What's NEW in VERICUT 8.2.2

IMPORTANT! - Licensing is NOT included in software shipments. See "How to get a license" below for details.

April 1, 2019

Dear VERICUT® User:

Thank you for your continued investment in VERICUT, an important part of your NC programming and machining process!

VERICUT 8.2.2's NC program simulation, verification, and optimization technology is packed with new features making it more powerful and easier to use. This letter describes important changes in VERICUT 8.2.2. Take a moment to review what's new and improved in this release.

Maintenance and Licensing Information

How To Get a License - All users must complete and return the License Request Submit the application at:
http://www.cgtech.com/vericut_support/request-license/. Licensing is sent via Email only.

> NOTE: This software requires a VERICUT 8.2 license.

VERICUT VERSION 8.2.2 runs on 64 bit Windows, and is supported on Windows 7 and Windows 10 computers. It is not available for 32 bit Windows computers.

VERICUT's license server will continue to run and be supported on 32 bit or 64 bit computers.

Both VERICUT and the license server can be installed by both 32 bit and 64 bit computers. When installing VERICUT with a 32 bit computer you will be warned that it can only run on 64 bit systems. The warning will not display when installing the license server.

Software maintenance keeps you on the cutting edge - CGTech provides update software to customers with current software maintenance. Your continued maintenance ensures that you have the most advanced verification technology available. If your maintenance has expired, please contact your CGTech representative (http://www.cgtech.com/about/contact-us/).

Sincerely,

Gene Granata

CGTech VERICUT Product Manager

V8.2.2 Release Notes

Enhancements and Changes in V8.2.2

Verification

Shank collision logic has been updated to reduce instances of false collisions being reported. "Collision Distance Allowable Between Shank and Stock" feature has replaced "Collision Volume" feature.

Start At Line Number now works with files that contain branching.

New "Breakpoint/Occurrence" option has been introduced to NC Program panel.

New "Restart" option has been introduced to NC Program panel.

Model tolerance has been set as the default field value for the "Reduce" feature of Model Utilities.

Support added for probing with robots.

Section window displays pull down menu indicator in a "PI Type" column.

Optimization (Force and OptiPath)

Support for outputting optimized turning motions in diameter or radius programming modes.

OptiSettings macro options FORCE_LIMIT and POWER_LIMIT have been added to VERICUT.

A new VERICUT-OPTIPATH OVERRIDEPERCENT record has been added to override optimized feed rates.

Support for special characters has been added to Force Charts.

Visual representation has been added in Optimize Control to indicate the presence of valid Force Material.

Force Charts now reflect when optimization settings are changed programmatically with the same cutting tool.

VDAF

VDAF now has the ability to output Simulated Location Report XYZ values to a text file.

G-Code Processing

Heidenhain's PLANE AXIAL has been enhanced to work with PLANE RELATIV.

New DynamicWorkOffsetTypes value has been added to SOP.

A reset option has been added to PFRAME.

DEF Word Format has been enhanced.

Support added for loop count Fanuc G65.

TOOL CALL DR has been enhanced with additional options for more granular control.

Support added for probing in CYLINDRICAL mode for CYCLE977.

String array will now show as empty rather than NULL if the arrays are not initialized.

Machine Simulation

Grinder simulation has been improved to simulate a wider range of grinder heads.

Support for simulating 5 POD A.B Pod Joint has been enhanced to deal with complex 5-axis moves.

Problems Resolved in V8.2.2

Verification

Resolved reported problem related to different language locale.

Machine Zero table has been replaced with Base Work Offset.

An issue related to Siemens Function arguments of more than 256 characters in length causing unexpected termination has been corrected.

Optimization (Force and OptiPath)

An additional check has been added to reduce false instances of error "Warning: No original programmed feed rate is available to restore" occurring.

Rare instances of unexpected termination occurring during optimization have been fixed.

Restored macro **OptiEOLStr** functionality which had been accidentally removed in a prior version.

An issued related to Force turning for motions along the Z+ axis direction has been corrected.

Improved support for optimizing micro-machining with very small chip thickness values.

Tool Manager

False instances of Laser portion of Additive tools colliding with cut stock have been eliminated.

An issue related to "Probing with Tool Spindle On" check producing false error messages has been fixed.

An issue related to importing tools from STEP not generating a profile has been corrected.

G-Code Processing

Issues regarding Siemens 840D array indexes have been corrected.

Issues related to Cutter Compensation have been resolved.

Additional error checks have been added for library control file G93.

An issue related to Siemens840D CYCLE977 not updating Work Offsets correctly has been corrected.

Resolved an issue with Heidenhain variables not working as desired with **HeidCmdAssign** macro.

CAM Interfaces

Esprit

Tooling interfaces have been enhanced.

GibbsCAM

A correction has been made to drill flute length values.

MasterCAM

An issue regarding MCAM2019 not saving files properly has been corrected.

NX to VERICUT

An issue regarding G-Code tables not being retained correctly has been corrected.

Reports

Corrected an issue regarding alignment in text-based reports.

Documentation

An issue related to **SiemensSystemFramesCancel** macro documentation not displaying has been corrected.

New Macros in V8.2.2

AccudyneClearAddOnCut
AccudyneSetAddOnCut
AccudyneSetNipDistance
AccudyneSetPrefeedDistance
CycleTurnThreadLeadIncDec
VectorPartTransformInv

V8.2.1 Release Notes

Enhancements and Changes in V8.2.1

Verification

Simulation speed improved for Grinder-Dressing In-Process Dressing.

Simulation speed improved for instances of milling changing to turning on complex mill turn parts.

Greatly improved performance when simulating Additive process.

AUTO-DIFF models are able to be saved to any CAD model format.

Features can be removed from Model Utilities.

Restored Cut colors for VCT models when saved with features.

Model Export can now be aborted at any time.

Variable Tags have been improved.

Conditional Word logic has been enhanced to support Alpha-Numeric strings.

File selection box speed has been enhanced.

Syntax Check now works when words begin with spaces.

$MA_BACKLASH_MODE variable added to VERICUT.

Optimization (Force and OptiPath)

OptiPath block processing with optimized times has been enhanced.

Force is able to auto-breakup large CSV files.

Force Graphs logic has been improved.

Optimization Calculator constraint handling and resulting calculated values have been improved.

VDAF

A new "Local Plane" option has been added to Pattern Sort in VDAF Programming, which enables user to create a local plane using the average normal of all locations and projects all locations to this local plane.

Option has been added to use either base or projected points for VDAF Programming.

New VDAF-specific ribbon has been introduced.

Tool Manager

Additive tools defined with Model File beads now have optional Laser display.

Major enhancements made to MachiningCloud, NOVO Tool, WinTool, Zoller, Teamcenter, and TDM interfaces.

New "Remove Reference Path" dialog option added to Import CAD Tool.

Added the capability to specify where to save a CAD Ply models in Tool Manager Import.

Increased allowed length of characters in Tool ID from 128 to 512.

SOR profiles and CAD models can now be used to with additive tools.

Machine Simulation

Added support for 5-pod machine types.

Added support for Quaternion robot motion.

Improved Robot logic for angled heads.

G-Code Processing

Added support for Drill Cycles to use lined axis from different subsystems.

Cycle 203 and 262 have been enhanced to support additional machining options.

Heid 530 and 640 library controls now support M127 configuration using machine parameters.

New **Ijk2AnglesVerticalRuleZeroTol** macro has been added.

Depth of cut is now maintained by calculated passes in G85 roughing.

New rotation plane logic has been introduced to Heid_PolarMotion.

WPAbsoluteShiftLocal and **AbsoluteShiftLocal** have been enhanced to have their MODAL feature applied to all 12 axes.

IJK2Angles logic now supports an X axis vector when a rotary is present in the tool.

Search localization of ISFILE function has been enhanced.

Library Files

Support added for Heid G225 CYCL Def 225 Engraving.

TNC640 Heidenhain control file has been added to the library.

New hei530_probing_403.vcproject file has been added to the library.

Added variables to save ANGLE direction for probing motion XYZ.

Siemens probing cycles are now implemented in encrypted sin840.xsub.

CAM Interfaces
EdgeCAM
Support has been added for EdgeCAM 2019R1 and 2018 R2SU7.

PROEV
Support for Creo 5.0 has been added.

The Head Subsystem ID fields have been replaced with two choice lists called "Head" and "Subsystem" to help transfer tools from Creo to VERICUT.

Problems Resolved in V8.2.1

Verification
An issue related to Configure NC Program's Replace feature pointing to the wrong directory has been corrected.

An issue related to Siemen's CYCLE800 has been corrected so that it can better handle small angles.

An issue related to generated Inspection Reports with multiple files overriding previous .jpg files in older reports has been corrected.

An issue related to HUD sometimes not displaying after program errors has been corrected.

An issue related to Report User-Tags not always registering has been corrected.

An issue related to Report outputting incorrect file types in certain situations has been corrected.

An issue related to deactivating subroutines sometimes stopping simulation has been corrected.

An issue related to Quick Access Toolbar icon size changing incorrectly has been corrected.

An issue related to Model Repair producing a duplicate model has been corrected.

An issue related to VCT files not matching exported cut stock has been corrected.

An issue related to AutoRefineMachineAnimation not working with keybinding has been corrected.

An issue related to AUTO-DIFF Report not registering excess stock has been corrected.

An issue related to files created in 8.1.4 not opening in 8.2 has been corrected.

An issue related to X-Caliper features not functioning correctly when added to custom tabs has been corrected.

Optimization (Force and OptiPath)
An issue relating to model tools not optimizing in Force milling has been corrected.

VDAF
An issue with some users receiving the incorrect VDAF Programming license has been corrected.

Tool Manager
An issue with comment fields in Tool Manager sometimes removing characters and sometimes failing to save has been corrected.

An issue with the Search tool working inconsistently has been corrected.

An issue with STL milling tools losing gage offsets has been corrected.

An issue with cut stock being lost on sub-spindles during simulation has been corrected.

An issue with tap tool with multiple cutter entities not generating properly has been corrected.

An issue with Report Templates not displaying recent files in the Tool Manager ribbon has been corrected.

An issue with simulation freezing when starting spindle after loading certain tools has been corrected.

An issue with Report Template not saving cell alignment has been corrected.

G-Code Processing
An issue with animation speed affecting warnings has been corrected.

An issue with **CutterCompFull** producing wrong motion has been corrected.

An issue with Auto-Set Working Directory not writing directory has been corrected.

An issue with simulation freezing when CDC is used with Polar has been corrected.

An issue with **CircleCenterX** macro causing system freeze has been corrected.

CAM Interfaces

CATIA

An issue related to CATV5 deleting NC template subroutines has been corrected.

An issue related to hole information not being imported into VDAF has been corrected.

An issue related to CATV5's accent marks for French being inconsistent has been corrected.

CoroPlus

An issue where importing zip files through CoroPlus ToolLibrary caused unexpected termination has been corrected.

EdgeCAM

An issue where parts were not being correctly saved has been corrected.

An issue related to improperly imported custom tools has been corrected.

TDM

An issue relating to importing TDM tools has been corrected.

Reviewer

VERICUT no longer experiences unexpected termination when creating a Reviewer file in Windows 10.

New Macros in V8.2.1

Ijk2AnglesDefaultFromTo
Ijk2AnglesRotariesVarInput
Ijk2AnglesVerticalRuleZeroTol
Ijk2AnglesVerticalRuleZeroTol
**TravelLimitIgnoreComp**
TravelLimitMaxComp
TravelLimitMinComp

V8.2 Release Highlights

Head-Up Display

Head-Up Display (HUD) shows NC program or Status information over VERICUT's graphical views. HUD is configurable- users choose the information to display, text size, colors, translucency, and more.

To see a video click here or check the video listing on the Welcome panel of VERICUT.
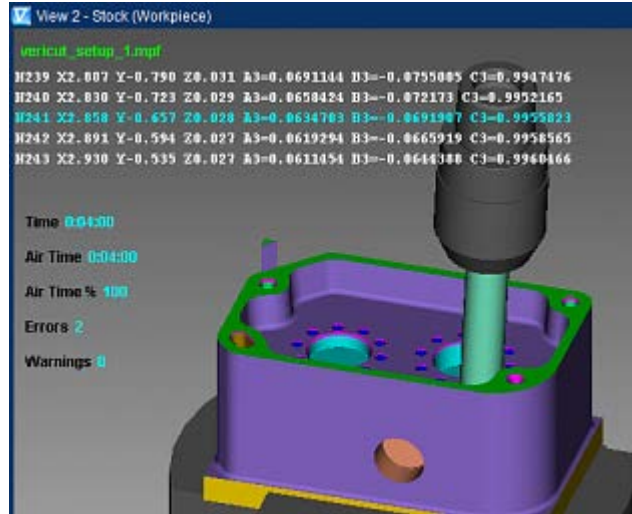
Radial Menu

The Radial menu, accessed by right-clicking anywhere within a graphical view, puts commonly used functions just one click away. Radial menu choices are customizable via the Customize Ribbon (Gear) icon > to access the Popup Menu tab.
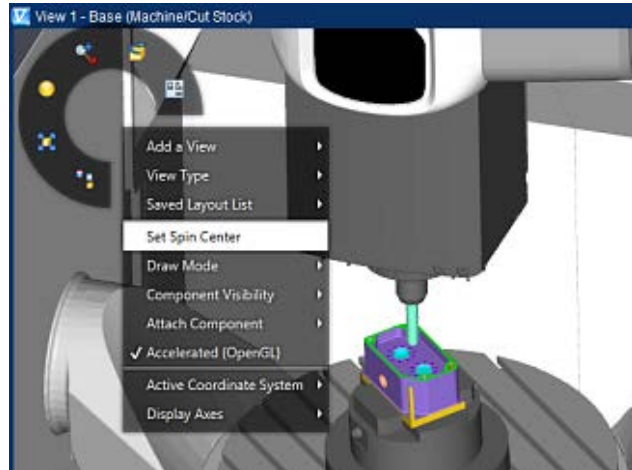
Ribbon Search

The Ribbon Search (Magnifying Glass) icon makes it easy to find favorite features in VERICUT's Ribbon interface. Just type a few characters in the search field, and a list of matching feature names is presented. Hover over a name in the list to learn where it resides, or select it to perform that action.
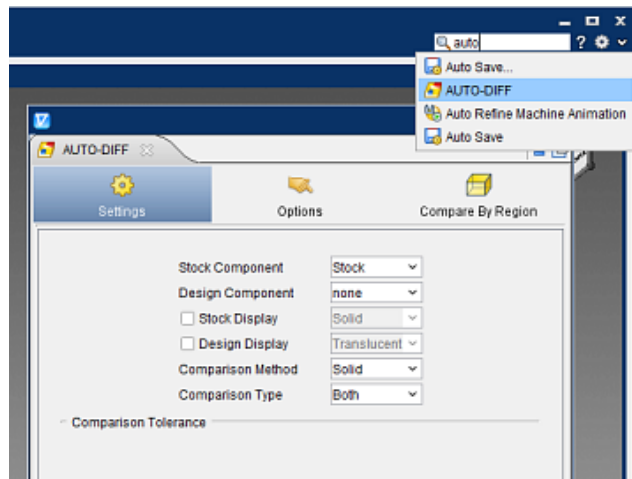
OptiPath-Force, Tighter Integration

VERICUT's OptiPath and Force modules are more tightly integrated. Providing a consistent workflow, eliminate redundancies, and provide easy transition between optimization methods. New Stock Material Records describe each cutter's usage limits, and optimization strategies for the stock materials it can be used to cut.

To see a video click here or check the video listing on the Welcome panel of VERICUT.
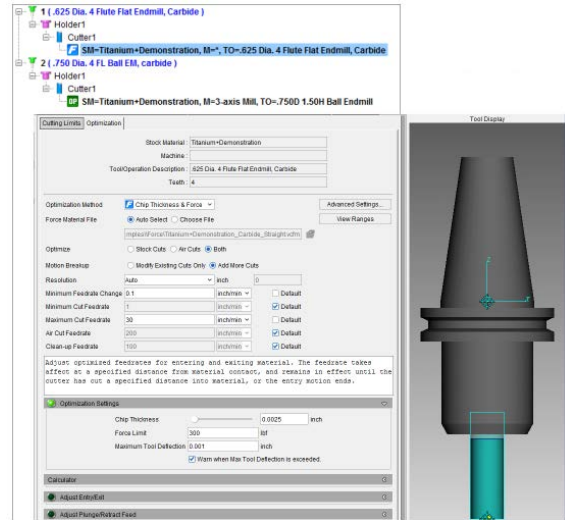

Force Turning Optimization

Force Turning joins "forces" with Force milling optimization. In 8.2 users can create highly optimized NC programs for turning, milling, and mill-turn machining centers. Feed per rev, feed per minute, and constant surface speed modes are supported.

To see a video click here or check the video listing on the Welcome panel of VERICUT.
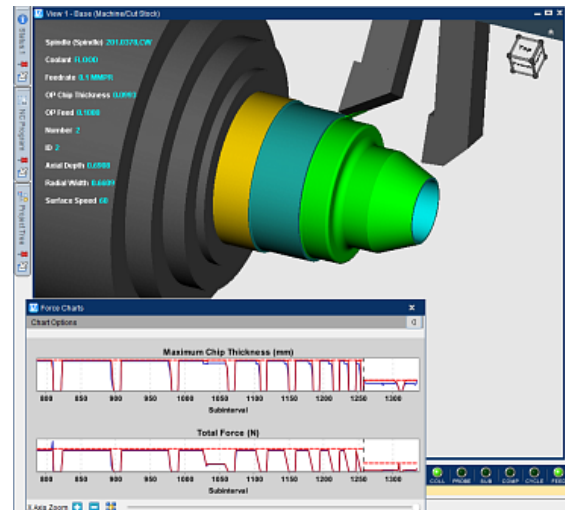

NC Program "Alerts"

Alerts symbols identify blocks causing errors (**Red**) or warnings (**Orange**), so programmers can quickly spot them. Hovering over an alert symbol reveals descriptive text about the error or warning condition. NC programs containing errors are highlighted in the red Alert color.
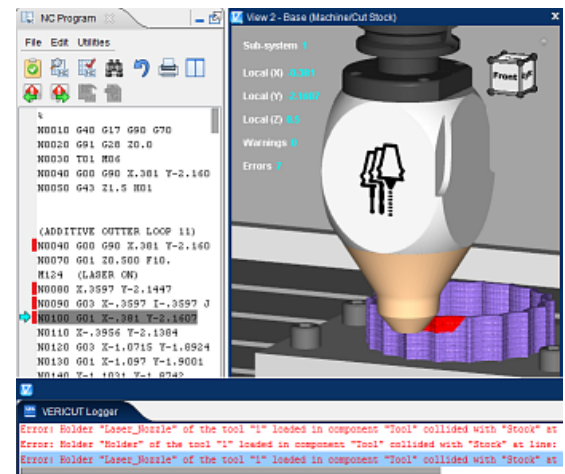
Keyboard Shortcuts

Keyboard Shortcuts speed workflow by letting users define hot-key combinations that can quickly access VERICUT functions, or perform common user actions.

To see a video click here or check the video listing on the Welcome panel of VERICUT.
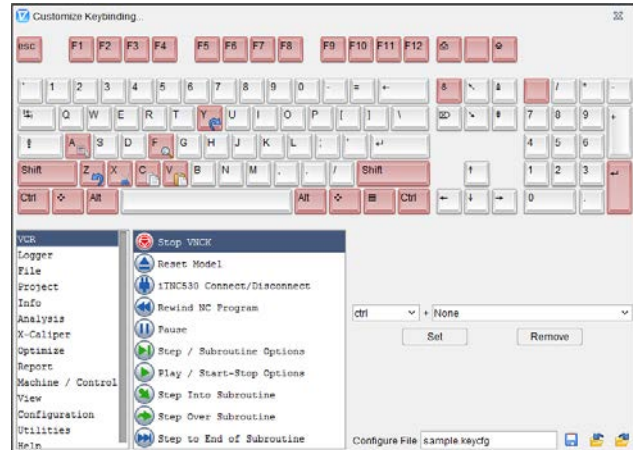
More Enhancements and Changes in V8.2

Verification

- [#00648764] HTML Report generator produces relative pathways for images.
- [#00639748] Dynamic controls added for TopSolid V7.
- A streamlined View Cube with translucent background has been implemented.
- The File Selection window has been updated with Windows-like functionality to enable you to navigate to previous locations more quickly, multi-letter find feature, folder options, full path listing, and a right-click options menu.
- Model Utilities has new convex subdivide and remove features.
- Rotary feature "use as spindle" has been added, enabling users to treat rotary inserts as spindles.

Optimization (Force and OptiPath)

- Prompt optimization mode enhanced to let users choose OptiPath or Force optimization methods.
- Learn optimization mode creates Stock Material records with Cutting Limits and OptiPath "Volume & Chip Thickness" optimization.
- Several new options for Command Line Options for Batch optimizing have been added.
- Force Charts right mouse button menus have been expanded.

Tool Manager

- Tool library file encryption on the Save File encrypting Tool Library files prevents component details from been seen or edited.
- Support added for Sandvik CoroPlus Tool.

G-Code Processing

- [#00647690] **SiemensPolarAngle** now takes into account mirroring.
- [#00641674] Support added for G01 using I K C and R values for creating chamfers and rods.
- [#00646445] **OkumaSetIgnoreRoughCycleFlag** was enhanced to support all turrets.

Library Files

- [#00647001] Enhanced CYCLE832 to latest version.
- [#00649221] The Heidenheim control has been enhanced to better support PLANE AXIAL TURN.
- [#00649224] Hei530 and Hei640 controls have been enhanced to reduce issues with CYCL DEF 10.1 ROT.
- [#00641744] Implemented CYCLE99 in library SIEMENS 840D controls and a new sample sin840d_cycle99.vcproject was also added to demonstrate this cycle.
- [#00629774] Added **RefreshToolOffset** to G68 on "mazatrol_matrix_m.ctl".
- [#00647385] FUNCTION TCPM AXIS/VECTOR added to library controls hei530 and hei640.

VDAF

- [#00636904] VDAF now supports multiple setups.

CAM Interfaces

CATIA

- CATV6 3DEXPERIENCE has been enhanced to retrieve stock/fixture/design model attributes, model placement and orientation, to transfer models more seamlessly and automated to VERICUT.

Edgecam

- Support added for Edgecam 2018 R2.

Mastercam

- [#00648913] Support added for Mastercam 2019.

Problems Resolved in V8.2

Verification

- [#00642942] Fixed reported problem where Driven Points did not display correctly across all views.
- [#00646937] Axis Mapping logic has been enhanced.
- [#00647765] Fast feed exceeded errors are no longer falsely generated for motions in degrees per minute feed mode.
- [#00647783] Resolved an issue of unexpected termination when array variables are highlighted and Defined At or Last Update when selected from the right mouse button menu.
- [#00640283] Tool Use Graph displays tool information via moving the mouse over the color line.
- [#00646973, #00644826] Improved space bar to allow block function in Step Into Subroutine.
- [#00648569] X-Caliper measurements no longer get stuck in metric.
- [#00647016] Importing CATPart no longer causes unexpected termination.
- [#00649361] Improved Model Utilities Repair function of STL files to output models faster, ensure surface normals are consistent throughout, and create higher quality models.

Tool Manager

- [#00647567] Shank of tool no longer exceeds near miss tolerance.
- [#00648663] Using alternate tool holders no longer causes false instances of near miss errors generating.

G-Code Processing

- [#00647254] False instances of "Warning: Invalid Circle Statement" have been reduced.
- [#00646242] **OkumaSetIgnoreRoughCycleFlag** has been enhanced to support better roughing approaches and to removed unwanted cuts.
- [#00649247] **ReportExpressionErrorsOnOff** is set to "Off" by default but can be turned on by changing the OV to 1.

Reviewer

- [#00643068] Simulation run time has been reduced.
- [#00648621] Tools in Reviewer no longer save incorrectly.

VDAF

- [#00641867] Nullpointer Exception errors were fixed during Post Processor Run.

CAM Interfaces

GibbsCAM

- [#00647414] Resolved a problem with importing some GibbsCAM files that caused unexpected freeze.
- [#00647866] Tool inserts import correctly into specified positions.
- [#00649227] Resolved an issue with Stock/Design profile geometry not outputting in correct locations.

NXV

- [#00648408] Resolved a problem opening VERICUT when selecting an existing Tool Library.
- [#00647664] Phantom Operation listed before a Machine Operation is now ignored.
- [#00647668] Support added for Countersink tools with 0 tip diameter.

TDM

- [#00646589] Large imported tool lists no longer result in mixed up cutters.

New Macros in V8.2

AdditiveSetMaterialFeedUnits
CancelSecondaryWorkOffset
ConditionalActionCancelList
CoupleCompNames
CycleTurnThreadRetractMotion
GageOffsetDirect
PartNormalModal
ProcessCompNameFeedrate
ProcessCompNameValueSync
ProcessCompNameValueSyncWait
ReportExpressionErrorsOnOff
ReportInvalidCharsErrorsOnOff
SiemensAXISMappingOnOff
SiemensPAROT2
SiemensRotaryRanges2
SiemensTCOFR2
TransformXyzUvwOnOff
UnCoupleCompNames
WPRelativeOnOff