Kollmorgen Automation Suite

Release Notes

Kollmorgen Automation Suite

INTEGRATED DEVELOPMENT ENVIRONMENT

"Because Motion Matters"

Kollmorgen Automation Suite Integrated Development Environment combines a market leading Motion Engine, tightly integrated PLC engine and HMI developer with the ability to configure an array of motion hardware such as motors, drives, gearboxes and actuators as well as automation hardware such as I/O modules and HMI's. Providing both process control capabilities and unsurpassed motion control programming delivers the very best in machine automation technology.

KOLLMORGEN ®

Because Motion Matters™

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1   Table of Contents

2   Introduction

Welcome to KAS v2.9! This release contains new features and many improvements. This document is intended to help existing users understand the differences between this and KAS v2.8. If you are new to KAS, we recommend that you start off with other documents, such as the Installation Guide.

This document has five sections:

- "Installation" (➜ p. 7) — this section covers system requirements as well as provides firmware, software, and hardware information.
- "What's New" (➜ p. 11) — an overview of new features.
- "What's Changed" (➜ p. 18) — this section discusses how this release may affect some of your older projects. It let's you know what to do when upgrading, especially if there is anything you need to be careful about.
- "What's Fixed" (➜ p. 20) — a list of issues addressed in this release.
- "Known Issues" (➜ p. 24) — this section contains issues we are aware of, and methods for avoiding or working around them.

> ✦ *TIP*
>
> This document contains links to more complete descriptions in the online help. Wherever you find this icon
> ⓘ , you may click it and go to the help topic. Please note that these links will not work if this PDF is opened from a location other than the KAS install directory.

3 Installation

3.1 System Requirements

Element	Description
Operating System	Microsoft® Windows® 7 SP1 (32 or 64-bit). For optimal performance, please be sure your operating system is fully updated with the latest patches.
Processor type	Intel® Pentium® M or equivalent processor at 1.5 GHz or greater.
Memory	1 GB RAM or greater (which is recommended for complex applications)
Storage	1 GB hard drive or compact flash space
Display	WXGA+ (1440 x 900) or higher-resolution monitor with 24-bit color. See Note #1 below.
Connectivity	1 Ethernet port, at either 100Mbits/s or 1Gbits/s. See Note #2 below.
WebServer	A modern web browser is required to access the web server. We recommend Internet Explorer 9 (or later) , Mozilla FireFox , or Google Chrome .

NOTE

1. Better results are achieved with OpenGL and 3D cards.
2. A 100Mb network is required in order to allow the IDE to Runtime communication to work in all conditions. The AKDWorkBench AutoTuner and Scope both require 100Mb of bandwidth to function properly.

3.2 Firmware & Software Requirements

KAS is comprised of several software components integrated together to provide a complete motion system. We recommend the following component software versions for best performance and compatibility.

3.2.1 IDE, Controller, and Programmable Drive Software

Software Images	Recommended Version	Download
KAS IDE	2.9.0	n/a
AKD PDMM 800MHz Runtime Firmware	2.9.0	
AKD PDMM 1.2GHz Runtime Firmware	2.9.0	
PAC master image (Previous KVB 1.2 runtime pre-installed)	2012-04-30	n/a

3.2.2 AKD Drive Firmware Requirement

KAS is compatible with AKD-M (AKD PDMM Drive, AKD-P (Motion Tasking Drive or Position Indexer), AKD-C, and AKD-N drives. The recommended firmware version is dependent upon your drive's model and revision. The operational image associated with this release is   01-13-00-004.

AKD firmware to use with version 2.9		Download
AKD PDMM Servo Drive Firmware	AKD-M-M1EC-V01-13-00-004.i00 AKD-M-MCEC-V01-13-00-004.i00	
AKD EtherCAT drive, up to r.8	AKD-P-NACC-V01-13-00-004.i00 AKD-P-NAEC-V01-13-00-004.i00	
AKD EtherCAT drive, r.9	AKD-P-NBCC-V01-13-00-004.i00 AKD-P-NBEC-V01-13-00-004.i00	
Resident image	R_00-00-47-000.i00	n/a

✦ TIP

Please be aware that you may get a F106 error after upgrading your AKD firmware. This indicates that non-volatile parameters are not compatible between the two firmware versions. Resetting the drive to the default memory values using Parameter Load will fix this error.

✦ TIP

`FBUS.PARAM05` bit 5 should be set to 0, which is the default value. This will prevent an error E33 and EtherCAT not starting.

If it is not set to the default, the rotary switch of the drive is used to set the EtherCAT Station Alias. This can conflict with the address that KAS is writing.

3.2.2.1   Mandatory Resident Firmware

The recommended resident firmware is v47 (R_00-00-47-000). To reliably support the EtherCAT Firmware Download, the resident firmware must be at least version 35. Please contact Kollmorgen for any AKD Drive with resident firmware lower than v35.

3.2.3 Kollmorgen Visualization Builder

Software Images	Recommended Version	Download
Kollmorgen Visualization Builder (KVB) master image	2.15	

The new installation package contains both the IDE and runtime for PAC. KVB runtime installation on the PAC requires that:

① IMPORTANT

Windows firewall on the PAC should be disabled to allow this feature to work.

The KVB ZIP file contains two different installers:

Install Type	File	Notes
New installation	setup.exe	This is the complete package which will install all prerequisite components.
KVB is already installed	NeoSetup.msi	This package will update your current installation to v2.0

NOTE

The KAS IDE creates projects using KVB 2.0. When you open a version 2.0 project by double-clicking on it,

KVB will upgrade the project to version 2.1.

Project Conversion
Project must be converted in order to be opened in this version of designer, this operation cannot be undone.
Do you want to convert the project now?

[Yes]   [No]
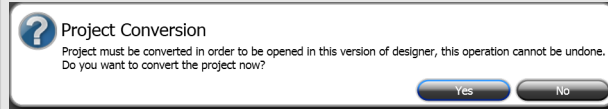
① IMPORTANT

KVB 1.2 projects are not compatible with KVB 2.x. An attempt to open a v1.2 project with v2.x will result in an alert message. If accessing v1.2 projects is important, we recommend keeping both versions installed on your system. New panels will automatically use KVB 2.0.

✎ TIP

If you have a KVB 1.2 project that needs to be updated in KVB 2.x, please contact Kollmorgen.

3.3 KAS Controls

KAS Runtime is compatible with, and has been verified with the following AKC hardware models:

Description	Model Number	Main Characteristics
Panel PAC	AKC-PNC-C1-224-10N-00-000	Mono-core 1.2 GHz CPU, 2GB RAM, 10" display
Panel PAC	AKC-PNC-C1-224-15N-00-000	Mono-core 1.2 GHz CPU, 2GB RAM, 15" display
Panel PAC	AKC-PNC-D1-224-15N-00-000	Dual-core 1.86 GHz CPU, 2GB RAM, 15" display
Panel PAC	AKC-PNC-D1-224-17N-00-000	Dual-core 1.86 GHz CPU, 2GB RAM, 17" display
Performance Box Controller	AKC-PLC-C1-224-00N-00-000	Mono-core 1.2 GHz CPU, 2GB RAM
Performance Box Controller	AKC-PLC-D2-224-00N-00-000	Dual-core 1.86 GHz CPU, 2GB RAM
Performance Box Controller	AKC-RMC-D2-224-00N-00-000	Dual-core 1.86 GHz CPU, 2GB RAM
AKD PDMM	various	

NOTE

KAS IDE and Simulator should not be installed on a PAC or AKD PDMM.

✎ TIP

In order to prevent CF card corruption when shutting down the PAC, we recommend using the Enhanced Write Filter (EWF). This filter redirects all the write operations in memory in order to avoid making physical write operations in the compact flash.

The filter should be activated on the PAC when it is fully set up, programmed, and will not change. In case of a significant change, such as a new KAS version or downloading a new application, the recommendation is to turn off the EWF, make the change, and then reactivate it. Please see the user help to learn how to use the EWF. ⓘ

3.4 Allow Simulator to Use HTTP Communication

The Simulator needs to open HTTP ports to allow communication. The first time Simulator is run, Windows will prompt you to block or unblock the KAS application. You should allow access to all of these requests to ensure correct behavior.
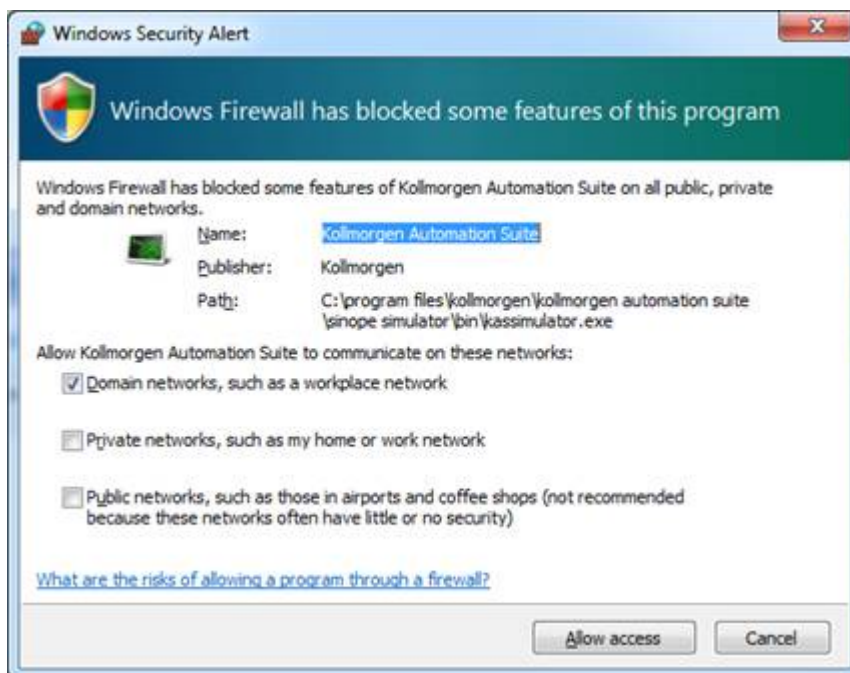

The Simulator uses port 80 for the web server. This communication channel is mandatory for Simulator to work properly. So please close any application, such as VOIP, that may use port 80 before starting Simulator.

For more information see Start KAS Simulator in the online help.

4   What's New

4.1   AKD-C and AKD-N Support

This release provides support for the new AKD-C and AKD-N devices. The devices may be discovered using **Scan Devices** or manually added to the Project View by right-clicking on EtherCAT and selecting **Add Device**, just like adding any other AKD.
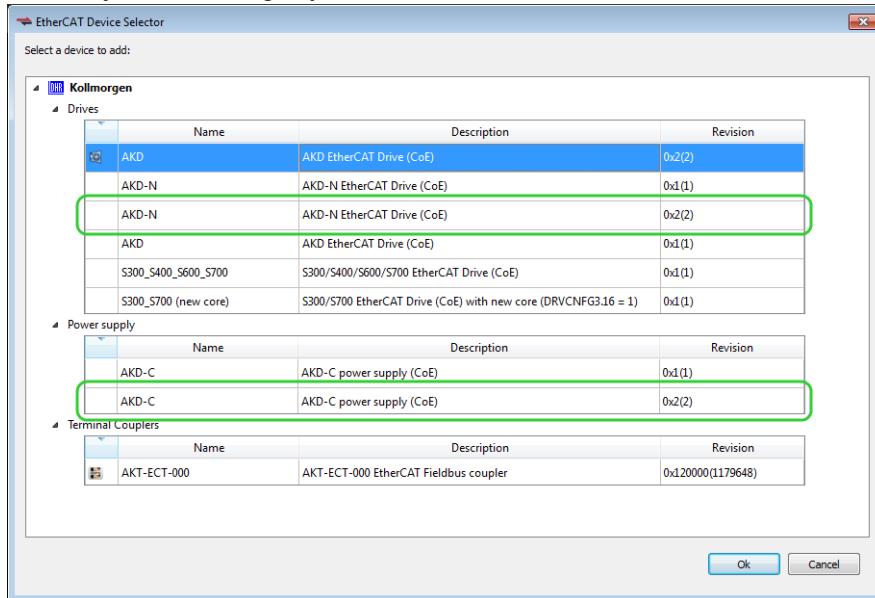
NOTE

When selecting a device, be sure to use the latest revision, e.g. 0x2(2). The older revisions support drives that only have resident firmware.

The EtherCAT tabs are basically identical to other AKDs, but with the addition of AKD-C and AKD-N, the interface has received some new functionality including collapsible tables, drag-and-drop variable mapping, and double-clicking on variable fields to map/unmap variables. See "IDE Improvement" (➔ p. 16) for more information on these new features.
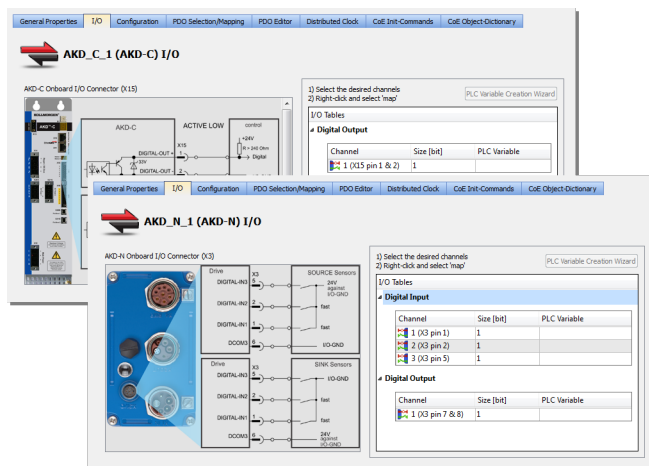
4.2 Flexible PDOs for EtherCAT Devices

EtherCAT devices use PDOs (Process Data Objects) to send and receive cyclic data between the slave and master devices. Some vendors provide "flexible" PDOs, which allow users to add, edit, or remove objects. Some vendors even allow users to create their own PDOs and content.The PDO Editor provides the means for creating, editing, and deleting user-defined PDOs, and editing vendor-defined PDOs.
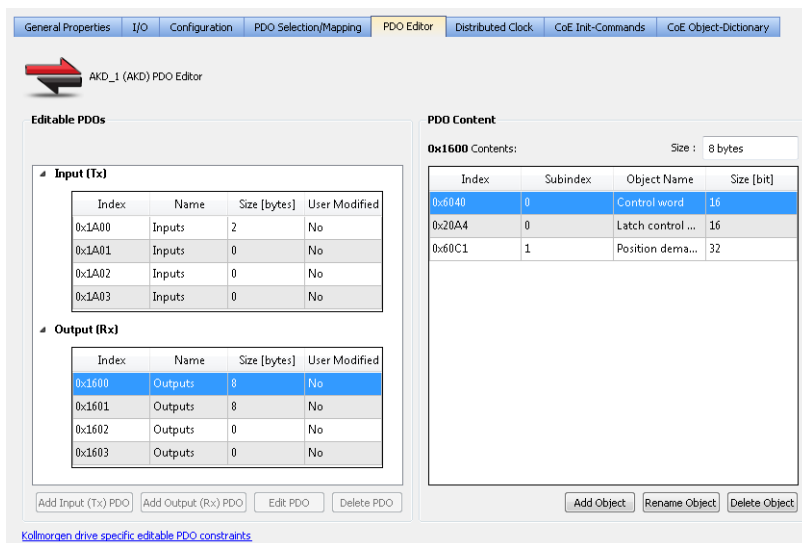
4.2.1 Working With Objects

Objects are easily added to editable Inputs or Outputs by clicking on the **Add Object** button and selecting one from the CoE Object Dictionary, or manually entering information.Removing objects is as simple as selecting the object in the PDO Content list and clicking **Delete Object**.
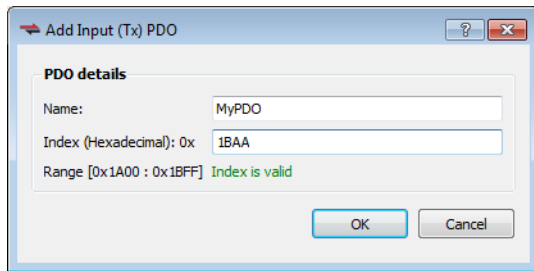
NOTE

Consult the manufacturer's device manual form more information about flexible PDOs and CoE objects supported in PDOs.
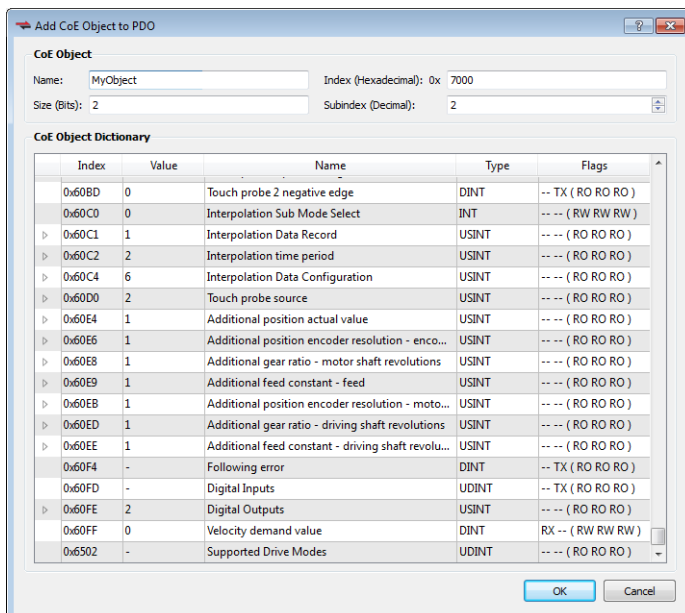
4.2.2 Working with Flexible PDOs

Flexible PDOs are easily created by clicking on the **Add Input (Tx) PDO** or **Add Output (Rx) PDO** buttons in the **PDO Editor** tab. This opens a window where you provide the PDO with a **Name** and **Index** value. Clicking the **Edit PDO** button allows you to modify these values.

NOTE

AKDs do not support adding custom flexible PDOs. Modify one of the existing vendor-supplied flexible PDOs and add objects.

4.3 Support for AKT-SM-Lxx Stepper Slices

The KAS now provides basic support for Kollmorgen™ stepper slices (AKT-SM-L15-000 & AKT-SM-L50-000). This includes the ability to manually add the stepper slices, scan, discover, and initialize the EtherCAT network. Configuration and motion is commanded via the application code or UDFBs.
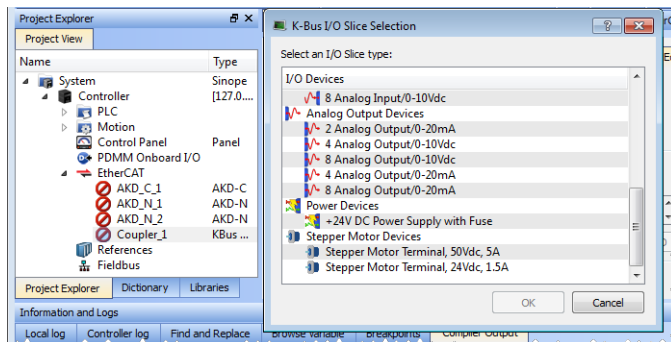
The stepper slice is visible in the project tree and its properties may be viewed but there are several limitations.

- Axes may not be mapped to the slice
- PLC variables may not be mapped to the PDO objects.
- The Properties view does not support mapping I/O to the AKT-SM-Lxx.
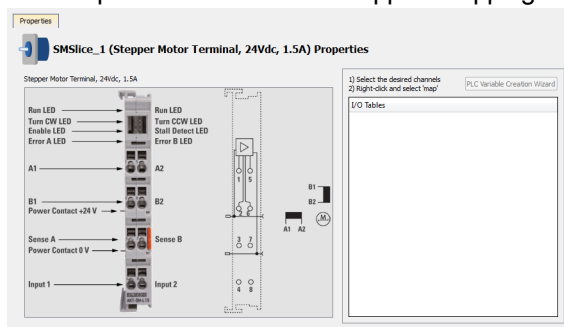
4.4 Functions and Function Blocks

4.4.1 GetCtrlInfo

GetCtrlInfo is a new function block which returns a string with information from the AKD PDMM controller. The parameters which may be requested from the AKD PDMM include the Serial Number, Model Number, and Part Number. Attempting to use this FB on a non-AKD PDMM controller will generate an error.

4.4.2 GetCtrlPerf

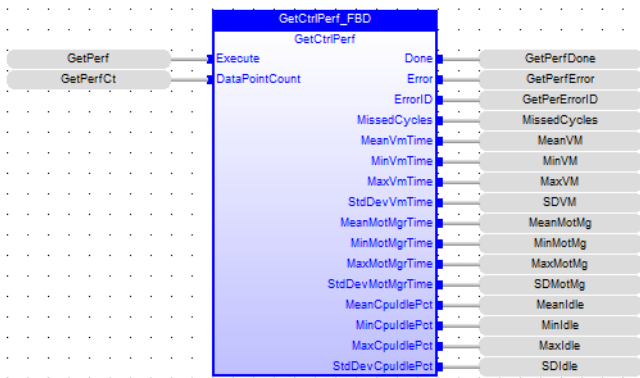This function block is used to monitor controller CPU activity. Data that may be acquired includes the mean, minimum, maximum, and standard deviation for virtual memory execution time, Motion Manager execution time, and CPU Idle percentages.

4.4.3 MLCNVConECAT

This function will connect the output of a pipe convertor block to an EtherCAT Output (Rx) PDO object. The output value of the pipe convertor block will then be written to the PDO object every update of the convertor block. The pipe block is specified by the BlockID input and the PDO object is specified by the DeviceAddr, Index, and SubIndex inputs. The DeviceAddr input is determined by the location of the node in the EtherCAT link. EtherCAT devices are numbered in order with the first device being 1001, the second 1002, etc. The Index and SubIndex inputs can be determined from the table located in the "PDO Selection/Mapping" tab of the EtherCAT device page. (In Project Explorer, under EtherCAT, select the device, then select the PDO Selection/Mapping tab.)

4.4.4 MLSmpConECAT

This is a function which connects a PipeNetwork sampler block to EtherCAT. Using MLSmpConECAT (…), any EtherCAT PDO object can be uses as the input source for a PipeNetwork sampler block.

4.4.5 MLSmpConPLCAxis & MLSmpConPNAxis

This is a new function block to partially replace MLSmpConnectEx FB that has been deprecated. These
functions allow connecting a PipeNetwork sampler block to an axis internal variable.


4.5 Multiple Ethernet/IP Assembly Files

In order to exchange more information, we have added the ability to have up to four (4) assembly files as an
individual input or output is limited to 496 bytes at a 10ms cycle rate. To support this change there is a new
EDS file (v.1.2).

> **NOTE**
>
> There is no synchronization between the assemblies. The data in an assembly is synchronized, but the
> assemblies are each an individual communication channel.

There is a small effect on performance for using multiple assemblies, but the main factor in performance is
the number of variables in the program.
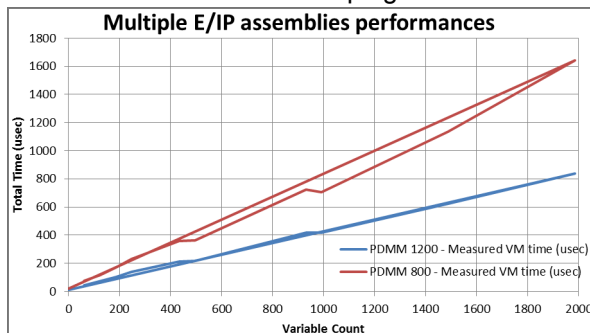
More information may be found in Performance Guidelines of the KAS IDE help.

4.6 Update to AKD Firmware for Export Compliance

KAS v2.9 has been updated to comply with recently revised U.S. and E.U. export regulations (E.U. Dual Use
Regulation 428/2009, and U.S. Dual-use regulation EAR Category 3 under ECCN3A225). Specifically, the
AKD firmware included with KAS v2.9 has been updated to limit the open loop frequency to 599 Hz, exempt-
ing products from being classified as "dual-use".

The compliant AKD firmware is available in v1-13, as well as v1-11 and v1-12 for those who wish to use prior
releases.

We recommend the following if you have created a backup of your AKD drives from KAS.

1. Upgrade the AKDs with compliant v1-11, v1-12, or v1-13 firmware.
2. Execute the KAS backup procedure again so the backup is compatible with ECCN 3A225.

It is recommended that you read the article on the Kollmorgen Developer Network (http://k-
dn.kollmorgen.com/content/dual-use-changes) for details about the regulations, the changes, and how they
may affect you.

4.7   IDE Improvement

4.7.1 Project Explorer

Manually adding a device through the Project Explorer has been made simpler. The menu selection is now **Add Device**, which opens a window allowing the selection of drives, power supplies, and I/O.
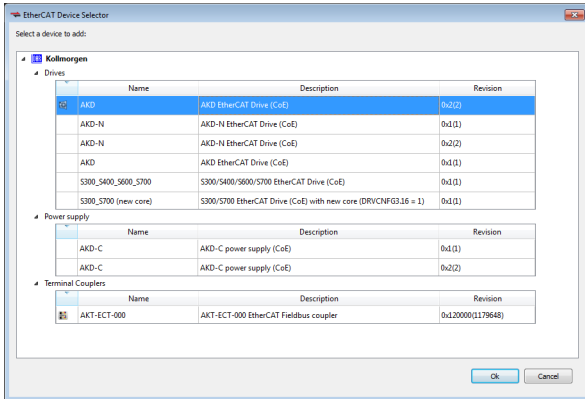
4.7.2 I/O and Variable Mapping

There have been several improvements to how I/O and variables are mapped. The method is slightly different depending upon whether an AKD, PDMM, I/O, or third-party device is being mapped, and you have a choice on how you prefer to map variables. Please see the linked topic for more information.

4.7.3 New I/O views

There are three new tabs: I/O tab, PDO Selection/Mapping, PDO Editor,

The **I/O** tab allows you to assign variables to I/O channels for Kollmorgen devices. This tab supports drag-and-drop variable assignment from the library.
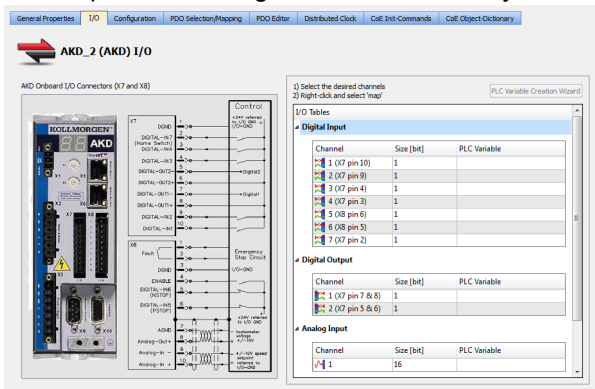
The **PDO Selection/Mapping** tab allows you to easily assign variables to PDOs. This tab supports drag-and-drop variable assignment from the library.
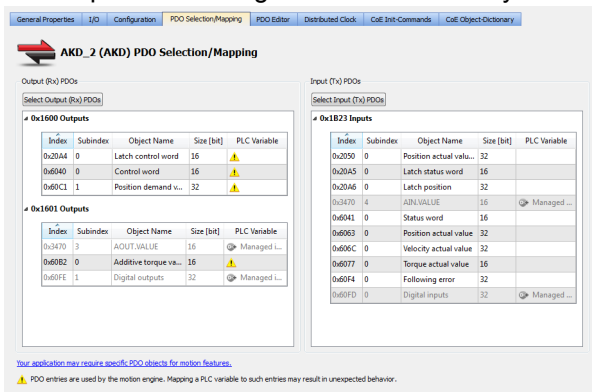
The **PDO Editor** tab allows you to modify PDOs which the device's manufacturer designated as editable.
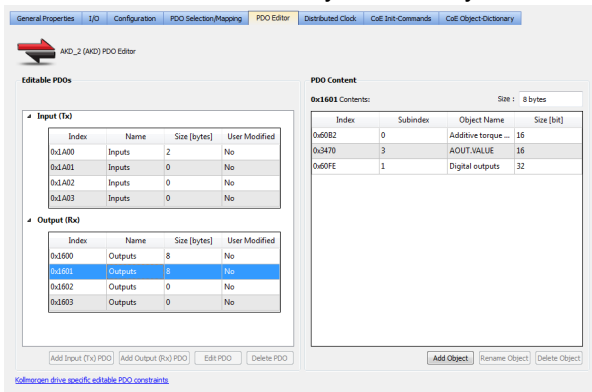
4.7.4 Base Names for the PLC Variable Creation Wizard

The PLC Variable Creation Wizard now allows you to define a base name upon which variables are created. Please see the linked topic for more information.
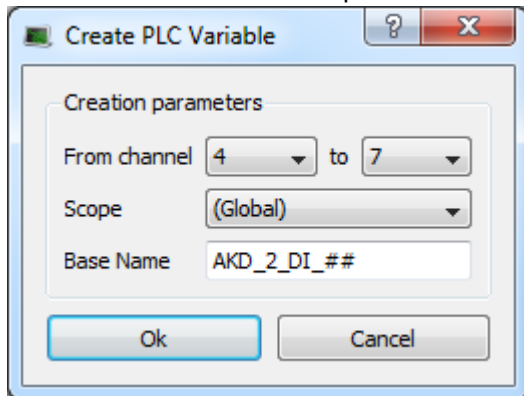
5   What's Changed

This section discusses changes in products that you should be aware of.

5.1   Changes to the IDE

5.1.1 Manually adding AKD or Standard I/O Coupler to the project.

The right-click context menu for the EtherCAT project tree node has changed.

The following menu items have been removed:

- Add AKD Drive
- Add Standard I/O Coupler

And have been replaced with new menu item:

- Add Device…
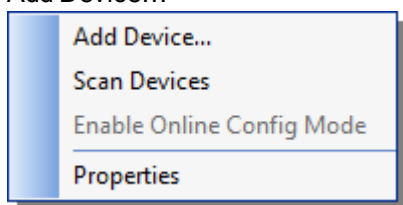
The "Add Device…" item displays the EtherCAT Device Selector dialog, with Kollmorgen devices expanded and located first.
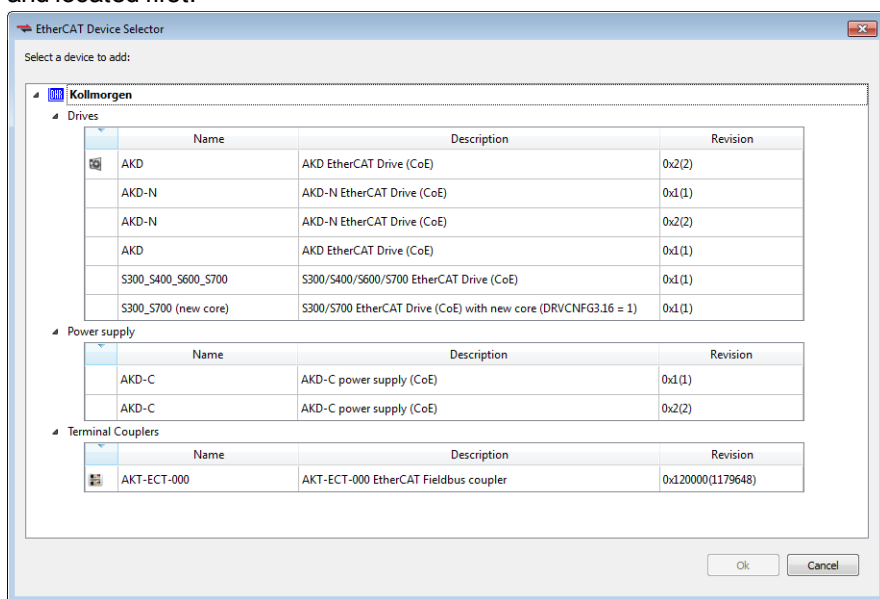
5.1.2 PDO objects referenced by index/subindex

The KAS Runtime now references EtherCAT PDO objects by their CoE index/subindex. In previous versions, the PDO objects were referenced by their object name. This change does not impact ESI files or applications making calls to MLSmpConnect or other functions that have object name arguments. Additionally, the restriction for supporting for Kollmorgen drives only is still applicable.

5.1.3 PLCopen

The rollover value (MC_ReadParam 1008) can be changed for a Virtual Servo axis while the axis is in motion.

5.2 Change in Behavior

- PLC variable locking is disabled by default.

  This function has been disabled by default for optimal performance. This is now a selection in the **PLC options** dialog box, which can be activated if you need it.
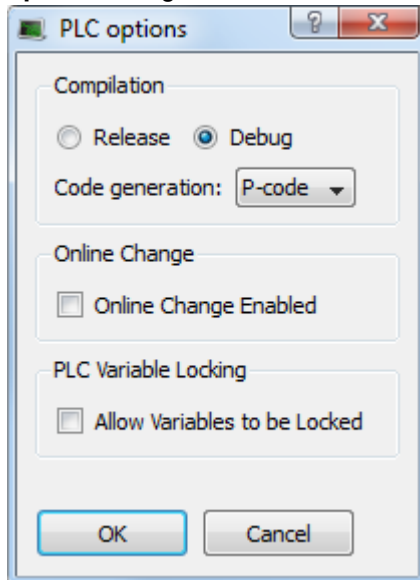
5.3 Removed Features

- MLSmpConnectEx function has been deprecated.
  This function is still supported for existing application code, but we strongly recommend transitioning to the new functions "MLSmpConPLCAxis & MLSmpConPNAxis " (➜ p. 15), or "MLSmpConECAT" (➜ p. 14).

6   What's Fixed

Following are the issues corrected by this release.

DT-3289	PLC download fails frequently on PDMM
DT-3285	PDO mapping issues. AKD drive cannot be enabled when PDO index 0x1600 is modified or when using the pre-configured 0x1702 PDO. To avoid this problem, modify PDO 0x1601 instead.
DT-3282	Non-existing PDO objects could not be added to PDOs.
DT-3280	Text Fields in the "Add/Edit CoE Init-Command" Dialog Box were erroneous.
DT-3278	Renaming a device in the EtherCAT tree after the device has been deleted and rediscovered with a scan caused the IDE to crash.
DT-3277	KAS Crashes When Adding an Init Command.
DT-3274	Could not replace ESI files.
DT-3273	KVB tag gains revert back to 1. In the KVB tag view, the scaling values (Gain, Offset, etc.) will be downloaded to the panel properly. If the KVB software is closed and the project is re-opened, the scaling values will revert back to the default values of 1.0.
DT-3272	KVB tag would revert to 1.0
DT-3271	The IDE would lock up after an EtherCAT scan with an MDP device.
DT-3268	KAS Scope export channels start at different times.
DT-3263	Collapsing the "Kollmorgen" devices in the 'EtherCAT Device Selector' window crash KAS
DT-3259	MC_SetPos not complete causes uncontrolled motion. To avoid this problem, do not call an MC_MoveAbsolute function before an MC_SetPos function is complete.
DT-3257	Update to Kollmorgen UDFBs
DT-3251	Application download is causing the KAS IDE to become unresponsive
DT-3246	MC_ReadStatus.decelerating status output flickers
DT-3244	PID FB locks up when certain setpoint values are used
DT-3243	cumulative superimposed move distance not cleared with MC_SetPos
DT-3240	Cannot broadcast UDP packet.
DT-3232	Crash when opening a project (double-click) while closing project at the same time
DT-3229	EtherCAT device description was wrong.
DT-3226	MC_GearInPos examples show buffermode 0
DT-3225	Systematic KAS Crash when opening a specific project KAS was not able anymore to open old project with unmapped ServoStar drives (added manually)
DT-3222	Hidden files in the project folder prevent the files to be removed This pb was causing project size to grow over time because the KVB projects were not cleaned up
DT-3218	Cannot select PN or PLCopen Axis traces for Oscilloscope Regression done in RC6
DT-3217	3 Axes Linear (3D) Coordinated Motion Template compiles with warnings.
DT-3216	Investigate cause of PDMM 1.2 GHz failing with a critical temp error (E1) during the Manufacturing Burn in process

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DT-3214	KAS 2.8 IDE does not startup on certain laptops A couple of instances of KAS crashing on startup on certain laptops have been reported. After double clicking on the KAS icon, nothing would be displayed or a Windows crash report was displayed. After investigation, it was found that some Internet Explorer browser extensions such as search redirectors or programs that change and monitor the home page can cause KAS not to startup. Specifically, in the laptops that were analyzed the software called "Search Protect" and "SearcuhQU" were found to be the root cause to what was observed. KAS has been modified to handle some of these scenarios. But in some cases the user may need to disable the crashing extension. The procedure is discussed on this web page http://kdn.kollmorgen.com/content/kas-ide-crashes-startup
DT-3213	When renaming an AKD drive in the project tree, already plugged Watch Items from the same drive are not updated
DT-3212	ECATGetObjVal returns the same value when 2 Fast inputs are specified in a PDO for AKD Drives. This defect was introduced in 2.9 with the new PDO reference by index.
DT-3210	S700 latch position is not accurate from the trigger block Regression on the latch control word when added the support for both capture engine on AKD due to the use of another object… Fixed have been done in 2.8 and 2.9 (issue still present on 2.7)
DT-3207	Ghost KVB projects could be present on KAS project
DT-3205	Long-run PAC warning on long run Found memory leak on official 2.8.1.56914, so a new build will be produced soon
DT-3200	PN Axis is blocking with high rate move Fix have been ported in 2.8 and 2.9 to prevent run away on those conditions
DT-3199	Project cannot be opened when a read-only ENI file was imported previously If a read-only file was present, the complete temporary folder was not cleaned up
DT-3198	MLAxisAbs Operation The travel speed was updated only when the generator was in STANOP state or when AbsoluteMove, AdditiveMove or RelativeMove where correctly triggered.Now if the travel speed has been requested to change, it triggers a new AbsoluteMove, relative and additive.
DT-3197	Memory Leak with udpRcvFrom(…) in Runtime
DT-3196	Find/Replace not saved in FB instance in FFLD In RC11, the Copalp DLLs have been updated. There is a new feature included with these DLLs that will warn the user when not using an LREAL when one is expected. The warning is: "LREAL# prefix required to avoid loss of accuracy" To fix this warning for a hard coded value, prefix the value with LREAL#. For example, if the original value was '123.4', use 'LREAL#123.4'.
DT-3194	AKD Restore Serial Number inconsistent with AKD-GUI
DT-3190	KAS Runtime Error E21 while converting project from KAS 2.7 to KAS 2.8 If the CAM block is not executing, the initial calculations do not need to be calculated, as they will be initialized when the Block is prepared for execution.
DT-3189	HMI Variable corruption in dictionary
DT-3187	Not possible to add PipeNetwork motion engine to PLCOpen ST template
DT-3185	KAS IDE let you create a variable with a keyword name Now the user gets a warning to inform a non IEC61131 strict compliance
DT-3181	Crash When Importing SubPrograms with Korean Character Set

DT-3174	Runtime crash when closing KAS, due to a bad floating point library This crash was pretty transparent for end users, as it was when stopping the runtime but behind the scene it was hiding a real issue. The floating point calculation was done with the wrong library for the PDMM 1.2Ghz. This issue has been foxed as well on the official 2.8 release.
DT-3172	MC_GearinPos - .MasterSyncPosition & .SlaveSyncPosition problem MC_GearInPos has been modified to support the SyncMode input of this function block. SyncMode = 0 (normal synchronization) This mode will operate as the function block has previously. SyncMode = 1 (Immediate synchronization allowed) This mode of synchronization will allow axes with ROLLOVER = 0, to program synchronization positions that the axes have already pasted. A Synchronization start distance may also be programmed that is less than the current distance to the synchronization position. Could be done only with Linear axis
DT-3171	MC_GearinPos - .MasterStartDistance problem
DT-3170	Intermittent ECAT initialization failure w/ PAC and high axis count Due to an InTime driver issue, the PAC was no more able to start a significant EtherCAT network, the driver was losing frames. Setup a workaround to guarantee a good load balancing when sending SDO frame to avoid overloading the driver.
DT-3164	Importing program creates a dictionary refresh issue There was multiple Dictionary refresh issue presenting variable twice.
DT-3154	Vcmd value when drive not enabled
DT-3151	3D-Template - Not possible to start motion Added a check for simulator mode in the template program. Also added documentation for Project Templates
DT-3142	KAS fails to upgrade drives if they are enable
DT-3116	Profiles code duplicated in dictionary
DT-3114	Kollmorgen UDFB doesn't appear in dictionary
DT-3079	AKD firmware download failed, but IDE reports "The firmware update has completed"
DT-3065	Can't download Download AKD Parameter from file via KAS IDE
DT-3059	Download of wrong AKD FW possible The AKD Firmware download will now check for the network topology before downloading the files to verify if the selected drive(s) are present at the same node index as in the project tree and if it does not match, the following message will be displayed. Also, the firmware file will be checked and if it does not compatible with the drive, the following error message will be displayed.
DT-2964	Can't download project source to PDMM A Time Out was happening on big project file download. This TO have been removed
DT-2947	Edit Variable dialogue doesn't close or display msg/popup in case of string variable size is more than 255
DT-2689	Not able to perform an AKD firmware after multiple execution
DT-2669	Cannot map custom IOs/PDMM Onboard IOs to PLC variable and export to HMI The HMI exported variable was marked by a tag <hmi> and this tag was not compliant with the Copalp engine. So now when a variable is exported for HMI, it's tagged as (*$prop4106=1*). This allows cumulating HMI export and PDMM onboard IO for example.
DT-2667	MC_MachRegist and MC_MarkRegist functions using the same drive trigger engine not working correctly
DT-2580	any_to_string only writing first character into element of string array in FBD
DT-2190	Log of "Error in the communication with the EtherCAT driver" when KBus Coupler Context Menu displayed

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DT-2024	Retain variable with Online change
DT-1841	Undo does not work in SFC editor
DT-1778	Average function block input type is REAL, most KAS variables are LREAL
DT-1619	Variable IO mapping functionality is not as expected
DT-1281	Online change option still enable after unchecking the online change box
DT-1232	Problem creating new string Var when ONline Change is Enabled
DT-1232	Problem creatring new string Var when ONline Change is Enabled
DT-497	Add variable Window is looking very odd when Online change is enabled
DT-431	OLC - Twice undo is deleting the variable moved from one node of dictionary window to other.

7   Known Issues

7.1   KAS Runtime Fails to Start on the PAC over Remote Desktop

Symptom: When accessing the PAC via Remote Desktop, KASRuntime fails to start. Instead, this pop-up is displayed:
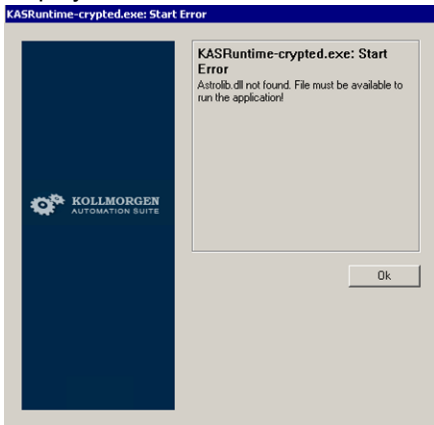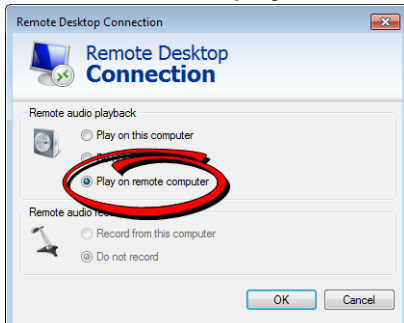
Workaround: Set the Remote Desktop "Remote audio playback" setting to "Play on remote computer":

1.   In Remote Desktop, before connecting to the PAC, click on the **Show Options** arrow.
2.   Click on the **Local Resources** tab and click **Settings…**.
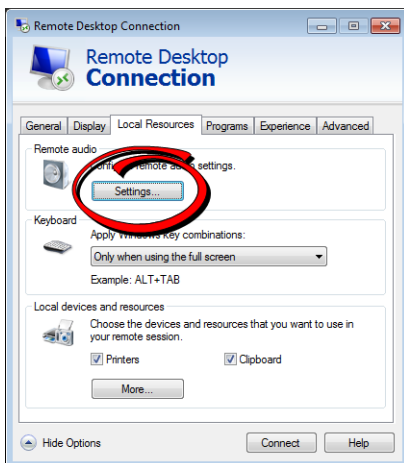
3.   Set **Remote audio playback** to **Play on remote computer**.

4.   Click **OK** and connect as usual.

7.2 Miscellaneous

- DT-3290: PDOs need padding to meet byte boundary requirement. The KAS IDE PDO Editor does not automatically pad PDOs on non-byte boundaries. The problem can be avoided by manually adding dummy objects to pad the PDO size to line-up on byte boundaries.
- DT-3287: KL3314 Operation. Temperature values are not calibrated properly to the thermocouple. To work-around the problem, use **ECATWriteData** to setup the control word (16xE0) and send value (16x2006) to Register R32 and a second **ECATWriteData** to write zero(0) to the control word to set up the continual output of the temperature.
- DT-3284: Edit CoE Init-Command Dialog Box Initialized with Wrong CoE Object. To avoid this problem, manually re-enter the object index and subindex when editing a CoE Init-Command.
- DT-3276:PLCOpen: negative UserUnits prevents MC_GearInPos working. To avoid this problem, only use positive values for UserUnits; negative values are not supported.
- DT-3274: Cannot replace ESI files. This problem may be avoided by using the IDE to **Delete** the existing ESI file from the ESI Files tab and then **Add** the replacement ESI file.
- DT-3271: IDE lock-up after ECAT scan with MDP device.
- DT-3265: Modbus renumber address does not work with String variables. In the Fieldbus Editor Modbus configurator, if you right click input registers and choose the renumber address option, it will make the addresses overlap.
- DT-2934: Murr device not starting if any device on the network uses Distributed Clock – this is a Murr issue that they are working on.
- DT-3155: If a hub is in bt a PAC and the EtherCAT slave, if the cable between the slave and the hub is unplugged, the controller doesn't stop the motion, the axis is not shown in fault. It turns to fault state only when the cable is plugged back in
- DT-3211: Application download could fail from time to time

7.3 Known Limitations

7.3.1 IDE Limitations

- **Undo:** The Undo action is not supported for AKD GUI views, control panel, or the EtherCAT view.
- **Softscope:** Heavily loaded applications using all 8 channels plugged with derivatives can lose connection with the IDE. This is unusual but if you experience this, please contact Support.
- **Find/Search/Replace function limitations**:
  - Search & Replace function is not supported in Pipe Network.
  - Search & Replace for HMI are supported only with using CTRL+F
- **SFC programs**
  - **Intellisense:** Intellisense is not active in Sequential Function Chart (SFC) programs.
  - **Breakpoints:** In SFC programs, breakpoints can only be set on transitions (i.e. in First Level diagram), and not in steps or conditions. If a breakpoint is set on a transition, you can debug cycle by cycle.
- **PLC Variable mapping:** each PLC variable can be mapped to an EtherCAT IO and exclusively to:
  - Modbus for an HMI
  - Or to an PDMM onboard IO
 - Or to an external driver like Profibus

For example we cannot map the same PLC variable to Modbus and Onboard PDMM IO, but this is possible with a regular EtherCAT IO.

- **Online Change:** Modified cam profiles are detected by the IDE but will not be updated to the controller, even if you choose to force the update. (DT-3013)
- **Downloading Project to a Controller:** If the Ethernet cable is disconnected when downloading a KAS project to a controller, the IDE will freeze for 2-3 minutes. Re-downloading the application will not work. To recover from this condition, restart the KAS Runtime on the controller or power-off/on the controller and restart the IDE. (DT-3011)

- **Upgrading 17+ AKD drives firmware:** If selecting 17 (or more) drives to upgrade firmware, the first 16 drives will be upgraded properly, but the 17th (and higher) drives will not be upgraded. No errors will be reported in the IDE. (DT-2968)
- **Analog Input Slice Offset Parameter:** The offset parameter for Kollmorgen analog input slices is not supported. Changes the offset parameter will have no effect. The gain parameter is working properly. (DT-2935)

7.3.2 KVB Limitations

- **Variables:** The Modbus variables are imported to KVB when KVB is opened. They are not updated cyclically after opening. If other variables are exported in the IDE, KVB should be closed and reopened.
- **Alarm stops updating a tag value:** It's not advised to modify in the AlarmServer action on the same tag as the one used to trigger it. A different variable should be used.
- **Running KVB with Simulator:** There is a known issue when using Simulator on some PCs running Windows 7 Home Premium Edition. To workaround this issue, delete the *Platform* system variable:
- **Autostart:** When a KVB project is sent to an IPC using the Download feature, the project may not Autostart. The workaround is to start the project manually from `C:\Documents and Settings\All Users\Documents\Kollmorgen Corporation\Kollmorgen Visualization Builder™ 2\(ProjectName)`.
- **Web Browser for AKI-CDB-xxx panels:** While a web browser component may be added to a AKI-CDB-xxx panel, this component on the CDB panels is fairly limited. For example, KAS web server controller cannot be displayed.
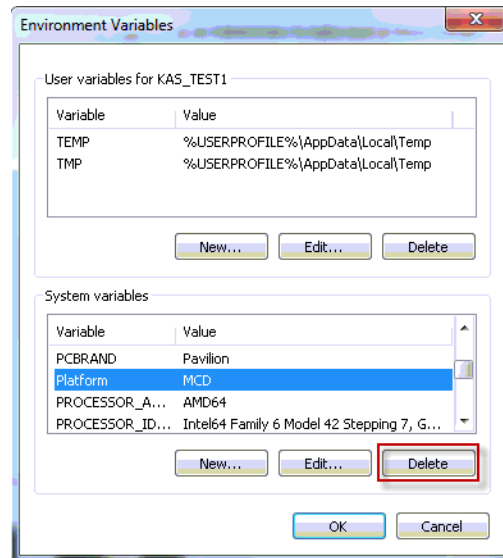
7.3.3 EtherCAT Limitations

- **Cabling:** Plugging the EtherCAT cable from an OUT port to an OUT port is not detected and not reported as an error.
- **Cabling:** The following pertains to cases where an Ethernet hub is present between the PAC and the first EtherCAT device. If the cable between the hub and the EtherCAT device is disconnected, the controller will not stop the motion and the axis will not be shown as being in fault. The axis will only display the fault state after the cable is reconnected. To recover from this situation the PAC must be power cycled.
- **External EtherCAT Configuration:** If an external EtherCAT XML file needs to be used, the file `AKD-for-KAS.xml` should be used as the ESI file for AKD. This ensures proper operation with KAS. It can be found at `C:\Users\<user.name>\AppData\Local\Kollmorgen\KAS\Astrolabe\ESI\`.

7.3.4 PAC Limitations

- **A38 Alarm:** On the PAC High Range, at 4Khz, user may experience a A38 alarm when having roughly 20 or more drives. This issue means the ECAT frame does not return back to the controller within the same EtherCAT cycle.

About KOLLMORGEN

Kollmorgen is a leading provider of motion systems and components for machine builders. Through world-class knowledge in motion, industry-leading quality and deep expertise in linking and integrating standard and custom products, Kollmorgen delivers breakthrough solutions that are unmatched in performance, reliability and ease-of-use, giving machine builders an irrefutable marketplace advantage.

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