# PC-DMIS 2018 R1

# - Release Notes -



PC-DMIS
2018 R1
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# Contents

# Release Notes - 2018 R1 SP7

- PCD-138843 - Fixed an issue with poor-quality diagnostics bitmaps on Vision systems with high-resolution cameras.
- PCD-142057 - Fixed an issue where the **Show both directions** check box was incorrectly disabled when the Pointcloud Surface Colormap Scale was edited.
- PCD-142605 - Fixed a crash that sometimes occurred when a new inspection routine was opened or created online with the portable arm due to a problem with the CMS calibration file.
- PCD-147657 - Corrected an issue where the values for all levels of the Pointcloud Colormap scale were not shown if the levels were very closely spaced. Colormap scale values are now adjusted based on a minimum font size. You can set the minimum font size through the `ColorGradientMinFontFactor` registry entry in the Settings Editor application. The value is a factor with a default value of 100. Increasing the factor to 120 results in a smaller minimum font, and decreasing the value to 80 may result in a larger minimum font. There are limitations in how small the font can be and still be readable in the Graphic Display window or report based on your computer's display resolution.
- PCD-147832 - Fixed an issue for laser auto sphere execution where the feature did not extract even though there was sufficient data.
- PCD-149187 - PC-DMIS Vision had a constant, high CPU usage when controlling an IDS uEye color camera. This could slow PC-DMIS or other applications running on the computer. The behavior was caused by a change in the IDS software library. The high CPU load issue has been fixed.
- PCD-150964 - Corrected an issue where, in some cases, laser auto features were not evaluated correctly when re-executed.

- PCD-151203 - Fixed an issue where a Vision Edge Point Auto Feature with a manual target and large crosshair had the crosshair shrink and disappear as the rotary angle went to 90 degrees.
- PCD-151840 - Fixed an issue where the Mesh Colormap reset when the mesh colormap dialog box was edited and then closed. This caused the colormap to no longer be visible.
- PCD-151981 - Fixed an issue where the laser extraction of Circles, Round and Square Slots from a pointcloud failed when the nominal feature was on the lower layer of two overlapping, parallel sheetmetal surfaces.
- PCD-152892 - Fixed an issue where PC-DMIS stopped working when the frequency parameters for the CWS sensor were copied and pasted.
- PCD-153132 - Corrected an issue where the **File | Import | ASCII** operation always generated tactile features even if the current probe was a laser probe. Laser features are now created if the active probe is a laser scanning sensor.
- PCD-154463 - Fixed an issue where, when Vision Diagnostics was turned on for features, a memory leak and resource leak occurred every time a measurement routine was executed.
- PCD-154501 - Fixed an issue with BFRE constructions from offset points that did not contain ball center data.
- PCD-154896 - Fixed an issue where cylinder computation from b-spline surfaces had poor accuracy.
- PCD-154983 - Fixed an issue with BFRE constructions from all points that did not contain ball center data.
- PCD-156581 - Gave the ability to modify the settings.xml file under the QDAS folder in the public area to add a line for the type of encoding. By using encoding type ANSI, characters in different languages can be viewed.
- PCD-158772 - Fixed an issue where Feature Based Measurement (FBM) was not able to mark features correctly when assignment was used.
- PCD-158837 - Fixed an issue where a cylinder could be solved as inner when it was actually an outer cylinder.

- PCD-159042 - Fixed a potential crash when the **Scan** dialog box was opened.
- PCD-160749 - Fixed a crash that occurred when a very long comment line was exported to Basic.
- Changes were made to improve the user experience based on feedback collected from recent releases.

# Release Notes - 2018 R1 SP6

- PCD-120462 - Fixed a German translation error for Location dimension of slots and edge points, L = L (slot length) and S = S (edge point-surface).
- PCD-125813 - When the pointcloud is not well aligned to the CAD model, the resulting measured cross section (yellow polyline) may not be computed as expected and may produce the incorrect shape. By default, the `PointcloudOperator` `CrossSectionCopCadCrossSectionDrivenByCad` registry entry is set to 1. It is possible to obtain better results by changing the registry entry's value to 0 and recreating the cross section so that it uses this new setting. This alternative way to calculate COP/CAD cross sections could give better results when the medium distance between the cloud and the CAD model is relevant in the section zone, and the nominal section is strongly curved in this zone (distance is greater than 2 or 3 mm).
- PCD-126732 - Corrected an issue where a continuous scanning made with an X1 probe was used to create a pointcloud surface colormap but the colors were not displayed.
- PCD-131217 - Corrected an issue where the Mesh colormap scale with percentages was not correctly shown on the report.
- PCD-138257 - Fixed an issue where PC-DMIS stopped working when executing a measurement routine that already contained extra instances of commands (extra instances of commands are created by executing the measurement routine with commands such as Loops, Goto, etc.).
- PCD-144259 - Whenever you set a GD&T selection of a distance dimension, the workplane that was added before was set up wrong, and the distance dimension relationship and orientation were not set to match the distance orientation, too. This issue has been fixed.
- PCD-145264 - Fixed an issue for the Leica LMF interface AT960 tracker where the user could not save the first hit for a PNT with the CCR or T-Probe after swapping from the LAS scanner.

- PCD-145623 - Fixed an issue where clearance plane paths were drawn in the wrong orientation.
- PCD-147370 - Fixed an issue where the Mesh Colormap scale did not appear in the Graphic Display window and the Text and CAD, CAD Only, and CAD-Only Landscape report templates.
- PCD-147697 - Fixed a rounding issue of the percentages shown on the pointcloud colormap scale. The colormap scale now uses the number of decimal places that are defined on the Dimension Display Precision command (**Edit | Preferences | Setup | Dimension tab**).
- PCD-149014 - Failed to restore the original string if the expression failed. It was saved in all uppercase letters, which was incorrect.
- PCD-149024 - For the Pointcloud Export function, the user can define the separator used for the XYZ export. In the PC-DMIS Settings Editor, in the PointcloudOperator section, use the `ExportXYZSeparator` registry entry. The default value is a space: " ". Examples of separators are ";" and ",". Type the separator without the quotation marks. If you type more than one character, only the first one is used.
- PCD-149265 - Fixed an issue with certain quick-fixturing operations.
- PCD-149332 - Fixed an issue where, at times, the Surface Colormap could not be reset from within the dialog box.
- PCD-149711 - Fixed scanning for the Zeiss direct machine interface.
- PCD-150013 - Corrected an issue when saving back to versions before v2015.1 where not all of the global PRG variables would be read when that PRG was loaded. The command data would be correct.
- PCD-150164 - Corrected an issue where the default printing file type could change. This could happen without user intervention.
- PCD-150203 - Fixed a crash that occurred when the Constructed Feature was selected and the measurement routine referenced a version 2015 "Attached external measurement routine" that contained a pointcloud.

- PCD-150622 - Fixed an Enable Interpreter problem that caused a crash when executing a basic script.
- PCD-150793 - Corrected showing the Exposure and Stripe Distance for Zeiss Eagle Eye sensor in Offline mode.
- PCD-150889 - Corrected an issue for the LeicaLMF tracker when re-executing a measurement routine with the LAS scanner, the program execution would automatically go to next command after the first 1st scan pass was taken, instead of waiting for the operator to click 'Scan Done'.
- PCD-151205 - Fixed an issue where PC-DMIS stopped working when the Vision feature type was changed in the Edit window.
- PCD-151225 - Fixed an issue where the Pointcloud Colormap Max/Min annotations were turned off when an Inspection Routine was closed, re-opened, and then re-executed.
- PCD-151346 - Fixed an issue where PC-DMIS may have stopped working when the **XactMeasure GD&T** dialog box was closed.
- PCD-151985 - Fixed an accuracy issue that occurred when using compensation files.
- PCD-152124 - The Insert rotary table move has to be able to insert the angle unconditionally. The ending angle of the previous 4-axis scan differs from the theoretical.
- PCD-152163 - I++ Auto Features - Speed and Point density from adaptive scanning parameters are now correctly sent to the I++ server.
- PCD-152178 - Fixed Load Active Probe for I++ client. It loads the active tip (I++ Tool).

# Release Notes - 2018 R1 SP5

- PCD-50401 - Fixed an issue where the Jump Hole functionality failed or caused scans to fail.
- PCD-126983 - Fixed an issue where PC-DMIS stopped working if you reset the execution list while a measurement routine was executing.
- PCD-134313 - Fixed an application error that occurred when QuickFeatures were selected in the **Auto Feature** dialog box.
- PCD-135742 - Fixed an issue where path lines for probe head rotations were not drawn for probe heads with a C-joint (heads with 6 axis).
- PCD-137806 - Eliminated a null pointer related to a commonly reported PC-DMIS 2018 R1 issue where PC-DMIS stopped working.
- PCD-138302 - Fixed the issue of not being able to correctly group axis and True Position for FCF True position with multiple features selected.
- PCD-139668 - Fixed a crash that occurred when cast points were used in a loop.
- PCD-140115 - When a new patch scan is created, all points taken for previous patch scan are deleted so as to create patch scan at new location.
- PCD-140952 - Fixed an issue with the displayed datum bonus value when the datum was shifted to its limit.
- PCD-141291 - Corrected always outputting the min max values to the statistics file.
- PCD-144198 - Restored functionality that existed prior to PC-DMIS 2017 R1 to display the probe at the correct location in the Graphic Display window when a MOVE command was edited.
- PCD-144358 - Thickness now works for Auto Cylinder and Auto Cone.
- PCD-145145 - Fixed an issue that was introduced in PC-DMIS 2017 R2. The selection and highlighting of CAD surfaces was not working as before.

- PCD-145787 - Fixed an issue where the **Illumination** tab did not appear in the Probe Toolbox.
- PCD-146258 - Fixed potential 15-second delays or crashes when switching between cameras on a multiple uEye digital camera system.
- PCD-147300 - Prevented a crash from occurring when the Vision laser (FLS) gain in the Probe Toolbox was edited.
- PCD-147567 - Fixed I++ errors for Technology Server 1.x in the self-centering code.
- PCD-147569 - ToolName (the name of the tip in the I++ server) has never been composed correctly for the purpose of scrolling in the measurement routine in the Edit window when LOADTIP is done sometimes.
- PCD-147666 - PC-DMIS I++ server has fixed readouts for DEA machine interface for manual CMMs.
- PCD-148136 - Prevented a possible incorrect initialization of touch probes in combination with VisionBox.
- PCD-148439 - Fixed the error of incorrect reporting of legacy True Position.
- PCD-149206 - Fixed temperature compensation V1 for Manual mode (this applies to I++, Zeiss, and other third-party machine interfaces).

# Release Notes - 2018 R1 SP4

- PCD-95827 - Fixed an issue where PC-DMIS did not create an alignment correctly for a datum feature when you defined the datum before the alignment.
- PCD-130976 - Fixed an issue where features displayed incorrectly in Graphic Display window.
- PCD-135273 - Fixed an execution problem of a Cylinder Auto Feature outer on Arm2, where a MOVE/POINT programmed after the AF was done in-between the sample hits of the Cylinder Auto Feature.
- PCD-137814 - Fixed full-screen comment text formatting, button sizing, and button location issues for normal and 4K resolution displays.
- PCD-137817 - Fixed an issue where PC-DMIS stopped working while hovering the mouse over a previously-picked point when editing a pointcloud (COP).
- PCD-138460 - Fixed an issue where incorrect colormaps were shown on some CAD parts.
- PCD-138851 - Fixed an issue where optimize path would not always find results if alignments were active.
- PCD-139451 - Fixed an issue where a "No laser scan data" error appeared for all direct-measured laser features in measurement routines in inch units.
- PCD-139677 - Fixed an issue for the AT960 tracker where the load probe command was not inserted unless the beam was first broken when switching between the LAS scanner, Reflector, or T-probe. It is no longer necessary to break the beam when switching from LAS to T-Probe or Reflector.
- PCD-140324 - Fixed an issue where some triangles of the created MESH object had the wrong vector when the Refine option was used.
- PCD-140397 - Fixed an issue where Wcompens32_2.dll did not correctly load the geometrical compensation map on DEA machines.

- PCD-140459 - Fixed an issue that occurred infrequently when the amount of memory allocated was not sufficient for the data received from the laser scanner.
- PCD-140465 - This change allows constructed line and circle scan segment mode to select scan points in the CAD.
- PCD-140785 - Fixed the issue of an incorrect path for an auto feature cylinder spiral scan.
- PCD-141332 - Fixed a corner-case issue in the **CAD Assembly** dialog box when geometry was moved to different parts, which may have caused problems with the transformation of the geometry.
- PCD-141419 - Fixed an issue where PC-DMIS stopped working when running auto-insert moves.
- PCD-141784 - Fixed an issue with error recovery for PC-DMIS running with technology server with a LEITZ CMM and rotary table (4-axis scanning).
- PCD-142013 - Fixed an issue where legacy reports with text labels where not scaled-to-fit correctly.
- PCD-142188 - Fixed an issue where the leader line termination points were not correct for the analysis view command when a CMM transform was used.
- PCD-142299 - Fixed an issue with the Mirror command where the CAD was mirrored (flipped) along the wrong axis.
- PCD-142652 - Updated the "learn more" links on the What's New pages in PC-DMIS to fix the broken links caused by changing to a new support center.
- PCD-143634 - Fixed a random crash that occurred in Operator mode and Protected mode, or after the custom menu items were adjusted.
- PCD-145385 - Corrected an import issue where large IGES files would hang indefinitely under certain conditions.
- PCD-145450 - Fixed an issue where PC-DMIS stopped working when GD&T items were selected.

- PCD-145478 - Fixed an issue for the AT-960 Tracker where the active LAS/LAS-XL laser scanner face in the status area was not updated when the face was changed.
- PCD-145736 - The ZEISS configuration file stored in the PC-DMIS installation directory is now opened with reading access mode. This is important for more restrictive user-access rights on Windows 10.
- PCD-145792 - Fixed an issue for the AT960 Tracker where the LAS scanner showed "Not Ready" after the beam was broken and reacquired following swapping to CCR then back to LAS scanner.
- PCD-145795 - The optics calibration and illumination calibration was changed to support hardware where the illumination gets brighter very quickly. This change does not affect existing calibration data and thus does not require any recalibration unless poor calibrated illumination behavior has been seen. This fixes an issue that generated a "Failed to set lighting brightness" error message during pixel size calibration.
- PCD-145848 - Fixed an issue where the Tracker Status bar indicated "Ready" (green) when the beam was lost with the AT960 tracker and LAS/LAS-XL scanner. This has been fixed and now shows the proper status "Not Ready" (red) when the beam is lost.

# Release Notes - 2018 R1 SP3

- PCD-121392 - Self-centering support for Technology Server 1.5 client.
- PCD-135627 - Fixed an application error that occurred when a laser probe was used in Program mode.
- PCD-137807 - Fixed an occasional application error at routine close time, after the customize toolbar dialog had been used to change the toolbar size.
- PCD-137886 - Corrected an issue that occurred where PC-DMIS did not remember the original Axis selection when a pointcloud cross section command was edited.
- PCD-139377 - Fixed an issue where Q-DAS Configurator was unable to read some type of catalog file. This fix enables Q-DAS Configurator to successfully read all customer catalog files.
- PCD-139471 - Updated the "Receive a mesh from OptoCat" interface so that it is compatible and works with OptoCat version 18.01.01.12.
- PCD-139717 - Fixed an issue that occurred infrequently on certain Window 7 operating systems; in the **Pointcloud Operator** dialog box for a Surface Colormap, the tolerance value was also entered as the thickness value.
- PCD-140610 - Fixed an issue where the hit points of features were being drawn off the measured part.
- PCD-141372 - Fixed an issue where multi-thread access to the Automation interface caused a random "marshalling" error message.
- PCD-141398 - Fixed an issue for portable laser scanning where the processing of the laser stripes received from RomerRDS caused a lag in performance.
- PCD-141724 - I++ tags can be duplicated for tag ranges (e.g.: Get(X(),Y(),Z()).
- PCD-141741 - Corrected an issue where PC-DMIS stopped working when a CREO DCI .cad file was loaded on a system without CREO.

- PCD-141803 - Fixed an issue where the T value that appeared in the Probe Readouts window displayed incorrectly for a tracker using a reflector.
- PCD-141870 - I++ client allows to switch axes.
- PCD-142287 - Fixed incremental moves (which could freeze execution).
- PCD-143317 - For the I++ client, fixed clearance cube moves after scans.
- PCD-143370 - Fixed an issue where the CWS probe data did not properly rotate to account for the rotary table position.

# Release Notes - 2018 R1 SP2

- PCD-133973 - Prevented a rotation when doing a profile of a cone that is coaxial with the datum reference frame.
- PCD-136499 - Fixed the broken privacy policy link in the crash report dialog box.
- PCD-137719 - Added a new ring light configuration (6 Rings with 8 Sectors) with VisionBox.
- PCD-137734 - Fixed an issue where dimensioning was not correct after a measurement routine was created from DMI-File.
- PCD-137816 - Fixed a sporadic error in the zoom optics pixel size calibration. The error can be identified by reviewing the calibration .ocf file. The scale values in the first column should be in a consistent ascending or descending pattern. An irregularity in the pattern will result in an inaccurate field of view measurement when the commanded magnification is near the erroneous scale value.
- PCD-138304 - Corrected the laser properties in the Edit window in the **Auto Feature** and **Scan** dialog boxes for Eagle Eye 2 where the zoom and gain were omitted.
- PCD-138438 - For the I++ client, adaptive scanning is enabled for the Circle auto feature. PC-DMIS now generates I++ ScanOnCircle command instead of the  ScanInPlaneEndIsPlane command.
- PCD-138986 - Fixed an issue where some vertices of the CAD model surfaces were not computed correctly, which caused the pointcloud colormap to not be applied in those areas. This issue occurred with non-dense pointclouds.
- PCD-139098 - Fixed an issue where the NX DCI may have gone into an infinite loop if the NX model had reference systems defined.
- PCD-139633 - Fixed various memory leaks and memory corruption in the area of I++ Temperature Sensor and Protected Mode.

- PCD-139655 - Fixed an issue with creating and opening measurement routines with a HP-C-Ve camera when the camera's hardware was not attached.
- PCD-139687 - Fixed an issue that caused PC-DMIS to stop working when some measurement routines were executed or saved.
- PCD-139734 - Fixed an issue where v4.3 CAD files did not consistently load into PC-DMIS.
- PCD-140355 - Fixed the display of dimension data in Slideshow if a user cut and pasted a dimension into the Edit window or ran path optimization in PC-DMIS.
- PCD-140602 - Corrected an issue that caused Round and Square slots to give the wrong results.

# Release Notes - 2018 R1 SP1

- PCD-97667 - Fixed an issue where the Find Hole operation failed with a Strategy Adaptive Circle scan.
- PCD-106127 - Fixed an issue where the displayed T value in the Probe Readout window was incorrect when the part deviation was larger than the probe diameter.
- PCD-110396 - Fixed an issue where the start angle and end angle did not work for the Adaptive Cone Concentric Circle Scan and Adaptive Cone Line Scan strategies.
- PCD-114380 - Fixed an issue for trackers using the LeicaLMF interface where, after newer versions of PC-DMIS were installed, the T-probe button assignments in the PC-DMIS Settings Editor were inconsistent or incorrect.
- PCD-119623 - For legacy report CAD objects, the text box context menu appears on text boxes so that you can hide the text boxes.
- PCD-128493, PCD-137802 - Fixed a bug that caused application errors.
- PCD-128992 - Fixed an issue where the Pointcloud Surface Colormap was not shown when the COP was created with tactile scans.
- PCD-132339 - Fixed an issue where weighted Best Fit alignments failed to solve in some cases.
- PCD-134423 - Corrected an issue where PC-DMIS stopped working when a pointcloud Point Colormap was deleted from the Edit window in the Windows 7 operating system.
- PCD-134557 - Fixed an issue where the **Trace Field** dialog box for traces with Q-DAS displayed in red when the Stat/On, Q-Das command was not executed. You can now execute the Trace Field command even when you choose to not to send the results to statistics.
- PCD-135189 - Fixed an issue using a portable arm, where the point cloud would not rotate and follow the laser line when not actively scanning.

- PCD-135519 - Fixed an issue where the second message did not display in the status bar for a Vector Point strategy 2D self centering point.
- PCD-135532 - Fixed an issue with drawing the path line for the prehit and retract distance for Auto feature strategies.
- PCD-135722 - When a measurement routine that was created in a previous version of PC-DMIS was opened, the maximum length was not set equal to the value setting. Similarly, when a PC-DMIS 2018 R1 measurement routine was saved to a previous version, the value setting was not set equal to the maximum length. This issue has been fixed.
- PCD-135842 - Fixed a defect in the **Auto Feature** dialog box when PA values for features of type Point were edited.
- PCD-135857 - Modified offsets used during LSPX3SF rack calibration to match Leitz firmware department controller specifications.
- PCD-135926 - Fixed an issue when aligned to a CAD model (using contact probe) with a portable device, both the CAD model and COP would move out of the display window after each pointcloud scan pass.
- PCD-136061 - With this fix, PC-DMIS will check for the maximum number of character set for Tracefield when you type the value in the Edit window. It will truncate the input if required.
- PCD-136063 - Fixed the switching between 5 and 6 axes in I++ client (between tactile probe and Eagle Eye 2 sensor).
- PCD-136259 - Fixed an issue where the **Manual Temperature** dialog box opened behind the **Execution** dialog box. As a result, temperature values could not be entered.
- PCD-136778 - Fixed external alignment for PC-DMIS I++ server.
- PCD-136893 - Fixed an issue where DMIS Import of CONST/CIRCLE and CONST/CPARLN using BF option always resulted in 2D features.
- PCD-136922 - Fixed an application error that occurred when a temperature gage command was inserted on a machine with the HexMSI interface.
- PCD-137357 - Fixed support for Okuma through CNC Gateway.

- PCD-137590 - Fixed an issue where Inspect CAD View did not respect the visibility state on graphic items.
- PCD-137685 - Fixed the moves after 4-axis scanning.
- PCD-137773 - Corrected the input parameters for best fit slot, and corrected the code for cast and projected slots.
- PCD-137788 - Fixed an issue that caused PC-DMIS to stop working when some CATIAv5 files were imported.
- PCD-137805 - Fixed an application error from occurring when the **Machine Error** dialog box is shown.
- PCD-138034 - Removed the "(END PT)" substring from the FeatureID attribute in the output.xml file, which resolves the issue of not generating the correct DFQ file.
- PCD-138276 - Fixed a possible cause of a PC-DMIS crash using the Automation PartProgram.ProgramVersionName property if the loaded measurement routine schema number doesn't match a released version schema.
- PCD-138536 - Allow +X, -X, +Y, -Y, +Z, and -Z for level direction with DMIS conversions.
- PCD-138537 - Fixed an issue where the closing ")" was missing from DAT labels with DMIS conversions.
- PCD-138548 - Fixed an issue where not all ESF contour points appeared in the Graphic Display window after an existing measurement routine was opened.
- PCD-138600 - This fix avoids saving a measurement routine with an incorrect schema number when saving the measurement routine to PC-DMIS 2016.
- PCD-139215 - Fixed a delay caused by an unnecessary update of all commands in the Edit window when ESF features were partially executed.

# Release Notes - 2018 R1

PC-DMIS 2018 R1 is a significant development release of the software. For detailed information and video tutorials about this release, log on to hexagonmi.com/products/software.

**Featured Items**

- We added the **To Points Toggle** icon to the Auto Feature toggle bar in the **Auto Feature** dialog box (**Insert | Feature | Auto**). This icon is available for auto contact features of type Plane, Circle, and Cylinder. If you select the icon, PC-DMIS creates the feature as individual Vector Points with the associated shape constructions. PC-DMIS uses the hits of the auto feature to obtain the Vector Points. PC-DMIS applies the Best Fit Recompensate algorithm to the Vector Points to compute the constructed feature.

  For details and examples, see the "To Points Toggle" help topic in the PC-DMIS Core documentation.

  See PCD-128292, PCD-123563, and PCD-123565.

- The Q-DAS Configurator interface is integrated into PC-DMIS (**Operation | Q-DAS | Open Configurator**). See PCD-125161.
- We added QuickSet control to PC-DMIS. This control brings flexible measurement strategies to Quick Features and GD&T selection. You can activate this control via a double-click gesture when you use Quick Features or GD&T selection. The control offers a small interface for you to change the parameters of features that you are creating through that gesture. See PCD-128368.

- If a measurement routine contains a mesh data object that aligns to a CAD model, you can use the Quick Feature method (Shift + single mouse click) to create a Laser auto feature. This feature requires a laser probe that is set as the active probe. It supports all Laser auto features (Surface Point, Edge Point, Plane, Circle, Round Slot, Square Slot, Flush & Gap, Polygon, Cylinder, Cone, and Sphere). See PCD-125541.
- You can set the graphical representation of a selected pointcloud (COP). PC-DMIS stores the setting when you save the measurement routine. To set the representation, right-click a COP in the Edit window, or right-click a COP label in the Graphic Display window to view the **COP Display** menu options: **Smooth**, **Flat**, **Two sided**, and **Mesh display**. For complete details, including examples, see the "Pointcloud Graphical Representation" topic in the PC-DMIS Laser documentation. See PCD-63625.

  You can use the **Default COP Display** list in the **Pointcloud** area on the **OpenGL** tab in the **CAD and Graphic Setup** dialog box (**Edit | Graphic Display Window | OpenGL**) to set the default COP display graphical representation. The valid selections are **Smooth** (the default), **Flat**, and **TwoSided**. The display setting is used when you first create the pointcloud COP feature. See PCD-128052.

  When you create laser scans with the **Mesh Display** option on a portable arm, the mesh display graphical representation is stored when you save, close, or re-open the measurement routine. The mesh display is also kept for the pointcloud alignment and other COP operations, except in cases where the pointcloud is changed (such as when using the SELECT or FILTER function). If you edit the pointcloud, the mesh display is lost and the COP displays as points. See PCD-127002.

## Auto Features - Vision

- The "Passthru To Controller" command sends commands to the NC controller. You can now use the prefix "CWS", which represents the Precitec controller (CWS) and the token "#" to send commands to the Precitec controller. This solution is available for FDC-SLC and FDC-VisionBox. It does not work with embedded controllers. See PCD-75064.

- We enhanced Ring Light migration. If you load a measurement routine on a machine with a Ring Light configuration that is different from the one that the measurement routine was created with, PC-DMIS attempts to migrate the Ring Light. If the illumination values would cause an attempt to measure the feature with no illumination, then the Ring Light is set with all of the bulbs on and with the average intensity value of the setting that was used in the original Ring Light configuration. If any other light is active for the measurement, such as the top light or bottom light, then PC-DMIS does not attempt to migrate the Ring Light values. See PCD-121426.

## CAD

- Functionalities from the **Optimize Path** dialog box (**Edit | Optimize Path**) and **Auto Create Clearance Moves** dialog boxes (**Operation | Graphic Display Window | Clearance Moves | Auto Insert Moves** ) are now standard with CAD++. The IP_MEASURE license option no longer needs to be enabled for these to work. See PCD-124307.
- CAD GD&T characteristic IDs now support files that are in the CATIA v5 format. See PCD-21965.

## CMM I++

- The DriverVersion property is available for the "IMachine" PC-DMIS COM interface. This read-only property returns the driver version for your measurement machine. It returns version information from the machine interface with the call driver_get_version. See PCD-123675.

- We added complete temperature compensation support (reading the temperature, and using all temperature modes) to the I++ client for the technology server. If the `UseTemperatureCompensationV2` registry entry is set to True, you can change the temperature sensors from the I++ registry settings when running from an I++ DMS Client interface. See PCD-105865.

## GD&T Selection

- We added a tool to PC-DMIS that enables you to write the characteristic ID for a given model so that you can use the characteristic ID or balloon number mapping tool. See PCD-124588.

- You can display a Product Manufacturing Information (PMI) report for PMI elements (embedded CAD GD&T callouts) that have not been imported as commands into PC-DMIS. Selecting the **Operation | Graphic Display Window | GD&T Selection | View GD&T Not Selected** menu option produces a report in a window that is similar to the Invalid GD&T report (**Operation | Graphic Display Window | GD&T Selection | View Invalid GD&T for Selection**). See PCD-123428.

- The Maximum Material Condition (MMC) and Least Material Condition (LMC) to Concentricity and Coaxiality FCF dimensions support the ISO 1101 standard. See PCD-127924.

- We added the **Use characteristic ID naming** check box to the **General** tab in the **Setup Options** dialog box (**Edit | Preferences | Setup**) for CAD and CAD++ systems. This check box specifies how PC-DMIS names the features that you import from embedded CAD GD&T callouts (PMI). By default, the check box is cleared (PC-DMIS uses feature names, instead of the characteristic IDs from the native CAD model, for feature naming).

The value for the `UseCharacteristicID` registry entry specifies whether PC-DMIS uses characteristic IDs for imported feature names whenever an import of an embedded CAD GD&T callout occurs. If the value is True, PC-DMIS uses characteristic IDs. If the value is False (the default), PC-DMIS uses feature names. See PCD-123025.

### Graphics

- You can use the new **Show Rotation Widget** icon on the **Graphic Items** toolbar (**View | Toolbars | Graphic Items**) to show or hide the Rotation Widget for the CAD model. See PCD-124997.

- We added the **Rotation Widget** area to the **Trihedron** tab in the **CAD and Graphic Setup** dialog box (**Edit | Graphic Display Window | Trihedron**). You can use the options in this area to change the axes colors for the CAD Rotation Widget. See PCD-125715.

- The **Characteristic ID** box in the **CAD Information** dialog box (**View | CAD Information**) shows the Characteristic ID for a CAD GD&T object when you click on that CAD GD&T object in the Graphic Display window. You can also use this ID box to do case-insensitve searches of CAD GD&T objects. See PCD-106408.

- The **Surface Edges** tab in the **CAD and Graphic Setup** dialog box (**Edit | Graphic Display Window | Screen Color**) enables you to change the color and line width of surface edge lines. See PCD-124303.

### Mesh

- New options on the **Mesh** toolbar enable you to perform these mesh cross-section functions:
    - Create mesh cross sections
    - View or hide all nominal (black) cross-section polylines
    - View or hide all measured (yellow) cross-section polylines (COP and mesh)
    - Start or exit the slide show to view a cross section in 2D

- Navigate through the COP and mesh cross sections using the **Show the previous Cross Section** and **Show the next Cross Section** buttons

See PCD-127945.

## Pointclouds

- By default, when you import pointcloud data into a COP, the imported data replaces any existing data. The **Append** check box has been added to the **Import Pointcloud Data** dialog box (**File | Import | Pointcloud**). You can use this check box to append new pointcloud data to existing data. See PCD-21717.
- We added the **Show distribution curve** and **Show distribution percentages** check boxes to the **Color Scale Editor** dialog box. You can use these options to show or hide the colormap histogram curve and percentage values at the different tolerance levels. These options are available for the Surface Colormap and Point Colormap operators. See PCD-120027.
- If your license is enabled with the appropriate options, the **Graphic Items** toolbar (**View | Toolbars | Graphic Items**) displays these buttons:
  - **Show All COPs** - This button shows or hides all COP features and their labels.
  - **Show all Meshes** - This button shows or hides all mesh data objects and their labels.

  See PCD-126886.

- The graphical probe image for the Romer Portable Arm Integrated Scanner has been updated. See PCD-124552.
- You can read the current scan settings (the RDS scanning profile) for an LAS-20-8 scanner. When you double-click the scanner button, the RDS profile changes to the next profile. To verify that the scanning profile changed, view the new profile in the RDS Scanning Widget window. See PCD-122858.

- When you use a portable arm or laser tracker to scan, PC-DMIS automatically rotates and zooms the pointcloud in real-time in the Graphic Display window to show the proper view. This is done with the **Auto Rotate** check box and the options in the **Zoom** area in the **Laser Scan Display Properties** tab in the Probe Toolbox (**View | Other Windows | Probe Toolbox**).

  If you select the **Auto Rotate** check box, the pointcloud automatically rotates in the Graphic Display window based on the laser line orientation. The rotation occurs even if you are not scanning. This feature enables you to position the scan line on the part before triggering a scan pass. If you clear this check box, no rotation occurs in the Graphic Display window while laser scanning. The check box is selected by default.

  The **Zoom** options are:

  - **None** - This option disables auto zoom. PC-DMIS Portable uses the last manual user-defined zoom setting to show the pointcloud scan in the Graphic Display window.
  - **Auto** (default) - If you select this option, the graphic display zooms into a close-up view, centered in the middle of the laser scan line. As you scan more of the part, the Graphic Display window zooms out to show the collected pointcloud data.
  - **Custom (%)** - To set the zoom percentage, select this option. 100% indicates that the zoom factor is set using the actual part size (a 1:1 relationship). You can set the zoom percentage larger to a get a close-up view of the scan, or set it smaller to see more of the pointcloud at a reduced size. For example, 50% is half size.

  See PCD-120746.

- The Generic OFFLINE TCP/IP Import Pointcloud function enables you to import a pointcloud from a client application into PC-DMIS (the server application). When the new pointcloud data file is received, PC-DMIS automatically executes the inspection routine offline.

  To turn the function on and put PC-DMIS in a "watch" state, click the **TCP/IP Pointcloud Server receive data** button on the **Pointcloud** toolbar (**View | Toolbars | Pointcloud**). (This button appears only when you use PC-DMIS in offline mode.) In this mode, PC-DMIS is ready and waiting to receive a pointcloud file. The client application must initiate sending the pointcloud data.

  See PCD-126918.

- We added the ability to extract a Laser auto feature from a mesh data object through the **Auto Feature** dialog box. You can select the reference data object - Mesh or COP - from the **Reference** list in the **Advanced measurement options** area.

  These mesh laser features are supported: Surface Point, Edge Point (including multiple feature creation), Plane, Circle, Round Slot, Square Slot, Flush & Gap (including multiple feature creation), Polygon, Cylinder, Cone, and Sphere.

  All mesh vertices that fall within the feature extraction zone, defined by horizontal and vertical clipping, are considered. You can view these orange points by selecting the **Show/Hide segregated points** button. You can view the green measured vertices by selecting the **Test** and **Show/Hide segregated points** button on the **Laser Scan Properties** tab.

  See PCD-122663.

**Portable**

- You can automatically resize the comments that appear in the Probe Readouts window through the **Automatically resize font** option in the **Prompt history** area in the **Probe Readouts Setup** dialog box. If you select the option, PC-DMIS automatically resizes the font size of the operator comments in Report commands based on the value for the `ReadoutDisplayFont_AutoHistoryFontSizeRatio` registry entry. The registry entry's default value is 0.5, which equates to half the font size of the XYZ values. See PCD-121283.

- We updated the interface for the Faro arm with contact probing capability to 64-bit. See PCD-110945.

- We updated the probe management of Leica Laser Trackers. When you create a measurement routine, PC-DMIS automatically loads the last probe (reflector) that was used. You can edit and change the probe as needed. If the tracker is locked onto a smart probe (such as a T-probe or LAS scanner), then PC-DMIS automatically loads that probe. See PCD-116822.

**Reporting**

- PC-DMIS has controls to set the line width for the nominal, measured, and tolerance lines of an Analysis view. See PCD-92537.

- The PRINT command now supports multiple reports and the use of a variable. See PCD-117603.

**Teamcenter**

- The Teamcenter integration tool's **Teamcenter Setup** dialog box (**File | Teamcenter | Setup**) has a **Create** button. Click this button to create a dataset location to store probe files. See PCD-126846.

**Tool Changers**

- User input of a C wrist angle is now supported for ACR3 tool changers. See PCD-126267.

## Tracker

- We updated the management of measurement modes for Leica Laser Trackers. When you create a measurement routine, PC-DMIS remembers the last-used measurement mode. When you open a measurement routine, PC-DMIS remembers and sets the last-used measurement mode in that specific measurement routine. If a Tracker command is inserted into the measurement routine, PC-DMIS sets the current mode based on the cursor position in the Edit window. See PCD-120647.

- Continuous scanning with a Tracker Reflector probe or T-Probe are now modes in PC-DMIS Portable. The continuous scanning mode uses the **Time delta (sec)** or **Distance delta (mm)** value, which is set on the **Probing** tab in the **Parameter Settings** dialog box (**Edit | Preferences | Parameters**).

  From the **Tracker Operation** toolbar, you can choose the mode: **Continuous Distance** or **Continuous Time**. From the **Quick Start** dialog box, select the feature that you want to scan (such as a Plane or Scan feature).

  - If the mode is set to **Continuous Distance** or **Continuous Time**, you can also use the A button on the AT960 T-Probe to start and stop the continuous scan (same as for the AT403 remote control).
  - If the mode is not set to **Continuous Distance** or **Continuous Time** when you use the AT960 T-probe, you can hold down the D button to perform a continuous scan. When you release the D button, the mode returns to the previously-selected mode (such as the Fast mode).

  When you finish scanning a feature (such as a circle or plane), compensate correctly, and then press the **END** button.

You can also insert **Continuous Time** and **Continuous Distance** modes into the measurement routine as `TRACKER` commands.

See PCD-120533.

## User Interface

- You can click the drop-down arrow on the **Gage** button on the **QuickMeasure** toolbar to select the **Caliper** or **Temperature** gage option. You can also use the **Insert | Gage |Caliper** and **Insert | Gage | Temperature** commands to insert the gages. When you view the gage in Command mode, the type is shown as GAGE. See PCD-118471 and PCD-119076.

# Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2018 R1. This platform brings together new aspects of the software for the development of a complete manufacturing process control solution. Available in this release are variations of the software designed to assist with every aspect of the fabrication and quality control process. The newly created packages include the established PC-DMIS Laser, PC-DMIS NC, PC-DMIS Vision, PC-DMIS Pro, PC-DMIS CAD, and PC-DMIS CAD++ platforms.

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 2018 R1, 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 2018 R1 into a new directory. In this way, you can be assured of continuous use of the existing version should problems arise with this newer version.

# 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 above in "Recommended System Requirements". You must also have a USB portlock or valid software license for the installation to work. Your IT specialist can help you with this information.

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

## Step 2: Log on as an Administrator

To install and run 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 2018 R1 attempts to migrate existing settings from previous installs on the same computer, even from old versions of the software where settings were stored in the pcdlrn.ini file.

- If your current version uses the pcdlrn.ini file for its settings, back up your pcdlrn.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:

    1. Start the Settings Editor.
    2. Click the **Backup** button (or **Export**). The **Backup** dialog box appears:
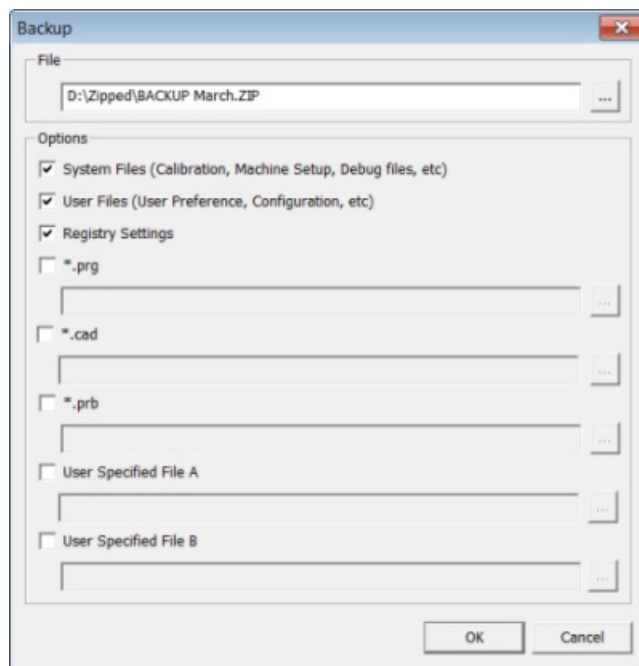


*Backup dialog box*

    3. In the **File** box, define a safe location to save the backed-up files, and give the file a .zip extension.
    4. 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:
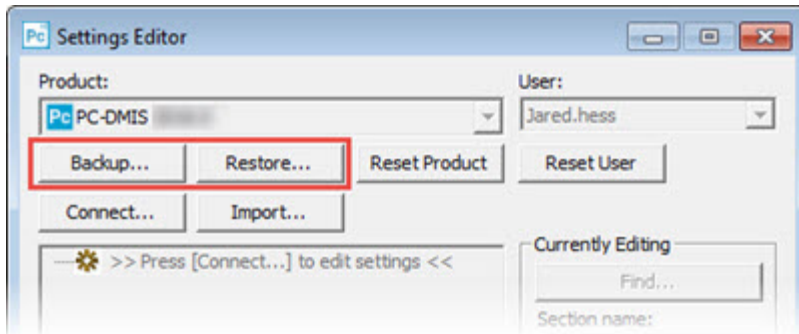
*Backup and Restore buttons*

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 2018 R1 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.oad

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 2018 R1 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 2018 R1 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:

    **Pcdmis2018_R1_master_##.#.###.#_x64.exe**

    The # symbols represent the version and build numbers.

2.  Double-click this executable file 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 License terms and 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 2018 R1 64-bit

    To change the folder, either click the browse button (▬) and choose a folder, or in the box, type a new path.

6. Once you accept the license agreement and choose the installation folder, click **Next** to open the licensing screen.

7. 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".

8. Click **Next**.

9. Choose to install additional software. If you chose a custom installation path, the additional software still installs to your default measurement routine directory (usually C:\Program Files\Hexagon\).

   - **INSPECT** - This is version 3.1 of the INSPECT operator interface to PC-DMIS 2018 R1. You can open PC-DMIS 2018 R1 from within INSPECT to generate reports and execute measurement routines. You can execute measurement routines from the local directory or the SMART Quality web server.

   - **PDF Converter 5.0** - This third-party tool converts PC-DMIS 2018 R1 reports to PDF outputs.

   - **NOTIFICATION CENTER** - This application sends notifications from a client application, such as PC-DMIS 2018 R1, to your computer or measurement device. It does this during certain events, such as when the machine has an error.

**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](#) web site.

You can also choose to send usage data to Hexagon Manufacturing Intelligence after you install the software. For more information, see "[Updating the Software](#)".

10. Click **Install** to start the installation. A progress bar shows the overall progress.
11. When the installation finishes, a screen shows any warnings or errors. It also contains these options:

   - **Launch PC-DMIS** - To launch PC-DMIS 2018 R1 now, select this check box. If this is your first time installing this version on this computer, you should do this to initialize registry entries. For more information, see "[Administrator Privileges Explained](#)".
   - **Show Release Notes** - To display a Readme.pdf file that shows what is new or has changed in this release once you click **Close**, select this check box.

12. Click **Close** to close the installation program.
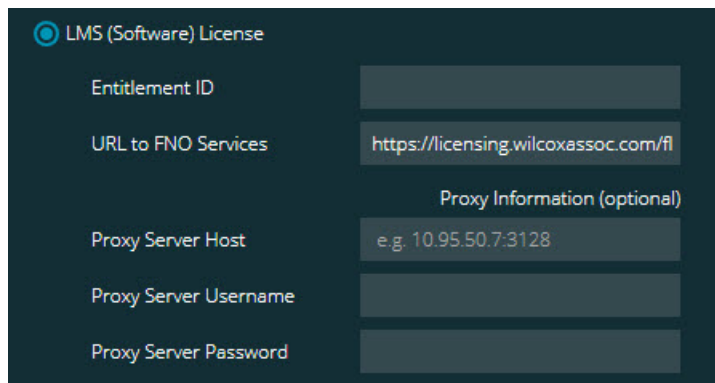
## LMS License Setup

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:



*LMS (Software) License option*

1. Complete the options:
    - **Entitlement ID** - If you have an Entitlement ID, type or paste the ID you were issued in the box. If you have supplied this value in a previous installation, the installer pulls in that value from the registry.
    - **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.

> ℹ️ For information on how to use the CLM Admin application, consult the Hexagon Client License Manager (CLM) Software documentation (pcdmisclm.chm). You can find this in the sub-folder 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 licenser 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

> 👁 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 2018 R1, it checks for license updates when it starts and after every eight hours 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 2018 R1 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 2018 R1 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.

 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

Software versions earlier than version 2012 require that you run the software as an administrator because some system settings (such as the last probe used, wrist angles, and other items) were shared among all users on that computer. This required that these settings were placed in the LOCAL_MACHINE section of the Windows registry instead of in the CURRENT_USER section (for user-specific settings). Making changes to settings in the LOCAL_MACHINE section requires administrator privileges.

In PC-DMIS version 2012 and later, the settings mechanism used by PC-DMIS changed to only require administrator access the very first time it runs at the end of the installation. From that point forward, standard user access is sufficient.

The PC-DMIS installer has a flag that is built into the setup executable file (Pcdmis2018_R1_master_##.#.###.#_x64.exe) that requires the setup process to run with administrator privileges. If the current user has lesser privileges, the setup program displays a prompt to provide a user name and password of an account with administrator privileges.

Once the installation finishes, the first time you run PC-DMIS 2018 R1, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS after the install finishes** check box when the installation finishes, PC-DMIS 2018 R1 does this automatically by passing the original privilege level of the installer onto PC-DMIS.

Note, however, that if you do not mark this check box, you will need to explicitly right-click on the shortcut and select **Run as administrator** as described in step 6.

For more information on the file system and registry rights that PC-DMIS 2018 R1 requires, see "Required User Access Rights" in Appendix B.

# 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 Appendix B.

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-DMIS 2018 R1 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 2018 R1 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.  When you run PC-DMIS 2018 R1 for the first time, select **Start** and start typing **PC-DMIS 2018 R1 64-bit**.

2.  From the list of shortcuts in the **Start** menu, right-click on either the **Online** or **Offline** icon, and then select the **Run as administrator** option (required only if the **Launch PC-DMIS** check box wasn't checked at the end of the installation).
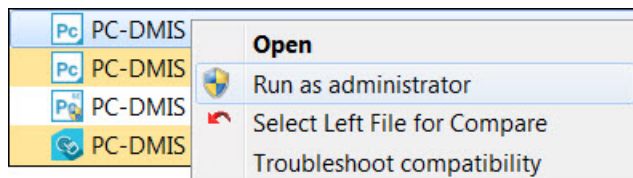


*Run as administrator option*

This allows the program to write the needed machine-specific settings.

3.  If your previous version used the pcdlrn.ini file, PC-DMIS 2018 R1 asks if the settings in your PCDLRN.INI file should be used as your registry settings. Click **Yes** at the prompt. Otherwise, PC-DMIS 2018 R1 loads in the factory defaults.

    If your previous version used the Settings Editor, do the following to use your previous software settings:

    a.  Close PC-DMIS 2018 R1.
    b.  Launch the PC-DMIS Settings Editor from the Start menu.
    c.  Once it opens, click **Import**, and open the PCDRegFile.dat file you backed up in the "Step 3: Back Up Existing Settings" section of this document. PC-DMIS 2018 R1 imports your settings.
    d.  Close the PC-DMIS Settings Editor.

4. When you launch PC-DMIS 2018 R1, the **What's New** information appears in your default web browser. You can also choose to display the **What's New** information after you launch PC-DMIS 2018 R1. To do this, click **Help | What's New**.

## Subsequent Startups

For subsequent startups, you can launch PC-DMIS 2018 R1 normally by clicking the usual **Offline** or **Online** shortcut:
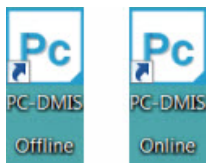


*PC-DMIS 2018 R1 shortcuts*

Once PC-DMIS 2018 R1 starts, the **Software License** screen displays the current license agreement. Read the agreement carefully and then at the bottom, click **I agree with the License terms and conditions** to proceed:

*Software License screen*

Once PC-DMIS 2018 R1 runs, an icon displays in your system tray. If your portlock or license is programmed correctly, the icon displays a green check mark as shown below:
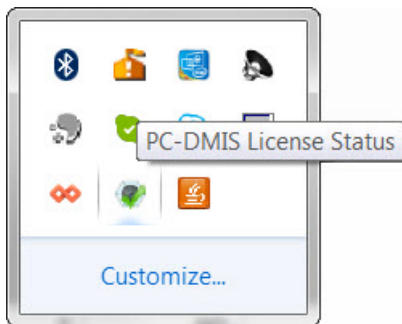


*Message for valid PC-DMIS license*

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:
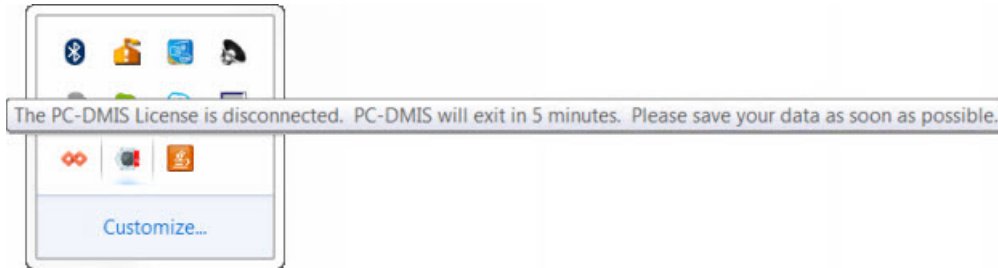


*Message for disconnected PC-DMIS license*

If the license is disconnected, PC-DMIS 2018 R1 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 2018 R1 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:

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 a measurement routine.
3. Select **Edit | Preferences | Machine Interface Setup**.
4. In the **Comm port** box, enter the port number from Windows Device Manager.

# Updating the Software

By default, PC-DMIS automatically checks for software updates if you are connected to the Internet. If it detects that an update is available, the HEXAGON UPDATES application opens to inform you of the update. You can then download and install these updates.

You can also manually check for updates. To do this, select **Help | Check for Updates** and then select the desired options in the HEXAGON UPDATES updater application.

The HEXAGON UPDATES updater application contains the **Settings** dialog box. You can use the **I would like to participate** option in the dialog box to choose whether or not to join the Hexagon Customer Experience Improvement Program and send usage data to Hexagon Manufacturing Intelligence. Hexagon Manufacturing Intelligence uses this data to improve the user experience. For more information about this program, visit the Hexagon Customer Experience Improvement Program web site.

For more information on the updater application, see "Updating the Software" in the "Getting Started" chapter in the PC-DMIS Core documentation.

# Repairing or Removing an Installation

You can also repair or remove an installation as needed once you install it. To do this, double-click the Pcdmis2018_R1_master_##.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:
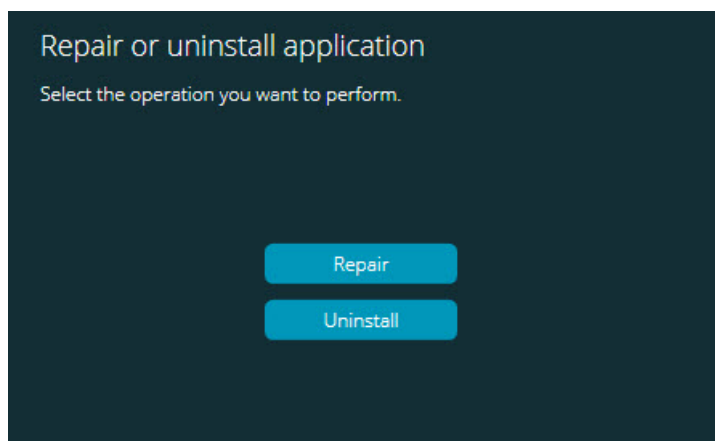


*"Repair or uninstall application" dialog box*

- **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 **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 2018 R1 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2018 R1, it installs the language files based on your operating system's language.

To run PC-DMIS 2018 R1 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 2018 R1 immediately closes and then reopens in the selected language.

To get the help content available in a non-English language, see "Installing Non-English Help Files from Language Packs".

# Installing Non-English Help Files from Language Packs

The English help files are the only help files included in the main installation package. They are installed regardless of the installation language. However, non-English help files are not included in the main installation file.

This means that if you install a non-English language, or if you switch to a non-English language, in order to see any help content at all, you *must* also install a language pack for that language. Otherwise, if you try to access the help file, PC-DMIS 2018 R1 displays an error message indicating that it cannot find the help file.

A language pack contains all of the help content for that language. To install a language pack, do the following:

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

    ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2018_R1/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 appropriate two-letter language subdirectory where you have PC-DMIS 2018 R1 installed. You can then switch to that language in the software and access the help content.

# 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 2018 R1 on a Windows 7 computer, but you didn't mark **Run as administrator** 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 2018 R1 and then reinstall it by right-clicking on the installation file and choosing **Run as administrator**.

### Updating the Software Results in a "(407) Proxy Authentication Required" Message

**Problem:** You use the **Help | Check for Updates** menu option to update the software, and when the Web Updater opens, it shows: "The remote server returned an error: (407) Proxy Authentication Required."

**Description:** A firewall on your computer may be blocking the updater from connecting to the server.

**Solution:** Check your firewall's settings and ensure that the following address is not blocked: **http://www.wilcoxassoc.com/WebUpdater**

## Setting Up the Network to Send Crash Reports

**Problem:** PC-DMIS 2018 R1 cannot automatically send crash reports to Hexagon Manufacturing Intelligence even when the **/nocrashdump** software configuration switch is not being used. (This switch disables crash reports in PC-DMIS 2018 R1.)

**Description:** A firewall on your computer may be blocking the updater from connecting to the server. If PC-DMIS 2018 R1 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 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 2018 R1 without administrator privileges, DPUPDATE.EXE does not work.

**Solution:** Run PC-DMIS 2018 R1 with administrator privileges.

# Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2018 R1, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please <u>do not</u> contact Hexagon Technical Support for technical previews.

If you are using the *commercially released version* of PC-DMIS 2018 R1 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 by calling (1) (800) 343-7933.

# Appendix A

## Recommended System Requirements

**Operating System**

PC-DMIS 2018 R1 operates under 64-bit Windows 10, Windows 8.1, Windows 8, Windows 7, and Windows Vista. No other operating systems are supported.

> When you use third-party drivers, you should 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.

> PC-DMIS Vision machines do not support 64-bit Windows 8.
>
> The Matrox Framegrabber PC-DMIS Vision hardware component does not support a 64-bit operating system.

**Microsoft .NET Framework**

Microsoft .NET Framework 4.6.1 for Windows. If you do not have Microsoft .NET Framework 4.6.1, 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

**CPU**

2 GHZ or higher quad core processor

**Graphics**

- For desktops: NVIDIA Quadro K620 graphics card
- For laptops: NVIDIA Quadro K1100M graphics card
- For laptops running PC-DMIS with an RS4 laser sensor: NVIDIA Quadro M3000M graphics card with 4 GB of memory

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.

## 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)

## Display

Screen resolution of 1280 x 1024 or higher

## Connectivity

- Two 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
- DVD drive
- HASP key (a physical USB portlock) or a software license

> 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.

## Browser

Internet Explorer 10 or later

**Anti-Virus Software**

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2018 R1. The user 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 2018 R1 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

# 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.
- Provide the **-?** to review additional command line arguments.

Descriptions of the parameters follow, along with examples.

## Descriptions

**USELMSLICENSING="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 the user wants LMS licensing and provides an Entitlement ID to try and activate. When this value is specified, there is no need to specify **USELMSLICENSING**.

**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 2018 R1 in silent mode:

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

On a system that already has a license, the following line installs PC-DMIS 2018 R1 in silent mode:

**-passive USELMSLICENSING="1"**

On a brand-new system using license servers, the following line installs PC-DMIS 2018 R1 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="123.123.123.123" LMSPROXYUSERNAME="bob"**
**LMSPROXYPASSWORD="marley"**

# Appendix B

## Understanding File Locations

The default file locations (path locations) for various user-specific settings and other files have changed in PC-DMIS 2018 R1 and later. These files are now stored in the following locations, based on each file's role.

**Public Documents**
Measurement routine, CAD, probe, and other files:

> C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2018 R1

Demo CAD files:

> C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2018 R1\CAD

**Public Documents (Reporting Directory)**
Report template, label template, rule definition, and color definition files:

> C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2018 R1\Reporting

**Public Documents (Fixturing)**
Fixturing files:

> C:\Program Files\Hexagon\PC-DMIS 2018 R1 64-bit\Models\QuickFix

**Program Data Files [Hidden]**
Calibration files (such as comp.dat and compens.dat), setup files (such as tool.dat, toolc.dat, and usrprobe.dat), and other files:

> C:\ProgramData\Hexagon\PC-DMIS\2018 R1

**User Data Files**

Files for toolbar and menu layout, lighting and materials, and settings:

C:\Users\*user name*\AppData\Local\Hexagon\PC-DMIS\2018 R1

Where *user name* is your window's logon user name.

For more specific information on data files, see "Understanding Data Files" in the "Setting Your Preferences" chapter in the PC-DMIS Core documentation.

> ℹ️ In addition, you can use the Settings Editor application to back up, restore, or clear user-specific files and settings. Rather than manually deleting or restoring individual files on your own, we recommend that you use the tools provided in Settings Editor instead. For more information, refer to the Settings Editor help file.

# Required User Access Rights

PC-DMIS 2018 R1 requires read, write, and create access to the locations defined below in the file system and registry.

**File System**

Windows 10, Windows 8, Windows 7, and Windows Vista:

- C:\ProgramData\Hexagon\PC-DMIS\2018 R1
- C:\Users\Public\Documents\Hexagon\PC-DMIS\2018 R1
- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2018 R1
- Any user-specified folder locations for storing measurement routines, probes, subroutines, and so on

## Registry

All of these versions have their own registry settings, which are stored in a version-specific registry key. The items shown below are for version 2018 R1.

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hexagon\PC-DMIS\2018 R1 Key and all sub keys
- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2018 R1 and all sub keys
- HKEY_USERS\.DEFAULT\Software\Hexagon\PC-DMIS\2018 R1 and all sub keys

## Notes

The first time you run a new version, PC-DMIS automatically copies the settings from the most recent version of PC-DMIS that is installed. For this to work, PC-DMIS needs to run with administrator privileges the first time you run it. During the installation, if you select the **Launch PC-DMIS** check box in the setup wizard, it runs PC-DMIS as an administrator and completes this first step.

This initial migration automatically sets read, write, and create permissions on the registry for the relevant keys.

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 2018 R1 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 (as is required for the PC-DMIS installation).
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 FxtServerInterface.exe without administrator privileges.