	0.0000000	1.0000000	0.0000000
POINT_7	29.321	27.500	44.357	0.0000000	1.0000000	0.0000000

Regardless of whether a row or cell is selected, after clicking on the CAD model, the values for the complete row are updated and the next point is selected.

Alternatively, the measurement values can be changed manually. To do this, mark the desired value with a single click (or double-click) and enter the new value. If the value is marked, a double-click will cause the cursor to jump to the position of the mouse pointer and a single number can be changed.

The graphic (see above) shows the selected point.

POINT_9	23.000	25.000	56.200	0.0000000	1.0000000	0.0000000
POINT_10	25.000	-22.000	56.200	1.0000000	0.0000000	0.0000000
POINT_11	25.000	0.000	56.200	1.0000000	0.0000000	0.0000000
POINT_12	25.000	22.000	56.200	1.0000000	0.0000000	0.0000000

- Automatic distribution of the measurement points

Alternatively to the manual method described above, the measuring points can be generated automatically. For this purpose, the corresponding values must be present in the "Insert distance" and "Size" fields (see chapter: [The tabs](#), section: [Presetting points](#), point: [Rectangle tab](#) → [Insert distance](#) and [Size](#)).

Then right click with the mouse in the table and select "Distribute points". The measuring points are automatically generated on the CAD model but can be changed at any time as described above.

POINT_5	-25.000				-1.0000000
POINT_6	-25.000				-1.0000000
POINT_7	-23.000	25.000	45.500		0.0000000
POINT_8	0.000	25.000	45.500		0.0000000

Copy the setting  
Distribute points

- Copy measurement points

If measured values are to be transferred to other points, the desired line is marked by clicking in the "ID" column. Then click with the right mouse button and select "Copy settings" in the context menu (do not leave the "ID" column when the line is marked).

POINT_Z3	0.000	25.500	50.500	0.0000000	0.0000000	1.0000000
POINT_1	-25.500	-27.500	48.500	0.0000000	-1.0000000	0.0000000
POINT_2	0.000	-27.500	48.500	0.0000000	-1.0000000	0.0000000
POINT_3	0.000	-27.500	48.500	0.0000000	-1.0000000	0.0000000
POINT_4	-25.500	-27.500	48.500	-1.0000000	0.0000000	0.0000000
POINT_5	-27.500	0.000	48.500	-1.0000000	0.0000000	0.0000000

If the left mouse button is pressed and held, several contiguous rows can be marked by moving the mouse up or down.

If the "⇧" key is held down, a block of rows can be marked and with "Ctrl" individual rows can be marked.

To deselect individual lines, press and hold "Ctrl". Then use the mouse button to demark the corresponding rows.

If the desired lines are marked, the context menu is opened with the right mouse button and "Paste into selected" is selected. The values from the clipboard are transferred to all selected lines.

POINT_3	25.500	-27.500	48.500	0.0000000	-1.0000000	0.0000000
POINT_4	-27.500	-25.500	48.500	-1.0000000	0.0000000	0.0000000
POINT_5	-27.500	0.000	48.500	-1.0000000	0.0000000	0.0000000
POINT_1	25.500	48.500	-1.0000000	0.0000000	0.0000000	0.0000000
POINT_2	27.500	48.500	0.0000000	1.0000000	0.0000000	0.0000000
POINT_3	27.500	48.500	0.0000000	1.0000000	0.0000000	0.0000000

Alternatively, individual values can be copied. To do this, select a single cell. Then click with the right mouse button and select "Copy the setting" in the context menu. As described above, several cells can be selected or deselected with "Ctrl" and "⇧".

POINT_1	-25.500	-27.500	48.500	0.0000000	1.0000000	0.0000000
POINT_2	0.000	-27.500	48.500	0.0000000	0.0000000	0.0000000
POINT_3	25.500	-27.500	48.500	0.0000000	0.0000000	0.0000000
POINT_4	-27.500	-25.500	48.500	0.0000000	0.0000000	0.0000000

If the desired cells are selected, "Paste into selected" is chosen in the context menu. The corresponding value of the axis or angle is always copied. This means that if, for example, "POINT\_1" → "Z" was selected when "[Copy the setting](#)" was selected (see above) and "Paste to selected" was selected when "POINT\_6" → "Y" was selected, the Y value of point 1 will be copied to point 6.

POINT_1	-25.500	12.000	48.500	0.0000000	-1.0000000	0.0000000
POINT_2	0.000	-27.500	48.500	0.0000000	1.0000000	0.0000000
POINT_3	25.500	-27.500	48.500	0.0000000	0.0000000	0.0000000
POINT_4	-27.500	-25.500	48.500	0.0000000	0.0000000	0.0000000
POINT_5	-27.500	0.000	48.500	0.0000000	0.0000000	0.0000000
POINT_6	-27.500	12.000	48.500	-1.0000000	0.0000000	0.0000000

Individual values can also be transferred using the shortcuts for "Copy" (Ctrl+C) and "Paste" (Ctrl+V).

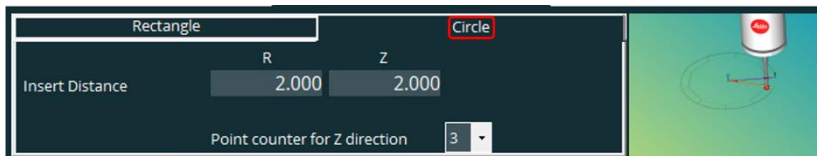
The column width can be adjusted by moving the mouse pointer to the right or left edge of the corresponding column. The appearance of the mouse pointer changes from "☞" to "↔". By clicking and holding the left mouse button, the column can now be enlarged or reduced. If the tab is changed or the Inspection Planner is closed and restarted, the original column width is restored.

After completing the entries the TXT file can be generated (see chapter: [Menu option "File"](#), section: [IP](#), chapter: [Save as ...](#)).

- Circle tap

The \*.TXT file is generated for a circular component.

To transfer the setpoint values from the CAD, a corresponding CAD model must have been loaded and the necessary settings carried out (see chapter: [Menu option "File"](#), section: [CAD](#) and chapter: [The tabs](#), section: [Settings](#)).



- Insert distance:

This function is used if the measuring points are generated automatically with the function "Distribute points" (see [Automatic distribution of the measurement points](#) below).

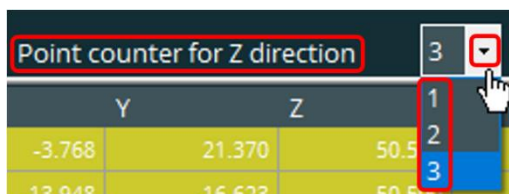
To ensure that the measuring point is recorded on the surface (and not on the edge), the distance to the edge is set here.

With a single click the cursor jumps to the position of the mouse pointer. At this position the value can be changed. By double-clicking, the complete value is marked and can be overwritten. By leaving the line the value is taken over.

For the circle measurement, the measuring points in Z are recorded by the value from the input field "Z" lower (in Z minus). The measuring points for the plane are recorded offset by the value from "R" in the direction of the center of the component.

- Point counter for Z direction

If the determination of the offset value and quality measurement points in Preset & Measure is to be carried out in one measuring sequence (see chapter: [Menu option "File"](#), section: [Assign IP preset file to a QM file](#)), the number of measurement points in Z is defined at this point. To do this, click on the "▼" icon to open the drop-down list and select the desired value

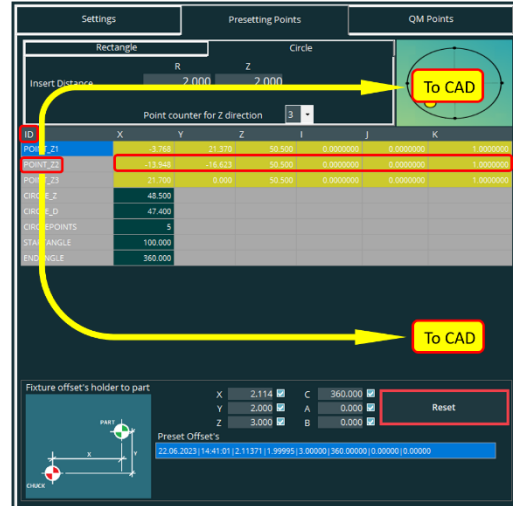


- Points for Z

It is a requirement that a corresponding CAD model has been loaded and the necessary settings carried out (see chapter: [Menu option "File"](#), section: [CAD](#) and chapter: [The tabs](#), section: [Settings](#)).

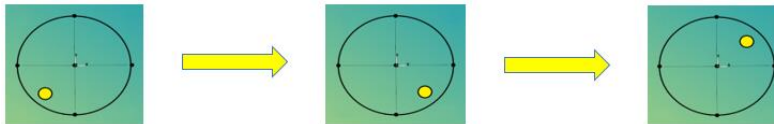
In order to create new measurement points or to correct existing ones, the desired line can be marked by clicking into the column "ID".

To generate the measurement point, the mouse pointer must not be moved into the columns "X, Y, Z, I, J or K". The mouse pointer must be moved above or below the table to the CAD model. Otherwise the line will be demarked and the measurement point will not be overwritten.



After the values for this point have been taken over by clicking on the CAD model, the next line is marked and the values for this point can be taken over from the CAD model.

A graphic in the upper right corner shows the selected point.



Repeat this process until all measurement points have been generated.



**Recommendation:**

As an alternative to the procedure described above, a single cell (e.g.: "Z") can be selected by mouse click. To ensure that the correct point is selected, the selected point is highlighted in color in the "ID" column. In this case, the path to the CAD model is freely selectable.

POINT_Z1	21.574	0.000	50.500	0.0000000	0.0000000	1.0000000
POINT_Z2	-10.787	18.684	50.500	0.0000000	0.0000000	1.0000000
POINT_Z3	-10.787	-18.684	50.500	0.0000000	0.0000000	1.0000000
CIRCLE_Z	48.500					
CIRCLE_D	47.440					

Regardless of whether a row or cell is selected, after clicking on the CAD model, the values for the complete row are updated and the next point is selected.

Alternatively, the measurement values can be changed manually. To do this, mark the desired value with a single click (or double-click) and enter the new value. If the value is marked, a double-click will cause the cursor to jump to the position of the mouse pointer and a single number can be changed.

The graphic (see [above](#)) shows the selected point.

POINT_9	23.000	25.000	45.500	0.0000000	1.0000000	0.0000000
POINT_10	25.000	-22.000	45.500	1.0000000	0.0000000	0.0000000
POINT_11	25.000	0.000	45.500	1.0000000	0.0000000	0.0000000
POINT_12	25.000	22.000	45.500	1.0000000	0.0000000	0.0000000

Alternatively, the measuring points can be generated automatically with the function “Distribute points” (see point: [Automatic distribution of the measuring points](#) below).

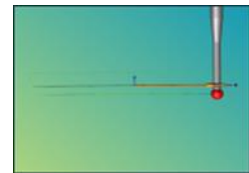
- “CIRCLE\_Z”

For the circle measurement, the measuring points in Z are recorded by the value from the input field "Z" lower (in Z minus).

By mouse click into the field "CIRCLE\_Z" in the column "ID" the auto feature "Circle" opens. Here the Z-value can be entered and accepted with "OK". The use of the auto feature “Circle” requires knowledge in PC-DMIS and is not the object of this user manual.

Alternatively, the measuring values can be changed manually. To do this, mark the desired value with a single click (or double-click) and enter the new value. If the value is marked, a double-click will cause the cursor to jump to the position of the mouse pointer and a single number can be changed.

In the graphic at the top right, the Z value is shown symbolically.



This value is taken into account accordingly when using the [Automatic distribution of the measuring points](#) function (see below).

- “CIRCLE\_D”

The circle diameter can be defined.

In order to take over the nominal values from the CAD model, the auto feature "Circle" is opened with a mouse click in the field "CIRCLE\_D" in the column "ID".

Then the circle can be created on the CAD model and the diameter can be taken over. The use of the auto feature “Circle” requires knowledge in PC-DMIS and is not the object of this user manual.

Alternatively, the value can be changed manually. The procedure for manually changing the value is identical to ["CIRCLE\\_Z"](#) above.



In the graphic at the top right, the circle is shown symbolically.

This value is taken into account accordingly when using the [Automatic distribution of the measuring points](#) function (see below).



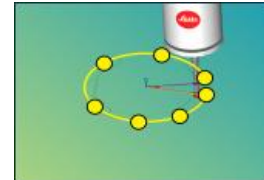
- “CIRCLEPOINTS”

The number of measuring points can be defined.

By mouse click into the field "CIRCLEPOINTS" in the column "ID" the auto feature "Circle" is opened. Then the number of measuring points can be determined and adopted. The use of the auto feature “Circle” requires knowledge in PC-DMIS and is not the object of this user manual.

Alternatively, the value can be changed manually. The procedure for manually changing the value is identical to ["CIRCLE Z"](#) above.

The graphic on the top right shows this function symbolically.



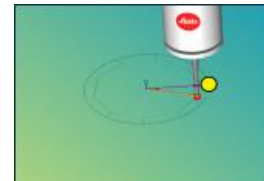
- “STARTANGLE”

The start angle can be defined (zero degrees = 3 o'clock position / 90 degrees = 12 o'clock position, etc.).

Clicking the mouse in the "STARTANGLE" field in the "ID" column opens the "Circle" auto feature. Then the start angle can be determined and adopted. The use of the auto feature “Circle” requires knowledge in PC-DMIS and is not the object of this user manual.

Alternatively, the value can be changed manually. The procedure for manually changing the value is identical to ["CIRCLE Z"](#) above.

The graphic on the top right shows this function symbolically.



This value is taken into account accordingly when using the [Automatic distribution of the measuring points](#) function (see below).

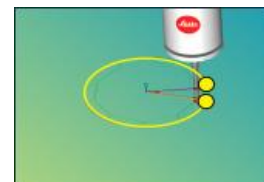
- “ENDANGLE”

The end angle can be defined (zero degrees = 3 o'clock position / 90 degrees = 12 o'clock position, etc.).

Clicking the mouse in the "ENDANGLE" field in the "ID" column opens the "Circle" auto element. Then the end angle can be determined and adopted. The use of the auto feature “Circle” requires knowledge in PC-DMIS and is not the object of this user manual.

Alternatively, the value can be changed manually. The procedure for manually changing the value is identical to ["CIRCLE Z"](#) above.

The graph on the left below shows symbolically this function.



This value is considered when using the [Automatic distribution of the measuring points](#) function (see below) of the measuring points.

- Automatic distribution of the measurement points

As an alternative to the manual method described above, the [Points for Z](#) (see above) can be generated automatically.

The settings made above are taken into account accordingly.

Then right click with the mouse in the table or the free space below the table and select "Distribute points". The measurement points are automatically generated on the CAD model but can be changed at any time as described [above](#).

ID	X	Y	Z	I	J	K
POINT_Z1	-3.768	21.370	50.500	0.0000000	0.0000000	1.0000000
POINT_Z2	-13.948	-16.623	50.500	0.0000000	0.0000000	1.0000000
POINT_Z3	21.700	0.000	50.500	0.0000000	0.0000000	1.0000000
CIRCLE_Z	48.500					
CIRCLE_D	47.400					
CIRCLEPOINTS	5					
STARTANGLE	100.000					
ENDANGLE	360.000					

- Copy measuring points

This function is only available for the [Points in Z](#) (see above).

If measured values are to be transferred to other points, the desired row is marked by clicking in the "ID" column. Alternatively, a single cell can be marked. Then click with the right mouse button and select "Copy settings" in the context menu (do not leave the "ID" column when the row is marked).

POINT_Z1	-3.768	21.370	50.500	0.0000000	0.0000000	1.0000000
POINT_Z2	-13.948	-16.623	50.500	0.0000000	0.0000000	1.0000000
POINT_Z3	21.700	0.000	50.500	0.0000000	0.0000000	1.0000000
CIRCLE_Z	48.500					

If the left mouse button is pressed and held, several contiguous lines can be marked by moving the mouse up or down.

If the "⇧" key is held down, a block of lines can be marked and by means of "Ctrl" individual lines can be marked.

To demark individual lines, press and hold "Ctrl". Then use the left mouse button to deselect the corresponding lines.

If the desired lines are marked, the context menu is opened with the right mouse button and "Paste into selected" is selected. The values from the clipboard are transferred to all selected lines.

POINT_Z1	-3.768	21.370	50.500	0.0000000	0.0000000	1.0000000
POINT_Z2	-13.948	-16.623	50.500	0.0000000	0.0000000	1.0000000
POINT_Z3	21.700	0.000	50.500	0.0000000	0.0000000	1.0000000
CIRCLE_Z	48.500					
CIRCLE_D	47.400					
CIRCLEPOINTS	5					

Alternatively, individual values can be copied. To do this, select the individual cell. Then click with the right mouse button and select "Copy the setting" in the context menu. As described above, several cells can be selected or deselected using "Ctrl" and "⇧".

POINT_Z1	-3.768	21.370	50.500	0.0000000	0.0000000	1.0000000
POINT_Z2	-13.948	-16.623	50.500			1.0000000
POINT_Z3	21.700	0.000	50.500			1.0000000
CIRCLE_Z	48.500					

If the desired cells are selected, "Paste into selected" is chosen in the context menu. The corresponding value of the axis or angle is always copied. This means that if, for example, "POINT\_Z1" → "Z" was selected when "[Copy setting](#)" was selected (see above) and "Paste to selected" was selected when "POINT\_Z2" → "Y" was selected, the Y value of point 1 will be copied to point 2.

POINT_Z1	-3.768	21.370	50.500	0.0000000	0.0000000	1.0000000
POINT_Z2	-13.948	21.370				1.0000000
POINT_Z3	-3.768	0.000				1.0000000
CIRCLE_Z	48.500					

Individual values can also be transferred using the shortcuts for "Copy" (Ctrl+C) and "Paste" (Ctrl+V).

The column width can be adjusted by moving the mouse pointer to the right or left edge of the corresponding column. The appearance of the mouse pointer changes from "☞" to "↔". By clicking and holding the left mouse button, the column can now be enlarged or reduced. If the tab is changed or the Inspection Planner is closed and restarted, the original column width is restored.

After completing the entries the TXT file can be generated (see chapter: [Menu option "File"](#), section: [IP](#), chapter: [Save as ...](#)).

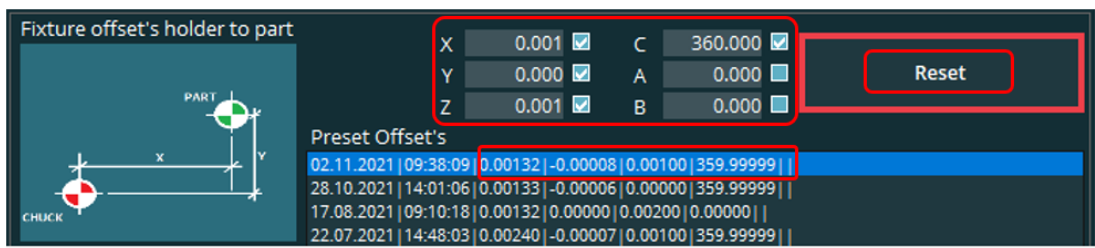
- **Fixture offset's holder to part**

At this point, values can be entered if the position of the current clamping station does not correspond to the zero point of the clamping device (e.g.: several clamping stations).

If an electrode or a part is selected in the "Info" area under ID (see chapter: [The tabs](#), section: [Area: Info](#), point: [ID](#)), all offset values with the date and time of the measurement are displayed for this. The prerequisite is that a designation (tab "Display/Output" ID part) has been assigned in Preset & Measure and the path for the file "LastValues.txt" (see: [Menu option "Extras"](#), section: [Settings](#), point: [Storage folder for file with offset values <LastValues.txt>](#)) are identical both in Preset & Measure and in Inspection Planner. If these values are to be adopted, the checkbox must be activated for the respective axis or angle.

Subsequently, the values are taken over by double-clicking with the mouse on the respective line. The order of the checkboxes corresponds to the order of the measured values (X, Y, Z, C and if available A, B). Alternatively, the values can be entered via the keyboard. To do this, click in the corresponding field and enter the value. It is irrelevant whether the checkbox is activated or not.

The number of decimal places is set in the "[Settings](#)" tab with "[Number of decimal places](#)".



The screenshot shows a software interface for setting fixture offsets. On the left, there is a diagram of a part on a chuck with X and Y axes. The main area contains a table of settings for X, Y, Z, C, A, and B, each with a numerical value and a checkbox. A "Reset" button is located to the right of this table. Below the settings table is a table titled "Preset Offset's" with columns for date, time, and numerical values. The first row of the "Preset Offset's" table is highlighted in blue.

X	Y	Z	C	A	B
0.001	0.000	0.001	360.000	0.000	0.000

Preset Offset's					
02.11.2021	09:38:09	0.00132	-0.00008	0.00100	359.99999
28.10.2021	14:01:06	0.00133	-0.00006	0.00000	359.99999
17.08.2021	09:10:18	0.00132	0.00000	0.00200	0.00000
22.07.2021	14:48:03	0.00240	-0.00007	0.00100	359.99999

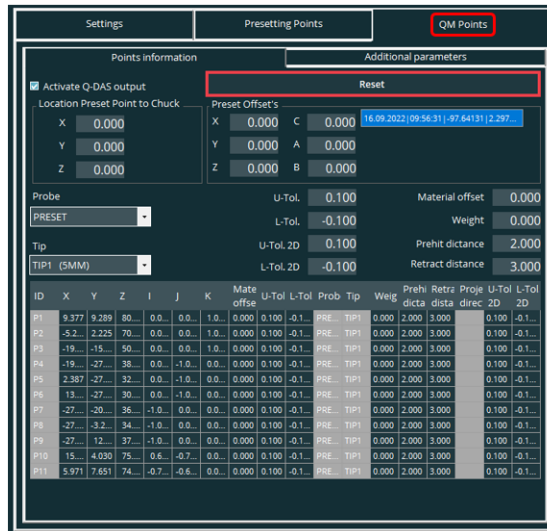
The "Reset" button sets all selected values to "0". The checkboxes remain activated.

## 8.4. QM Points

The tab “QM Points” serves the generation of a new or the amendment of an already existing and loaded \*.TXT file (see chapter: [Menu option “File”](#), section: [IP](#)).

This file enables the quality measurement points to be determined via Preset & Measure.

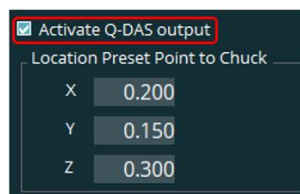
This process is described in detail in the user manual for Preset & Measure.



- „Points Information“ tab

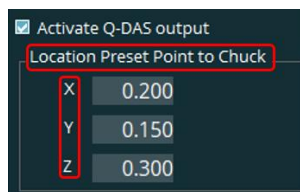
- Activate Q-DAS output:

If the checkbox is activated, the Q-DAS output is activated. If no Q-DAS output is to be made, the checkbox must be deactivated.



- Location Preset Point to Chuck:

If the preset point for the chuck has a defined offset value (for example: preset point is at the edge of the component), this can be entered here. The measuring points generated at the CAD are corrected in the TXT file by the entered values (with opposite signs).

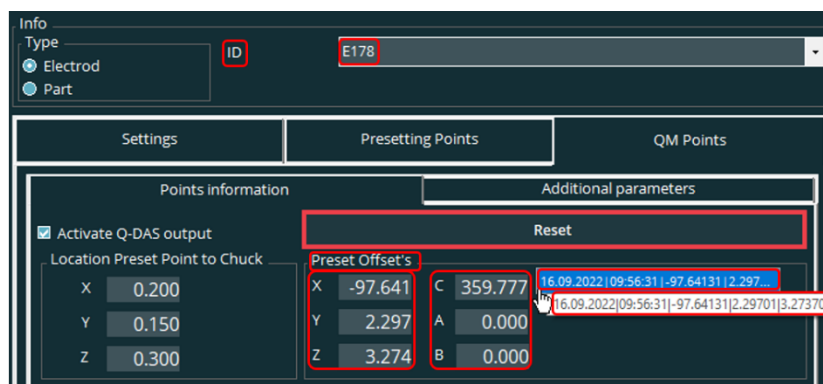


- Preset offsets:

By double clicking in the corresponding fields offset values for X, Y, Z coordinates and angles A, B, C can be entered

If the name of an already measured electrode or workpiece is entered in the "ID" field (see [Area: Info](#) → [ID](#) above) (in the example: E178), the corresponding offset data from the "LastValues.txt" file are read and displayed (see chapter: [Menu option "Extras"](#), section: [Settings](#), point: [Storage folder with for file with offset values <LastValues.txt>](#)). If the mouse pointer is moved over the line, a tooltip appears with all values (shortened in the image).

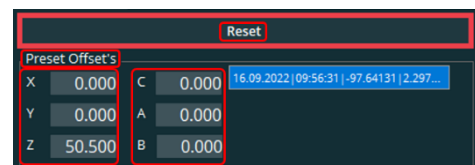
These values can be taken over by double-clicking on the respective row. The order of the input fields corresponds to the order of the measured values (X,Y,Z,C and if available A,B).



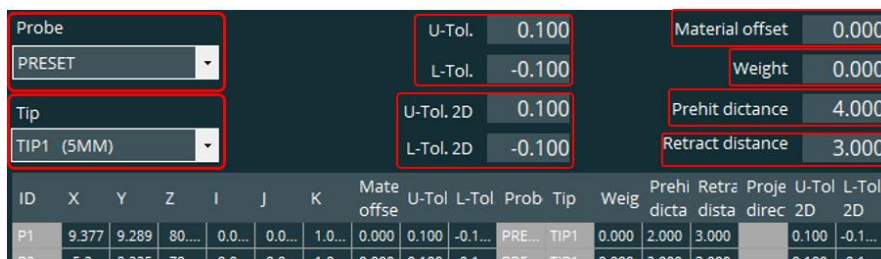
Subsequent editing of the values is possible at any time.

With a single click, the cursor jumps to the position of the mouse pointer. At this position the value can be changed. By double-clicking, the complete value is marked and can be overwritten. By leaving the line the value is taken over.

"By means of "Reset", "0" is entered in all fields (except "Z"). The value for "Z" is taken from the tab "[Settings](#)" → "[Nominal for Z plane](#)" (see above).



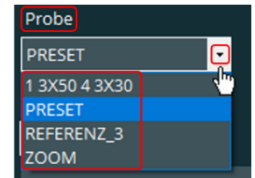
Defaults are defined for the measuring points with the following points. These values can be changed later for each measuring point (see [Changing the values for individual measuring point – point marked](#) below).



- Probe

The probe selected under the tab “Settings” is the default (see chapter: [The tabs](#) section: [Settings](#), point: [Probe](#)).

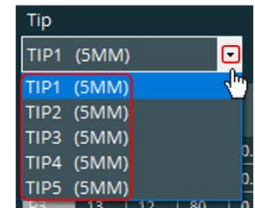
By clicking on the symbol "▼" a drop-down list opens in which the probe can be selected. Every probe available under PC-DMIS can be selected. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.



- Tip

The tip selected under the tab “Settings” is the default (see chapter: [The tabs](#) section: [Settings](#), point: [Tip\(diameter of the probe ball\)](#)).

By clicking on the symbol "▼" a drop-down list opens in which the tip can be selected. All tips available for the selected [probe](#) (see above) can be selected. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.



- U-Tol

The value entered under the tab “Settings” is the default (see chapter: [The tabs](#) section: [Settings](#), point: [Upper tol.](#)).

With a single click the cursor jumps to the position of the mouse pointer. At this position the value can be changed. By double-clicking, the complete value is marked and can be overwritten. By leaving the line the value is taken over. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

- L-Tol

The value entered under the tab “Settings” is the default (see chapter: [The tabs](#) section: [Settings](#), point: [Lower tol.](#)).

The procedure for changing the value is identical to "[U-Tol](#)" above in the text. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

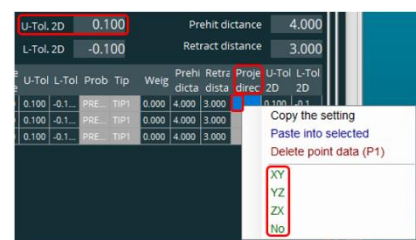
- U-Tol 2D

The value for the upper 2-dimensional tolerance is defined.

The procedure for changing the value is identical to "[U-Tol](#)" above in the text.

If no projection is defined in the table with the points generated on the CAD model in the "Projection" column, no evaluation is made in "Preset & Measure".

In order to change the projection, the field in the "Projection" column is marked for the corresponding point. Then click with the right mouse button in the field and select the projection in the following menu.



As this projection does not necessarily apply for the following points, this value is not taken over for further points to be generated on the CAD model. With "Copy the setting" and "Paste into selected" or "Copy to all" ("selected projection") the projection can be transferred to further points. The procedure is described in the following section: [Changing the values for individual measuring points – point marked](#) → [Copy the setting](#)

For the evaluation the measuring point is projected to the selected level (2D) and given in the measuring protocol. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

- L-Tol 2D

The value for the lower 2-dimensional tolerance is defined.

The procedure for changing the value is identical to "[U-Tol 2D](#)" above in the text. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

- Material offset

The value entered under the tab "Settings" is the default (see chapter: [The tabs](#), section: [Settings](#), point: [Material offset](#)).

The measurements for the electrode or the part can be bigger (oversize) or smaller (undersize) than the real component or CAD model. The corresponding value can be entered here ("+" for oversize, "-" for undersize).

The procedure for changing the value is identical to "[U-Tol](#)" above in the text. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

- Weighting

The value for the weighting of every measuring point is entered. If the measuring points are not equally distributed, e.g.: a "small number" of measuring points can be given a higher weighting than a "large number" of measuring points.

This is important for the calculation of the best fit in respect of the correspondingly selected macro sample (see user manual "Preset & Measure").

The value can be between "0" (point is not taken into consideration for the calculation) and "1" (maximum weighting).

The procedure for changing the value is identical to "[U-Tol](#)" above in the text. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

- Prehit distance

The value entered under the tab "Settings" is the default (see chapter: [The tabs](#), section: [Settings](#), point: [Prehit distance](#)).

The distance to the measuring point before the probe can be stipulated.

The procedure for changing the value is identical to "[U-Tol](#)" above in the text. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.



- Retract distance

The value entered under the tab “Settings” is the default (see chapter: [The tabs](#), section: [Settings](#), point: [Retract distance](#)).

The distance to the measuring point after the probe can be stipulated.

The procedure for changing the value is identical to "U-Tol " above in the text. If the mouse pointer is moved over this column in the table with the measurement points or if this column is marked, this field is highlighted in blue.

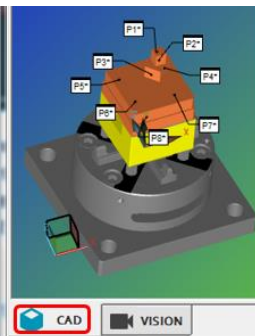
Once the entry of the settings is completed, the quality measuring points can be generated on the CAD model

If not already carried out, a CAD model must be loaded (see chapter 4.3: [Menu option “File”](#), section: [CAD](#)).

The measuring points can be generated per mouse click in the PC-DMIS graphics window on the CAD-model (CAD tab). Each measuring point is given a label with the ID.

The measuring points are shown in the Inspection Planner in table form.

ID	X	Y	Z	I	J	K	Mate offset	U-Tol	L-Tol	Prob	Tip	Weig	Prehi dista	Retra dista	Proje dirac	U-Tol 2D	L-Tol 2D
P2	-11...	-9.4...	70...	0.0...	0.0...	1.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P1	14...	150...	-10...	-0.0...	-0.7...	-0.6...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P3	11...	-20...	59...	0.4...	-0.8...	0.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P4	-26...	-27...	50...	0.0...	0.0...	1.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P5	-8.6...	-22...	65...	-0.3...	-0.9...	0.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P6	-23...	-4.5...	66...	-0.9...	-0.1...	0.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P7	11...	-27...	39...	0.0...	-1.0...	0.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P8	-18...	-27...	34...	0.0...	-1.0...	0.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...



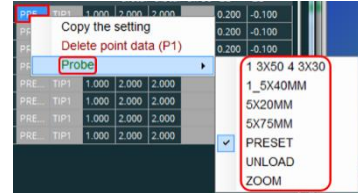
If a CAD model is loaded which already contains measuring points, these can be taken over from PC-DMIS with the auto feature “Vector point”. The use of the auto feature “Vector point” requires knowledge in PC-DMIS and is not the object of this user manual.

- Changing the values for individual measuring points – point marked

It is possible to subsequently edit each point.

- Columns: Probe, Tip or Projection

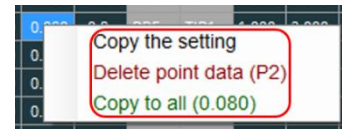
Mark the setpoint to be changed with a mouse click. The value can then be selected and accepted with the right mouse button in the following drop-down list. When exiting the line, the value is accepted.



- All other columns

Mark the value to be changed with a single click (or double click) and enter the new value. If the value is marked, a double click causes the cursor to jump to the position of the mouse pointer and a single number can be changed. When you exit the line, the value is accepted.

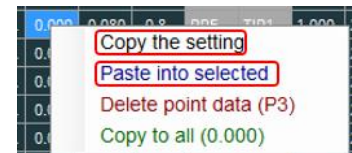
If this change is to be transferred to other measuring points (from the "Material offset" column), this field must be marked per mouse click. A further right mouse click opens a context menu. "Copy the setting", "Delete point data" ({number of the point}) and "Copy to all" ({value of the point}) can be selected.



- Copy the setting

The value is copied to the clipboard. If a field of another point is marked, the context menu can be opened again by clicking with the right mouse button.

By pressing and holding the mouse button and moving the mouse up or down you can select several consecutive points.



By holding the "⇧" button you can highlight a block and by using the "Ctrl" key individual points.

To demark individual points, press and hold "Ctrl". Then use the mouse button to demark the corresponding points.

Open the context menu with the right mouse button and select "Paste into selected". The values from the clipboard will be pasted into the selected fields.

- Delete point data (P{number})

This feature is available in all columns.

The value in the brackets shows the currently selected point. By clicking "Delete point data" the row (of the point) is deleted.

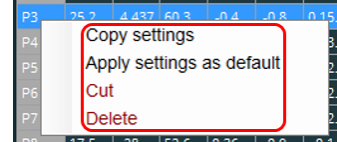
- Copy to all (value)

If this option is confirmed per mouse click, the value in the brackets is copied to all fields in the column.

- Changing the values for individual measuring points – row marked

In addition to the option of editing individual values of measuring points, all settings (from the column "Material offset" can also be transferred to other points at the same time.

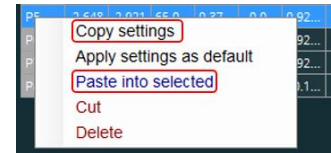
By mouse click in the column "ID" the desired line is marked. With a right mouse click a context menu opens in which the options "Copy settings", "Apply settings as default", "Cut" and "Delete" can be selected.



For the following steps the column "ID" must *not* be left with the mouse pointer.

- Copy settings

All settings are copied to the clipboard and can be entered later. To do this, selected the desired row, right mouse click and select "Copy settings".



Then select the row into which the settings are to be copied.

By pressing and holding left mouse button and moving the mouse up or down you can select several consecutive rows.

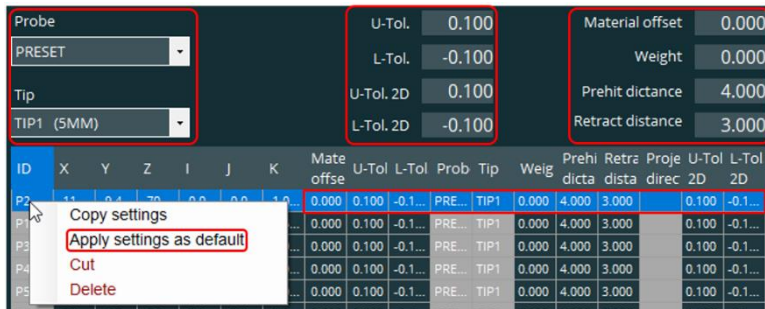
By holding the "↑" button you can highlight a block and by using the "Ctrl" key individual rows.

To deselect individual rows, press and hold "Ctrl". Then use the mouse button to deselect the corresponding rows.

Open the context menu with the right mouse button and select "Paste into selected". The values from the clipboard are pasted into the selected fields.

- Apply settings as default

The changed values are copied in the entry fields in the upper segment. This is helpful if further measuring points are then to be generated on the CAD model with these settings.



It is possible to cut lines, insert them at another place and delete them. These functions can be used to change the number and order of the measuring points.



For the following steps the column "ID" must not be left with the mouse pointer.

- Cut

The settings are copied to the clipboard and the row deleted.

To do this, selected the desired row, right mouse click and select "Cut".

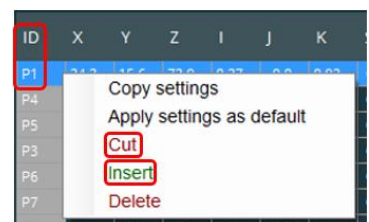
Then select the position into which the row is to be inserted in the column "ID".

By pressing and holding the mouse button and moving the mouse up or down you can select several consecutive rows.

By holding the "↑" button you can highlight a block and by using the "Ctrl" key individual rows.

To deselect individual rows, press and hold "Ctrl". Then use the mouse button to deselect the corresponding rows.

Open the context menu with the right mouse button and select "Insert". The values from the clipboard are pasted into the marked lines.

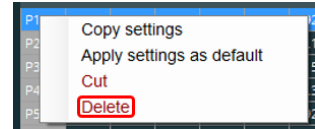


- Delete

The row is deleted.

By pressing and holding the mouse button and moving the mouse up or down you can select several consecutive rows.

By holding the “↑” button you can highlight a block and by using the "Ctrl" key individual rows.



To deselect individual rows, press and hold "Ctrl". Then use the mouse button to deselect the corresponding rows.

Open the context menu with the right mouse button and select "Delete". The selected rows are deleted.

The presentation may be strongly compressed and the title of the column is not displayed in full (in the picture below “Retra dista”). If the mouse is moved over the corresponding column and this is linked with the entry fields in the upper segment, the corresponding field is marked in colour. The text can then be read (in the picture below “Retract distance”).

Probe		U-Tol.	0.100	Material offset	0.000												
PRESET		L-Tol.	-0.100	Weight	0.000												
Tip		U-Tol. 2D	0.100	Prehit distance	4.000												
TIP1 (5MM)		L-Tol. 2D	-0.100	Retract distance	3.000												
ID	X	Y	Z	I	J	K	Mate offse	U-Tol	L-Tol	Prob	Tip	Weig	Prehi dicta	Retra dista	Proje direc	U-Tol 2D	L-Tol 2D
P2	-11...	-9.4...	70...	0.0...	0.0...	1.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P1	14...	160...	-10...	-0.0...	-0.7...	-0.6...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...
P3	11...	-20...	59...	0.4...	-0.8...	0.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...

If the mouse pointer is moved over the header of the column, the tooltip appears with the complete name.

ID	X	Y	Z	I	J	K	Mate offse	U-Tol	L-Tol	Prob	Tip	Weig	Prehi dicta	Retra dista	Proje direc	U-Tol 2D	L-Tol 2D
P2	-11...	-9.4...	70...	0.0...	0.0...	1.0...	0.000	0.100	-0.1...	PRE...	TIP1	0.000	4.000	3.000		0.100	-0.1...

Alternatively, the column width can be adjusted by moving the mouse pointer to the right or left edge of the corresponding column. The appearance of the mouse pointer changes from "☞" to "↔". By clicking and holding the left mouse button, the column can now be enlarged or reduced. If the tab is changed or the Inspection Planner is closed and restarted, the original column width is restored.

If the mouse pointer is moved over a cell whose content cannot be displayed completely, a tooltip shows the value of this cell.

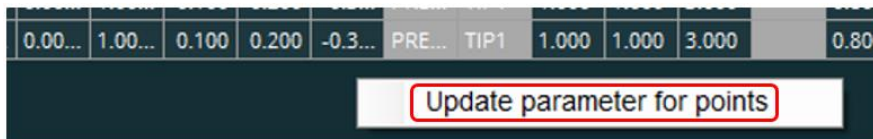
Y	Z	I	J
-9.4...	70...	0.0...	0.0...
160...	70.500		0.0...

After completing the entries the text file (\*.txt) can be generated (see chapter: [Menu option “File”](#), section: [IP](#), point: [Save as ...](#)).

- Changes to measuring points - Update parameters for points

If PC-DMIS various functions are to be used after measurement points have been changed (see the sections in this chapter: [Changing the values for individual measuring points – point marked](#) and [Changing the values for individual measuring points – row marked](#)), the changed data in PC-DMIS must be updated. This concerns for example: the display of path lines and collision detection. The use of these functions requires knowledge in PC-DMIS and is not the object of this user manual.

To update the changed values in PC-DMIS, right-click in the free area below the table and select "Update parameters for points" in the context menu.

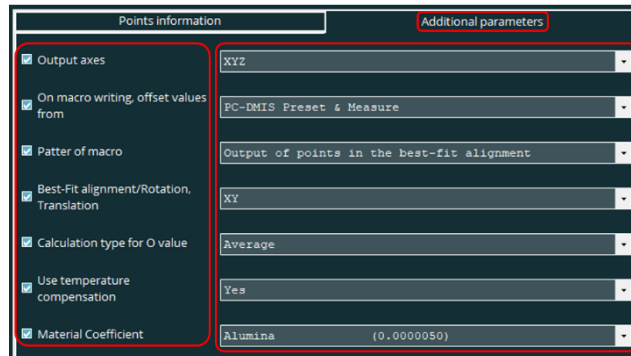


The points are then updated on the CAD. To increase the speed, PC-DMIS becomes invisible during the update.

In the text file (\*.txt), changes to one or more measuring points are immediately taken into account (see chapter: [Menu option "File"](#), section: [IP](#), point: [Save as ...](#)). The step described above is not necessary.

- **Additional Parameters Tab**

By activating the checkbox and selecting the corresponding parameters in the respective drop-down list, additional parameters can be output in the file for the quality measurement.



The [menu option "File"](#) → [IP](#) → [Save as ...](#) (see above) must be observed.

The individual functions are described in detail in the Preset & Measure user manual. This document is available for download at:

[https://ftp.hexmet.de/PC-DMIS/PC-DMIS\\_Preset\\_&\\_Measure%20Suite/PC-DMIS\\_Preset\\_&\\_Measure/Docs/](https://ftp.hexmet.de/PC-DMIS/PC-DMIS_Preset_&_Measure%20Suite/PC-DMIS_Preset_&_Measure/Docs/)

- **Notes on the "Use temperature compensation" checkbox**

- **Checkbox deactivated:**

The command is not written to the quality measuring points file. If temperature compensation is activated on the measuring machine, it is used.

The temperature expansion coefficient is taken into account as follows depending on the state of the checkbox at "[Material Coefficient](#)" (see below):

- [„Material Coefficient“](#) checkbox deactivated  
The temperature expansion coefficient selected on the measuring machine is used.
- [„Material Coefficient“](#) checkbox activated  
The temperature expansion coefficient selected in the "[Material Coefficient](#)" checkbox is used.

- **Checkbox activated:**

The command is written to the file for the quality measuring points.

If temperature compensation is to be used, "Yes" must be selected. It is irrelevant whether the temperature compensation is activated on the measuring machine or not.

If the temperature compensation is not to be used, "No" must be selected. It is irrelevant whether the temperature compensation is activated on the measuring machine or not. In this case, the "[Material Coefficient](#)" checkbox (see below) is not available.

- Notes on the "Material coefficient" checkbox

If the "[Use temperature compensation](#)" checkbox is activated and "[No](#)" is selected (see above), this function is not available.

In all other cases, the checkbox can be activated and the material coefficient can be selected from the drop-down list.

The settings at: [Notes on the "Use temperature compensation"](#) checkbox (see above) must be taken into account.



## 9. Additional information

### 9.1. Softwareupdate

If PC-DMIS Preset & Measure and/or PC-DMIS Preset & Measure Supervisor are used in addition to PC-DMIS Inspection Planner, the compatibility of the software packages must be checked in case of an update.

A list of compatible versions can be found in the document "Preset & Measure Suite compatibility.xlsx". This is available for download at: [https://ftp.hexmet.de/PC-DMIS/PC-DMIS\\_Preset\\_&\\_Measure%20Suite/](https://ftp.hexmet.de/PC-DMIS/PC-DMIS_Preset_&_Measure%20Suite/).

## 10. About Hexagon

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit [hexagonmi.com](https://hexagonmi.com).

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at [hexagon.com](https://hexagon.com) and follow us [@HexagonAB](https://twitter.com/HexagonAB).