

KAS Web Server

User Manual for PDMM



Edition May 2012

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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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
- Upgrade the controller firmware
- Change the IP address
- View system diagnostics including storage space, memory and CPU temperature
- Reset the controller to factory settings

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 the home page and four tabs including KAS Application, Settings, Diagnostics and Help. The Help tab is a link which opens the KAS PDMM 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.

Kollmorgen Automation Suite™

| | |
|----------------------|--------------------|
| Manufacturer | _Kollmorgen |
| Image | _PDMM |
| Model Number | _AB |
| Part Number | _A195-0001 |
| Serial number | _R2A000 |
| Hardware Revision | _E3A |
| TCP/IP Mac Address | _00:23:1b:00:df:df |
| EtherCAT Mac Address | _00:23:1b:00:df:df |

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Radford, VA 24141 USA

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This page provides an overview of the device including:

- Manufacturer
- Image
- Model Number
- Part Number
- Serial Sumer
- Hardware Revision #
- TCP/IP MAC Address — a unique value associated with the TCP/IP network adapter that uniquely identifies the adapter on a LAN.
- EtherCAT MAC Address — a unique value associated with the EtherCAT network adapter that uniquely identifies the adapter on an EtherCAT network.

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3 KAS Application

This tab allows you to:

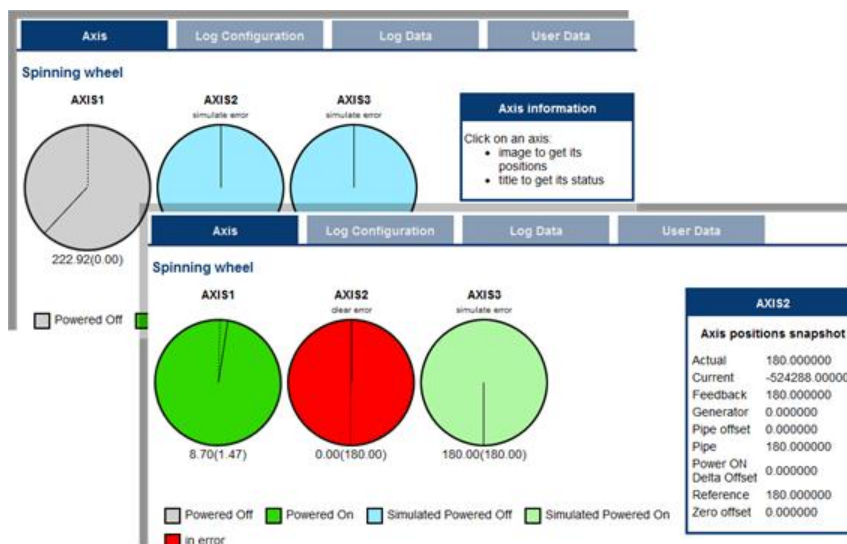
- Display general information about your project that is currently loaded on the controller (PAC or AKD PDMM)
- Start and stop the motion
- Display the Axes run by the controller from the "Axis" (see page 9) tab
- Manage log messages from the "Log Configuration" (see page 10) and "Log Data" (see page 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, <i>Started</i> or <i>Stopped</i> . |
| 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



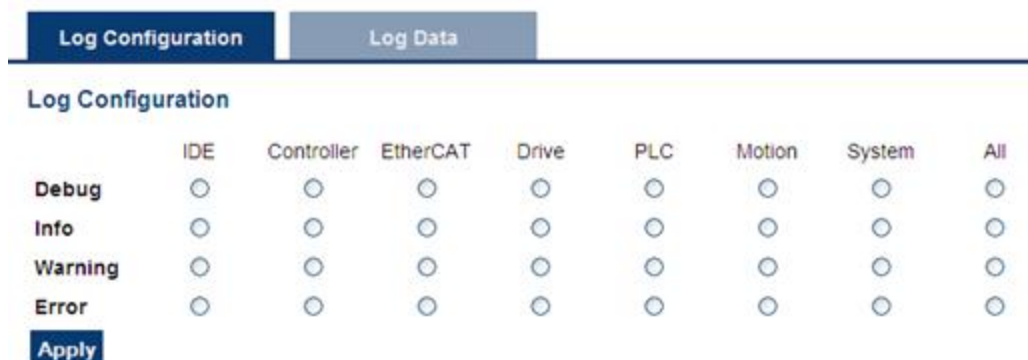
Information available by clicking on the axis

| Title | Image (PN axis) | Image (PLCopen axis) | Image (digitizing axis) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|----------------------|-------------------------|--|-------------|------|----------|-------|--------|------|-------|------|------------|------|---------|-------|-------|-------|-----------|-------|-----------|-------|---------|-------|----------|-------|---------|-------|---|-------|--|-------------------------|--|--------|------------|---------|----------|----------|------------|-----------|----------|-------------|----------|------|----------|-----------------------|----------|-----------|----------|-------------|----------|--|--------------|--|-------------------------|--|--------|-------------|---------|-------------|--------|-------------|-------|----------|---------------|----------|---|-------|--|-------------------------|--|--------|----------|
| <table border="1"> <thead> <tr> <th colspan="2">AXIS1</th> </tr> <tr> <th colspan="2">Axis status snapshot</th> </tr> </thead> <tbody> <tr><td>Initialised</td><td>true</td></tr> <tr><td>Power ON</td><td>false</td></tr> <tr><td>Enable</td><td>true</td></tr> <tr><td>Found</td><td>true</td></tr> <tr><td>Configured</td><td>true</td></tr> <tr><td>Running</td><td>false</td></tr> <tr><td>Error</td><td>false</td></tr> <tr><td>Simulated</td><td>false</td></tr> <tr><td>Connected</td><td>false</td></tr> <tr><td>Warning</td><td>false</td></tr> <tr><td>Stopping</td><td>false</td></tr> <tr><td>Stopped</td><td>false</td></tr> </tbody> </table> | 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 | <table border="1"> <thead> <tr> <th colspan="2">AXIS1</th> </tr> <tr> <th colspan="2">Axis positions snapshot</th> </tr> </thead> <tbody> <tr><td>Actual</td><td>174.220505</td></tr> <tr><td>Current</td><td>0.000000</td></tr> <tr><td>Feedback</td><td>174.220505</td></tr> <tr><td>Generator</td><td>0.000000</td></tr> <tr><td>Pipe offset</td><td>0.000000</td></tr> <tr><td>Pipe</td><td>0.000000</td></tr> <tr><td>Power ON Delta Offset</td><td>0.000000</td></tr> <tr><td>Reference</td><td>0.000000</td></tr> <tr><td>Zero offset</td><td>0.000000</td></tr> </tbody> </table> | 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 | <table border="1"> <thead> <tr> <th colspan="2">PLCOpenAxis2</th> </tr> <tr> <th colspan="2">Axis positions snapshot</th> </tr> </thead> <tbody> <tr><td>Actual</td><td>3141.856728</td></tr> <tr><td>Command</td><td>3141.856728</td></tr> <tr><td>Normal</td><td>3141.856728</td></tr> <tr><td>Phase</td><td>0.000000</td></tr> <tr><td>Super imposed</td><td>0.000000</td></tr> </tbody> </table> | PLCOpenAxis2 | | Axis positions snapshot | | Actual | 3141.856728 | Command | 3141.856728 | Normal | 3141.856728 | Phase | 0.000000 | Super imposed | 0.000000 | <table border="1"> <thead> <tr> <th colspan="2">Axis3</th> </tr> <tr> <th colspan="2">Axis positions snapshot</th> </tr> </thead> <tbody> <tr><td>Actual</td><td>0.000000</td></tr> </tbody> </table> | Axis3 | | Axis positions snapshot | | Actual | 0.000000 |
| 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. An AKD PDMM will display as many as 10 files.

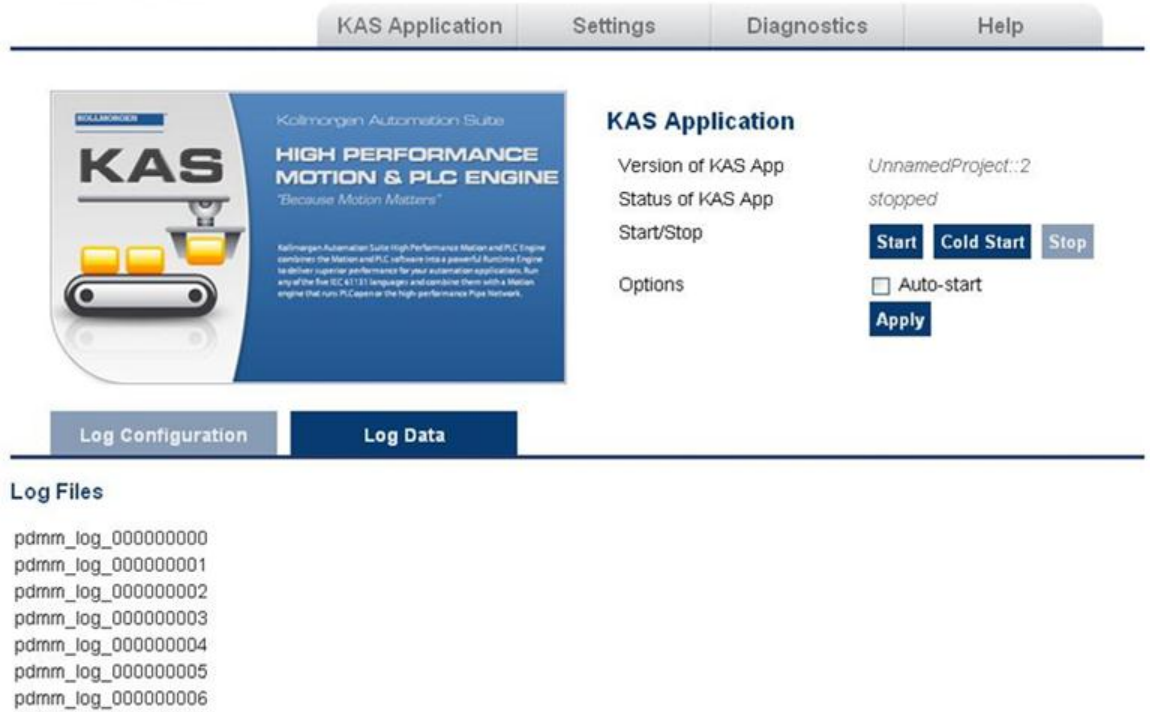


Figure 3-1: Example of log files displayed from an AKD PDMM webserver.

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.

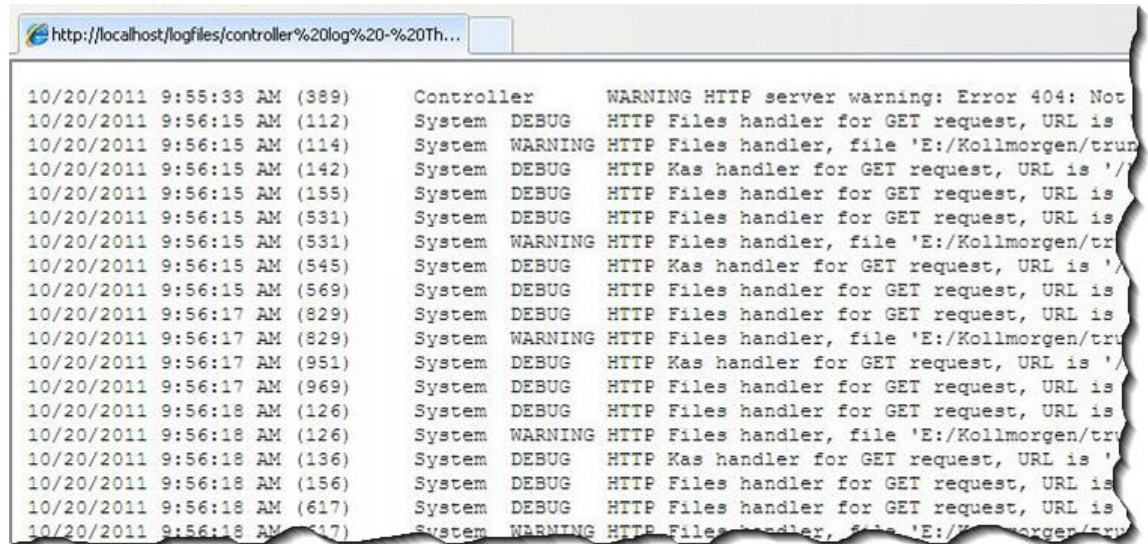


Figure 3-2: Example of a log file's content, displayed in a browser.

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



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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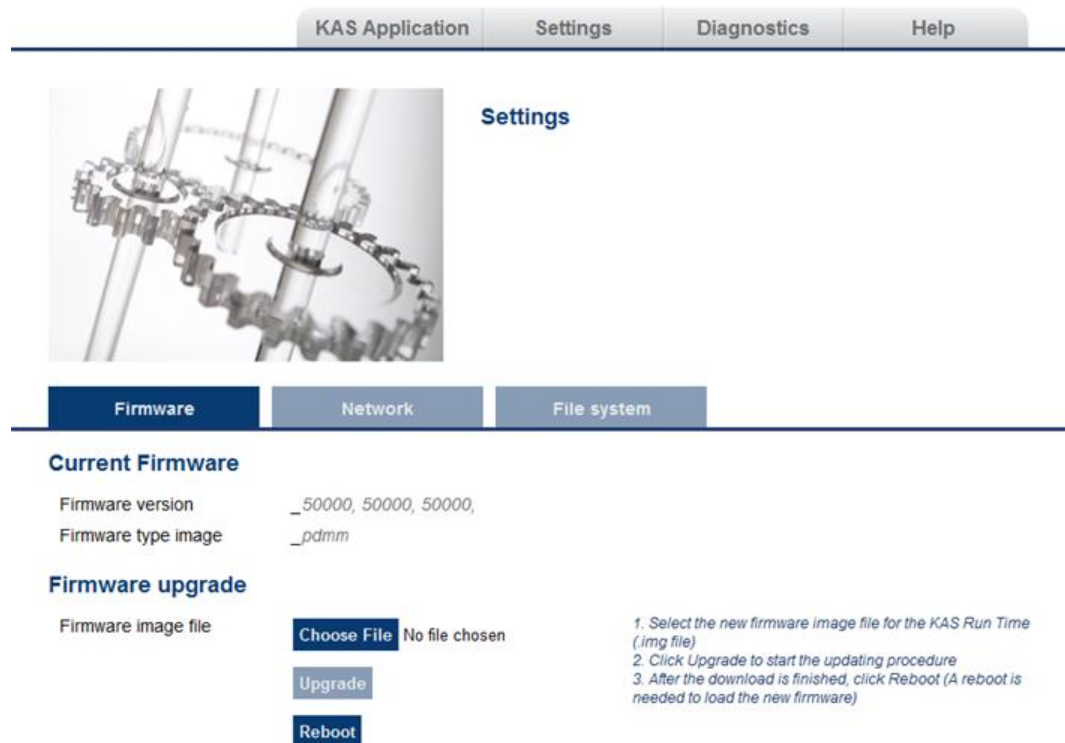
4 Settings

This section allows you to:

- Display and update the firmware for the KAS Run Time
- Display the network settings and modify the IP address
- Reset the control to factory settings
- Access the SD Card Actions

4.1 Firmware Tab

This tab displays the current firmware version and type. Additionally, you may upgrade the firmware from this tab.



KAS Application Settings Diagnostics Help

Settings

Firmware Network File system

Current Firmware

Firmware version

Firmware type image

Firmware upgrade

Firmware image file No file chosen

1. Select the new firmware image file for the KAS Run Time (.img file)
 2. Click Upgrade to start the updating procedure
 3. After the download is finished, click Reboot (A reboot is needed to load the new firmware)

4.1.1 Upgrading the Firmware

You can upgrade the firmware of the AKD PDMM by using the web server as follows:

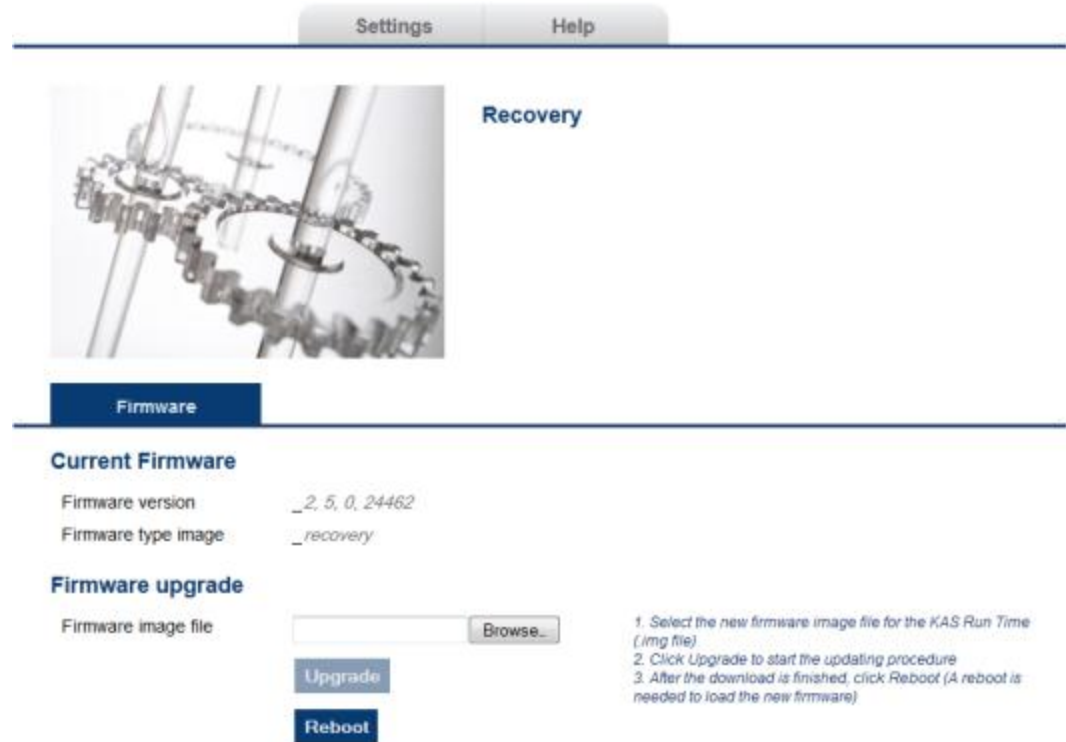
1. Open AKD PDMM web server in your Internet browser by entering its IP address.
2. Select the **Settings** tabbed-page
3. In the **Firmware** pane, click the **Browse...** button to select the new firmware image file for the KAS Run Time.
The firmware files are IMG files that start with KAS-PDMM, followed by the software version; for example, KAS-PDMM-2.5.0.29020.img.
4. Click **Upgrade** to start the updating procedure
At this point the 7-segment display shows a chasing lights animation.
5. After the animation is finished, click **Reboot** (for more details on the boot sequence, refer to Booting the AKD PDMM)

This operation downloads the KAS Run Time and its version number to the on-board flash memory in the AKD PDMM.

⚠ WARNING Do not try to refresh the web page until firmware upgrade is done.

4.2 Recovery Mode

If the AKD PDMM detects a problem in the firmware, it displays an "r" on the 7-segment display and will automatically enter Recovery Mode. Recovery Mode provides the ability to select a firmware image file to build a new KAS Run Time image on the AKD PDMM. In the rare case when Recovery Mode cannot be automatically accessed, pressing and holding B2 at boot will force the AKD PDMM to boot into Recovery Mode.



4.2.1 Upgrading the Firmware

The AKD PDMM firmware is recovered as follows:

1. Open the AKD PDMM web server in your Internet browser by entering its IP address.
2. Click the **Browse...** button to select the new firmware image file for the KAS Run Time.
3. Click **Upgrade** to start the update procedure.
4. After the download is finished, click **Reboot** (for more details on the boot sequence, refer to the online help).

This operation downloads the KAS Run Time and its version number to the on-board flash memory in the AKD PDMM.

⚠ WARNING Do not try to refresh the web page until the firmware upgrade is done.

4.3 Network Tab

The contents of this tab display the current rotary switch position of the AKD PDMM and its MAC address. Additionally, you may manually change the AKD PDMM's IP address.

| Firmware | Network | File system | |
|-----------------------------|--------------------|--------------|---------------|
| Network Settings | | | |
| Rotary Switch Value * | _ 1 | | |
| MAC Address | _00:23:1b:00:df:df | | |
| Manual IP Address ** | | | |
| IP Address | 10 | 50 | 67 95 |
| Subnet Mask | 255 | 255 | 255 0 |
| Default Gateway | | | |
| | | Apply | Reboot |

* The Rotary Switch Position are:
- 0 for DHCP (if no DHCP server, AutoIP is used)
- 1 for manual IP address (by default: 192.168.0.101)
- 2-9 for static IP address (192.168.0.10x)
** This IP address will be used only if the rotary switch is on position 1
The new IP address will be effective after reboot

Figure 4-1: Example of an AKD PDMM with a manually defined IP address

4.3.1 About the Rotary Switch

The rotary switch on the AKD PDMM can be set on a position from 0 to 9.

| | |
|---------------|---|
| Position 0 | The drive tries to get an IP address from a DHCP server. If the DHCP fails, then the PDMM uses AutoIP to get a usable IP address. |
| Position 1 | The default custom static IP address, 192.168.0.101 or a custom IP address. |
| Positions 2-9 | The drive is pre-configured with static IP addresses ranging from 192.168.0.102 (Position 2) to 192.168.0.109 (Position 9). |



If a DHCP server is not present, the drive will assume an Automatic Private IP Address of the form 169.254.x.x

4.3.2 Change the IP Address

To connect and use your AKD PDMM within your computer network, you may configure its IP address by using the web server as follows:

1. Open AKD PDMM web server in your Internet browser
2. Select the **Settings** tabbed-page
3. In the **Network** pane, set static IP address according to the position defined via the rotary switch
 - If the rotary switch is set to Position 1 you may use the default custom address or set a value in the Manual IP Address fields.
4. Configure the Manual IP Address
5. Configure the subnet mask (default is 255.255.255.0)
6. (Optional) Configure the gateway address if the AKD PDMM is outside your local network
7. Click **Apply**
8. Click **Reboot**

4.4 File System Tab

This section contains a button which allows you to reset the control to the factory settings.

| Firmware | Network | File system |
|----------|---------|-------------|
|----------|---------|-------------|

Current File system

Reset to Factory Settings

Reset to Factory Settings will:

1. Reset any application previously download
2. Reset IP address, Subnet and Gateway settings
3. Reset retained variables
4. Reset Auto-Start option

Notes:

- * Reset cannot be performed while an application is running.
- * Reset will take about 4-5 minutes to complete and the display on the control will animate during this process. Do not power off the control once started.
- * The control will be rebooted automatically after the reset is complete.
- * After reboot, verify the IP address of the control. This webpage may not be available at the same IP address as now.

4.4.1 Reset the Control to Factory Settings

When this button is pressed, the control will be reset to factory default settings. The user is promoted to confirm this action before the function is performed.

The following changes occur during factory reset:

- Reset any application previously downloaded
- Reset the IP address, Subnet and Gateway settings
- Reset any retained variables
- Reset the Auto-Start option

Notes about the reset:

- The factory reset cannot be performed while an application is running. The "Reset to Factory Settings" button is disabled while an application is running.
- The factory reset will take 4-5 minutes to complete and the 7-segment display on the control will animate during this process. The control should not be turned off during this procedure.
- After the factory reset is complete, the control will be powered down and restarted automatically.
- The controls webpage will not update during the reset procedure and can be closed.
- After the control is restarted, the IP address of the control may change based on the controls rotary switch. If the rotary switch is at position 0, the same IP address as before should be assigned to the control. If the rotary switch is set to 1-9, a pre-configured IP address will be defined and must be taken into account when trying to reconnect to the controls webpage using a web browser.

4.5 SD Card Tab

4.5.1 SD Card Actions

These functions are used to replicate a PDMM (*Backup* and then *Restore*). The elements that are backed up or restored are the firmware, the network configuration, the retained variables, and the PLC application.

The *Format* function formats the SD card as FAT32, erasing all data from the card.

- These functions cannot be performed while an application is running.
- *Restore* and *Backup* take several minutes to complete. Do not power off the control once started.
- The PDMM is rebooted after a *Restore*.

5 Diagnostic

This page displays information about the hardware status (storage space, memory and CPU temperature) and errors and alarms.

5.1 Hardware Status

| | |
|-------------------------|---|
| Storage Space | The diagnostic displays both the used and total available amount of storage space in megabytes (MB). Used is the amount of file space currently being used by all files in flash memory. Total is the total amount of file space available for files in flash memory. |
| Available Memory | This field displays the amount of RAM memory available on the AKD PDMM. |
| CPU usage | This field displays the current load on the CPU. If the load goes over 90%, the field turns red. |
| CPU Temp | This field displays the temperature of the CPU in Celsius. If the CPU temperature is greater than the CPU warning limit, the temperature background color will be changed to yellow. If the CPU temperature is greater than the CPU critical temperature, the temperature background color will be changed to red. The normal operating range is 0-125°C. |
| CPU Fan Present | This field is either True or False , depending upon if there is a CPU fan present in the controller. |
| Refresh | Clicking this button will refresh the Hardware Status information. |
| Reboot | Clicking this button will reboot the web server. |

⚠ WARNING Do not try to refresh the web page until the server has rebooted.

5.2 Errors and Alarms

Any controller errors or alarms generated by the system will be shown here and on the 7-segment display. A common error or alarm is due to the flash memory being full. This is often caused by heavy use of the PLC Advanced File function blocks.

The **Refresh** button updates the list. The **Clear** button will remove the contents of this tab. Please note that some errors or alarms are only cleared by powering off and restarting the AKD PDMM.

| CODE | DESCRIPTION | REMEDY |
|------|------------------------------------|---|
| E12 | Not enough flash memory available. | Clean-up the flash memory by removing log files, application programs, recipes, or other data files. |
| A12 | Flash memory is low on free space. | Clean-up the flash memory by removing log files, application programs, recipes, or other data files. Reset to factory defaults. |

Refresh Clear

👉 TIP Axis errors can be seen in the KAS Application Axis tab.

5.3 Crash Reports

The files shown on this tab are reports of the process that failed if there is a crash. These files (GZ archives) may be sent to Kollmorgen for analysis.

| HW Status | Errors and Alarms | Crash Reports |
|--|-------------------|---------------|
| Crashdump Files | | |
| http_50000_50000_50000_50000_1.core.gz http_50000_50000_50000_50000_2.core.gz http_50000_50000_50000_50000_3.core.gz http_50000_50000_50000_50000_4.core.gz | | |
| <p>Clear Crashdump</p> | | |

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United Kingdom / Ireland

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- Actuators
- Gearheads
- Rails & Components
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