KAS Web Server

User Manual for PAC

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Valid for Software Revision 2.5

Keep all manuals as a product component during the life span of the product.
Pass all manuals to future users / owners of the product.

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Table of Contents

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1 About the KAS Web Server

Kollmorgen Automation Suite™ comes with a web server that allows you to perform the following operations:

- Read information about the controller (model type, firmware version, version of your KAS application)
- Interact with your application (Start and Stop your KAS application)
- View real and simulated axes
- See all the log messages

To access the web server, open a web browser and enter the controller's IP address or double-click on the controller node in the KAS IDE.

NOTE If you do not know the IP address assigned to the AKD PDMM, press and briefly hold B2, the 7-segment display will show the IP.

The web server consists of a home page, the KAS Application tab and Help. The Help tab is a link which opens the PAC Web Server manual.

TIP **Browser Requirements:** We recommend using Firefox 11 or Internet Explorer 9 or later for accessing the web server.

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2 Web Server Home Page

To access the KAS web server home page, enter the controller's IP address.

This page provides an overview of the device including:

- Manufacturer
- Image

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3 KAS Application

This tab allows you to:

- Display general information about your project that is currently loaded on the controller (PAC or AKD PDMM)
- Start and stop the motion
- Display the Axes run by the controller from the "Axis" (see page 9) tab
- Manage log messages from the "Log Configuration" (see page 10) and "Log Data" (see page 11) tabs
- Display User Data present on the controller from the "User Data" (see page 13) tab

Item	Description
Version of KAS **App**	This label provides information about the version present in the controller. The format is `<project_name>:<-version>`
Status of KAS **App**	The state of the application, *Started* or *Stopped*.
Start	Default mode (warm start) where the retain variables are loaded at the application startup. They are **Not** re-initialized; whereas other variables are started with their initial values
Cold Start	Use retain variables with their default values. Such starts occurs from time to time but are few.
Stop	Stop the application
Auto-start	Select this option to automatically start the KAS application when the PDMM is powered up. The application will start using retained variables (a "warm start") after the controller has booted up. To change this setting, click the Auto-start checkbox to either activate or deactivate this option and click the Apply button. The control will use the new setting at the next power-up. **NOTE** You can choose to start the application manually when debugging with the Simulator. Whereas the Auto-start mode is recommended when the system is in production, in order to prevent from doing inappropriate actions.
Clear all errors	Clicking this button will clear the error log for all axes.

3.1 Axis

You can view a visual representation of the motors from the Axis tab. The axis wheels are visible after your application is started. The following can be monitored from the display:

- Real and Simulated axes
- Actual position with solid line and actual position value
- Command position with the dotted line and (command position value) in parentheses
- Axis State: Powered-off , Powered-On, or Error as well as Simulated Powered Off and ON
- Identify the axes from the label, as defined by the axis name in your application
- Axis status or positions snapshot
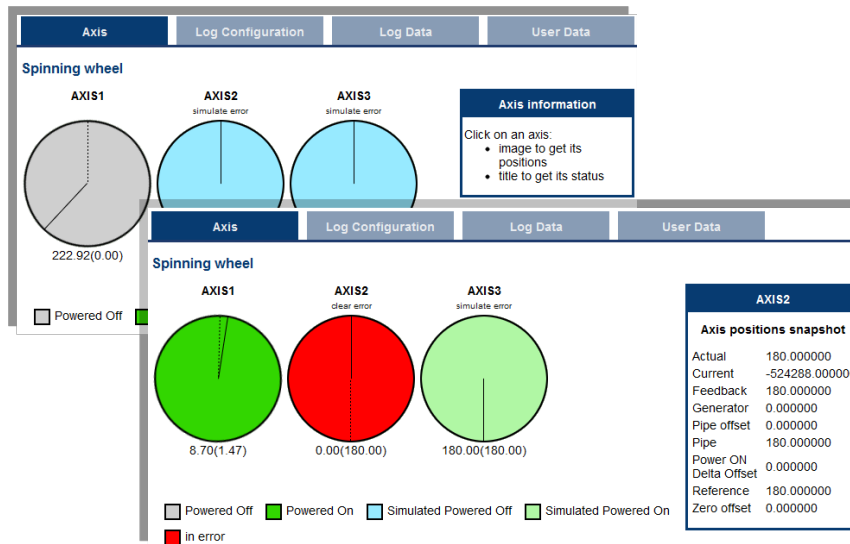
Information available by clicking on the axis

Title	Image (PN axis)	Image (PLCopen axis)	Image (digitizing axis)

AXIS1

Axis status snapshot

Initialised	true
Power ON	false
Enable	true
Found	true
Configured	true
Running	false
Error	false
Simulated	false
Connected	false
Warning	false
Stopping	false
Stopped	false

AXIS1

Axis positions snapshot

Actual	174.220505
Current	0.000000
Feedback	174.220505
Generator	0.000000
Pipe offset	0.000000
Pipe	0.000000
Power ON Delta Offset	0.000000
Reference	0.000000
Zero offset	0.000000

PLCOpenAxis2

Axis positions snapshot

Actual	3141.856728
Command	3141.856728
Normal	3141.856728
Phase	0.000000
Super imposed	0.000000

Axis3

Axis positions snapshot

Actual	0.000000

Additionally, if an axis is in error, the error can be cleared by clicking the text below the axis title.

3.2 Log Configuration

You can configure the log to filter the messages that are displayed. Each source can be set with its own level.

Each message has one of the following levels, with importance in ascending order:
DEBUG > INFO > WARNING > ERROR > CRITICAL

How to Choose the Appropriate Level?

When a level is set for a source, only messages with the same or higher importance are recorded. For example, if a source is set to WARNING, then all messages with levels WARNING, ERROR and CRITICAL are recorded (DEBUG and INFO messages are discarded).

Therefore, DEBUG is the most verbose and ERROR is the least verbose level. Filtering is quicker with less verbose levels, due to the number of messages.

NOTE   Critical messages are always recorded. Therefore, the Critical level is not visible.

Source

Source	Apply to...
IDE	Win32 applications: the KAS IDE and the KAS Run Time Server (also called the KAS Run Time Front-end)
Controller	For the KAS Run Time items: Drivers, IOEngine, SinopEngine...
EtherCAT	For all kinds of EtherCAT items: Motion bus, I/Os
Drive	Messages from the drive (AKD or AKD PDMM)
PLC	For application engineers to create custom log within the PLC programs (similar to printf)
Motion	Messages coming from the Motion engines: PLCopen, Pipe network or VM
System	For common API and libraries. Also includes messages issued from the operating system.

Level

Level	Icon	Description
DEBUG		Any information logged for development purpose. You can ignore this log.
INFO		Information status of the current process. You can ignore this log.
WARNING		System is stable but the KAS IDE warns that an unexpected event can occur. You can ignore this log.
ERROR		The application does not behave as expected but the processes remain stable.
CRITICAL		Application crashes or becomes unstable. Data is corrupted. At this point the application behavior can be unpredictable.

3.3 Log Data

KAS log files may be viewed from the Log Data tab. These messages can help describe the current state of the system and to help identify any operation errors encountered when developing your system. A PAC will display as many as 20 files.
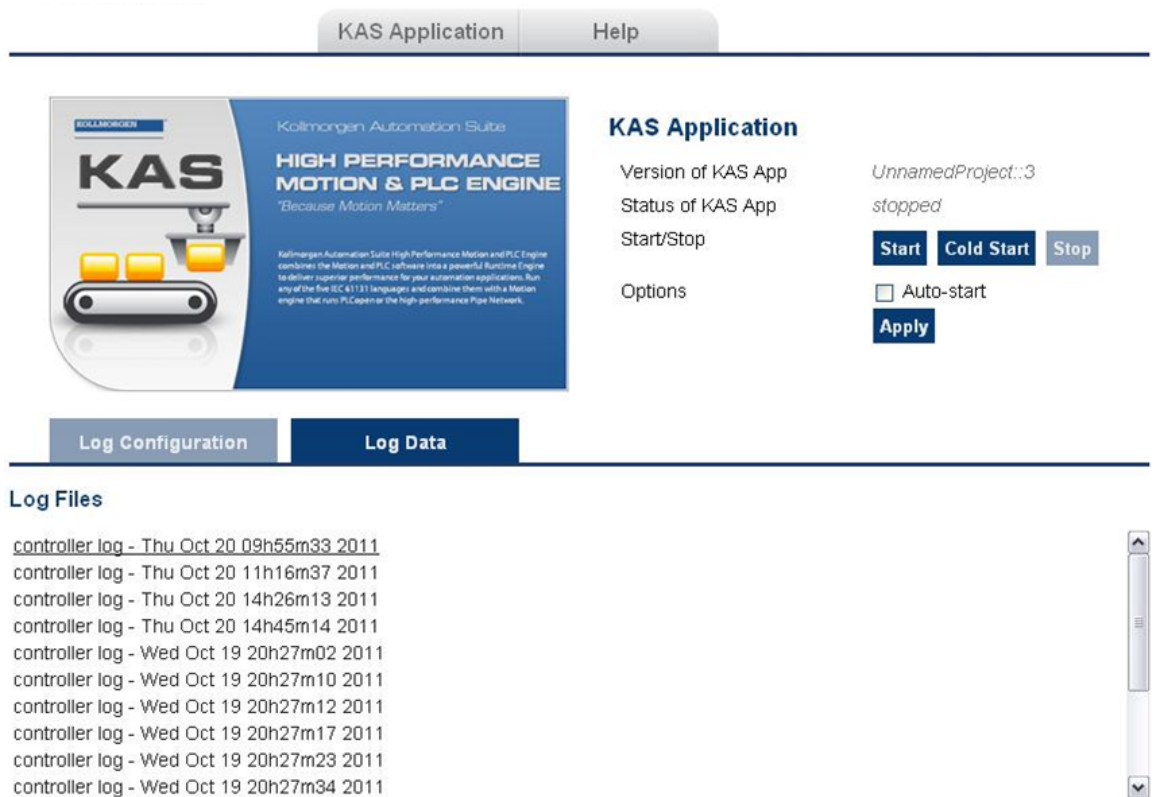
Figure 3-1: Example of log files displayed from a PAC webserver.

Clicking on a listed log file will open it in your web browser. The log file may be downloaded by right-clicking on the file and selecting the *Save Target As* or *Save Link As* option. The default name is the same as the file's name. If you try to open a file that no longer exists, the message "*/logfiles/<selected file name> not found*." Refresh your browser window and try again.
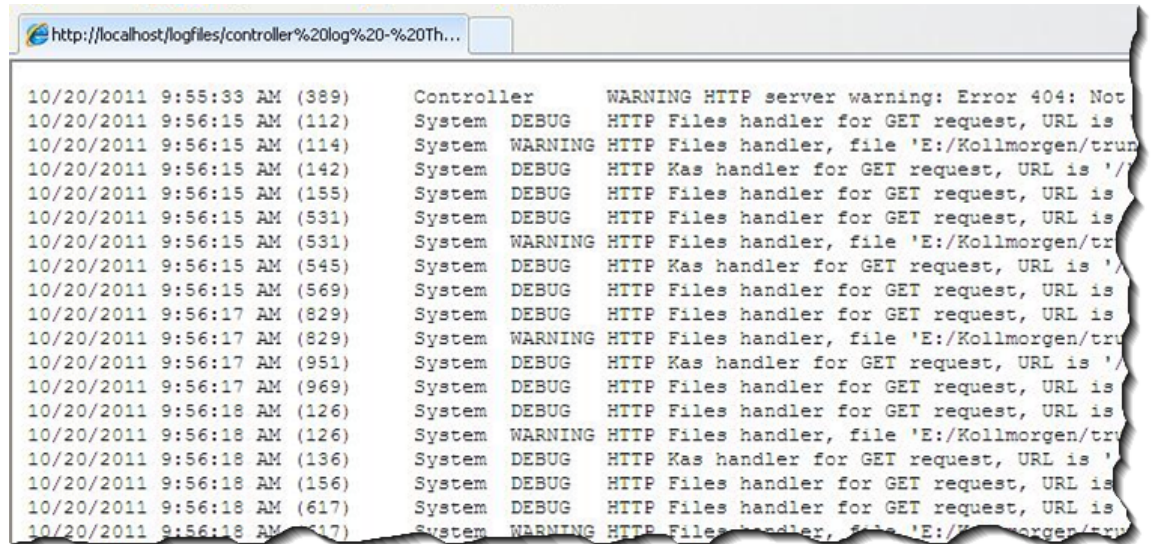

Figure 3-2: Example of a log file's content, displayed in a browser.

NOTE Log data is collected and updated every 15 seconds on a AKD PDMM and a new log file will be created when the current file is full. You may need to wait for up to 15 seconds for a log to show up in the list.

3.3.1 Log Message Content

Every log message in the table has the following information:

Field	Description
Time	Time when the log was recorded with the format: DD-MMMM-YY hh:mm:ss (millisecond)
Source	Identifies a software or hardware component issuing the messages. Each source is configured with a specific Level.
Level	Each message has one of the following levels with importance in ascending order: DEBUG > INFO > WARNING > ERROR > CRITICAL
Message	Text of the message issued from the source

Table 3-1: Log Messages - List of Field

★ TIP Log messages is an important source of information when you are troubleshooting your project.
When reporting an issue to the support, copy/paste the logs in your report.

3.4 AKD PDMM Log Files

Logs generated on a AKD PDMM are stored in flash memory at `/mount/flash/log`. The files are stored in a rotating pool consisting of a maximum of 10 files. The files have a maximum size of 200 kilobytes each; the most amount of space the log files will consume is 2 MB. Once an "eleventh" file is created the earliest file is flushed to make room for the new file.

The AKD PDMM generated log levels can be controlled form the KAS IDE and Web Server. From the IDE, the log levels can be filtered in the configuration window in the *Logs and Information* tab.

3.4.1 Log File Naming Convention

The logs have the naming format `pdmm_logs_n` where *n* is a value ranging from 0000000000 to 4294967295, which is the maximum value a 32-bit location can store.

As an example, when the files are first created they will be named `pdmm_logs_0000000000`, `pdmm_logs_0000000001`, `pdmm_logs_0000000002` and so on. The file that will be created after `pdmm_logs_4294967295` is `pdmm_logs_0000000000`. The naming gets reset and continues.

3.5 User Data

This tab lists any user-generated files or folders found on the flash drive. Clicking a folder will display the folders contents. Download a file by clicking on it.

The **Clear User Data** button will erase all of the files in the user data folder.

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