Rational DMIS

Rational DMIS has a truly unique and innovative user interface.

- No "pop-up" windows.
- Dynamic function sensitive Tool Bars.
- Action Icons and Context Sensitive Work Areas.
- The Graphics Viewer remains 100% visible at all times maximizing operating efficiency unlike competitive products that become crowded with redundant open windows impairing software utilization.

RationalDMIS is next generation metrology software that embraces the user minimizing learning curves and aiding speed of use with "One Click Performance"...**Point, Click, Measure**...

CMM software for the first time is intuitive, powerful and efficient to use. CMM industry pundits herald RationalDMIS as long on capabilities while short on training. The standard 3 day RationalDMIS training class is the industry benchmark: other DMIS software's have up to a 10 days training period demonstrating their complexity, hidden functionality and lack of a logical seamless user interface.

RationalDMIS has truly created a breakthrough in CMM software usability. All RationalDMIS functions are only one mouse click away; no other CMM software can lay claim to a "One Click Performance"...**Point, Click, Measure**...

RationalDMIS User Interface

Software

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- No windows to close
- No cascading windows
- No screen crowding
- No annoying "Drill down" functionality

H8
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DMIS is the registered Trademark of Cam-i and has been licensed for use accordingly by Solutions, Inc. RationalDMIS is compliant native DMIS 4.0 revision.

RationalDMIS Standards Based Independent CAD–CMM Software

Software

RationalDMIS has a truly unique and innovative user interface.

In today’s dynamic manufacturing society we are driven to conform to standards and specifications; now for the first time a CMM software has been developed that embraces and conforms to all of the existing and emerging international CMM standards and specifications.
RationalDMIS

RationalDMIS is a CMM software from Solutions, Inc., a company independent of a CMM manufacturer. RationalDMIS is software that's truly Open Architecture and built upon proven standards.

RationalDMIS seamlessly integrates CAD data with the CMM programming and measurement process providing power, precision and productivity at the single click of the mouse - Click 2 Measure Universal CAD data exchange formats are accepted including STEP, IGES, and DXF.

...Point, Click, Measure...

RationalDMIS utilizes Open-Cascade; an Open Source next generation solid modeling CAD engine that displays the CAD model and provides the ultimate in accuracy allowing surface nominal data points with corresponding vectors to be selected directly from the displayed model.

RationalDMIS Powered by Performance

Software

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Prismatic nominal part geometry is accessible with automatic feature identification and feature inspection thru a single mouse click on the CAD model.

Click 2 Measure

H10
Reverse engineering is achieved by measuring selected features with export of measured data in Surface IGES format allowing effortless digital documentation of unknown component geometry.

RationalDMIS utilizes the DMIS 4.0 standard (DMIS-Dimensional Measuring Interface Specification) an ISO standard as its programming language in a native format eliminating the need and incumbency of translators common with other DMIS software's thus allowing a seamless 2-way DMIS data transfer. DMIS Navigator offers a unique and efficient programming aid for those that wish to write or modify CMM programs directly in DMIS code.

...Point, Click, Measure...

Unlike competitive software's all metrology features and capabilities come standard with RationalDMIS.

...One Software, One Version, One Solution...

Total metrology capabilities ensure that whatever your next CMM inspection operation RationalDMIS has the power imbedded to complete the task.

RationalDMIS Pioneers Object Based Programming

Software

RationalDMIS has a truly unique and innovative user interface.

Drag and dropping features from the database into the adjacent programming window automatically generates the underlying DMIS code together with probe and alignment definitions. Object Based Programming allows complex CMM programs to be created in a few minutes and simulated utilizing the powerful simulation and collision avoidance tools.
RationalDMIS is a truly intellectual product that takes the guesswork out of CMM programming. Automatic Renishaw Indexing Head alignments to the optimum probe angle are created based upon nominal feature definition; automatic calibration routines at a single mouse click complete the task.

The Click 2 Measure functionality of RationalDMIS allows the measuring probe to automatically inspect part features by mirroring the mouse clicks on the PC monitor rendering the traditional Joystick style of CMM inspection redundant.

RationalDMIS - A CMM Next Generation Software Revolution

Software

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Qwick Measure

RationalDMIS allows the user to inspect features without software interaction until task completion; intuitive Qwick Measure algorithms calculate the geometric feature definition upon completion of the measurement with a single mouse click. Active on both manual and DCC machines the user simply probes the part and leaves the rest to RationalDMIS.

Relative Measurement

RationalDMIS includes as standard Relative Measurement functions allowing thinned walled sheet metal and plastic components to be measured with intelligence under full DCC execution. Relative Measurement allows the CMM to automatically sample the location and orientation of the surface and compensate automatically for part variation.
Relative Measurement can be applied to previously defined nominal features or applied automatically to CAD selected features. Relative measurement features include Hemmed Edges, Edge Points, Surface Points, Rail Checks and standard geometrical features which can all be inspected with a single mouse click.

Part thickness can be added or subtracted, based upon CAD properties or measurement mode. The powerful inspection capabilities of Relative Measurement functions are seamlessly integrated into OpenDMIS UI and provides for their utilization after only a few minutes of additional training.

RationalDMIS Scanning

Software

RationalDMIS has a truly unique and innovative user interface.

Scanning & Surfacing

RationalDMIS efficiently scans 2D curves and 3D surfaces utilizing its unique in-built TP-Scan capability. TP-Scan allows scanning with Renishaw TP2, TP6, TP20 and TP200 touch trigger probes at a rate of 8 points/second and provides a stream of data points for analysis rather than the traditional few discrete points. TP-Scan is a no-cost effective alternative to expensive analogue scanning probes.
TP-S can is 10 times more productive than traditional CMM touch probe scanning. The next generation Renishaw SP25 and SP80 Scanning probes are also fully integrated.

TP-Scan can be utilized for reverse engineering or comparison of 2D scan sections to corresponding nominals. The application of bilateral tolerance and whisker charts provide a rapid graphical analysis of data. 3D scanning of patches allow for comparison with surface CAD data.

RationalDMIS Reporting

Software

RationalDMIS has a truly unique and innovative user interface.

Drag & Dropping the same features into the graphics window and note the feature to the graphics to create a Picture Report. Full graphics manipulation creates the optimum Picture report for fast analysis of measured results.

...Measure, Report, Analyze...

Reports can be customized including the addition of Company Logos, Name, User, Part & Batch numbers etc. Output to Excel Spreadsheets or SPC software is also directly configurable.

RationalDMIS Functionality Overview

Software

RationalDMIS has a truly unique and innovative user interface.
CAD Capability

- 3D CAD Import - IGES, STEP, DXF
- Solid Model part and fixture representation
- Bi-directional transfer of data
- IGES export of measured data
- DMIS 4.0 import and export
- CAD model mirroring
- Multiple CAD model import
- Geometry recognition
- CAD Model layering and coloring
- Solid or wire model representation
- World coordinate translation

Virtual Programming

- Inspection program creation from CAD model
- Simulation, verification and optimization
- Part and Tooling visualization
- On-line and off-line application
- Auto switching between modes on-line
- CMM and Probe simulation
- Dynamic CMM modeling
- Renishaw graphics probe library
- Motion path simulation
- Crash prediction and avoidance
- DMIS 4.0

Intellectual Inspection

- Object based programming
- Auto feature sensor alignment
- DMIS Navigator
- Quick Measure Algorithms
- Collision avoidance
- Click 2 Measure
- Move-To simulation
- Qwick Measure
Relative Measurement

- Thin wall components
- Material thickness compensation
- Vector build macros
- Mirror imaging
- Feature pattern analysis
- Hemmed edges, edge points, rail checks
- Feature pattern analysis
- Automatic Routines

Automatic Routines

- Probe calibrations
- Picked nominal feature inspection
- Scanning
- Feature relative measurement
- Grid Points
- Click & Measure
- Object Selection from CAD

Scanning

- TP-Scan Touch Probe Scanning
- Data Export in IGES Bspline
- CAD nominal definition
- ASCII data input
- Nominal curve scanning
- Profile analysis with tolerance
- Whisker Charts

Rational DMIS Reporting

- Traditional Numerical Reports
- Picture Reports
- Annotation of displayed graphics
- CAD model annotation
- Database Drag & Drop
- Excel File Output
- Whisker Charts
- SPC .mea file export

CMM Retrofits

CMM software offers the benchmark RationalDMIS software for CMM Upgrades and CMM Retrofits allowing your existing CMM metrology equipment to be enhanced with 'edge of the art' software capabilities while improving usability significantly. Our Service Group has a depth of experience in all CMM brands ensuring project viability and providing total customer confidence. The Group has retrofitted every brand; model and type of CMM ever produced providing a complete database of cost effective and fully engineered solutions. With combined error correction CMM accuracy can be improved, in some cases, to better than original specification.