

PC-DMIS 2024.2

Release Notes

Hexagon Manufacturing Intelligence

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Release Notes - 2024.2 SP6

Application Errors

- You no longer get an application error when you use Auto Feature strategies in a loop. See PCD-274142.

Constructed Features

- You now must select an axis when you create Constructed Extreme Point features. See PCD-272171.

GD&T Dimensions

- PC-DMIS now displays graphical tolerance lines for total runout in the correct location in the Graphic Display window. See PCD-268054.

GD&T Selection

- PC-DMIS now correctly handles steep triangle tessellations and correctly creates datum target points. See PCD-271942.

Laser (CMM)

- You no longer get sporadic sensor initialization errors during probe changes that involve HP-L-10.10 and HP-L-10.10 LITE sensors. To use the HP-L-10.10 laser scanner system with PC-DMIS 2024.2 SP6, you must upgrade to the latest firmware version 1.0.1 for the HP-LC-1000 laser scanner controller. You can install the required firmware using the ServiceTool application version 1.19.0.133, which is included with the PC-DMIS installation.

You can download the HP-LC-1000 Firmware Package and the HP-L-10.10 / HP-L-10.10 LITE Firmware Package from:

[https://downloads.ms.hexagonmi.com/Hardware/Sensors/HP-L-10.10/Firmware%20Packages/HP-LC-1000%20Controller%20Firmware%20Packages/1.0.1%20\(requires%20ServiceTool 1.19.0.133%20to%20update](https://downloads.ms.hexagonmi.com/Hardware/Sensors/HP-L-10.10/Firmware%20Packages/HP-LC-1000%20Controller%20Firmware%20Packages/1.0.1%20(requires%20ServiceTool%201.19.0.133%20to%20update)

For installation instructions, see the videos available at the same location. See PCD-270889.

	Note Firmware version 1.0.1 is not compatible with PC-DMIS versions earlier than 2024.2 SP6. If you need to revert to a previous PC-DMIS version after upgrading, you must also downgrade the laser controller firmware.
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Toolkit

- You can now type values into the input boxes in the Roughness Scan, Constructed Roughness Scan, Scan Plot, and Blade Scan RT dialog boxes. See PCD-267395.

Release Notes - 2024.2 SP5

Alignments

- You can now see correct results when you copy or serialize a measured circle feature with a referenced plane feature. See PCD-234022.

Application

- PC-DMIS now saves the JSON file to the correct version directory when you save or edit an environment. See PCD-264427.
- PC-DMIS now checks for information to populate dialogs with features more quickly, resulting in improved execution speed. See PCD-264357.
- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) has been added to improve product stability. See PCD-268625.

Application Errors

You no longer get application errors:

- When you use an expression as an input for a looped best fit alignment. See PCD-268258.
- When you scan with an AS1-XL laser sensor on a Romer Arm. See PCD-269941.

Auto Features (Tactile)

- PC-DMIS no longer displays the Nexus login dialog box when you click **Test** on the **Auto Feature** dialog box. See PCD-259619.

CAD

- PC-DMIS now removes only the selected CAD component from the Graphic Display window when you delete it from the Assembly Tree View in the **CAD Assembly** dialog box. See PCD-267705.
- PC-DMIS now correctly reports collisions when you import a DCI CATIA file and the measurement routine is created in inches. See PCD-269179.

Constructed Extracted Features

- PC-DMIS now correctly evaluates Constructed Extracted Surfaces even when very close opposite surfaces are present. See PCD-269202.

Constructed Features

- PC-DMIS now populates the Feature list area of the Construct Cylinder dialog box more quickly. See PCD-270031.

ESF (VWMP)

- PC-DMIS now correctly displays the T deviation in the Probe Readouts window for all ESF feature types, including those measured with Arm2. See PCD-269257.

GD&T Dimensions

- PC-DMIS no longer resets to the default planar tolerance zone when you delete a Geometric Tolerance command and then undo the action. See PCD-256286.
- You can now see singular datum definitions in the drop-down menu of the Feature Control Frame Editor in the **Feature Control Frame** tab of the **Geometric Tolerance** dialog box. See PCD-260706.
- PC-DMIS no longer displays the plane outlines in the Graphic Display window when you turn off the CADGRAPH option for a Runout tolerance. See PCD-265875.
- You can no longer update Geometric Tolerance commands using Ctrl+A and Ctrl+C keyboard shortcuts. See PCD-267864.
- PC-DMIS now removes all features from the Geometric Tolerance command when you remove the common datum from the **Feature Control Frame** tab of the **Geometric Tolerance** dialog box. See PCD-269154.

Home Page

- You can now see that measurement routines that are saved to network paths are now available in the **Recent** section of the PC-DMIS Home Page. See PCD-267153.

Reporting

- PC-DMIS now saves the edited CAD view orientation in a custom report. See PCD-267234.
- PC-DMIS now correctly stores the colormap active status in a viewset even when the colormap has no annotations. See PCD-268431.
- PC-DMIS no longer changes the geometric polar angle and measured axes deviations in a PDF report when the cursor is placed after the workplane command. See PCD-268781.

Release Notes - 2024.2 SP4

Application

- You can now see that Eco mode supports PC-DMIS Vision with an FDC controller. See PCD-265537.
- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-266608.

Application Errors

- You no longer get an application error when you save a measurement routine that includes Blade Section commands. See PCD-265383.

CAD

- You can now import STEP files as PC-DMIS now handles duplicate segments during the tessellation process. See PCD-266795.

Dual Arm

- PC-DMIS now disables the **Continue** button in the **Execution** dialog box to prevent probe collision when you get a weak error during a probe change. See PCD-263188.

ESF (VWMP)

- PC-DMIS now updates the nominal values when you change the strategy (A, B, C) while programming ESF (VWMP) Flush and Gap features using MA and NA strategies. See PCD-265184.

GD&T Dimensions

- PC-DMIS now shows only the lower value of a Size dimension in a report when you use a single modifier (GX, GN, or GG), as the upper value is identical. See PCD-265674.
- You can now see that PC-DMIS uses an existing datum with the desired name if it is already defined in the measurement routine instead of creating a new one when you import a CAD PMI model. See PCD-265253.

Legacy Dimensions

- PC-DMIS now shows the correct number sequence for the selected features in the Feature list area when you are creating distance dimensions. See PCD-262068.

Portable

- PC-DMIS no longer changes the Temperature Compensation method from manual to automatic when you execute a measurement routine. See PCD-262326.

Reporting

- PC-DMIS now correctly displays the mesh colormap in the CAD Only report view. See PCD-259501.

Release Notes - 2024.2 SP3

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-264482.
- You can now see that PC-DMIS loads faster due to an improved DLL initialization process. See PCD-266555.

Alignments

- PC-DMIS now correctly handles inputs to a BF alignment. This ensures that the input values no longer change when you copy the internal features along with the alignment command. See PCD-263097.

DMIS

- You can now see that the DMIS export and import for Constructed Extracted features is now updated using the =FEAT/OBJECT format. See PCD-257862.
- PC-DMIS now generates the correct fixed legacy Runout DMIS DMO output. You can now see the correct spelling for “OUTTOL” in the Geometric Tolerance command DMIS DMO output. See PCD-266072.

I++

- PC-DMIS now correctly handles the ChangeToolDone command when the probe is at a C angle. See PCD-263868.

Quick Feature

- PC-DMIS now resets the WPF dialog settings when you click the **Reset Product** button in PC-DMIS Settings Editor. See PCD-259341.

Reporting

- PC-DMIS now generates reports from both Arm1 and Arm2 when you use the PRINT/REPORT command on a dual arm machine. See PCD-265829.

Settings Editor

- Settings Editor now saves the Machine Interface CMM2 setting changes. See PCD-265794.

Release Notes - 2024.2 SP2

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-262851.
- You can now select an existing environment with a node locked license. See PCD-264004.

Application Errors

You no longer get application errors:

- When you use a COP Cross Section to construct an Extreme Point. See PCD-263070.
- When you use three Circle features to create a tangent circle and you click the **Create** button in the **Construct Circle** dialog box. See PCD-264704.
- When you select the **Insert | Feature | Measured | Plane** menu option. See PCD-264015.

Constructed Extracted Feature

- PC-DMIS now displays the **Construct Surface** dialog box when you use a non-English version of PC-DMIS and select **Extracted Surface** from the **Method** list. See PCD-264412.

Constructed Features

- You no longer get an error message stating that the combination of input features is not supported when you select valid input features to construct a scan minimum circle. See PCD-265195.

ESF (VWMP)

- You can now see the correct positive and negative signs in the Edit window for the measured values of ESF (VWMP) NA Flush features when the top surfaces on both sides of the feature have different vectors. See PCD-263105.
- You can now see the correct positive and negative signs in the Edit window when you open a measurement routine that includes a Flush feature. See PCD-264703.

Measurement Strategy Editor

- You can now see that the FactoryDefaults.MSExml file no longer gets corrupted due to overwrite attempts. It is no longer possible to overwrite this file. See PCD-262660.

Mesh

- PC-DMIS now uses a more robust method to section meshes for Blade sections. See PCD-263105.

Pointcloud

- PC-DMIS now correctly retains the Pointcloud Colormap on a CAD model when you select the **File | Save** menu option. See PCD-240123.

Reporting

- PC-DMIS now correctly hides the labels when you right-click in the Report window and select **Hide Selected Labels**, even at different report magnifications. See PCD-256165.

Scanning (Tactile)

- PC-DMIS no longer changes the reported T value by the tip radius when you save the measurement routine from older versions of PC-DMIS. See PCD-263222.

Release Notes - 2024.2 SP1

Auto Features

- You no longer see corrupt features when you save a measurement routine to an older version of PC-DMIS and then you reopen it. See PCD-263190.
- You can now define the desired line length when you create an Auto Line feature. See PCD-261883.

GD&T

- You no longer get the “Measurement Routine recalls a tip that is not defined” error message when you deserialize or edit a Legacy Position dimension. See PCD-262297.

Installation

- You can now see that the silent mode installation no longer fails when you use a floating license. See PCD-259230.

Laser

- You can now see that, for dual arm machines with HP-L sensors, when the software picks the sensor from its slot in the probe changer and a sensor initialization failure occurs, PC-DMIS disables the **Continue** button in the **Execution** dialog box. This prevents double stacking in the rack. See PCD-263125.

Laser Feature Extraction

- PC-DMIS now has improved memory consumption when you compute Laser features extracted from large pointclouds. See PCD-259557.

Mesh

- You can now see that the Mesh Profiles works correctly for both Metric and Imperial unit measurement routines. See PCD-262705.

Pointcloud

- You can now see the yellow polylines in the Graphic Display window for Cross Section operators when you select the **Smooth COP** check box in the **Pointcloud Operator** dialog box and then you click the **Apply** button. See PCD-261820.
- You can now see the correct Filter operator type in the **Pointcloud Operator** dialog box when you press F9 in the Edit window to edit a COP Filter operator command. See PCD-261876.

Scanning (Tactile)

- PC-DMIS no longer changes the reported T value by the tip radius when you save the measurement routine from older versions of PC-DMIS. See PCD-263222.

What's New

Introducing Metrology Mentor for PC-DMIS

You can now use Metrology Mentor, a Nexus-based SaaS application, to automatically create measurement routines directly from the CAD data.

Metrology Mentor:

- Automatically applies the most appropriate measurement strategy to a feature while generating a collision-free path.
- Verifies the GD&T and highlights any detected errors. It consolidates metrology parts, plans, and program data into a single, easy-to-use modern UX.
- Enables you to define a CMM digital twin that synchronizes with a CMM in a customer's facility. The physical machine is identical to the digital twin used for programming.
- Exports a MetIL (Metrology Interface Language) file, which can be imported into PC-DMIS for modification or execution.

See [Introducing Metrology Mentor for PC-DMIS](#).

Execution Time Estimation

You can now estimate the expected execution time of your measurement routines on a machine. To do this, perform a time calibration on your machine and create a parameter file. You can use your machine's parameter file or a generic parameter file provided by PC-DMIS to estimate the execution time. This feature supports the use of touch probes, laser probes, scanning probes on a wrist or fixed head, analog scans, and measurements using touch points.

You can estimate execution time on any computer, regardless of whether it is connected to a CMM. For multiple machines, you can upload the machine calibration files to a shared location and estimate the execution time across a variety of machine types.

See [Execution Time Estimation](#).

Export for QIF File Format

You can now select the **Insert | Report | QIF Report** menu option to output the result data in QIF format.

See [Export for QIF File Format](#).

New Calculation Method for Laser Auto Cylinder

You can now use the Constrained Axis option to calculate a more stable cylinder feature constrained to the plane's vector with a sparse set of data. This option is available in the **Ring Band**

area of the **Feature Extraction** tab in the **Auto Feature** dialog box.

See [New Calculation Method for Laser Auto Cylinder](#).

Siemens Teamcenter PLM Integration

PC-DMIS is now integrated with Teamcenter. PC-DMIS now:

- Allows you to save and retrieve measurement routines from Teamcenter.
- Allows you to version the measurement routines.
- Allows you to import the CAD model from Teamcenter.
- Supports both 2-tier and 4-tier architectures.
- Supports both DCT and DCI.

See [Siemens Teamcenter PLM Integration](#).

Try Nexus – Hexagon’s Productivity Platform

Nexus is Hexagon’s next-generation platform that provides access to a wide range of manufacturing technologies. You can connect PC-DMIS to a growing range of Nexus applications to extend and enhance your inspection capabilities and help inspection data flow more freely across your organization.

See [Try Nexus – Hexagon’s Productivity Platform](#).

Other Improvements

Application

- You can now use the **FORMAT** command for the **ELAPSEDEXECUTIONTIME()** expression to record the execution time in these formats:
 - **ASSIGN/V1=FORMAT(ELAPSEDEXECUTIONTIME(),"hh:mm:ss")** or **ASSIGN/V1=ELAPSEDEXECUTIONTIME()** to get time in hours, minutes, and seconds.
 - **ASSIGN/V1=FORMAT(ELAPSEDEXECUTIONTIME(),"mm:ss")** to get time in minutes and seconds.
 - **ASSIGN/V1=FORMAT(ELAPSEDEXECUTIONTIME(),"ss")** to get time in seconds.
- PC-DMIS now displays the “No Internet Connection” error message when you click the **Upload** button in the **Upload to Nexus Cloud** dialog box and you are not connected to the Internet.
- You can now select the **Insert | Flow Control Command | Reset Loop** menu option to insert a **RESET LOOP/** command into your measurement routine. This command helps you measure multiple parts using these command pairs:
 - While/End While
 - Do/Until
 - Loop/End Loop

You must add the Reset Loop command at the beginning of the loop. It resets the list of results to output for each part that you measure with Do and While loops.

Auto Features (Tactile)

- You can now reverse the measurement path for Auto Circle and Auto Cylinder features. To do this, select the **CCW-R** or **CW-R** option from the **Direction** list in the **Measurement Properties** area of the **Auto Feature** dialog box. **CCW-R** option reverses the Start and End angle values and changes the measurement direction to counterclockwise. **CW-R** reverses the Start and End angle values and changes the measurement direction to clockwise.
- PC-DMIS now uses circular moves as the default setting when you construct Contact Auto Sphere features.

Blade

- You can now select the **Smooth COP** check box in the **Blade Section** dialog box to smooth the COP for each section. PC-DMIS smooths the COP before creating each section.

CAD

- PC-DMIS is now integrated with Teamcenter 13.1. You can import CAD data and save and import measurement routines from the Teamcenter database.
- You can now select the **File | Import | QIF** menu option when your PC-DMIS license is configured with the Proto option.
- PC-DMIS now highlights the point in yellow in the Graphic Display window when you click on a point in the **#** column of the **Theoretical Path** area in the **Path Definition** tab of the scan dialog box.

Documentation

- The “Creating Auto Features” chapter in the PC-DMIS Core help documentation now has information on how to use the ArcReductionAngle setting.
- The “USER_Option” chapter in the PC-DMIS Settings Editor help documentation now has information on how the StandardDeviationLimit entry functions.
- You can now see that the PC-DMIS Release Notes contain updated information on the minimum requirements for the Laser.

Edit Window

- PC-DMIS now shows and hides all the features measured in a loop in Summary View in the Edit window when you select the **Show/Hide** button.

ESF (VWMP)

- You can now see the segregation limits and highlighted datasets used for extracting ESF (VWMP) Optical features.
- You can now see the analysis points when you extract these ESF(VWMP) Laser features: AA (Surface Point), Holes, and 3D features.
- You can now see the measured point PC-DMIS uses to define features in the Graphical Analysis window when you click the **Test** button after you click the **Show Measured Points** button in the **Visualization Tools** section.

Execution

- You can now use Dynamic Inspection for mini routines. PC-DMIS automatically creates the mini routine named “Entire Routine”, which you can use for Dynamic Inspection with the O-QIS software from Q-DAS.

Laser

- You can now execute a measurement routine without PC-DMIS displaying the **OnErrorResults** dialog box for feature extraction errors. To do this, set the **Laser-ErrorsOutputToFile** entry to **True**. PC-DMIS saves the error information to a text file in the background, allowing you to continue with the measurement routine's execution. PC-DMIS saves the text file to the same location as the measurement routine that is currently executing.

This helps when you use automation to execute your measurement routine so you no longer need to react to dialog boxes, allowing you to run multiple execution cycles unattended.

- PC-DMIS now sends High Point Laser Auto features to Robotic Automation as Edge Point features. This simplifies path planning in Robotic Automation since it treats both features the same for that operation.

Licensing

- PC-DMIS no longer supports the import of Chorus DMIS files and MMIV files.

Measurement Strategies

- You can now use global scan parameters when you work with Adaptive Scan strategies. To do this, select **Global** from the **Scan Parameters** drop-down list in the **Advanced** tab of the Probe Toolbox **Measurement Strategies** tab. You can set the global scan parameters, such as Point Density, Scan Speed, and Acceleration, using the OPTIONPROBE and SCANSPEED commands.

Moves

- You can now use the Pattern and Paste with Pattern option for Moveset commands.

Reporting

- PC-DMIS now supports AS9102 Rev C forms in Excel Form Report commands.

Settings Editor

- You can now back up and restore the Environment Configuration files located at "C:\ProgramData\Hexagon\PC-DMIS\2024.2\Environment Configurator", as well as the camera configuration files camera_HPCTS510_1.cfg and camera_HPCTS510_2.cfg located at "C:\ProgramData\Hexagon\PC-DMIS\2024.2".

Toolkit

- You can now select the **Insert | Modules | Execution Await** menu option or, in Command mode, type the EXECUTION/AWAIT command. For expressions like ELAPSEDEXECUTIONTIME() or when automation is needed, PC-DMIS must complete the execution of all commands above it. To ensure that PC-DMIS execution halts until all preceding commands are executed, add the EXECUTION/ AWAIT command.
- PC-DMIS now supports roughness measurement with a CWS-1mm probe, which has a 3.5 μ spot diameter, allowing for more accurate roughness measurements. This sensor measures roughness without any physical contact, enabling measurements on surfaces parallel to the machine table's XY plane. The accuracy of your measurements depends on the sensor and your machine's dynamics. You can assess your machine's dynamics and use this function either as a reference-only measurement or to measure roughness as per the print.
 - Roughness Scan Command
 - Roughness Construction Command
 - Roughness Dimension Command

What's Fixed

Application

- You can now see that numerous application errors based on crash reports have been fixed, and protection for various exceptions (crashes) to improve product stability was added. See PCD-256069.

Auto Features

- You can now see the correct icons for the **Dark** and **Light** Polarity buttons in the **Hits Target** tab of the Vision Blob **Auto Feature** dialog box. See PCD-134369.
- PC-DMIS now uses the correct units for Width and Length when you create Auto Features such as High Point, Plane, and Slot. See PCD-241152.
- You can now use the CAD Offset option only when you construct an extracted Laser Cylinder feature. The CAD Offset option is no longer available when you construct a Stud feature with the Ring Band active. See PCD-249925.
- You can no longer enter values greater than 360 in the **Start Angle** and **End Angle** boxes in the **Measurement properties** area of the **Auto Feature** dialog box when you create Laser Circles or Laser Cylinders. See PCD-255612.
- PC-DMIS now correctly exports Laser Auto High Point features to DMIS files. See PCD-258048.

Calibration

- You can now see that the self-centering procedure no longer fails on a computer with average performance when you calibrate an HP-L-10.10 sensor using a moved calibration sphere. See PCD-249392.
- PC-DMIS no longer performs the collision check during probe calibration when you answer "YES" to the "Has the sphere been moved?" message. See PCD-251838.
- You can now see that the Laser Auto Calibrate command executes correctly when you set `PARAMETER_SET=ALL-TIPS-WITH-DEFAULTS`. See PCD-252367.

Documentation

- You can see that the links in the PC-DMIS documentation and context sensitivity (F1 key) now open the help in the Nexus Documentation Center (NDC) site. See PCD-256025.

ESF (VWMP)

- You no longer get a Toolkit Dialog error message when you select a Best Fit ESF (VWMP) feature on the CAD model. See PCD-241828.

GD&T Dimensions

- You can now see the correct Geometric Tolerance summary values for a Position in the report label when you set the axis to PR/PA, and both the secondary and tertiary datums are width features. See PCD-242484.
- PC-DMIS now correctly restores all features in the Edit window when you click the **Undo** icon after you edit Geometric Tolerance commands and delete feature(s). See PCD-252659.
- PC-DMIS now displays this message when you edit a Size tolerance in an existing Geometric Tolerance command: "Size tolerance changed. The following associated commands reference the same feature: feature list. Do you want to carry this change forward to those associated commands?".

If you click **YES**, PC-DMIS carries forward this change to other places where the considered feature(s) is referenced (such as other geometric tolerance commands referencing the same feature as a considered feature or a datum, diminfo, pointinfo, expressions, graphical analysis, etc.). You must carry forward the Size tolerance changes when you reference a datum with a modifier to ensure the correct material boundary calculation. See PCD-255998.

- PC-DMIS now displays the Polar Angle values in the report defined by the range you set in the **Angle Degrees** area in the **Dimension** tab of the **Setup Options** dialog box. See PCD-256690.

Graphics and Animations

- You can now see improved performance when you simulate laser scans using an HP-L-10.10 sensor. See PCD-255829.
- PC-DMIS now supports the HR-X1-900 animated tool changer with up to 22 ports. Future versions will expand this functionality to allow the selection of different rack length/height combinations and more control over the port positions. See PCD-259649.

I++

- PC-DMIS now correctly sends the tool change command to the Serbia I++ service. See PCD-255570.

Legacy Dimensions

- You can now see the correct instance number in the report when you dimension a loop feature from a subroutine. See PCD-249649.

Measured Features

- PC-DMIS now correctly places the additional hits when you increase the number of hits for measured features. See PCD-251668.

Measurement Strategy Editor

- You no longer get an application error when you click **OK** on the "A Feature with that ID already exists" error message after you enter a feature ID in the Measurement Strategy Editor widget that already exists and then click **Apply**. See PCD-261595.

Moves

- You can see that the tip now moves a specified distance after the last move to the ClearanceCube. See PCD-255813.

Pointcloud

- You no longer see a fragmented display when you import an STL file. See PCD-250103.

Reporting

- You can now export data to Excel Form reports when you use VWMP or other toolkit features. See PCD-200450.
- You can now see the correct colors in the Report window based on the actual results. See PCD-223871.
- PC-DMIS now divides the true position tolerance in half and sets the result as the upper and lower tolerances for its axes when you select the **Use true position tolerance for axes** check box in the **Report Settings** dialog box. See PCD-248673.
- You can now see the data in the CAD report for both the 1st and 2nd segments of GD&T dimensions. See PCD-251867.

Tool Changer

- PC-DMIS now allows you to change the HP-MP-US and TP20 probes when you use the HR-MP and Tesastar-PR racks. See PCD-251827.
- PC-DMIS now displays the correct point location in the Graphic Display window when you

select a COP command in the Edit window, click a point on the pointcloud (COP) in the Graphic Display window and then press the F9 key. See PCD-252287.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2024.2. PC-DMIS brings together aspects of the software for the development of a complete manufacturing process control solution. With PC-DMIS, dimensional measurement data can flow through your organization, as it is collected from coordinate measuring machines (CMMs), portable measuring arms, and laser trackers.

The testing of this version has been significant. We'd like to take a moment to discuss this process and also make you aware of the various components of testing.

Testing consists of two parts. These can be described as functional testing and integration testing.

- The vast majority of testing effort goes on in the functional area. This is the testing that determines that specific functions that are core to the software, regardless of what type of machine is used, are working correctly.
- The integration testing is essentially a testing of the interface with a particular type of machine.

In the ideal scenario, Hexagon Manufacturing Intelligence would have access to at least one of every piece of hardware running the software that is operating in the field. However, in practical terms, this is impossible. This integration test plan is then performed on as many types of machines as we have available.

Should you experience problems with your system after you install PC-DMIS 2024.2, it could possibly be an integration problem. If it is a problem of this nature, it will probably be evident immediately upon first use of the possibly untested configuration. To report any integration problems, see "[Contact Hexagon Manufacturing Intelligence](#)". Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of the software who currently have earlier versions of the software installed, it is advised that you install PC-DMIS 2024.2 into a new directory. This lets you continue to use your current version if you have problems with the new version.

Important Information about the Geometric Tolerance Command

The release of PC-DMIS 2020 R2 introduced the Geometric Tolerance command which completely replaces XactMeasure (Feature Control Frames). The Geometric Tolerance command offers numerous improvements over XactMeasure and provides these benefits:

- Support for the latest revisions of GD&T standards. The standards governing dimensional analysis have or will soon be updated to define datums in a precise and consistent way and to provide a new, single value definition for profile (ASME Y14.5 – 2009, ASME Y14.5 – 2018, ASME Y14.5.1 - 2019, ISO 1101: 2017, ISO 5459: 2011).
- Robust and intelligent validity checking of feature control frames and measurement strategies of associated features.

With the replacement of the XactMeasure command with the new Geometric Tolerance command, when you open measurement routines in this latest version, PC-DMIS now does an automatic review and migration.

The reason for this automatic review is that in some cases there may be invalid GD&T or measurement strategies in the original routine.

With this latest version, PC-DMIS now automatically checks for and only allows the creation of correct GD&T commands. In previous versions, this was less stringently enforced. Now, in this latest version, when you open a measurement routine, PC-DMIS performs the validity checks, and then one of these cases occurs:

- All the XactMeasure GD&T commands in the original measurement routine are valid or these routines contain no XactMeasure commands (Legacy dimensions remain unaffected). In this case, PC-DMIS doesn't generate any migration report which indicates that the migration is successful and needs no further action.
- The original measurement routine contains invalid XactMeasure GD&T commands or measurement strategies. In this case, PC-DMIS generates a detailed migration report to notify you of any changes that PC-DMIS made and any other items that require further attention.

	Important
	In all cases, to maintain compatibility with your previous versions, PC-DMIS retains the original unchanged measurement routine and sets it aside in this folder: C:\Users\Public\Documents\Hexagon\PC-DMIS\<version>\MigrationBackup, where <version> is the PC-DMIS version. Whenever PC-DMIS performs a migration, the probe hits, and probe paths of those measurement routines remain untouched.

We recommend that you can perform the migration process as a separate offline activity before you update your production machines. To help you with this, Hexagon has created a utility that sorts measurement routines based on the presence of a migration report.

- Routines that generate a migration report require review by a programmer.
- Routines without a migration report do not require a review, and you may release them to production.

To help with this offline migration, if needed, Hexagon can provide free access to an offline subscription to PC-DMIS for a limited time period.

For more details, please contact your local Hexagon representative.

Recommended System Requirements

Operating System

PC-DMIS 2024.2 operates under 64-bit Windows 11 and Windows 10. No other operating systems are supported.

	Important
	Starting with RDS version 6.3, the Windows 11 operating system is supported.
	Note
	For HP-L systems and systems that use RS-SQUARED sensors that run PC-DMIS in DCC mode, you need to use a 64-bit Windows 10 Pro Computer with up to 4 Cores.

You can find a list of supported operating systems for most versions of PC-DMIS here:

<https://support.hexagonmi.com/s/article/Windows-OS-Compatibility-Listing-for-PC-DMIS>

	Important
	When you use third-party drivers, be sure to contact your local Hexagon Manufacturing Intelligence representative to ensure operating system compatibility.
	Running PC-DMIS inside a Virtual Machine (VM) is supported only if the VM supports OpenGL 3 or higher.

Microsoft .NET Framework

Microsoft .NET Framework 4.8 for Windows. If you do not have Microsoft .NET Framework 4.8, the PC-DMIS installer will install it for you.

RAM

- 4 GB of RAM or higher

The size of the CAD data file and the tessellation multiplier value used affect the amount of memory needed. These both affect the amount of tessellated facets needed to display the model. The smaller the tessellation multiplier value used, the more memory needed for the facets. For

large CAD models, this could cause an "Out Of Memory" error. If this occurs, the current PC-DMIS session will be left in an unstable state and should be terminated.

The default tessellation multiplier value is 1.0. Setting a tessellation multiplier of 0.1 will result in a 10 to 20 percent increase in the memory required over the default value of 1.0. Decreasing the tessellation multiplier further to 0.01 will result in an additional 50 to 65 percent increase of memory required.

- 1 GB of video RAM
- 64 GB of RAM Dual-Channel @1063 MHz DDR4-2666 MHz ECC RDIMM memory (for HP-L systems and systems using RS-SQUARED sensors)

CPU

- 2 GHZ or higher quad core processor
- Intel Xeon W-2223 Processor (3.6GHz, 3.9GHz) for HP-L systems
- Intel Xeon Processor E3-1505M (3.00 GHz) for systems using RS-SQUARED sensors
- Intel Core i7 9th Generation or higher (for example, i7-9xxxHx) 6 Cores hyper-threading enabled (for HP-L systems and systems using RS-SQUARED sensors)

Graphics

Any popular graphics card that meets or exceeds the following suggested minimums:

- GPU Memory 2 GB DDR3*
- 6 GB Memory Bandwidth 29.0 GB/s (for HP-L systems)
- CUDA Cores 384
- Open GL 3.0
- NVIDIA Quadro P5000 (4 GB) (for HP-L systems and systems using RS-SQUARED sensors)
- AC or AX type Wi-Fi card for systems using RS-SQUARED sensors

* For an RS4 laser sensor or later model, you need to have a GPU with at least 4 GB DDR3.

The graphics driver must support OpenGL 3.0 or higher. A warning message appears on PC-DMIS startup if the driver does not support OpenGL 3.0 or if your graphics driver is more than three years old.

	Important
	To ensure optimal performance, update your graphics drivers to the latest version available from your hardware manufacturer. Outdated drivers can cause the application to crash.

Hard Drive

- 2 GB of free hard drive space plus allocated virtual memory of eight times the largest CAD file used
- SSD drive, HDD 10K, or two disks in RAID 0 mode (high-performance hard disk drive)
- 128 SSD, 128 SSD RAID, 1 TB HDD

Display

Screen resolution of 1920 x 1080 or higher

	Note
	If you use a high resolution monitor under low-light conditions, some PC-DMIS UI elements may be difficult to see. If so, you can try these options: • From the PC-DMIS Home screen, select the theme (Light or Dark) that provides the best UI visibility. For details on how to change the PC-DMIS theme, see "Changing the Theme" in the online Help. • Increase the ambient lighting.

Connectivity

- One Serial port
- Three Ethernet ports. This may be required for specific installations in consideration of local needs, including but not limited to CMM systems where one port is required for controller communications and another for intranet/Internet communications.
- Two USB ports
- A properly-configured LMS license or a HASP key (a physical USB portlock)
- LAN port with Intel Chipset (for example, I219) (for HP-L systems)

	Note A HASP key does not act as general-purpose data storage; therefore, you cannot use a HASP key to store (download) arbitrary data from a computer. Similarly, you cannot use a HASP key to put (upload) arbitrary data on a computer. Also, only Hexagon Manufacturing Intelligence applications can read or write to a HASP key; other applications do not have this capability. As a result, you cannot use a HASP key to load and unload data to and from a computer.
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Firmware Distributed Controller (FDC) Connection

PC-DMIS establishes a connection with FDC through the following parameters:

- Controller address - 100.0.0.1
- PC-DMIS computer address - 100.0.0.2
- Subnet mask - 255.255.255.0
- Port - 1234

Pcdlrm.exe and PC-DMIS process listens on port 1294.

Some other ports used are 138 and 1900. The port 1900 was listed as a UDP port.

LMS Licensing

The License verification server and ClmAdmin utility for node locked licenses:

<https://licensing.wilcoxassoc.com/flexnet/services>

The Floating License servers with Flexnet LmAdmin64.exe uses port 27000-27009 on the server. The LocalHost server on port 8090 and older versions defaults to port 8080. You can define these ports when you install license server or through the server interface. These are only Offline licenses when you are not connected to a machine.

Hexagon Universal Updater

WebSocket URL - ws://webupdater.hexagonmi.com

Server - http://webupdater.hexagonmi.com/v2/db.live

Username - Null

Password - Null

Port - 80

File - updates_v4.20190702090658181.db

If you select to install Offline Help when you update the software, it opens the second remote address on port 443. This port verifies the license.

CrashSender1403.exe

This executable is of PC-DMIS Crash Report Utility tool. You can turn off this option because of Windows Event management.

C:\Program Files\Hexagon\2024.2 64-bit\Launcher\HexagonLauncher.exe

LauncherPC-DMIS.config/nocrashdump

A few Hexagon products need to establish remote connections such as Pulse, Notification Center/Message Lights and Smart Factory.

Browsers

- Microsoft Edge, Mozilla Firefox, Google Chrome

	Note
	We recommend that you keep your browser up to date by installing its latest version.

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2024.2. You will need to confirm the performance of any other anti-virus tool.

<http://sophos.com/products/enterprise/endpoint/security-and-control/>

Solutions for CMMs Using RS-232 Communications

If you are installing PC-DMIS 2024.2 on a new or existing computer, but you have an older CMM model that uses RS-232 communications, then you will need to install one of these solutions on your computer:

- An external RS-232 serial-to-USB adapter cable plus the serial-to-USB adapter cable driver
- An internal serial adapter card with serial ports

HP-L-10.10 Laser Scanner System

If you need to use the HP-L-10.10 laser scanner system, your laser scanner controller firmware version must be updated to version 0.10.6. Please contact your local Hexagon representative to perform the firmware upgrade.

	Note To use the HP-L-10.10 sensor, your computer must meet these specifications: • Maximum number of Operations Per Second (MOPS) - Floating Point Math must be greater than or equal to 59 • Number of physical cores (P-cores) must be greater than or equal to 8 You can find these values in your computer's processor specifications.
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Installing the Software

To install the software, follow these steps:

Step 1: Check System and Hardware Requirements

Before you attempt to install a new version, ensure that you meet the system and hardware requirements discussed in "[Recommended System Requirements](#)". You must also have a USB portlock or valid LMS license for the installation to work. Your IT specialist can help you with this information.

- To get your computer's properties, highlight the **This PC** icon, right-click on it, and select **Properties**.
- To check the display properties for the graphics card, go to **Start** and type **Control Panel**, and then select **Display and Settings**.

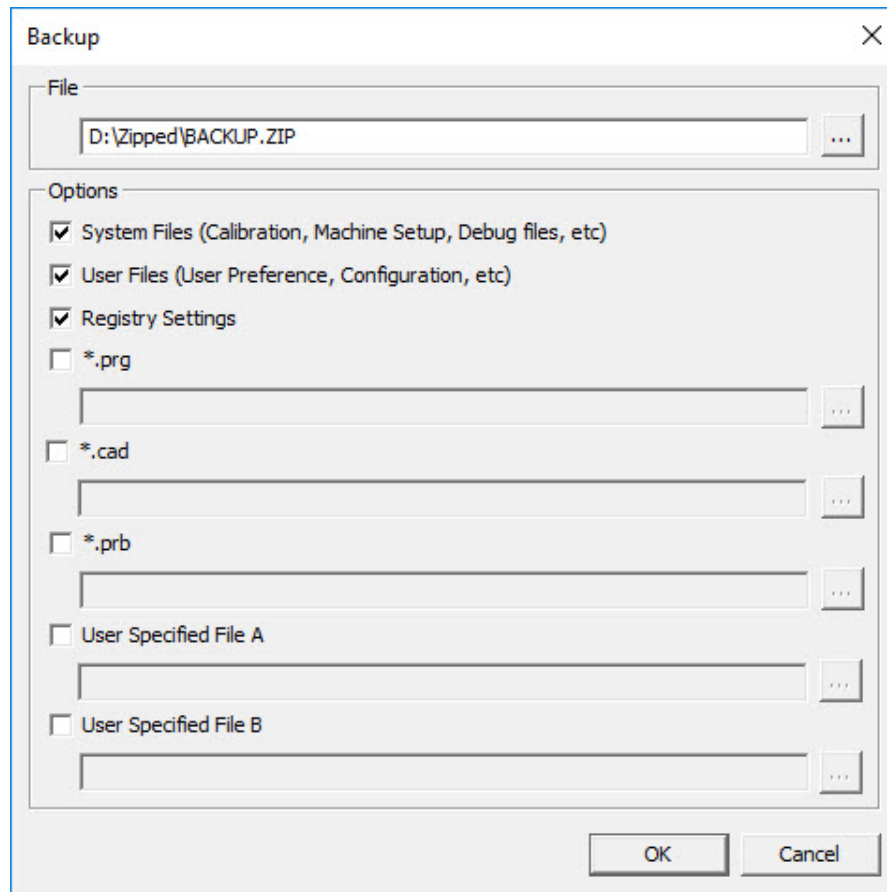
Step 2: Log on as an Administrator

To install your new version for the first time, you must be logged on as a user with administrator privileges.

Step 3: Back Up Existing Settings

Back up your settings from your previous version. By default, PC-DMIS 2024.2 attempts to migrate existing settings from previous installs on the same computer, even from very old versions of the software where settings were stored in the pcdlrm.ini file.

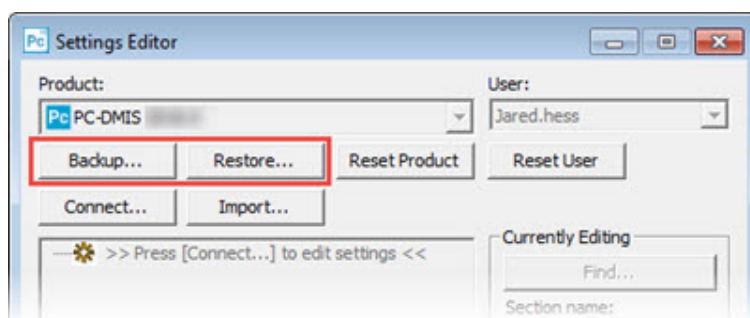
- If your current version uses the pcdlrm.ini file for its settings, back up your pcdlrm.ini file. This file is in the Windows system directory. Save a copy of the file in a safe place.
- If your current version uses the PC-DMIS Settings Editor, back up your PC-DMIS Settings Editor data. To do this, follow these steps:
 1. Start the Settings Editor.
 2. Click the **Backup** button (or **Export**) to open the **Backup** dialog box.



Backup dialog box

3. In the **File** box, define a safe location to save the backed-up files, and give the file a .zip extension.
4. Under the **Options** area, select the first three check boxes, and click **OK**.

If you replace your computer or transfer settings that reside on another computer, you can use the Settings Editor's **Backup** and **Restore** buttons:



Backup and Restore buttons

For more information on the backup and restore functionality, refer to the Settings Editor documentation.

Backing Up Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you are going to install PC-DMIS 2024.2 on a new computer, save copies of the following CMM machine files from your previous version to a safe place:

- comp.dat

Starting with PC-DMIS 2013 MR1, the comp.dat file moved to:

C:\ProgramData\WAI\PC-DMIS\version

- downl.oas

The files are located in the installation (root) directory for all software versions prior to 2013 MR1, regardless of the operating system.

The location of the installation (root) directory is:

C:\Program Files\WAI\PC-DMIS version

For versions of PC-DMIS up to and including 3.7 MR3, the location of the installation (root) directory is:

C:\PCDMISW

Backing Up Machine Files for a CMM with a DEA Controller

If you are using a DEA or other CMM with a DEA machine controller, and you are going to install PC-DMIS 2024.2 on a new computer, save copies of the following CMM machine files from your previous version to a safe place (the files vary according to the type of CMM):

- cosdat1.bin
- compens.dat

Starting with PC-DMIS 2013 MR1, the compens.dat file moved to:

C:\ProgramData\WAI\PC-DMIS\version

- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt
- Any file with your machine's serial number in its name

The files are located in the installation (root) directory for all software versions prior to PC-DMIS 2013 MR1, regardless of the operating system.

The location of the installation (root) directory is:

C:\Program Files\WAI\PC-DMIS *version*

For software versions up to and including 3.7 MR3, the location of the installation (root) directory is:

C:\PCDMISW

Step 4: Install the Software

The following steps run you through a typical installation. Your installation screens may differ if you are running a different version of PC-DMIS 2024.2 or if you are installing a custom build with additional options. In addition, your license may be configured with different options.

1. Locate the installation file on your installation media; or, if you downloaded it, open the directory that contains the downloaded file. The name of the installation file is:

Pcdmis2024.2_release_##.#.###.#_x64.exe

The # symbols represent the version and build numbers.

2. Right-click on this executable file and click **Run as administrator** to open the installation program.
3. If a security warning appears, click **Run**.
4. From the initial license screen, read the license agreement, and select the **I agree with the End User License conditions** check box.
5. In the box at the bottom, you can define the installation folder. By default, the file installs to:
C:\Program Files\Hexagon\PC-DMIS 2024.2 64-bit
To change the folder, either click the browse button () and choose a folder, or in the box, type a new path.
6. If you want to install the Universal Updater application, select the **Install Universal Updater** check box.
7. Once you accept the license agreement and choose the installation folder, click **Next** to open the licensing screen.
8. From the licensing screen, choose your license type:

- **LMS (Software) License** - If you have a software license (called an Entitlement ID), select this option. Complete the boxes beneath this option.
- **LMS License Server** - If you have a license server to connect to, select this option and then type the server address.
- **HASP** - If you have a portlock (a physical USB device with the licensed options), ensure that it is connected to your computer, and then select this option.

For help on how to set up an LMS license, see "[LMS License Setup](#)".

9. Click **Next**.
10. You can choose to install additional software components. If you selected a custom path, the additional software still installs to your default measurement routine directory (usually C:\Program Files\Hexagon\).
 - **PDF Converter 5.0** - This third-party tool converts PC-DMIS 2024.2 reports to PDF outputs.

If you are a Portable user and you have the appropriate license, you can select a Portable interface as your default. For details, see "[Switchable Portable Interface](#)" in the PC-DMIS Portable documentation.
 - **Offline English Help** - This option installs the English HTML5 Help into an installation folder that you define in step 14. When you access the Help, PC-DMIS tries to use the Internet-based Help, but if it cannot detect an Internet connection, it then attempts to access this offline fallback Help. If you mark the **Use Offline Help** option from the **Help** menu, then it also accesses this offline fallback Help even if you are connected to the Internet. This option appears if you have not installed the offline Help yet. Once you install the offline Help, and you later install an update to PC-DMIS, any updates to the Help occur automatically without presenting a prompt.

If you need a non-English offline Help, see "[Installing Non-English Offline Help Files from Language Packs](#)".
 - **Select default portable interface** - From the list, select the Portable interface that you want defined when PC-DMIS starts up. You can choose from any of these supported Portable devices:

RomerRDS Arm

Romer Arm (WinRDS)

AT40x Leica Tracker

AT500 LeicaLMF Tracker

AT9x0 LeicaLMF Tracker

AT901 Leica Tracker

ATS600 Leica Tracker

TDRA6000 LeicaTPS Tracker

Aicon - Offline

MoveInspect

Faro Arm

- **Join the Hexagon Customer Experience Improvement Program** - To help improve the product and send usage data to Hexagon Manufacturing Intelligence, select this check box. To opt out of sending usage data, clear the check box. For more information about this program, visit the [Hexagon Customer Experience Improvement Program](#) website.

11. Click **Install** to start the installation. A progress bar shows the overall progress.
12. When the installation finishes, a screen shows any warnings or errors. It also contains these options:
 - **Launch PC-DMIS 2024.2 64-bit** check box - Select this check box to start PC-DMIS after installation. This step is optional because administrator privileges are no longer required, even for the first launch.
 - **Show Release Notes** check box - Select this check box to display a Readme.pdf file that shows what is new or has changed in this release once you click **Close**.
13. Click **Close** to close the installation program.

	Note
	If you selected the Offline English Help check box in step 10, the English help installer starts up as soon as the PC-DMIS application installation is complete.

14. In the box at the bottom, you can define the installation folder. By default, the file installs to:
C:\Program Files\Hexagon\PC-DMIS 2024.2 64-bit English Help

To change the folder, either click the browse button () and choose a folder, or in the box, type a new path.
15. Click **Install** to start the installation. A progress bar shows the overall progress.
16. When the installation finishes, a screen shows any warnings or errors. Click **Close** to close the installation program.

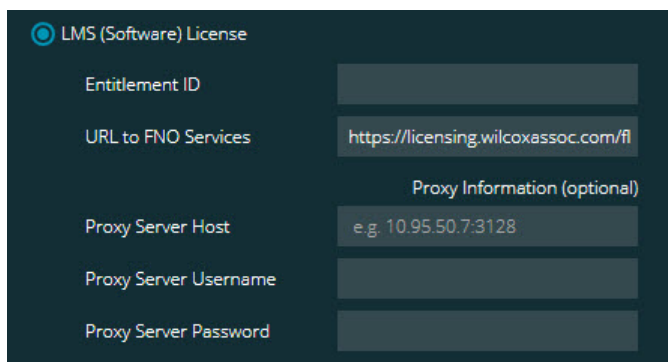
LMS License Setup

This topic provides information if you need to:

- Set up your LMS (software) license
- Connect to an LMS license server
- Update your LMS license
- Provide licensing information to the installer from the command line

LMS (Software) License

If you chose **LMS (Software) License** on the [licensing screen](#), and the installation cannot find a valid license on your system, you need to complete these options:

A screenshot of a software configuration window titled "LMS (Software) License". The window has a dark background with light-colored text and input fields. It contains the following fields: "Entitlement ID" (empty), "URL to FNO Services" (containing "https://licensing.wilcoxassoc.com/fl"), "Proxy Information (optional)" (a section header), "Proxy Server Host" (containing "e.g. 10.95.50.7:3128"), "Proxy Server Username" (empty), and "Proxy Server Password" (empty).

LMS (Software) License	
Entitlement ID	
URL to FNO Services	https://licensing.wilcoxassoc.com/fl
Proxy Information (optional)	
Proxy Server Host	e.g. 10.95.50.7:3128
Proxy Server Username	
Proxy Server Password	

LMS (Software) License option

1. Complete the options:

- **URL to FNO Services** - This points to the URL that verifies your license. Ensure that it has this URL:

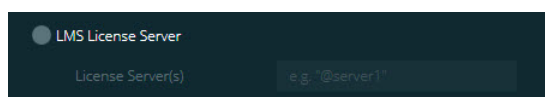
`https://licensing.wilcoxassoc.com/flexnet/services`

- Proxy information - If your computer is on a network where you need a proxy server to reach the Internet, contact your IT specialist to get this information. Enter the server host, user name, and password.
2. If you do not have an Entitlement ID and you need to activate your license offline, use the CLM Admin application. From the CLM Admin application, choose **Activate new licenses**, and follow the on-screen instructions.

	Note
	For information on how to use the CLM Admin application, consult the Hexagon Client License Manager (CLM) Software documentation. You can find this in the subfolder for your language (such as the en directory for English).

3. Click **Next**. The installation software connects to the Internet and activates your license. It then installs the FLEXnet Licensing Service required to use LMS licenses.

LMS License Server



LMS License Server option

If you use a license server, select this item, and then type your license server name in the **License Server(s)** box. The format of this line of text is *port number@server name*, where *port number* is the TCP port number for the license server, and *server name* is the name of the server.

The default TCP port number is 27000. If you don't identify a specific port, the license server uses the default. For example, these mean the same thing:

@server1

27000@server1

	Important
	If you use this option, place the "@" symbol in front of the server address. If the "@" symbol is left off, the installation process attempts to look locally for the license. This may result in an error.

You can also specify multiple license servers. You can separate them with semicolons. For example, suppose that you have three license servers called licenseserver1, licenseserver2, and licenseserver3, and all of them use the default TCP port. You can specify all of them in a single line of text, like this:

@licenseserver1;@licenseserver2;@licenseserver3

Updating Your LMS License

Once you finish with the license setup and install PC-DMIS 2024.2, it checks for license updates when it starts and after every eight hours of running. If a license update is available, this notification appears:

PC-DMIS

Updates are available for your PC-DMIS license. Applying them now will require PC-DMIS to restart. Would you like to apply the updates now?

To apply the update, click **Yes**. If you click **No**, PC-DMIS 2024.2 displays the message every eight hours of running or the next time it runs.

- If an option or a feature is added, you are given the choice to apply the changes. A pop-up message displays in the system tray if you apply the changes.
- If an option or feature is removed, a message that requests you to restart PC-DMIS 2024.2 appears. A pop-up message also appears in the system tray to inform you of this.
- If an option or feature is obsolete, it is automatically removed.

	Note
	After you apply an update, restart PC-DMIS to ensure that it functions properly.

Providing LMS Licensing Information to the Installer from the Command Line

You can send LMS licensing information to the installer through command line parameters. For more information, see "[Providing LMS Licensing Information to the Installer from the Command Line](#)" in Appendix A.

Administrator Privileges Explained

Starting with PC-DMIS 2023.1, you no longer need administrator privileges to run the software, even the first time after installation. You can launch it as a standard user.

However, if PC-DMIS fails to start another application that requires administrator permissions, try running it as an administrator.

	Note
	You still need administrator privileges to install PC-DMIS. If your account doesn't have the required permissions, you'll be prompted to enter administrator credentials.

Step 5: Copy Files after Installation

If these files are available, copy them from your old PC-DMIS installation directory to the directory where you installed the newer version:

- Sysparam.dat
- Downl.oad
- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt

Starting with PC-DMIS 2010 MR2, PC-DMIS automatically copies common system files to the program data files directory when you install a newer version of PC-DMIS.

The comp.dat, compgrid.at, comp.enc, and compens.dat volcomp files used with volcomp methods 13 (ASI) and 14 (BNS) must be in the program data files directory. When you install a newer version of PC-DMIS, these files automatically copy to the program data files directory for the new version. For the default path location of this directory, see "Understanding File Locations" in the PC-DMIS Core documentation.

For additional information on volumetric compensation files and setup, see the Machine Interface Installation Manual (MIIM).

Copying Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you installed PC-DMIS2024.2 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

C:\Program Files\Hexagon\PC-DMIS *version*

For more information about these files, see "[Backing Up Machine Files for an Xcel CMM or a Sharpe Controller](#)".

Copying Machine Files for a DEA CMM with a DEA Controller

If you are using a DEA CMM with a DEA machine controller, and you installed PC-DMIS 2024.2 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

C:\Program Files\Hexagon\PC-DMIS *version*

For more information about these files, see "[Backing Up Machine Files for a DEA CMM with a DEA Controller](#)".

Step 6: Launch the Software for the First Time

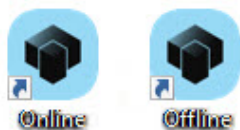
1. Select **Start** and then type **PC-DMIS 2024.2 64-bit**.
2. From the list of shortcuts in the **Start** menu, select either the **Online** or **Offline** icon to launch the software.
3. You can import settings from a previous version.

If your previous version used the Settings Editor, follow these steps to use your previous software settings:

- a. Close PC-DMIS 2024.2.
- b. Launch the PC-DMIS Settings Editor from the **Start** menu.
- c. Once it opens, click **Import**, and open the PCDRRegFile.dat file you backed up in the [Step 3: Back Up Existing Settings](#). PC-DMIS 2024.2 imports your settings.
- d. Close the PC-DMIS Settings Editor.

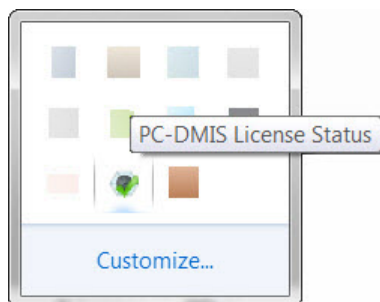
Subsequent Startups

For subsequent startups, click the usual **Offline** or **Online** shortcut to launch PC-DMIS 2024.2 normally :



PC-DMIS 2024.2 shortcuts

Once PC-DMIS 2024.2 runs, an icon displays in your system tray. If your portlock or LMS license is programmed correctly, the icon displays a green check mark as shown below:



Message for valid PC-DMIS license

If your portlock is not connected or is not programmed correctly, or if you are using an LMS license and your software has not been properly licensed, the icon appears with a red exclamation point overlay. A pop-up message says that the license is disconnected:



Message for disconnected PC-DMIS license

If the license is disconnected, PC-DMIS 2024.2 functions normally, but after 5 minutes, it automatically closes. Be sure to save your data immediately before this occurs.

Note About CMMs Using RS-232 Communications

By default, PC-DMIS 2024.2 communicates through the COM1 communications port. You need to change this port number to the number that Windows automatically created if a serial-to-USB adapter cable or serial adapter card was installed for communicating with an older RS-232 CMM.

To change the COM port number, follow these steps:

1. In Windows Device Manager, note the number that Windows assigned to the communications port on your computer. For help, refer to Windows Help.
2. Open PC-DMIS in Online mode, and then open or create a measurement routine.
3. Select **Edit | Preferences | Machine Interface Setup**.
4. In the **Comm port** box, enter the port number from Windows Device Manager.

Command Line Installation

You can install PC-DMIS from the command line instead of double-clicking on the PC-DMIS installation executable. In addition, you can turn various command line arguments on or off to speed up the installation process.

This topic lists the supported command line arguments.

	Note
	Command line arguments are case sensitive.

User Interface Parameters

-q, -quiet, -s, -silent - Installs without any user interaction

-passive - Does a progress-bar-only install

Installation Commands

-uninstall - Removes the application from the computer

-repair - Repairs (or installs if not installed) the application

-package, -update - Install (default)

-layout - Creates a local/admin image

HEIP - This parameter sets the Opt-in option for the Hexagon Customer Experience Improvement Program. This provides analytics for PC-DMIS to help us improve the application. By default, this option is on (**HEIP=1**). Set this parameter to 0 (zero) to turn this option off.

USEMSLICENSING - When this parameter is turned on (**USEMSLICENSING=1**), PC-DMIS checks for an LMS license. Set this parameter to 0 (zero) to turn this option off.

INSTALLPDFCONVERTER - When this parameter is turned on (**INSTALLPDFCONVERTER=1**), the PC-DMIS installation installs the PDF Converter. By default, this option is turned on. Set this parameter to 0 (zero) to turn this option off.

INSTALLOFFLINEHELP - When this parameter is turned on (**INSTALLOFFLINEHELP=1**), the PC-DMIS installation installs the offline English help system. By default, this option is turned on. Set this parameter to 0 (zero) to turn this option off.

Restart Handling

-norestart - Suppresses any restarts

-promptrestart - Prompts if a restart is required (default)

Logging

-l, -log - Creates an installation log to a specific file (default TempFolder)

-logtoconsole - Logs installation information to the console, if started from the console

Help

-? - Shows the **Supported command line arguments** information screen

Additional Parameters

INSTALLDIR - Specifies the installation folder for the PC-DMIS application. The default location is "C:\Program Files\Hexagon\PC-DMIS <version>", where <version> is the PC-DMIS install version.

SQLCONNECTIONSTRING - Defines the connection string if required by the application

LICENSESTRING - Defines the license string if required by the application

LMSENTITLEMENTID=<EID> - This parameter specifies the LMS Entitlement ID (EID) for your LMS license. Replace "<EID>" with your actual Entitlement ID. For example:

LMSENTITLEMENTID=99999-12345-67890-12345-67890

LMSURLTOFNOSERVICES=<FNO server address> - This parameter defines the URL address to the LMS FNO server. Replace "<FNO server address>" with the actual URL to the LMS server. For example: **LMSURLTOFNOSERVICES-S=https://licensing.wilcoxassoc.com/flexnet/services**

LMSPROXYHOST=<\{proxyhostname}> - This parameter defines the name of the proxy host server. Replace <\{ProxyHostName}> with the name of the proxy host server. For example: **LMSPROXYHOST={fnoserver}**

LMSPROXYUSERNAME=<\{proxyhostusername}> - This parameter defines the user name of the proxy server. Replace <\{proxyhostusername}> with the user name of the proxy server. For example: **LMSPROXYUSERNAME={jrjones}**

LMSPROXYPASSWORD=<\{proxyhostpassword}> - This parameter defines the password for the proxy server. Replace <\{proxyhostpassword}> with the password for the proxy server. For example: **LMSPROXYPASSWORD={AS4BGxpZyu}**

LMSLICENSESERVERS (@\{ipaddress}) – This parameter defines a comma-separated list of the LMS license servers.

LICENSETYPE - This parameter specifies the license type. The options are HASP, LMSEntitlement, or LMSServer. For example: **LICENSETYPE=LMSEntitlement**.

The correct usage for the additional parameters is:

PARAMETER=value

Unattended Installation Example

To perform a fully-unattended installation into a directory named **C:\PCDMISW**, use the following command line argument:

Pcdmis<installer information>.exe -q INSTALLDIR="C:\PCDMISW"

Where <installer information> is the PC-DMIS version and build numbers of the .exe file that you are installing.

Network Connections

This section describes network access details for some Hexagon products.

Firmware Distributed Controller (FDC) Connection

PC-DMIS uses these parameters to establish its connection with FDC:

- Controller address - 100.0.0.1
- PC-DMIS computer address - 100.0.0.2
- Subnet mask - 255.255.255.0
- Port - 1234

LMS Licensing

You can find the license verification server and the ClmAdmin utility for node-locked licenses here:

<https://licensing.wilcoxassoc.com/flexnet/services>

The Floating License server with Flexnet LmAdmin64 uses ports 27000-27009 on the server. Imgrd and lmadmin listen on TCP port 27000 by default. Communication must be allowed from the client computer to the network license server on this port (or another port if the network license administrator has changed the default). Communication is transitioned from Imgrd / lmadmin to the vendor daemon after the initial connection is made. By default, this is done on a random TCP port. Unless your firewall has built-in support to recognize the randomly chosen port, you need to manually specify a port for the vendor daemon.

The LocalHost server on port 8090 and older versions defaults to port 8080. You can define these ports when you install license server or through the server interface. These are only Offline licenses when you are not connected to a machine.

Offline Help

If you select to install Offline Help when you update the software, it opens the second remote address on port 443. This port verifies the license.

Hexagon Universal Updater

Port - 80 and 8089 (SignalR)

CrashSender1403.exe

This executable is for the PC-DMIS Crash Report Utility tool. If you run this executable with the /nocrashdump switch, the Event Viewer screen takes over the crash report functionality.

C:\Program Files\Hexagon\PC-DMIS 2024.2 64-bit\Launcher\HexagonLauncher.exe

LauncherPC-DMIS.config /nocrashdump

Other Products

A few Hexagon products need to establish remote connections which enables them to send emails and text alerts. These products include Pulse, Notification Center/Message Lights, and SMART Factory.

Updating the Software

The Hexagon Universal Updater application automatically checks for software updates if your computer is connected to the Internet. This application is installed with PC-DMIS and Inspect. If the updater detects that an update is available, the updater uses the Windows notification area to the right of your clock on your taskbar to inform you of the update. You can then click on a notification to open the updater to download and install that update.

If the updater is running, a small icon for the updater appears in your taskbar's Notifications area (). You can click this icon to open the updater.

If the updater is not running, you can manually run the updater to check for updates. You can also use the updater to launch software or install new software applications. To run the updater, from the **Start** menu, type **Universal Updater**, and select the shortcut for the updater.

If you need additional help with the updater, you can access the help content available from within the updater itself.

	Important
	During the download and installation processes, your firewall must allow the http://www.wilcoxassoc.com/WebUpdater Internet address. In addition, you must have Administrator privileges to install the software update.

For information on the installation process, follow the installation steps described in the topics above. Once the installation process finishes, you can use the latest version.

When you update PC-DMIS from the Universal Updater, the software opens the **Associated Products** dialog box. The software displays a list of the required and recommended products.

Required

HxGN SFX | Connector - This software connects your assets to your SFX account. It also monitors your assets and sends data to your SFX account.

Recommended

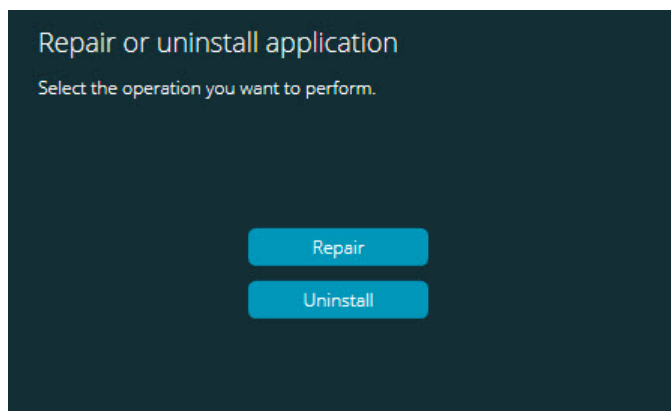
Inspect - This software provides a simplified operator interface for operators to execute measurement routines from supported products and then generate reports.

Notification Center - This software sends notifications from a client application (such as PC-DMIS) to a measurement device (such as a CMM) during certain events (such as when the machine has an error).

For information on evaluation versions and changing HASP to LMS, see "Updating the Software" in the PC-DMIS Core documentation.

Repairing or Removing an Installation

You can also repair or remove an installation once you install it. To do this, double-click the Pcd-mis2024.2_release_###.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:



"Repair or uninstall application" dialog box

- **Repair** - This option reinstalls all of the product files as they were originally installed. This option may help resolve issues where an installation didn't properly install all of the files.
- **Uninstall** - This option removes the application from where you installed it. You can also use the **Apps and features** screen or the **Programs and Features** control panel item in Control Panel to uninstall the application.

Running the Software in Another Language

The initial installation setup file for PC-DMIS 2024.2 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2024.2, it installs the language files based on your operating system's language.

To run PC-DMIS 2024.2 in a language other than the operating system's language, select **File |Language**, and then click the desired language. PC-DMIS shows a message that says the application will be shut down and restarted. Click **Yes** to continue. PC-DMIS 2024.2 immediately closes and then reopens in the selected language.

To get the help content available in a non-English language, see "[Installing Non-English Offline Help Files from Language Packs](#)".

Installing Non-English Offline Help Files from Language Packs

This topic only applies to users who don't have Internet access.

- With Internet access, the online Help for PC-DMIS 2024.2 is already available from a public web server in all supported languages. The Help opens in your browser whenever you access it.
- Without Internet access, PC-DMIS 2024.2 uses the Help where you installed the offline Help for your version.

With the main installation file, you can install the offline Help in English. However, non-English offline Help files are not included in the main installation file. This means if you intent to use a non-English language, and you don't have Internet access, in order to see any Help content, you *must* also install a language pack for that language.

A language pack contains all of the offline Help content for that language.

To install a language pack, follow these steps:

1. Locate the desired language pack (and .exe file) on your installation media or download it from the Internet here:

<https://downloads.ms.hexagonmi.com/PC-DMIS-Versions/Release/2024.2/Release/x64/Lang>

2. Run the .exe file and follow the setup instructions. You do not need to have administrator access to do this step.

This procedure installs the Help content into the folder where you installed the offline Help for your version.

You can then switch to that language in the software and access the Help content as expected.

Starting PC-DMIS with an Online License in Offline Mode

To start PC-DMIS with an Online license in Offline mode when you are not connected to a machine:

1. From the Windows **Start** menu, locate the PC-DMIS 2024.2 Online shortcut and click on it.
2. Once PC-DMIS opens, it displays an error message that says the machine is not connected. It then shows this message and asks you if you want to switch to offline mode.

PC-DMIS MESSAGE:
Do you want to switch to offline mode?

To start PC-DMIS in Offline mode, Click **Yes**.

Troubleshooting

This topic provides information for you to troubleshoot installation, startup, and software update problems.

Startup is Slow

Problem: You use a computer with at least the recommended system requirements as detailed in the "[Recommended System Requirements](#)" topic, and it takes longer than 30 seconds to launch the software.

Description: This happens if you try to run PC-DMIS, but you didn't mark the **Launch PC-DMIS 2024.2 64-bit** check box on the installation wizard. This results in a problem loading the HASP driver. Note that this problem only occurs when you install with a HASP license type, as discussed in "[Step 4: Install the Software](#)".

Solution: Uninstall PC-DMIS and then reinstall it. To reinstall it, right-click on the installation file and choose **Run as administrator**.

Setting Up the Network to Send Crash Reports

Problem: PC-DMIS 2024.2 cannot automatically send crash reports to Hexagon Manufacturing Intelligence even when your software configuration does not use the **/nocrashdump** switch. (This switch disables crash reports in PC-DMIS 2024.2.)

Description: A firewall on your computer may be blocking the Hexagon Universal Updater application from connecting to the server. If PC-DMIS 2024.2 crashes, it uses a PHP script over HTTP to send the crash report. If this fails, it then tries to send the report to crashreport@wilcoxassoc.com. It tries using the standard SMTP email protocol. If that fails, it tries to send the email through MAPI.

Solution: The crash report system needs to be able to use port 80 to get out to the server, <http://www.wilcoxassoc.com/>.

Installing on top of an Existing Version Results in Unexpected Behavior

Problem: You installed on top of an existing version of the software, and now the software does not behave normally. Potential symptoms include:

- After you start up the software, you get a "Procedure Entry Point" error.
- When you select **Help | About**, it does not show the new build number.

- Reported bug fixes do not seem to be fixed, and PCDLRN.EXE does not have a newer date and time than the original release.

Description: Something did not install properly on top of the existing version.

Solution: Use **Apps & Features** or Control Panel to completely uninstall the existing version and then reinstall the version you're trying to install.

Running the Legacy DPUPDATE.EXE Does Not Work

Problem: The legacy DPUPDATE.EXE does not run.

Description: If you run PC-DMIS 2024.2 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2024.2 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2024.2, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please do not contact Hexagon Technical Support for technical previews.

If you are using the *commercially-released version* of PC-DMIS 2024.2 and would like further information or technical support, please contact hexagonmi.com/contact-us or visit hexagonmi.com/products/software. You can also reach Hexagon Technical Support at support.hexagonmi.com or by calling (1) (800) 343-7933.

Appendix A

Providing LMS Licensing Information to the Installer from the Command Line

You can send LMS licensing information to the installer by using the command line:

- If the installer is running in silent mode (**-q**) or basic silent mode (**-passive**), and the correct information is provided, everything runs without user interaction. The command switch **-q** displays the progress bar and handles installer errors. The **-passive** switch hides the user interface.
- If the installer is not running in silent mode, the information provided is used to populate the LMS activation form and skip the [license screen](#).
- You can provide the **-?** to review additional command line arguments.

Descriptions of the parameters follow, along with examples.

Descriptions

USEMSLICENSING=1 - This flag is useful only if the system already has an LMS license that the user is using. It allows silent mode to work without having to prompt the user for a license choice. If the installer is not running in silent mode, it still allows the install process to skip the license type selection dialog (thus saving some time).

LMSENTITLEMENTID=entitlement id - This parameter and value are useful on a new system where no LMS license was previously installed. It indicates that you want LMS licensing and provides an Entitlement ID to try and activate. When this value is specified, there is no need to specify **USEMSLICENSING**.

LMSLICENSESERVERS="server1,server2..." - This parameter is used on systems that communicate with a license server. It also allows the license type selection dialog box to be skipped and the installation to be done silently.

LMSPROXYHOST="proxyhostaddress" - This optional parameter gives the address of a proxy host. In silent mode, it is used directly in activation. In non-silent mode, it populates the activation form with this value.

LMSPROXYUSERNAME="user name" - This parameter is another optional parameter for the proxy user name. It behaves in the same manner as **LMSPROXYHOST**.

LMSPROXYPASSWORD="unencrypted password" - This parameter is another optional parameter for the proxy password. It behaves in the same manner as **LMSPROXYHOST**.

LMSURLTOFNOSERVICES=URL to FNO server - This parameter is mostly for internal development. The default URL is to the production server. The new value can be used to override the default value and point to the development server.

Examples

On a brand-new system with a node-locked Entitlement ID, the following line installs PC-DMIS 2024.2 in silent mode:

-q LMSENTITLEMENTID=99999-88888-77777-66666-55555

On a system that already has a license, the following line installs PC-DMIS 2024.2 in silent mode:

-passive USELMSLICENSING=1

On a brand-new system using license servers, the following line installs PC-DMIS 2024.2 in silent mode:

-passive LMSLICENSESERVERS="123.12.134.42"

On a brand-new system with no license, the following line skips the license type selection dialog box and populates the activation form:

LMSENTITLEMENTID=99999-88888-77777-66666-55555 LMSPROXYHOST-T="123.123.123.123" LMSPROXYUSERNAME="bob" LMSPROXYPASSWORD="marley"

Appendix B

Required User Access Rights

File System

- C:\ProgramData\Hexagon\PC-DMIS\2024.2
- C:\Users\Public\Documents\Hexagon\PC-DMIS\2024.2
- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2024.2
- Any user-specified folder locations for storing measurement routines, probes, subroutines, and so on

Notes

When you run a new version of PC-DMIS for the first time, it automatically copies settings from the most recently installed version. Starting with PC-DMIS 2023.1, you no longer need administrator privileges to complete this process.

If you are using fixturing or laser sensors, the following registry keys are stored back one level:

- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\FxtServer
- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\PC-DMIS\NCSENSORSETTINGS

It may be easier to just apply create/read/write privileges to the HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\ key and all sub keys to cover these also.

Appendix C

First-Time Installation with Flexible Fixturing

To be compliant with the permission rules for PC-DMIS products, files associated with fixturing are now located in this folder:

C:\Program Files\Hexagon\PC-DMIS 2024.2 64-bit\Models\QuickFix

This allows access to the files without needing administrator privileges on the computer running PC-DMIS. To accomplish this, the following steps are required when you install PC-DMIS for the first time:

1. The first time you install PC-DMIS and FxtServerInterface, run the FxtServerInterface installation program for the first time with administrator privileges.
2. When you run FxtServerInterface, a message states that the system will migrate all of your data files to the "FIVEUNIQUE" Documents folder described above.
 - If you choose **Yes**, the files are moved, and the original folder is deleted.
 - If you choose **No**, the files are copied, but the original folder is kept.

Once this is done, the files are moved (or copied), and you are able to run FxtServer-Interface.exe without administrator privileges.