

pc•dmis[®]

2010 MR3 RELEASE NOTES

PC•DMIS 2010 MR3 – Enhancements

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TECHNICAL BULLETIN:

PC-DMIS file location per Microsoft Guidelines

The default location of PC-DMIS program files has changed as of PC-DMIS 2010 MR2. Upon installation of the application a new file structure and location of program files will be enacted by default in order to adhere to current Microsoft standards. This change is a tactical decision with the future of the program in mind. Without changing this structure to adhere to current standards, the program would be unable to later take advantage of new Microsoft technology.

This will affect PC-DMIS functionality in situations where the user is required to place a raw data file in a given location. The vast majority of scenarios that this change will affect are case specific. The most common situations where this will require attention include obtaining debug files, or modifying probe data files.

The following lists new locations of important data files within this new structure:

Calibration/Setup files:

Vista/7: C:\ProgramData\WAI\PC-DMIS\2010 MR3

XP: C:\Documents and Settings\All Users\Application Data\WAI\PC-DMIS\2010 MR3

Common data files included within this folder:			
Files A-C	Files C-E	Files F-T	Files R-W
abcalib.dat	ChangeManagerLog?.csv	flextool.dat	rotab.dat
abcomp.dat	cme_existing.xml	ILLUMINATION.DAT	tool.dat
abcomps.dat	cme_new.xml	localfixturedefs.dat	toolc.dat
aboutput.dat	ccomp.dat	probechanger.dat	toolcs.dat
armarm.dat	ccomps.dat	RCMATRIX.dat	unitcal.dat
arm1arm2.dat	ConstructionVersion?.txt	RCSPHERE.dat	usermachine.dat
ccalib.dat	coutput.dat	rotab.dat	usermodule.dat
changed_probe1.dat	debug.txt	rotab2.dat	userquickfix.dat
changed_probe2.dat	DMISMODULES.DAT	rotindx.dat	wristm.dat
changed_results1.dat	dph9.dat	rotindx2.dat	wrists.dat
changed_results2.dat	export.IP	tlw_MapResultInfo.txt	

Document files:

Vista/7: C:\Users\Public\Documents\WAI\PC-DMIS\2010 MR3

XP: C:\Documents and Settings\All Users\Documents\WAI\PC-DMIS\2010 MR3

Common data files included within this folder:		
PRG (part programs)	CAD (CAD files)	PRB (probe files)

User Data Files:

Vista/7: C:\Users\UserName\AppData\Local\WAI\PC-DMIS\2010 MR3

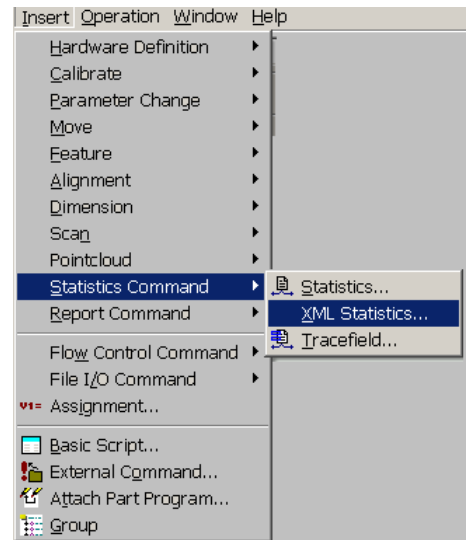
XP: C:\Documents and Settings\User Name\Local Settings\Application Data\WAI\PC-DMIS\2010 MR3

Common data files included within this folder:			
Files A-L	Files L-M	Files M-M	Files M-T
accelerator.dat	layout5.dat	menu_eng.dat	menu_spn.dat
CustomMenuItem?.dat	layout6.dat	menu_frn.dat	menu_swe.dat
executebarstate.dat	layout7.dat	menu_grm.dat	menu_twn.dat
gbarstate.dat	layout8.dat	menu_ita.dat	messageboxoptions.dat
layouttoolbar.dat	layout9.dat	menu_jpn.dat	ReportingToolbar?.dat
layout1.dat	layout10.dat	menu_kor.dat	TemplRepPickerList?.dat
layout2.dat	menu_chn.dat	menu_pol.dat	toolbar.dat
layout3.dat	menu_cze.dat	menu_prt.dat	
layout4.dat	menu_dch.dat	menu_rus.dat	

PC-DMIS 2010 MR3 – Dimensional Reporting

New XMLSTATS Command:

- This command allows statistical data to be exported into an XML file for use by third party softwares as well as DataPage+. Since there is now an on/off switch for this feature the user can also select what information actually gets reported. Naming for these reports is automatically generated using program name, date, and time. This feature will replace the previous automation XML export utility.
- Now using PcdmisXMLStatsToDatabase.exe utility in DataPage+ to monitor a directory you can also pull the data from the .xml files directly into the database.



This XML file can now also include information such as the alignment transformation matrix, additional feature type information and execution time.

Automation Improvements:

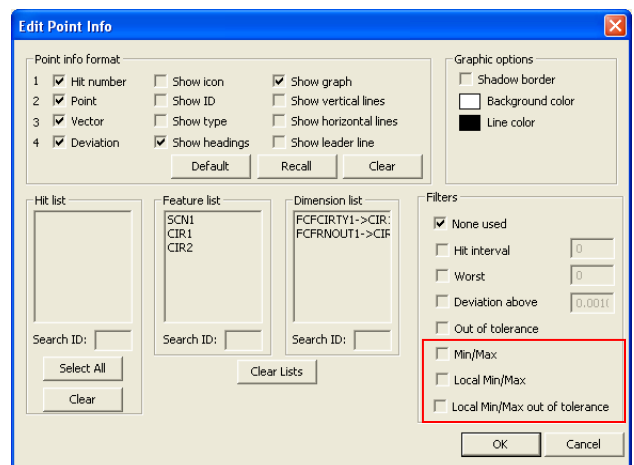
- Previously the report window object did not have options for sizing its height, width, left, and top borders via automation. These capabilities have now been added allowing the user to make these changes.
- Mirrored Part Programs - The ability to mirror parts programs has been introduced through the automation feature in PC-DMIS. This will allow the user to "flip" a part program to identical opposites in situations where a part is being measured in a perfectly mirrored configuration when compared to the original program.
- Added option "CAD by reference" to "Save as" method.

Automation can now get full print name:

- In previous versions of PC-DMIS users could not acquire through automation the file name including the full path name of the PDF or RTF report file. Now this information is available pertaining to the active part program.

New point filters added:

- Under (Insert/Report Command menu item) the Edit Point Info dialog now includes new filters for out of tolerance, Min/Max, Local Min/Max and Local Min/Max out of tolerance.

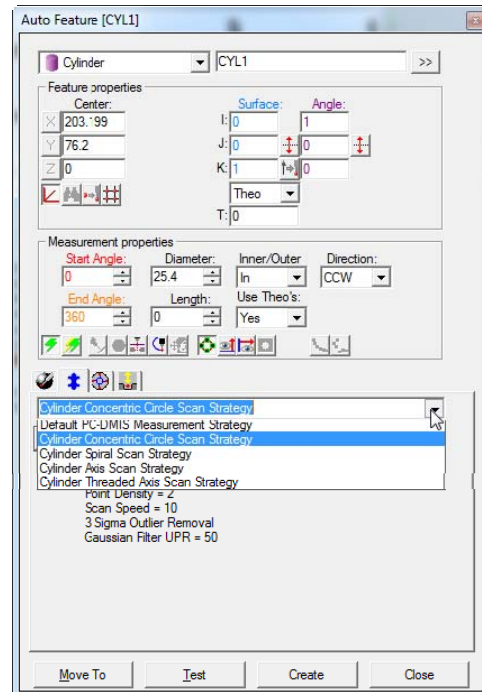


EMS Platform Specific Enhancements

PC-DMIS 2010 MR3 - CMM

Auto Feature Measurement Strategies:

- The new Auto Feature Measurement Strategies element in PC-DMIS 2010 MR3 introduces the ability to apply scanning strategies within the feature. This is similar to the Auto Features function when using standard touch trigger probes.
- The addition of scanning AutoFeatures for circles, cylinders, and planes eliminates the need to scan, filter, and then construct geometry.
- Measurement strategies are built into DLL files providing a modular way to extend PC-DMIS's functionality to meet the individual customer needs. Fixes/Enhancements/Changes can be delivered via .DLL versus an entirely new install of the module.
- Scanning Probe Support: The new LSP-X1H scanning probe is now fully functional with PC-DMIS 2010 MR3.

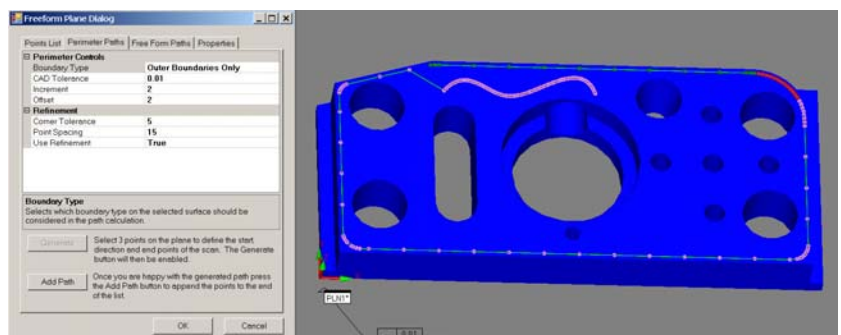


Free Form Plane Command within ToolKit

- New tool developed for extensive face plane scanning. One command within a given scenario does the same as multiple commands as required in previous versions not using this tool.

- The Free Form Plane Command has been enhanced to function even faster when scanning with LSP-X1H Scan Probe.

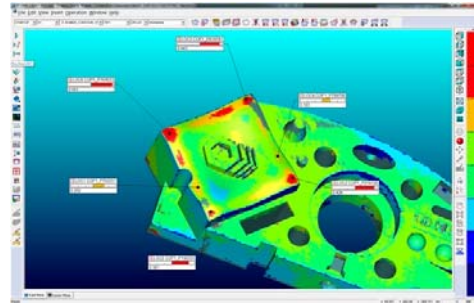
Free Form Plane Command



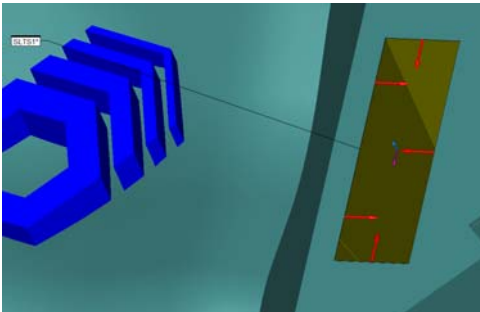
PC-DMIS 2010 MR3 - Portable

Absolute Scanning solutions:

- Multiple new probes and scanners were added to be functional within PC-DMIS Portable MR3. These include the CMS 108 Scanner, the Perceptron V4i, V5 on the Absolute SE, and the RS1 integrated scanner arm.



New Single Click Programming Enhancement:

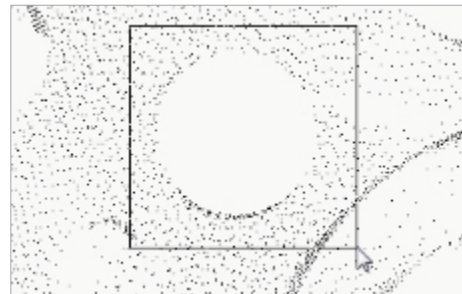


- Measured features are now capable of being programmed using a new single click selection method, as opposed to previous methods that required several clicks within a feature to program measurement procedures. Programmers can simply decide how many points should be taken within a given feature type (for example each circle selected will be 6 clicks, each slot will be 5 clicks, and so on as decided by the programmer)

and moving forward each time a feature is selected with a single click the program will automatically apply the remaining hits as previously designated in the program.

Box Select for Laser Auto Features

- The elimination of unnecessary clicks continues in PC-DMIS Portable MR3 through the new box select feature for Laser Auto Features. This new feature eliminates the need to click several times to select and identify a feature, and replaces it with a simple click and drag selection method.



TCP/IP real time export of scanned data:

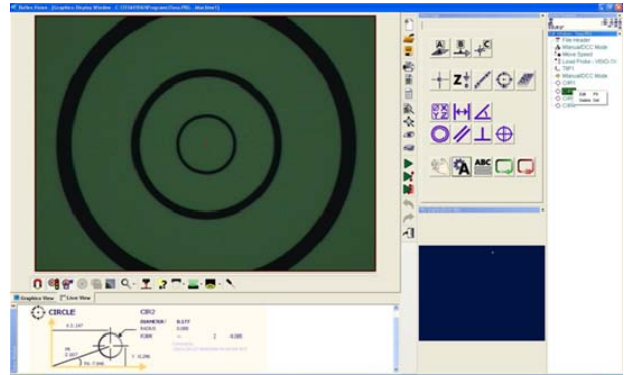
- The TCP/IP real time export of scanned data features allow PC-DMIS to export all scanned data in real time to a third party application from the sensor; these programs can include PC-DMIS Reshaper, PolyWorks, or GeoMagic.



PC-DMIS 2010 MR3 - Vision

Reflex Vision software completion (Tesa Machines):

- Reflex Vision will be released officially with the PC-DMIS MR3 build. Reflex vision will be sold by the TESA channel, specifically on the TESA Visio machines. The product has a new user interface, and is designed for easy to use systems, with a lower level of complexity.



Digital Camera Support:

- Virtual Multi-Step Zoom has been introduced following the improvement of digital camera technology. It will now be possible when using a high resolution camera to use digital zoom, instead of the conventional zoom cell or dual camera systems.
- Support has been added to define multiple virtual cameras on newer high resolution cameras. This allows the existing dual camera support to be used in order to switch between different camera configurations. The new high resolution camera will allow us to actually create different camera configurations so that we can simulate different zoom steps with one camera.

Support for machines with no Z-Axis:

- The Optiv 980 machine is designed specifically for the electronics industry when measuring PCB's. Unlike other Optiv machines this machine does not have a Z Axis motion set. Instead the optics maintain a large depth of field so the image stays in focus.

With no Z-Axis, the camera has only an extended depth of field and in this instance there must be a way that the software does not rely on z-axis information. This is accomplished in PC-DMIS Vision MR3.



Uncategorized PC-DMIS Vision Enhancements:

- Improved Focus warnings when in-appropriate settings are used - Currently if you try to do a focus that is too short or too fast, PC-DMIS will provide a warning. Users previously thought this was an error message. PC-DMIS Vision now makes it clearer that this is not an error message and simply a warning.

- Cloud of Points is now available for Vision Features - PC-DMIS Vision can now take the points created for a feature into the COP setup. This is extremely beneficial especially when creating 3D features such as cones.
- Apply and Finish has been added to Auto Tune - PC-DMIS maintains a feature in Vision called "Auto Tune". This is used when switching between different multi-sensor systems. Because these systems have different magnification and different illumination settings PC-DMIS will now allow the user to go through the program and adjust the settings as he goes. In previous versions there was no way to "apply to all" and the user was required to go through the program in order to adjust all of their settings. In situations where there may be several hundred features within a program, this new feature will allow for a major time savings and optimized throughput.
- Matrox Mil9 R2 support for Windows 7-32bit: PC-DMIS Vision now supports Windows 7 32 bit operating systems.

PC-DMIS NC 2010 MR3: NC Server

General Enhancements to PC-DMIS NC:

- New Machine and Controller Enhancements - Enhancements have been added to PC-DMIS NC 2010 to accommodate Okuma Machines with differing rotary table configurations, and Siemens controllers with the new NCi user interface has been improved for faster throughput (this has been applied to both PC-DMIS NC and NC Gage).
- Trace fields for Fanuc interface - Trace fields have been added to the Fanuc interface, allowing the user to better track information such as operator, fixture, machine number, serial number, production line number, etc. and communicate it straight through to the reporting system. This allows the user to better identify the source of particular data sets within production.

PC-DMIS 2010 MR3 - Sheet Metal

CMS Sensor Integration in PC-DMIS:

- The CMS 106 Sensor - The CMS 106 sensor has passed the technical release for use on Hexagon Metrology bridge, gantry, and single arm or dual arm horizontal machines using the following types of probe head configurations: Renishaw PH10, Tesa Star indexable head or DEA continuous wrist CW43L-mw, working in conjunction with the FB2, B3C-LC, B3CS or B6CS electronic controllers.
- The Quality Filter – The quality filter is a feature provided within the CMS sensor toolkit that will allow the user to filter or remove collected points from a point cloud as desired. This feature allows the user to have greater control of the scanned data being received by the machine.
- The CMS 108 Sensor - Support was added to allow use of the CMS 108 sensor on DCC machines.

Non Contact Enhancements:

- Always perform the data segregation for DCC Auto features (based on Horizontal/Vertical clipping). – Data segregation is a feature that allows the user to select which data within a scan is the feature intended to be measured. The user is able to define the area of interest inside the scanned region, omitting features that may have been included within the scan but are of no importance within the measurement program. This feature was previously only available within the portable scanning realm, but is now available for use on DCC equipment via PC-DMIS MR3.
- Implemented the On Error Command for Non Contact Features – The On Error Command can be inserted into a part program to specify what actions the program must perform when an error occurs during execution.
- Two Scanners to one COP - When previously scanning with dual arm machines the separate point clouds were not displayed in relation to each other. Now when scanning with two sensors on a dual horizontal CMM the point clouds are displayed in relation to each other.

CSV-Converter:

- The CSV-Converter is now able to export to a PC-DMIS XML formatted file. This capability has proven to be much faster when compared to doing this same process through automation.

FDC Interface:

- Interface for FDC Controllers - For use on FDC controllers PC-DMIS MR3 will come with an integrated FDC interface and will no longer rely on the Leitz interface for operation with FDC controllers.

PC-DMIS 2010 MR3 Hardware Requirements

Minimum Computer Specifications:

- PC-DMIS® 2010 is a 32 bit application that operates under 32-bit and 64-bit XP; 32-bit and 64-bit Vista; and 32-bit and 64-bit Windows 7. (See information further in this document pertaining to XP support.) No other operating systems are supported.
- Pentium-IV or higher processor is suggested.
- 2 GHZ XEON or Intel processor.
- 2 GB of RAM is recommended but significantly more may be required if working with large CAD models.
- 1 GB of free hard drive space minimum for the application.
- SVGA capable monitor.
- DVD drive.
- USB port available.
- The computer must have a graphics card that supports OpenGL shading.
- We cannot specify an exact graphics card since every user has varying needs. However, nVidia is the preferred graphics vendor for PC-DMIS®.
- Nvidia GeForce video cards are not recommended for use with PC-DMIS®.
- This is defined as a "gaming" card according to Nvidia Engineering.
- Supports a screen resolution of 1280 x 1024 or higher.
- Microsoft® .NET 3.5.

Minimum Recommended Computer Specifications:

- PC-DMIS® 2010 is a 32 bit application that operates under 32-bit and 64-bit XP; 32-bit and 64-bit Vista; and 32-bit and 64-bit Windows 7. (See info below on XP support.)
- 2 GHZ or higher Duo-Core processor for improved performance.
- 4 GB of RAM or higher. More RAM may be required if working with large CAD models. You should have RAM equal to 8 times the size of the largest CAD file you will use. (For example, if you use an IGES model of 250 MB, then 2 GB RAM is recommended.)
- 2 GB of free hard drive space plus allocated Virtual Memory of 8 times the largest CAD file used.
- SVGA graphics card that supports OpenGL shading and that has WHQL certified drivers. On board video card memory should be based on the size of CAD file being used.
- For use without CAD models, 64MB video memory.
- For small to medium CAD files (50-100 MB), 128 MB video memory.
- For large CAD files (> 100 MB), 256 MB+ video memory. WHQL (Microsoft Windows Hardware Quality Labs) video drivers can be downloaded automatically when using the Windows Update software.

- SVGA capable monitor.
- DVD drive.
- 2 USB ports available.

Additional Considerations:

- NOTE: Depending on your specific needs, the recommended system specifications for this version of PC-DMIS® may be much higher. A more substantial computer system may be required to accommodate large assembly models. Be sure to consult with your PC-DMIS® distributor to find out the type of computer system you will need in order to run this software at its optimum capability.
- 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/>)
- PC-DMIS®: You may need to recreate the IPD file for needed parameters so imported Inspection Plan items are created correctly.
- WINDOWS XP SUPPORT: Beginning with v2010 MR1, we are starting to phase out our support of the Windows XP operating system. While this version likely runs fine in XP, it was not explicitly tested in XP.

Information About Testing and Quality Control

The entire group at Wilcox Associates and Hexagon Metrology is proud to bring you this latest version of PC-DMIS® 2010. This Enterprise Metrology Solutions platform brings together new aspects of PC-DMIS® for the development of a complete manufacturing process control solution.

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 that take place when testing PC-DMIS®.

Testing is comprised of two parts. These can be described as functional testing and integration testing. The vast majority of testing effort goes into 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 properly. The integration testing is essentially a testing of the interface with a particular type of machine and testing from an application perspective. The integration test plan is performed on a variety of equipment in multiple settings.

Additional testing is done by partnering with our customers through the Beta Test Program. On our web site you will find an application for this program here:

http://www.wilcoxassoc.com/usersarea/beta_test_application.php

We urge you to consider signing up for the program as it provides the mutual benefit of helping us create the best product possible for you, our customer.

Should you experience problems with your system after installation of PC-DMIS® 2010, please call Hexagon Technical Support to report any problems.

For existing users of PC-DMIS® who currently have earlier versions of PC-DMIS® installed, it is advised that PC-DMIS® 2010 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.

Contact Hexagon Metrology

For further information regarding this release of PC-DMIS® 2010 please feel free to contact sales@wilcoxassoc.com or visit www.pcdmis.com.

Hexagon Metrology Technical Support can be reached by calling (800) 274-9433.