PC-DMIS 2013 Release Enterprise Metrology Solutions

- Release Notes -

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Recommended System Requirements

- PC-DMIS 2013 Release operates under 32-bit and 64-bit Vista; 32-bit and 64-bit Windows 7; and 32-bit and 64-bit Windows 8. No other operating systems are supported.

  NOTE: The Matrox Framegrabber and CMM-V probe PC-DMIS Vision hardware components do not support a 64-bit operating system.

- 2 GHZ or higher Duo-Core processor.

- 4 GB of RAM or higher. (4GB is the highest amount of memory capable on a 32-bit OS.)

  NOTE: The size of the CAD data file and the tessellation multiplier value used affects 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.

- 2 GB of free hard drive space plus allocated Virtual Memory of 8 times the largest CAD file used.

- For PC-DMIS CAD and CAD++: Professional 3D graphics processors such as Quadro line from Nvidia or FirePro line from AMD/ATI. Nvidia seems to produce better OpenGL drivers than AMD so Nvidia is recommended over AMD.

  NOTES

  The graphics driver must support OpenGL 3.0 or higher. A warning message will be displayed on PC-DMIS startup if the driver does not support OpenGL 3.0.

  A graphics driver that supports OpenGL 4.2 is required for high-quality transparency.

  For PC-DMIS Pro, a non-professional graphical processor may also be acceptable (Intel HD Graphics, GeForce, or Radeon for example) as long as it supports OpenGL 3.0 or higher.

- 1GB of video RAM.

- DVD drive.

- High-performance hard disk drive, such as an SAS HDD 10K RPM or a high-end SSD-HDD. The best solution is two drives in RAID 0 mode.

- 2 USB ports.

- 2 Ethernet ports. (This is only required for specific machine controller communication needs, such as CMM systems.)

- Microsoft .NET 4.0 for Windows 7.

- Microsoft .NET 4.5 for Windows 8.

- Internet Explorer version 9.

IMPORTANT: When using 3rd-party drivers you should contact your local Hexagon representative to ensure Operating System compatibility.

ANTI-VIRUS SOFTWARE: The Sophos Anti-virus tool was used by Wilcox Associates Inc. while testing PC-DMIS. The performance of any other anti-virus tool will need to be confirmed by the user.

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

INSPECTION PLANNER: You may need to recreate the IPD file for needed parameters so imported Inspection Plan items are created correctly.

WINDOWS XP SUPPORT: Beginning with v2012 MR1, there will be no support for the Windows XP operating system. While this version likely runs fine in XP, it will not be tested under the XP operating system.

Flashing Issue when the F9 key is pressed for the Edit a Loadprobe command

An issue was found with PC-DMIS where the OpenGL setting error flashes when you press F9 for the Edit Loadprobe command. This has been determined to be a hardware issue when two video cards are simultaneously enabled on the system running PC-DMIS.

To resolve this issue:

1. Update to RDS 3.3.
2. Ensure firmware is version 1.2.
3. Disable Intel (onboard) graphics.
4. Update NVIDIA driver.

Installing PC-DMIS

To install the application follow these steps below:

Step 1: Check System and Hardware Requirements

Before you attempt to install a new PC-DMIS version, ensure that you meet the system and hardware requirements discussed above in "Recommended System Requirements". You must also have a USB PortLock or a 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: Login as an Administrator

To install and run your new PC-DMIS version for the first time, you must be logged in as a user with administrator privileges.

Step 3: Back Up Existing Settings and Layout Data Files

Backup your settings and layouts files from your previous version.
- *If your current version is earlier than version 3.5*, back up your pcdlrn.ini file. This file found in the Windows system directory (either WinNT or Windows). Save a copy of the file in a safe place.

- *If your current version is greater than version 3.5*, back up your PC-DMIS Settings Editor data.

   To do this:
   1. Access the PC-DMIS Program Group for your existing version and start the **Settings Editor**.

   2. Click the **Backup** button (or **Export**). The **Backup** dialog box appears:
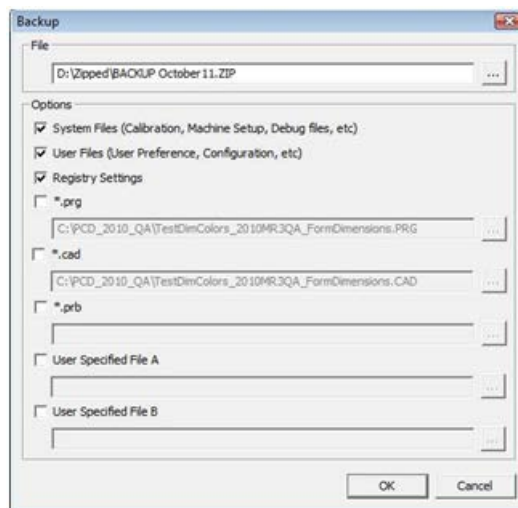
   3. In the **File** box define a safe location to save the backed up files, and give the file a .zip extension.

      4.   Mark the first three check boxes, and click **OK**.

- *If your current version is greater than version 3.5, also backup the files that control the layout of PC-DMIS as well. These files will be in the \PCDMIS\<UserName> subdirectory. The <UserName> directory refers to the name used when you log into the computer.*

By default, PC-DMIS attempts to migrate existing settings from previous installs on the same computer, even from really old versions of PC-DMIS where settings were stored in the pcdlrn.ini file.
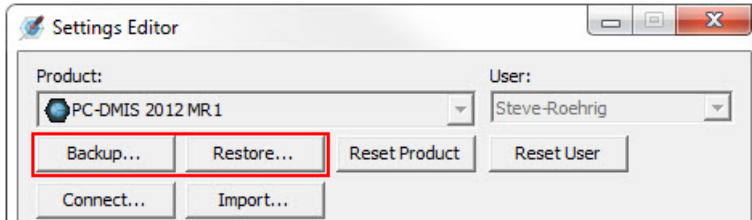
If you are replacing your computer or transferring settings that reside on another computer, you can use the Settings Editor's **Backup** and **Restore** buttons:

See the help file for the Settings Editor if you need more information on the backup and restore functionality.

Step 4: Install PC-DMIS

The following steps run you through a typical installation. Your installation screens may differ if you are running a different version of PC-DMIS. In addition, your USB portlock might be configured with different options.

1. Ensure your USB portlock is connected to your machine.

2. Locate the PC-DMIS install file on your installation media; or if you downloaded it, open the directory containing the downloaded file. The install file looks like this: Pcdmis2013_Release_#.#.###.#_x##.exe, where the # symbols represent the specific version numbers and the version type (x64 or x86).

3. Double-click this executable to begin the installation process. If presented with a security warning, click **Run**.

4. The files are extracted to a temporary directory:
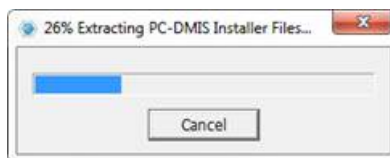
5. The **Choose License Type** screen appears.
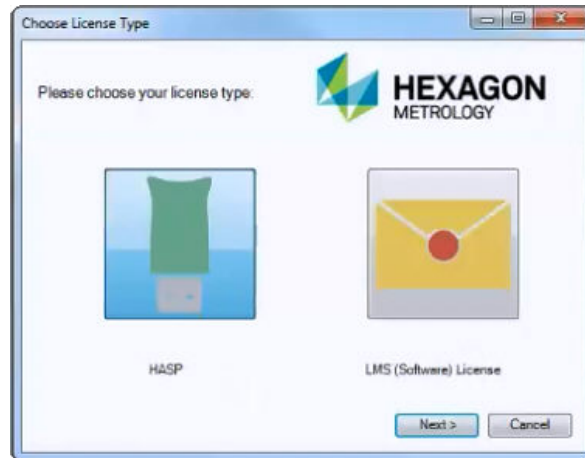
Click on one of the following license types:

- **HASP** - If you have a physical USB portlock key, click this item. This is selected by default.

- **LMS (Software) License** - If you have been issued a software license (called an entitlement ID), or if you will connect to a local license server, click this item.

Click **Next** to proceed.

6. If you chose **Hasp**, ignore this step, and proceed to step 7. If you chose, **LMS (Software License)**, and it cannot find a valid license on your system, you need to fill out the **LMS License Setup** dialog box:

Fill out the **LMS License Setup** screen as needed:

- **Use Entitlement ID** - If you have an Entitlement ID, select this item, and then type or paste the ID you were issued in the box.

- **URL to FNO Services** - This points to the URL that verifies your license. Ensure it has this URL:
  https://licensing.wilcoxassoc.com/flexnet/services

- **Proxy Information** - You only need to fill this out if you are on a network where a proxy server is needed to reach the Internet. Contact your IT department to get this information, and then fill in the server host, username, and password.

- **Use License Server(s)** - If you are using a local license server, select this item, and then type your license server name. The format of this line of text should be <portnumber>@<servername>, where <portnumber> is the TCP port number for the license server and <servername> is the name of the server. The default TCP port number is 27000, and is used automatically if no specific port number is identified. For example, these mean the same thing:

    @server1

    27000@server1

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

    @licenseserver1;@licenseserver2;@licenseserver3

Click **Next** to proceed. The install software connects to the Internet, activates your license, and then it installs the FLEXnet Licensing Service required to use LMS licenses.

LMS License Update

Once the licensing is completed and PC-DMIS is installed, PC-DMIS checks for license updates on start-up and every eight hours of running. If a license update is available, a notification message 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?

Click **Yes** to apply the update. If **No** is clicked, PC-DMIS displays the message every eight hours of running or on the next start-up.

- If an option or 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 requesting you to restart PC-DMIS is displayed. A pop-up message also displays in the System Tray to inform you of this.

- If an option or feature is obsolete, it is automatically removed.

  Note: To ensure PC-DMIS functions properly, you must restart PC-DMIS after any update is applied.

7. The main setup interface then appears. Click the **Next** to start the installation.
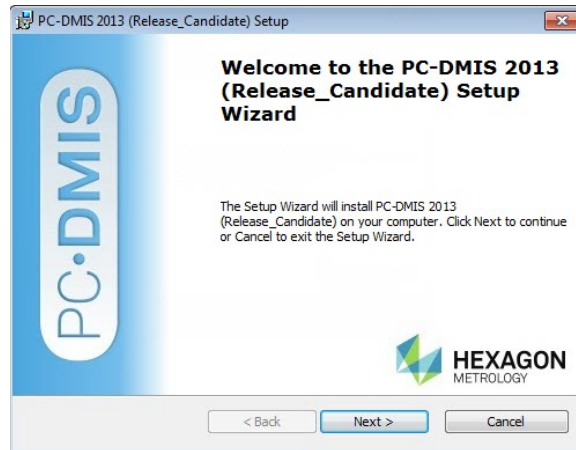
8. The license agreement then appears. Read and accept the license agreement, and then click **Next**.

9. Choose a setup type from the **Choose Setup Type** screen:

- **Typical** - This option installs the program files to the default installation location: C:\Program Files\WAI\PC-DMIS 2013\

- **Custom** - This option lets you specify what components to install as well as customize the installation location. A screen similar to the one below opens:

Overview of Customize Installed Features

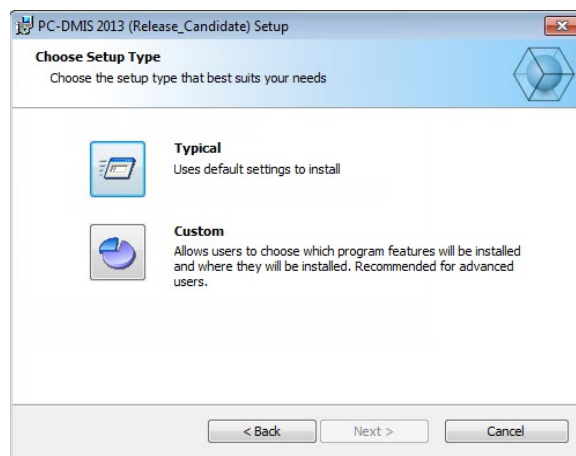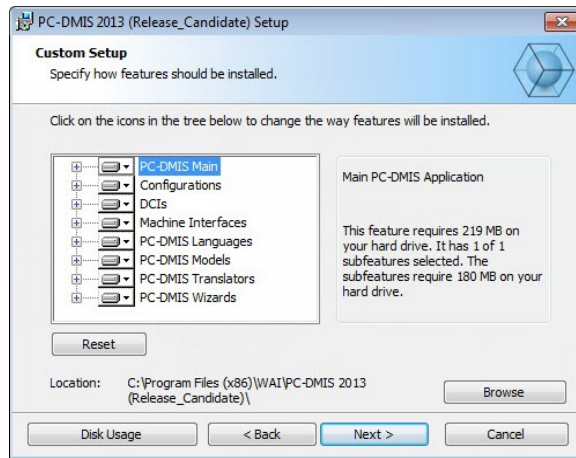By default, all program components are selected to be included in the installation. You can use the tree view to customize when or if these features are installed. To do this, click small drop-down icon ▣▾ next to the component to exclude. You'll see a drop down list.
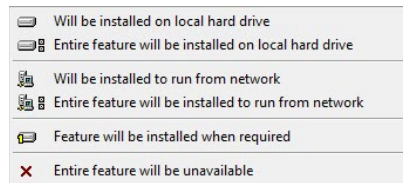
Choose the desired option:

- **Will be installed on local hard drive** - The selected feature is installed to the hard drive on your computer.

- **Entire feature will be installed on local hard drive** - The entire feature is installed to the hard drive on the computer. This means sub-features of the selected feature are also installed.

- **Will be installed to run from network** - *This option is currently unsupported.* Installs the selected feature on a network share.

- **Entire feature will be installed to run from network** - *This option is currently unsupported.* Installs the entire component to network share. This means sub-features of the selected feature are also installed.

- **Feature will be installed when required** - The feature is only installed if required during the installation process. Some files are informational, and are not required for the application to run. These may include documentation or other files.

- **Entire feature will be unavailable** - This excludes the component from installation.

Customize Installation Location

By default, the program installs to this location "C:\Program Files\WAI\" under the "PC-DMIS 2013" directory. To change the default location, click the **Browse** button and navigate to the directory on your computer you want to hold the program files. When you click **OK**, the **Location** box changes to show the selected location.

If you ever want to reset the items to the default selection, click **Reset**.

Click **Next** when finished customizing the install.

10. Once the installation has all the information it needs, the **Ready to Install** screen opens:
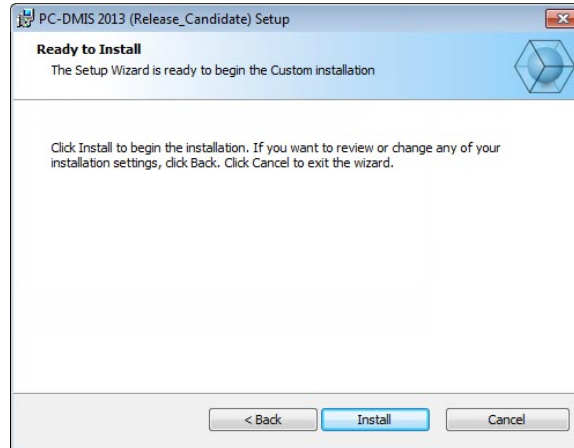
11. Click **Install** to proceed with the main installation.

12. Once installation finishes, this final screen appears:
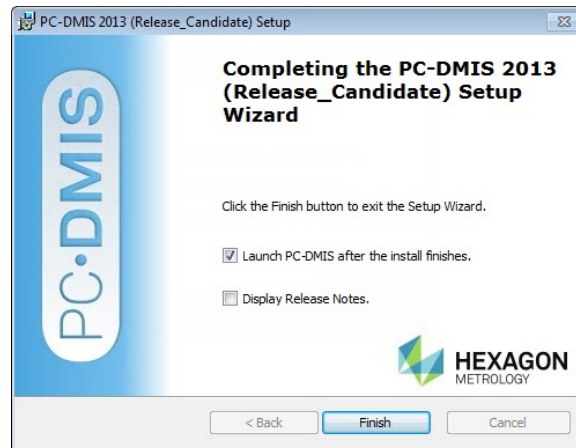
- **Launch PC-DMIS after the install finishes** - Mark this check box to launch the application once you click **Finish**. You should do this so that needed registry entries are initialized. For more information, see "Administrator Privileges Explained" below.

- **Display Release Notes** - Mark this check box if you want to see a simple PDF file showing what's new or changed in this release once you click **Finish**.

13. Click **Finish** to close the installation program. PC-DMIS is now installed.

Administrator Privileges Explained

PC-DMIS versions earlier than version 2012 require that you run PC-DMIS as an administrator because some system settings (for things such as last probe used, wrist angles, and so on) 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 built into the setup executable (setup.exe) that requires the setup process to run with administrator privileges. If the current user has lesser privileges, the setup displays a prompt to provide a username and password of an account with administrator privileges.

Once installation finishes, the first time you run PC-DMIS, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS after the install finishes** check box (as shown in the above image) when installation finishes, PC-DMIS 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 below.

For more information on file system and registry rights required by PC-DMIS, see "Required User Access Rights" in Appendix A below.

Step 5: Copy Files after Installation

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

- downl.oad
- sysparam.dat
- comp.dat
- toolc.dat
- Any other machine compensation files that are in your old PC-DMIS folder.

Step 6: Launch PC-DMIS for the First Time

Important: Running PC-DMIS inside a Virtual Machine (VM) is not supported.
1. When running this version of PC-DMIS for the first time, choose **Start** then **All Programs**, then **PC-DMIS 2013**.

2. From the list of shortcuts, right-click on either the **Online** or **Offline** icon then select the **Run as Administrator** option (only required if the **Launch PC-DMIS after the install finishes** check box wasn't checked at the end of installation).
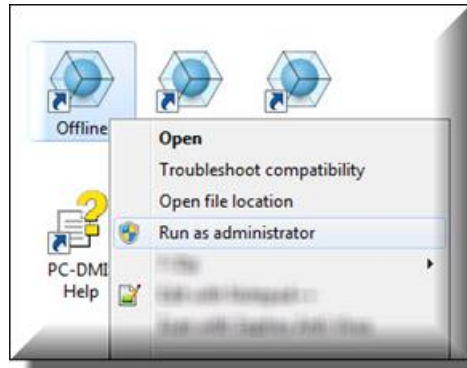
3. This allows the program to write needed machine-specific settings.

    - *If your previous version was earlier than 3.5*, PC-DMIS will ask if the settings in your PCDLRN.INI file should be used as your registry settings. Click **Yes** at the prompt. Otherwise PC-DMIS will load in the factory defaults.

    - *If your previous version was version 3.5 and later*, do the following to use your previous PC-DMIS settings:

        a. Close down PC-DMIS.

        b. Launch the **PC-DMIS Settings Editor** from the Program Group.

        c. Once it opens, click **Import**, and open the PCDRegFile.dat file you backed up in the "Step 3: Back Up Existing Settings and Layout Data Files" section of this document. PC-DMIS imports your settings.

        d. Close down the **PC-DMIS Settings Editor**.

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

Once PC-DMIS starts, the **Software License** screen displays the current license agreement. Read the agreement carefully, and then at the bottom, click **Accept Agreement** to proceed:
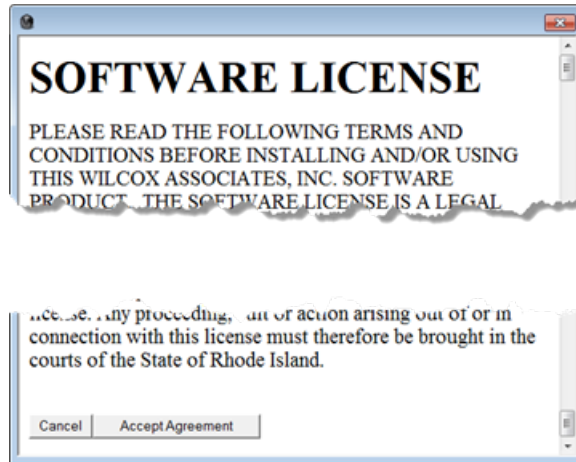
Once PC-DMIS runs, an icon displays in your System Tray. If your portLock or license is programmed correctly, the icon displays a green check mark as shown below and a message says that the PC-DMIS license is valid:

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, and a pop-up message appears, saying that the PC-DMIS license is disconnected:
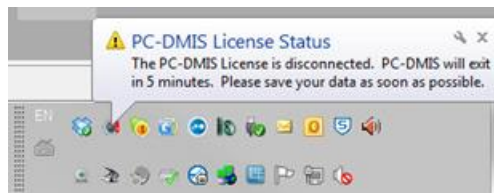
When the license is disconnected, PC-DMIS functions normally, but after five minutes it automatically closes. Be sure to save your data immediately before this occurs.

Updating the Software

By default, PC-DMIS automatically checks for updates to the software if you are connected to the internet. If it detects that an update is available, the **Hexagon software updater** opens to inform you of the software update. You can then download and install these updates as desired. You can also manually check for updates by clicking **Help** and then clicking **Check for updates**.

If you need information on using the software updater, see "Updating the Software" in the PC-DMIS Core documentation.

Troubleshooting

This topic provides information for you to troubleshoot certain installation and startup problems.

PC-DMIS Startup Is Slow

Description: You are using a computer with at least the recommended system requirements, as detailed in the "Recommended System Requirements" topic above, and it takes longer than 30 seconds to launch PC-DMIS. This happens if you try to run PC-DMIS on a Widows 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 PC-DMIS" above.

Solution: Uninstall PC-DMIS, and then reinstall by right-clicking on the installation file and choosing **Run as administrator**.

Modifying, Repairing, or Removing the Installation

You can also modify or repair an installation as needed once it's installed. To do this, double-click on the **Pcdmis2013_Release_#.#.###.#_x##.exe** file as if you were beginning the installation process. The setup displays the **Modify, Repair or Remove installation** screen with these options:

- **Modify** - This opens up the **Custom Setup** screen as discussed above in "Step 4: Install PC-DMIS". Use this to change the installed features, either by adding something that was previously not installed or removing a software feature that you no longer need.

- **Repair** – Reinstalls all the product files as they were originally installed. This may help resolve issues where an installation didn't install all the files properly.

- **Remove** - Removes the application from where it was installed. You can also uninstall the application using the Programs and Features control panel item in Control Panel.

Running PC-DMIS in Another Language

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

To run PC-DMIS in a language other than the operating system's language, click the **File** menu, point to **Language**, and then click the desired language.

PC-DMIS restarts and displays the application in the desired language. See the information below on how to get the help content available in a non-English language.

Installing Non-English Help Files from Language Packs

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

This means that if you install a non-English language or switch to a non-English language, in order to see any help content at all, you *must* first install a language pack for that language. Otherwise, if you try to access the help file, you will receive an error from PC-DMIS saying 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/2013/Lang

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

This installs the help content into the appropriate two-letter language subdirectory where you have PC-DMIS installed. You can then switch to that language in the software and access the help content normally.

Information about this Release

We at Hexagon Metrology are proud to bring you this new version of PC-DMIS 2013 Release. This Enterprise Metrology Solutions platform brings together new aspects of PC-DMIS for the development of a complete manufacturing process control solution. Available in this release are variations of PC-DMIS 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 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 is comprised 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 would have access to at least one of every piece of hardware that is operating in the field running PC-DMIS. 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 installing PC-DMIS 2013 Release, 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. See "Contact Hexagon Metrology" below on how to report any integration problems. Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of PC-DMIS who currently have earlier versions of PC-DMIS installed, it is advised that PC-DMIS 2013 Release be installed 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.

New Product Information

Major and Minor Release Enhancements

See the "Enhancements - 2013 Major Release Updates" topic for a listing of the enhancements for the PC-DMIS 2013 Major release.

Release Notes

Versions 2013 is a significant development release of the software.

Major Release Date: June 1, 2013

Service Pack 1 Release Date: July 12, 2013

Service Pack 2 Release Date: January 31, 2014

Service Pack 3 Release Date: July 11, 2014

2013 Release Service Pack 3 Fixes and Improvements

- PCD-10191 - Fixed an issue where the Edit window did not automatically scroll to the location of the command that was currently executing.

- PCD-21422 - If you have a Software Maintenance Agreement (SMA), you can now receive Service Pack updates even if your SMA has expired. This service applies to Web Updater, WiX, and the internal checks that PC-DMIS performs to determine its build date. Service Pack updates include items that address the stability of the software.

- PCD-21425 - Fixed an issue where PC-DMIS stopped working when **View | Other Windows | Preview Window** was selected to open the **Preview Window** dialog box, the **View** button was clicked to open the Analysis window, **Options | Edit Dimension Colors** was selected to open the **Edit Dimension Color** dialog box, and then the **Close** button (in the upper-right corner) was clicked to close the **Edit Dimension Color** dialog box and then the Analysis window.

- PCD-31237 - Fixed an issue where PC-DMIS stopped working when a patch scan was modified after it was edited by pressing F9 and then clicking **OK**.

- PCD-39867 - Fixed an issue where PC-DMIS stopped working when it attempted to open data (.dat) files whose created/modified/accessed dates became corrupted when they were restored from a backup of the Settings Editor application before the change to Daylight Saving Time.

- PCD-41506 - Fixed an issue where the points in Move Point commands in a block of commands changed from local coordinates to CAD coordinates when the block was copied and then pasted into the Edit window.

- PCD-43930 - Fixed an issue where PC-DMIS crashed in Summary mode when:

  1. A part program with dimensions was opened.

  2. **File | Reporting | New | Custom Report** was selected to display the Custom Report Editor, and then a CadReportObject was added to the editor.

  3. A dimension command was dragged onto the CAD image, which created labels.

  4. F9 was pressed on the dimension command in the Edit window to display the **Dimension** dialog box.

  5. The **Cancel** button was selected in the **Dimension** dialog box, which replaced the dimension with a copy of it.

  6. A label was dragged to another location.

- PCD-45313 - Fixed an issue where the probe collided with the part when a recall alignment ID for an ALIGNMENT command was missing, and the warning message indicating that the ID was missing did not appear.

- PCD-45569 - Fixed an issue where the second nominal angle vector for a SQUARE SLOT feature in an imported DES file was incorrect.

- PCD-45643 - Fixed an issue where a constructed alignment plane that was mirrored resulted in incorrect data in the dimension deviations.

- PCD-45841 - Fixed an issue where Hyper reports did not appear.

- PCD-46967 - Fixed an issue where the automation code failed to call the probe with the Part.Probes.Item property.

- PCD-48454 - Fixed an issue where PC-DMIS stopped working when a Hexagon test block (Hexblock_Wireframe_Surface.igs) was imported into a new part program, and then several locations on the part were randomly selected in Surface Select mode and Program mode.

- PCD-49216 - Fixed an issue where the calculated A and B angles that appeared in the Wrist Angles Matching Requested Vector dialog box were inappropriate when the Auto Wrist Toggle icon was used to choose the best wrist position.

- PCD-50642 - Fixed an issue where PC-DMIS would only run by a user with administrator access by changing the C:\ProgramData\WAI\PC-DMIS\2013 MR1 folder in Windows Vista/7/8 from administrator access to standard user access.

- PCD-52645 - Fixed an issue where PC-DMIS stopped working when it was not ran as an administrator, and a part program that created and wrote commands to a Laser Sensor log file was executed.

- PCD-53736 - Fixed an issue where a part program became corrupted, and the fonts used on PC-DMIS menus and custom reports changed, after a part program was executed multiple times.

- PCD-54118 - Fixed an issue where the actual scanning speed did not match the speed that was defined in the part program.

  As a result of this fix, the **UseScanSpeedAsBasis** registry entry was added to the Settings Editor application.

  - If the registry entry is set to False (the default), and the **Display absolute speeds** check box on the **Part/Machine** tab in the **Setup Options** dialog box (**Edit | Preferences | Setup**) is cleared, PC-DMIS uses the setting for the **MaxSpeed** registry entry as the full speed for scanning (100%) when it calculates the scan speed.

  - If the registry entry is set to True, PC-DMIS uses the setting for the **ScanSpeed** registry entry as the full speed for scanning (100%) when it calculates the scan speed.

    The **ScanSpeed** registry entry sets the maximum speed of a scan regardless of how the **UseScanSpeedAsBasis** registry entry is set.

2013 Release Service Pack 2 Fixes and Improvements

- PCD-31554 - Fixed a problem where executing a block of commands (using Execute Block) used an incorrect probe

- PCD-29257 - Fixed a problem where the a nominal value of a datum feature edited in the **Advanced** tab of the **XactMeasure GD&T Position** dialog box was not getting updated to the report

- PCD-26222 - Fixed a problem where a CMS probe attempted to measure a sphere Auto Feature by touching it, resulting in a crash on the sphere feature itself

- PCD-25841 - Fixed a problem where an imported wire frame CAD model was not displaying in the Report window

- PCD-19863 - Fixed a problem where in the **Advanced** tab of the **XactMeasure GD&T Position** dialog box, changes made to the axes selection were not always getting saved when **Create** was clicked

- PCD-40073 - Fixed a machine interface issue on an Advantage CMM where the command/response sequence in the interface was out of sync with PC-DMIS resulting in the CMM stopping after a point was measured

- PCD-39145 - Fixed a problem where new part programs were not using the revision number in the part program name

- PCD-38577 - Fixed a problem where a CAD file created with the Unigraphics Direct CAD Interface (DCI) did not display when it was loaded on a non-DCI machine

- PCD-38525 - Fixed a problem where patch updates were not updating or renaming the interfac.dll file

- PCD-38234 - Fixed a problem where a BASIC script running inside of PC-DMIS BASIC script editor would crash the software if the Main subroutine had a parameter

- PCD-37889 - Fixed a problem where the software would freeze when a teach command was issued from the Starrett jog box

- PCD-36196 - Fixed the way auto features are created when migrating part programs from older versions so that they can take advantage of existing measurement strategies

- PCD-36151 - Fixed a problem where the MOVE ALL command does not work with a DC800 controller

- PCD-35733 - Fixed a problem where the theoretical surface vector of round and square slot features were not mirrored in the Y axis

- PCD-34772 - Fixed a problem where BASIC scripts that had a UserExit property that was set to True resulted in an "Attempted an unsupported operation" error message

- PCD-34659 - Fixed a problem where using Leap Frog functionality to measure three points in subsequent executions would not work

- PCD-34317 - Fixed a problem where clicking in the Graphics window while showing a context menu and path lines were turned on resulted in a software crash

- PCD-34188 - Fixed a problem where a Line Profile dimension with a cylinder datum feature wasn't allowing translation in the Z axis

- PCD-33781 - Fixed a problem where a Best Fit sphere created from a cloud of points (COP) using filter commands as the inputs did not update during execution

- PCD-33575 - Fixed a problem where the circle feature created using the Unigraphics NX5 DCI did not generate correctly in offline probe mode

- PCD-33419 - Fixed a problem where selecting multiple items using Shift + left mouse button click didn't worked when done inside of the various construction and dimension dialog boxes

- PCD-32700 - Fixed a problem where an extended Auto Circle feature that used a scan strategy failed to export to an XML file

- PCD-31509 - Fixed a problem with laser execution where commands following an Auto Alignment were not getting executed after removing the /portable:ROMERRDS switch from a startup shortcut

- PCD-31341 - Fixed a problem where using the **Execute from Cursor** menu option on a part program created in version 4.2 resulted in a probe collision

- PCD-31021 - Fixed a problem with Two-Face mode with Laser Trackers where the user had to move the probe a large a distance (30 inches) to break the beam in order trigger a new measurement

- PCD-25783 - Fixed a problem with the Vision module where MultiCapture targets remained drawn in the Live View following a "Not enough hits for feature" error message

- PCD-25610 - Fixed a software crash that occurred when selecting input features by clicking on a feature label in the Graphics window to initially select a feature, clicking on the same label to deselect it, and then again clicking on the same label to re-select it

- PCD-25485 - Fixed a calibration error that occurred when the calibration function was activated by a script or external program using automation

- PCD-24768 - Fixed a problem where an Auto Slot's path was corrupted after reading a new probe position

- PCD-22562 - Added the ability to calibrate the LSP-X1h probe changer

- PCD-19315 - Fixed a problem where adjusting a Flatness dimension's tolerance resulted in the dimension solving the wrong surface normal and origin

- PCD-19260 - Fixed collision detection problems where false collisions were being detected and real collisions were being ignored

- PCD-18830 - Fixed a software crash related part programs running a custom report

- PCD-41741, PCD-25672 - Fixed an issue where PC-DMIS stopped working in Windows 8 when Microsoft Office 2013 was installed on the computer, and Windows Explorer dialog boxes were opened in PC-DMIS (such as Open and Save As)

- PCD-42082 - Fixed an issue where a part program with 100,000+ lines of code was taking more than 10 minutes to load.

- PCD-31382 - Made update patching more reliable.

- PCD-7830 - Fixed a software crash related to the **Alignment Utilities** dialog box.

2013 Release Service Pack 1 Fixes and Improvements

- PCD-32877 - Fixed an "exceeding array bounds" that resulted in an application crash

- PCD-32025 - Fixed three application crashes related to using HyperReports

- PCD-31891 - Fixed a GDI issue that resulted in an application crash

- PCD-31802 - Fixed a problem where the AT401 firmware 2.0 improvements (Measurement Modes and Two Face measurement) were missing from the Portable Help documentation

- PCD-31785 - Fixed a problem where basic scans were not starting and ending at the correct positions

- PCD-31267 - Fixed a problem where a point cloud alignment of COP to CAD was freezing during execution

- PCD-30619 - Fixed a problem related to SAMPLE METHOD = SAMPLE_FEATURE that caused the CMM to move to an unintended Z location to take hits

- PCD-28662 - Fixed a problem where applying a point cloud surface color map for a CAD model results in a software crash

- PCD-20667 - Fixed a problem where MOVE/POINT, NORMAL, MACHINE and MOVE/POINT, NORMAL, PART were behaving exactly the same

- PCD-31686 - Fixed a problem where editing toggle fields in the Edit window required an additional mouse click

- PCD-33018 - Fixed a problem where PC-DMIS does not use 3D vectors for a conical HSS scan

- PCD-25852 - Fixed a software crash occurring when scanning in the Italian version using a CMS108 or IS

- PCD-18624 - Fixed a calculation error in the XactMeasure Position dimension

- PCD-19137 - Added a CAD model for the SF machine

- PCD-4526 - Fixed a problem where a color map on the CAD model changed colors during rotation in the Graphics window

Enhancements - 2013 Major Release Updates

Log onto www.pcdmis.com for detailed information and video tutorials regarding these enhancements.

Alignments

- PCD-22945 - Added the ability to use constructed Width features as inputs for all alignments, treating a 3D Width feature as a plane and a 2D width feature as a 2D line

Automation

- PCD-23405 - Added support to manipulate an Auto Feature's Sample Hits using Automation

CAD

- PCD-23425 - Added a Do not mirror CAD option into the Choose Part to Mirror dialog box to provide the ability to only mirror the part program and not the CAD

- PCD-22084 - Added the ability for PC-DMIS import option to import JT9.5 files

- PCD-22080 - Added the ability to import SolidWorks CAD data into PC-DMIS via Direct CAD Translator (DCT)

ClearanceCube

- PCD-22581 - Added the ability to position the probe in a defined coordinate system and use Read Point to capture the coordinate of front lower-left corner and a rear top-right corner of a ClearanceCube.

Constructions

- PCD-22932 - Added a new Width Feature as a Feature as a new Constructed feature

Direct CAD Interfaces / Direct CAD Translators

- PCD-21979 - Cleaned up the Unigraphics DCI

- PCD-17553 - Improved ProE DCI, resolving a memory leak

- PCD-22010 - Added support for DCI to import NX 8.5 CAD models

Dimensions

- PCD-22964 - Added 2D and 3D Width features as datums at RFS for FCF Position and Profile datum reference frames

- PCD-22891 - Added the term "Fixed" in the Datum Shift Table for Composite Position, Composite Profile, or Unequal Bi-lateral Profile FCF dimensions

Installation

- PCD-21002 - Added the 5x75 mm tip for the LSPX1C probe into the probe.dat file

Laser / Cloud of Points

- PCD-23412 - Redesigned Laser Scan dialog boxes for consistency

- PCD-23398 - Added a new calculation method to calculate edge points on curved surfaces and point clouds

- PCD-23423 - Improved execution control in the default (asynchronous) mode for laser Auto Feature dual-arm part programs
- PCD-23410 - Added the ability to calculate the surface point on a spherical surface

Portable

- PCD-21893 - Added a utility to allow users to add measured planes and cylinders from typed point data
- PCD-21891 - Added the ability to export Auto Planes to IGES as surface entities
- PCD-21892 - Added the ability to export Constructed Planes to IGES as surface entities
- PCD-21894 - Added the ability to export Measured Planes to IGES as surface entities

Reporting

- PCD-22889 - Added the ability to create a simple plain-text (.txt) report based on the default.rtp template
- PCD-22882 - Exposed Scale, Standard Deviation, Minimum and Maximum X, Y, Z and point numbers to reporting and to automation
- PCD-23009 - Added the ability to write an XML file containing data going to DataPage+
- PCD-22914 - Added strings to show PC-DMIS versions 2011 and 2012 in the Save As dialog box's drop down list for report templates
- PCD-23004 - Modified PPAP report template so that it uses a bitmap image for its accept and reject symbols to improve the display on machines that don't have the right fonts
- PCD-22982 - Improved PPAP template to support all FCF dimensions

User Experience

- Improved what happens when a part program is opened; PC-DMIS now checks to see if there are sufficient system resources to open the part program. If not, the program does not open.
- Instead of crashing the application, out of memory errors now fail gracefully.

Vision

- PCD-23630 - Added two new machine types into PC-DMIS: Optiv Classic 322 and Optiv Classic 432
- PCD-23705 - Added support for using a digital camera on the FDC system
- PCD-23656 - Added the ability to measure the smallest concentric circle on a new artifact in order to calibrate high-magnification systems
- PCD-23589 - Added the ability to change a circle target back into an arc so that users can measure arcs without splitting the target
- PCD-23729 - Added ability for CWS on FDC to take a single point measurement
- PCD-23731 - Added the CWS probe type
- PCD-23697 - Added a SET_VAR TRIGFREQDIV command to set the FDC trigger frequency from the part program

- PCD-23706 - Added a Focus Laser Sensor (FLS) probe type for FDC
- PCD-23703 - Added the ability to set the FLS beam on or off with FDC
- PCD-23704 - Provided the Live view for the FLS probe type for FDC
- PCD-23726 - Added the scan measurement with FLS for FDC
- PCD-23694 - Added the single point measurement with FLS for FDC
- PCD-23700 - Added the ability to support lamp intensity for CWS
- PCD-23689 - Modified the 2D profile feature to disable the Matching Edge and Underscan feature options
- PCD-23638 - Modified the 2D profile feature so that it now defaults to opening the Auto Feature dialog box in advanced mode

Contact Hexagon Metrology

If you are participating in the *technical preview* of PC-DMIS 2013 Release, please post your feedback in the appropriate technical preview forum located at http://www.pcdmisforum.com/forum.php. Please <u>do not</u> contact Technical Support for technical previews.

If you are using the *commercially released version* of PC-DMIS 2013 Release and would like further information or technical support, please feel free to contact http://hexagonmetrology.us/contact-us or visit www.pcdmis.com. Hexagon Metrology Technical Support can also be reached by calling (1) (800) 343-7933.

Appendix A

Understanding File Locations

The default file locations (path locations) for various user-specific settings and other files have changed in PC-DMIS 2010 MR2 and later in order to comply with newer operating system standards. Previously, much of this information was stored inside of the install directory of PC-DMIS.

The following shows where these files are now stored based on each file's role:

System Files [Hidden]

- Vista/7/8: C:\ProgramData\WAI\PC-DMIS\<version>

  Where <version> is the PC-DMIS version.

Shared Data Files [Hidden]

Types of Files: Calibration Files, Setup Files, and so forth.

- Vista/7/8: C:\ProgramData\WAI\PC-DMIS\<version>

  Where <version> is the PC-DMIS version.

Shared Program Files

Types of Files: Part Programs, CAD, Probe Files, and so forth.

- Vista/7/8: C:\Users\Public\Documents\WAI\PC-DMIS\<version>

  Where <version> is the PC-DMIS version.

User Data Files [Hidden]

Types of Files: Toolbar and Menu Layout Files; Lighting and Materials; Settings, and so forth.

- Vista/7/8: C:\Users\<username>\AppData\Local\WAI\PC-DMIS\<version>

  Where <username> is your window's login user name and <version> is the PC-DMIS version.

  Also see "Understanding the .DAT Files" in PC-DMIS help for more specific information on data files.

User Program Files

- Vista/7/8: C:\Users\<username>\Documents

  Where <username> is your window's login user name.

NOTE: In addition, functionality was added into the PC-DMIS Settings Editor that allows you to backup, 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 the Settings Editor instead. See the "PC-DMIS Settings Editor" documentation for additional information.

Required User Access Rights

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

File System

Windows XP

- C:\Documents and Settings\All Users\Application Data\WAI\PC-DMIS\2013

- C:\Documents and Settings\All Users\Documents\WAI\PC-DMIS\2013

- C:\Documents and Settings\User Name\Local Settings\Application Data\WAI\PC-DMIS\2013

- Any user-specified folder locations for storing Part Programs, Probes, Subroutines, and so on

Windows Vista/7/8

- C:\ProgramData\WAI\PC-DMIS\2013

- C:\Users\Public\Documents\WAI\PC-DMIS\2013

- C:\Users\UserName\AppData\Local\WAI\PC-DMIS\2013

- Any user-specified folder locations for storing Part Programs, Probes, Subroutines, and so on

Registry

All of these versions have their own registry settings, stored in a version-specific Key. The items shown below are for the 2013 Release.

X86 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\ WAI\PC-DMIS\2013 Key and all sub keys

- HKEY_CURRENT_USER\Software\WAI\PC-DMIS\2013 and all sub keys

- HKEY_USERS\.DEFAULT\Software\WAI\PC-DMIS\2013 and all sub keys

X64 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\WAI\PC-DMIS\2013 Key and all sub keys

- HKEY_CURRENT_USER\Software\WAI\PC-DMIS\2013 and all sub keys

- HKEY_USERS\.DEFAULT\Software\WAI\PC-DMIS\2013 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 installed. For this to work, the first time you run PC-DMIS, it needs to run with administrator privileges. During the installation, if you mark 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:

    o HKEY_LOCAL_MACHINE\SOFTWARE\WAI\FxtServer

    o HKEY_LOCAL_MACHINE\SOFTWARE\WAI\PC-DMIS\NCSENSORSETTINGS

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

Appendix B

2D Distance Change

> Important 2D Distance Change: In PC-DMIS 2010 and later the 2D Distance dimension and the DIST2D expression have changed somewhat; they no longer use the workplane as part of the calculation when the third argument is set to a plane and the distance is being calculated perpendicular to the third argument ("perpendicular to" is always used by the DIST2D expression).

See the "2D Distance" and "Pointer Expressions" topics in the help file for more information.