

AKD WorkBench Release Notes



WorkBench is a graphical user interface that allows system configuration for an AKD drive from a PC.

Two installers are distributed with each release:

- Standard Installer. Includes the application with complete help files. The .NET Framework will be downloaded from internet if not already installed.
- Full Installer. Includes the application with complete help files and the .NET Framework required by the application.

The .NET Framework is a prerequisite for installing the AKD WorkBench. The installer will check if the Framework is present, and when not, it will be installed at the same time as the application.

The installer allows multiple versions of AKD WorkBench installed on the same computer and does not remove the older version automatically. You can manually remove older versions of WorkBench using Windows Control Panel > Add/Remove Programs.

Release Summaries

Version: 1.3.0.14158 :: 9, August 2010

Fixed Bugs

- Inconsistent homing status indications in the Home view. (1066)
- Units used for thermal time constants are not consistent and not always correct. (1173)
- Motor configuration issues. (1236)
- Long commands in terminal freeze the application. (1253)
- Units display is confusing. (1396)
- Stop button in WorkBench does not stop all motion. (1424)
- In the Home view, Mode=0, some parameters cannot be edited. (1513)
- Starting WorkBench in some network conditions leads to a crash or hang up. (1531)
- In the Home view, Mode=1, a popup error message is displayed that cannot be cleared. (1532)
- The keyword MOTOR.OVERSPEED does not exist. (1639)
- Disable dwell time entry field unless a dwell-affected move is chosen. (1648)
- Some parameters are not editable for homing mode 10. (1663)
- Executing long commands several times in the terminal freezes the interface. (1712)
- Stop button in Motion Task view is not always refreshed correctly. (1725)
- Importing CSV files back in Scope view will lose the unit and mix the different axes. (1727)
- Operation mode is not refreshed correctly in the Analog Input view. (1729)
- When recording a trace in the scope view, the filter is using default values instead of the values defined in the interface. (1733)
- Terms used in velocity loop diagram are confusing. (1746)
- Feedback view does not properly update feedback identified field. (1748)
- Navigation Pane is left disabled if Ethernet connectivity is lost during an Autotune. (1765)
- Firmware error messages are not reported correctly to the user. (1782)
- Some data are missing for D/DH series motor. (1783)
- Default custom motor names generated by the application are not accepted in the firmware. (1793)
- Mouse over hint is not useful

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Requirements

Required Components:
.NET Framework 2.0

Supported Operating Systems:
Windows XP
Windows Vista
Windows 7

Fixed Bugs

- **Inconsistent homing status indications in the Home view. (1066)**

Issue: (Identified in Version 1.1.0.11368)
The LED indicators remain locked to the last value, not updating correctly when performing a new homing procedure. This bug occurs after any execution from a motion task.

Solution:
The indicators are now correctly updated in all cases.
- **Units used for thermal time constants are not consistent and not always correct. (1173)**

Issue: (Identified in Version 1.1.0.11368)
Thermal time constant is usually given in seconds and thermal time constant coil in mHz. These units should be correct and consistent throughout WorkBench.

Solution:
Units have been corrected where they were wrong, and some conversion errors were fixed (minutes <-> seconds).
- **Motor configuration issues. (1236)**

Issue: (Identified in Version 1.1.0.11368)
Several different issues exist with motor properties:

 - Resistance is missing.
 - Inertia range is too small.
 - Pole pairs range in custom motor view is too small.


Solution:
The different views are corrected to address these points.
- **Long commands in terminal freeze the application. (1253)**

Issue: (Identified in Version 1.1.0.11368)
When using REC.RETRIEVE command in the terminal view with a large number of points, WorkBench freezes and the user must kill the process to exit.

Solution:
REC.RETRIEVE does not freeze WorkBench for a long time anymore, but a short freeze is still present. Kollmorgen is currently addressing optimization when executing large and slow commands on the drive.
- **Units display is confusing. (1396)**

Issue: (Identified in Version 1.1.0.11368)
Showing PIN/POUT values is unnecessary when "Motor only" is selected and "Counts" are set as units. The screen should also indicate that "Counts" is meant as a unit.

Associated Files:

 **Image showing the detailed problem.**

Solution:
PIN/POUT values are hidden in the problematic cases. An indication was added near the unit when counts is used: 1 motor rev = 32 bits.
- **Stop button in WorkBench does not stop all motion. (1424)**

Issue:
Stop button should stop motion in all cases, including analog controlled motion.

(DRV.OPMODE button in toolbar). (1799)

- Mouse over hint is not useful (DRV.CMDSOURCE button in toolbar). (1800)
- When making a Sine Sweep in the Bode tool/Autotuner, if the Start Freq and End Freq only differ by 1Hz an error occurs. (1817)
- If Autotuning with sine excitation and measuring closed loop, the initial tuning is excessively low. (1856)
- KAS assumes a default drive mode of "Position", however the Autotuner defaults to tuning only the position loop. (1902)
- Feedback information should refresh accurately. (1944)
- Sampling interval in not taken in account when filtering scope traces. (1947)
- Network discovery issues using ping method. (1949)
- Random crash in the scope view. (1950)
- Units configuration process is confusing. (1982)
- Lead Lag filter parameters are set incorrectly. (1983)
- Overspeed faults are being cleared automatically, without clicking on the Clear Faults button. (1988)
- Some program timers are not automatically disabled when the drive loses communication. (2009)
- Position Loop View has a small diagram error. (2045)
- Graphical drawing showing the brake apply/release process should be shown. (2066)
- Download firmware to the drive should be available in all modes in which the drive is considered as inactive. (2069)
- The last used IP address is not stored correctly. (2073)
- Unable to download firmware to NACC drive. (2079)
- Autotuner does not work in DRV.DISMODE = 1 (Dynamic Braking). (2084)
- Offline firmware simulation is not corresponding exactly to real firmware. (2092)
- Autotuner is allowed to begin even with a Controlled Stop currently active. (2094)
- Indexed keywords have some problems with changed numbering. (2096)
- IP Address not reported correctly with IPv6 stack installed. (2137)
- Clicking on Save in the Autotuner during a frequency response causes a Buffer Overflow. (2145)
- If the Autotuner Abort button is pressed during an Autotune in KAS the Autotuner hangs. (2163)
- Power view/Regen resistor: when opening the view, the values should be updated using the drive values. (2171)
- Autotuner FFT Points box is black when using the Autotuner in Windows 7. (2178)
- Some limits are not effective in some conditions; this should be clearly signaled. (2196)
- When the preference file is corrupted, WorkBench cannot start anymore. (2197)
- The application cannot read integer numbers in hexadecimal format from the drive. (2209)
- Using AKD Panic in KAS is causing an exception. (2222)
- Autotuner Friction Test yields a Current Excitation greater than the Drive IPeak. (2225)

Solution:

When the drive is in analog controlled motion, clicking stop will now disable the drive and stop the motion. In other modes, it will only stop the motion without disabling the drive.

• **In the Home view, Mode=0, some parameters cannot be edited. (1513)**

Issue:

The following parameters should be editable and are not:

- Acceleration
- Deceleration
- Velocity

Solution:

These fields are now editable.

• **Starting WorkBench in some network conditions leads to a crash or hang up. (1531)**

Issue: (Identified in Version 1.1.0.11368)

After installation, the application starts but crashes after a while (out of memory exception). This problem occurs also when only using offline drives.

Solution:

The application will not use the ping discovery protocol on large networks. You must configure the routers and firewalls to allow proper discovery from a drive.

Temporary Workaround:

A problem occurs when WorkBench tries to discover drives on a network with more than 256 addresses (network mask). The application uses ping, and it is too time consuming on large networks. Possible workarounds include:

- Modify the network settings (network mask 255.255.255.0).
- Connect your PC directly to the drive, without any other connection.

• **In the Home view, Mode=1, a popup error message is displayed that cannot be cleared. (1532)**

Issue:

When the Homing function is set as in the attached screen shot, a pop up message appears and keeps updating even when the message on the pop up indicates the procedure to close the message.

Associated Files:



Solution:

The message can now be closed.

Temporary Workaround:

Remove the error source, the message will disappear.

• **The keyword MOTOR.OVERSPEED does not exist. (1639)**

Issue:

Faults 302 and its help indicate that the MOTOR.OVERSPEED value is exceeded, however, this parameter does not exist in the firmware.

Solution:

The keyword was changed, the documentation has been updated to display the correct keyword.

• **Disable dwell time entry field unless a dwell-affected move is chosen. (1648)**

Issue:

Having the dwell time entry field enabled for all start conditions can be confusing.

Solution:

The dwell time field is now only enabled for moves that are affected by dwell time.

• **Some parameters are not editable for homing mode 10. (1663)**

Issue:

Velocity factor should be editable for home mode 10.

Solution:

This field is editable.

• **Executing long commands several times in the terminal freezes the interface. (1712)**

Issue:

Executing DRV.HELPALL three times consecutively in the terminal will freeze WorkBench.

Solution:

Rendering in the terminal has been optimized.

• **Stop button in Motion Task view is not always refreshed correctly. (1725)**

Issue:

When a task is started using a digital input, the Stop button is not always enabled correctly (remains disabled).

Solution:

The button is now refreshed correctly.

• **Importing CSV files back in Scope view will lose the unit and mix the different axes. (1727)**

Issue:

If you export a CSV file with 3 different axes, importing it again will not correctly reset the different axes. Users have no easy way to see the

- **AKU par user guide link is broken.** (2268)
- **Scope Measure Min and Max Values Broken.** (2275)
- **System files should always be saved in invariant culture to allow exchanging them.** (2286)
- **Copying scope measured data should take care of selection.** (2307)
- **Motion tasks should not be editable when motion task engine is running.** (2315)
- **Setup Wizard: Move page is not refreshed properly.** (2330)
- **Motor View: Losing connection to the drive when editing custom motors will throw an exception (crash).** (2331)
- **Out of Memory Exception is possible when setting the number of points too high in the Autotuner.** (2338)
- **Running Autotuner with European local and number settings causes Autotuner to hang.** (2346)
- **Parameter List View, collapsing groups is sometimes giving strange behavior.** (2359)
- **Beep (digital I/O change) is not working on PC without system speaker.** (2387)
- **Special hexadecimal value for specifying memory address in the drive should be supported (used in the scope).** (2391)
- **When stopping Motion Tasks, Motion task is erased.** (2443)

Feature Changes

- **User should be able to renumber tasks easily during motion task editing.** (1218)
- **Motor choice based on part number should be easy for the user.** (1219)
- **Better drive auto-enable configuration support.** (1329)
- **Add repeat arming capability to the scope.** (1419)
- **Error message bound to motion should be more detailed.** (1529)
- **Simplify anti-resonance filter display for basic filters.** (1537)
- **Compatibility issues between WorkBench and the firmware should be clearly notified.** (1547)
- **External Regen Resistors configuration should be easy.** (1666)
- **S-Curve profile should be supported in WorkBench.** (1689)
- **WorkBench should support the new drive state: Dynamic Break.** (1766)
- **New feature in Bode Tool to measure the Gain and Phase margin of a single sine frequency.** (1811)
- **Autotuner and Bode tool progress bar is inaccurate and sometimes jumps around.** (1812)
- **Autotuner remembers previous settings, but there is no way to reset settings to Factory Default.** (1813)
- **The Autotuner performs many operations to obtain tuning, but the current progress stage is not given to the user.** (1814)
- **Configuration of DRV.HWENMODE should be possible from WorkBench.** (1879)
- **Enable/Disable drive configuration parameters should be easily editable.** (1889)
- **Parameters Load/Save should be enabled correctly according to the state of the drive.** (1891)
- **Drive setup wizard should be synchronized with views behavior.** (1892)

data again.

Solution:

The import procedure has been enhanced to better support units and different CSV formats.

• **Operation mode is not refreshed correctly in the Analog Input view. (1729)**

Issue:

When changing the Operation Mode outside of the view, the mode is not refreshed correctly in the view.

Solution:

Fixed refresh in the view.

• **When recording a trace in the scope view, the filter is using default values instead of the values defined in the interface. (1733)**

Issue:

First display of a scope trace is always done using the default frequency value (400Hz) for the filter, not the frequency defined in the field.

Solution:

The defined frequency is now used for all trace displays.

• **Terms used in velocity loop diagram are confusing. (1746)**

Issue: (Identified in Version 1.2.0.12281)

Ramp and Limiter terms can be confusing.

Solution:

Terms have been changed on the diagram.

• **Feedback view does not properly update feedback identified field. (1748)**

Issue: (Identified in Version 1.2.0.12281)

Feedback identified field is not updated correctly when there is a plugin in a feedback device.

Solution:

Feedback view is now refreshed correctly.

• **Navigation Pane is left disabled if Ethernet connectivity is lost during an Autotune. (1765)**

Issue:

If a user starts Autotuning and the network cable gets disconnected from the drive, the Navigation Pane is left disabled, even after re-connecting to the drive.

Solution:

The WorkBench communication abort handler was modified to re-enable the Navigation Pane and prevent WorkBench from being left in a disabled state.

• **Firmware error messages are not reported correctly to the user. (1782)**

Issue: (Identified in Version 1.2.0.12053)

When changing some values, the application reports a range error which is in fact a read-only error (such as motor poles in the Motor view).

Solution:

The interface is now reporting the correct message from the firmware.

• **Some data are missing for D/DH series motor. (1783)**

Issue:

These motors need some specific data to be set that are different from other series (phase, FB poles, ...).

Solution:

Missing data were added to our internal motor database. These values are set in the drive when the motor is selected.

• **Default custom motor names generated by the application are not accepted in the firmware. (1793)**

Issue: (Identified in Version 1.2.0.12281)

When the user create a custom motor from an existing one or a copy by importing, the generated name contain spaces. Spaces will be rejected by the firmware, the user must modify the default name.

Solution:

Default name are now generated without any spaces.

• **Mouse over hint is not useful (DRV.OPMODE button in toolbar). (1799)**

Issue: (Identified in Version 1.2.0.12053)

The information displayed by the hint is the same as the one shown on the button, not useful.

Solution:

The hint is now showing the keyword associated with the button.

• **Mouse over hint is not useful (DRV.CMDSOURCE button in toolbar). (1800)**

Issue: (Identified in Version 1.2.0.12053)

The information displayed by the hint is the same as the one shown on the button, not useful.

Solution:

The hint is now showing the keyword associated with the button.

• **When making a Sine Sweep in the Bode tool/Autotuner, if the Start Freq and End Freq only differ by 1Hz an error occurs. (1817)**

Issue:

The Bode Tool and Autotuner cannot make a sine sweep with a very short range of 1Hz.

Solution:

(1329)

- **KBM motors should be supported. (1927)**
- **Digital inputs triggering command buffers should be supported. (1945)**
- **The application should be able to use old project file format. (1989)**
- **Help system should be available at anytime, also when a modal form is opened. (2005)**
- **Motor part number selection should set correctly Feedback resolution whenever possible. (2021)**
- **Panic button should work in any case when drive is online. (2046)**
- **Fieldbus type should be changed using WorkBench (if the drive supports it). (2051)**
- **Implemented two new views: Commutation Alignment and Wake & Shake. (2061)**
- **New drive type CC (multiple connectivity) should be supported. (2070)**
- **WorkBench Support for Observer. (2076)**
- **New encoder emulation modes. (2077)**
- **In motor selection view, special field is not required for standard motors. (2080)**
- **The wizard should inform the user about what is set. (2081)**
- **Scope settings are reset between two records. (2099)**
- **Capture view should be simplified for the user. (2122)**
- **The Step & Direction interface should be modified according new requirements. (2141)**
- **Autotuner tunes the control loops, however no validation moves or disturbances are made to validate stability. (1585)**
- **Enhanced task editor should be available directly from the motion task grid editor. (2143)**
- **Implement support for new homing mode (Find Index). (2149)**
- **Programmable Limit Switches support. (2150)**
- **Motor selection should force the user to enter only mandatory fields. (2179)**
- **Peak current limitation should only be visible when configured. (2180)**
- **Edition of the Digital Command Buffer should be easy and intuitive. (2181)**
- **Capture layout and naming should be slightly adapted to be more intuitive. (2182)**
- **Support Digital Input Mode for CmdSource/Opmode change (mode 22). (2283)**
- **In Settings View, remove the Software Auto-Enable checkbox. (2355)**

Known Issues

- **Navigation Pane remains disabled if the Autotuner fails to complete the positive and negative friction tests. (1450)**
- **Replication of drive display in Overview view has some problem. (2126)**

The Sine Sweep code has been refactored to allow for very small ranges; however when a very small range is entered, only one frequency may be measured.

- **If Autotuning with sine excitation and measuring closed loop, the initial tuning is excessively low. (1856)**

Issue:

A bug prevented the Autotuner from forcing a plant measurement for the first tuning. The measurement was left as closed loop, making the measurement equal to zero, resulting in the lowest VL.KP gain possible.

Solution:

Autotuning in Sine Excitation mode was refactored to force the first measurement to occur in Plant Mode even when Closed Loop is selected.

- **KAS assumes a default drive mode of "Position", however the Autotuner defaults to tuning only the position loop. (1902)**

Issue:

The Autotuner by default only tunes the velocity loop. This default causes problems for KAS applications, which default to the Position mode. This default results in exceedingly high position errors because the target position is never reached.

Solution:

The default behavior of the Autotuner is now to tune the Position loop and the velocity loop. If the velocity loop is specified, then the user is asked to verify that they only wish to tune the velocity loop.

- **Feedback information should refresh accurately. (1944)**

Issue:

Feedback fields value and read-only state should be always updated, also when the values are changed externally from the view.

Solution:

Fixed the refresh algorithms.

- **Sampling interval in not taken in account when filtering scope traces. (1947)**

Issue:

Depending on the sampling interval, the filter will introduce long delays in the filtered signal.

Solution:

Modified the filter implementation to take in account the sampling interval of the signal to filter.

- **Network discovery issues using ping method. (1949)**

Issue:

The ping discovery method is not working properly. If 2 network are connected to the PC running the application, and one without any drive, this problem will hide all drives - the user will not see any drives.

Solution:

Ping discovery method fixed.

- **Random crash in the scope view. (1950)**

Issue:

Some sequences crashing the scope; it appears as a random crash to the user.

Solution:

The code was protected against these sequences and potentially others. The identified sequences do not crash the scope anymore and others should not.

- **Units configuration process is confusing. (1982)**

Issue:

The different options proposed to the user are confusing. The texts specifying the units are not saying if the measure is taken before the mechanics (motor shaft) or after the mechanics.

Solution:

Texts have been changed specifying where the measure is taken.

- **Lead Lag filter parameters are set incorrectly. (1983)**

Issue:

A Lead Lag filter using center frequency and gain will not be set correctly in the drive parameters. Reading it back will give an error in parameters.

Solution:

The filter computation algorithm was fixed.

- **Overspeed faults are being cleared automatically, without clicking on the Clear Faults button. (1988)**

Issue:

When an overspeed fault occurs during an Autotune, and the user clicks on the error message, the fault would automatically clear and re-enable the amplifier

Solution:

The overspeed fault handler in the Autotuner has been refactored to not automatically clear the fault.

- **Some program timers are not automatically disabled when the drive loses communication. (2009)**

Issue:

Some instances of loss of communication during an Autotune leave one or more of the Autotuner timers running, causing error messages and unexpected behavior.

Solution:

The Autotuner code has been refactored to shut off all timers in event of communication loss or changing to another view.

- **Position Loop View has a small diagram error. (2045)**

Issue:

A connection on the diagram is wrong; it can be confusing to understand how the position loop is working.

Solution:

Fixed the diagram.

- **Graphical drawing showing the brake apply/release process should be shown. (2066)**

Issue:

The Brake view does not allow the user to set apply and release delay times.

Solution:

The Brake views now shows a drawing explaining the process and allowing the user to edit the different parameters.

- **Download firmware to the drive should be available in all modes in which the drive is considered as inactive. (2069)**

Issue:

Downloading firmware to the drive in Dynamic Brake mode (new mode) is not possible, but should be.

Solution:

Modified the implementation to take in account the new mode.

- **The last used IP address is not stored correctly. (2073)**

Issue:

The application should remember the last used IP address and propose it at next connection to a drive. This function is useful for a user working with the same drive in an environment where the discovery is not working properly.

Solution:

IP address is now correctly stored and handled.

- **Unable to download firmware to NACC drive. (2079)**

Issue:

The drive model was detected as invalid and download blocked.

Solution:

The algorithm parsing the drive model string was failing to extract the model in some cases (customizations numbers); it is now fixed and supports any customization.

- **Autotuner does not work in DRV.DISMODE = 1 (Dynamic Braking). (2084)**

Issue:

The Autotuner will not function correctly when the drive is in Dynamic braking mode

Solution:

The Autotuner has been refactored to consider a dynamic braking state as disabled, which now allows the Autotuner to work.

- **Offline firmware simulation is not corresponding exactly to real firmware. (2092)**

Issue:

Some values can be configured in the offline firmware that will be declared as invalid when setting them to the real drive, especially for values that have changes in range (DINx.MODE).

Solution:

A new offline simulation has been put in place. The user must choose the firmware version and then the range will be correct compared to the real firmware.

- **Autotuner is allowed to begin even with a Controlled Stop currently active. (2094)**

Issue:

The Autotuner was allowed to begin even with a Controlled Stop being commanded. This caused unexpected behavior due to the Controlled Stop inhibiting the amplifier from being enabled.

Solution:

The Autotuner now checks the state of Controlled Stop before beginning.

- **Indexed keywords have some problems with changed numbering. (2096)**

Issue:

The PLS.Pxx have changed from 16 values to 8 values. The numbering has then changed from PLS.Pxx to PLS.Px. There is some problem with this change, particularly in offline firmware.

Solution:

A new algorithm is implemented that dynamically computes the numbering schema base of the number of indexed values. This new algorithm should support any change of this kind in the future.

- **IP Address not reported correctly with IPv6 stack installed. (2137)**

Issue:

If Windows has the IPv6 stack installed the IP address in the list of network connections shown when connecting to the drive does not show a valid IPv4 address.

Solution:

The IPv4 address is now reported correctly.

- **Clicking on Save in the Autotuner during a frequency response causes a Buffer Overflow. (2145)**

Issue:

The Save and Email buttons are enabled while Autotuning is in progress. If the Save or Email button is clicked during a frequency response, this causes the buffer on the drive to overflow because WorkBench is not able to retrieve the data while saving.

Solution:

The Save and Email buttons have been disabled during an Autotune.

- **If the Autotuner Abort button is pressed during an Autotune in KAS the Autotuner hangs. (2163)**

Issue:

If the Abort button is clicked within KAS, the Autotune process appears to stop; however, KAS hangs in the Autotune View.

Solution:

.....
The Autotuner was monitoring a cached drive state, and while the Autotuner waited for the cached drive state to update, KAS had to wait until the Autotune Abort finished, leaving KAS in a waiting loop that never finished. This has been refactored and fixed.

- **Power view/Regen resistor: when opening the view, the values should be updated using the drive values. (2171)**

Issue:
If users set an external resistor using a defined model, they should be able to see that this model was selected when starting again WorkBench on the same drive.

Solution:
WorkBench is analyzing values from the drive and shows the corresponding resistor model.
- **Autotuner FFT Points box is black when using the Autotuner in Windows 7. (2178)**

Issue:
When clicking on Recording Options in the Autotuner, the FFT Points box has a black background instead of the standard white/gray control background.

Solution:
The FFT Point box has been fixed to be viewable in Windows 7.
- **Some limits are not effective in some conditions; this should be clearly signaled. (2196)**

Issue:
In Position mode, the velocity limits are not taken in account in the regulation loop. This should be shown to the user in WorkBench.

Solution:
Warnings will be displayed in Limits View and values will be hidden in Velocity Loop View when these parameters will be ignored.
- **When the preference file is corrupted, WorkBench cannot start anymore. (2197)**

Issue:
In some cases the preferences file becomes corrupted - usually when improperly shutting down the PC. The application should detect corruption and find a way to start. Currently, WorkBench cannot start anymore with corrupted user preferences.

Solution:
WorkBench will detect file corruption and delete the file. The user will be warned and have to restart WorkBench. It will then start normally, but user preferences are lost.
- **The application cannot read integer numbers in hexadecimal format from the drive. (2209)**

Issue:
Setting the drive in hexadecimal format will crash the application when connecting.

Solution:
The application is now able to read hexadecimal numbers (they have a 0x prefix).
- **Using AKD Panic in KAS is causing an exception. (2222)**

Issue:
Exceptions are putting KAS in improper state.

Solution:
Problem fixed, no exceptions anymore.
- **Autotuner Friction Test yields a Current Excitation greater than the Drive IPeak. (2225)**

Issue:
When determining an appropriate current excitation, if the calculated excitation was above the Motor IPeak, the excitation would be truncated to Motor IPeak only. The Autotuner did not check the Drive IPeak.

Solution:
The Autotuner now checks the calculated current excitation against the Motor IPeak and Drive IPeak before determining an appropriate excitation level.
- **AKD pdf user guide link is broken. (2268)**

Issue:
When clicking on the user guide link within the application help, the pdf is not opening up - the link is broken.

Solution:
The pdf file was missing in the distributed package - now it is in.
- **Scope Measure Min and Max Values Broken. (2275)**

Issue:
When the values are varying on the same side of the 0 (all positive or all negative), the Min or Max value is computed to 0 (zero).

Solution:
Fixed, Scope is now computing with real Min and Max values.
- **System files should always be saved in invariant culture to allow exchanging them. (2286)**

Issue:
Some files are saved using local culture, which causes problems exchanging files if users have different cultures configured on their PC.

Solution:
System files are now always exported using invariant culture (particularly the decimal separator).
- **Copying scope measured data should take care of selection. (2307)**

Issue:
If the user selects only some data (Scope View/Measured Data), copying it should take care of selection. Currently, all data are always copied to the clipboard.

Solution:
Context copy is implemented.

- **Motion tasks should not be editable when motion task engine is running. (2315)**
Issue:
Motion tasks that are not currently running are editable. Switching from one task to another task occurs very quickly and WorkBench is unable to block the edition correctly. Edition should be always blocked when any motion task engine is running.
Solution:
Edition is now always blocked when motions task engine is running.
- **Setup Wizard: Move page is not refreshed properly. (2330)**
Issue:
When an error occurred while running a move in Jog view, the view remained in an improper state, not refreshed accordingly to the drive.
Solution:
View is refreshed correctly.
- **Motor View: Losing connection to the drive when editing custom motors will throw an exception (crash). (2331)**
Issue:
Losing the connection should be supported anywhere in WorkBench without a crash.
Solution:
The form is automatically closed and the drive is considered as disconnected.
- **Out of Memory Exception is possible when setting the number of points too high in the Autotuner. (2338)**
Issue:
When Autotuning, if the number of points field is too large, an Out of Memory Exception can occur.
Solution:
The maximum number of recording points has been lowered from 2,147,483,648 to 100,000,000.
- **Running Autotuner with European local and number settings causes Autotuner to hang. (2346)**
Issue:
When Autotuning, and the local computer settings are in European number styles (comma used for decimal, period used for thousands) the Autotuner will start a measurement and appear to never finish.
Solution:
A change was made on the firmware which causes the drive to return data in the format which the host computer is set to. Previous releases had all data returned to the drive in English number formats. A change was made to WorkBench to accommodate the new number formats.
- **Parameter List View, collapsing groups is sometimes giving strange behavior. (2359)**
Issue:
The grid view scrolls in place of collapsing the group in some circumstances.
Solution:
Behavior fixed.
- **Beep (digital I/O change) is not working on PC without system speaker. (2387)**
Issue:
The beep is not working.
Solution:
Using system beep will work on any PC.
- **Special hexadecimal value for specifying memory address in the drive should be supported (used in the scope). (2391)**
Issue:
If the user enters a special hexadecimal value to specify an address in the scope (e.g. REC.CH2 0x20100000.u32) the drive will not connect anymore once disconnected. This special value will cause a crash of the application.
Solution:
Fixed parsing algorithm.
- **When stopping Motion Tasks, Motion task is erased. (2443)**
Issue: (Identified in Version 1.3.0.14043)
When the user stops the motion, all motion tasks will be set with the value of the last edited motion task.
Solution:
Problem fixed in the code. Motion Tasks will remain as they are when stopping the motion.

Feature Changes / New Features

- **User should be able to renumber tasks easily during motion task editing. (1218)**
Issue: (Identified in Version 1.1.0.11368)
Renumbering is necessary when new tasks are added in between or when holes occur sequences by deleting a task.
Solution:
A new interface was developed that allows users to move tasks through the table, easily changing their IDs.
- **Motor choice based on part number should be easy for the user. (1219)**
Issue: (Identified in Version 1.1.0.11368)
The user should be able to easily configure his motor and feedback type using the part number written on the device.
Solution:
A new motor selection view has been designed.
- **Better drive auto-enable configuration support. (1329)**

Issue: Drive auto-enable configuration support (1527)

Issue: (Identified in Version 1.1.0.11368)

It should be possible to edit the auto-enable of the drive for all different command sources, except for fieldbus.

Solution:

WorkBench always displays the auto-enable checkbox, allowing the user to edit this value. When the command source is set to fieldbus, the checkbox will be disabled showing that this value is not taken in account and not editable.

• **Add repeat arming capability to the scope. (1419)**

Issue:

When tuning some drive parameters, scoping to see the internal behavior is often used. Configuring a good trigger condition allows users to see exactly what they want, but users must trigger each time again after changing a parameter to see the result.

Solution:

Added repeat arming feature to the application that will allow the user to configure once the trigger. The system will then record each time this condition is met.

• **Error message bound to motion should be more detailed. (1529)**

Issue: (Identified in Version 1.2.0.11886)

During a homing procedure, an error can occur and the message is not detailed enough to allow the user to understand the problem.

Solution:

The error message has been enhanced.

• **Simplify anti-resonance filter display for basic filters. (1537)**

Issue: (Identified in Version 1.1.0.11368)

Anti-Resonance filters display should be simplified when non-biquad filters are used.

Solution:

WorkBench has now a simplified display for all non-biquad filter. The display of all parameters is still accessible through a More button.

• **Compatibility issues between WorkBench and the firmware should be clearly notified. (1547)**

Issue: (Identified in Version 1.1.0.11368)

Compatibility issues between WorkBench and Firmware versions should be clearly notified to the user.

Solution:

Backward compatibility for WorkBench is normally ensured - meaning that a new WorkBench will work with older Firmware. When WorkBench does not support an older Firmware, the user will be notified with an "Invalid Firmware" warning. The forward compatibility cannot be ensured and the user will be notified with a "Unsupported Firmware" warning. The user can choose to continue working with the current Workbench and it will work in most of the cases, but some new features may be missing.

• **External Regen Resistors configuration should be easy. (1666)**

Issue:

The user should be able to select the resistor in a list and WorkBench will configure the data.

Solution:

A new interface and a small database has been added.

• **S-Curve profile should be supported in WorkBench. (1689)**

Issue:

S-Curve profile is supported in firmware using a profile table. The user interface should allow the user to choose this new profile.

Solution:

Minimal interface allowing the user to choose the profile table is implemented.

• **WorkBench should support the new drive state: Dynamic Break. (1766)**

Issue:

A new drive state was introduced in the Firmware. All views in WorkBench should support and display information correctly according to this new state. A good overview about state should also be provided to the user.

Solution:

Existing views have been modified to take in account this new state. The DRV.ACTIVE diagram has been updated to show in details the internal state drive to the user.

• **New feature in Bode Tool to measure the Gain and Phase margin of a single sine frequency. (1811)**

Issue:

The user sometimes wants to know the gain and phase of a single frequency without running a full sine sweep.

Solution:

The user can measure the Gain and Phase of a single frequency now.

• **Autotuner and Bode tool progress bar is inaccurate and sometimes jumps around. (1812)**

Issue:

The progress bar is relatively accurate for Autotuning, but when making a Bode Measurement, the progress bar starts about 20% in and finishes at 50%. This does not look correct.

Solution:

The progress bar code has been refactored to be more accurate and always start at 0% and always complete at 100%.

• **Autotuner remembers previous settings, but there is no way to reset settings to Factory Default. (1813)**

Issue:

After changing the settings on the Autotuner, it is easy to forget what the default settings were.

Solution:

A Default Settings button has been added to the Autotuner which will set all options to their default value.

• **The Autotuner performs many operations to obtain tuning, but the current progress stage is not given to the user. (1814)**

Issue:

It is confusing to the user to see the Autotuner progress increase but have greatly different steps happening one after the other with no information.

Solution:

A piece of text is now shown above the Progress Bar that briefly explains what is occurring at the current Autotuning step.

- **Configuration of DRV.HWENMODE should be possible from WorkBench. (1879)**

Issue:

It is not possible to edit this parameter from WorkBench, unless using the terminal.

Solution:

This parameter is now editable from the a new view: Enable/Disable view.

- **Enable/Disable drive configuration parameters should be easily editable. (1889)**

Issue:

The user must use the terminal view and different other views to completely configure the enable and disable process of the drive. The controlled stop is part of this configuration.

Solution:

A new Enable/Disable view has been implemented to group and present all these parameters.

- **Parameters Load/Save should be enabled correctly according to the state of the drive. (1891)**

Issue:

A new disabled state (dynamic brake) has been added to the drive. The Load/Save Parameters operations should be should be allowed in this case.

Solution:

Modified behaviors according to this new drive state.

- **Drive setup wizard should be synchronized with views behavior. (1926)**

Issue:

A new motor selection allows the user to configure motor and feedback using part number. This option should be implemented in the Setup Wizard and inform the user as well as possible about what is happening.

Solution:

Drive setup wizard is now using the new motor selection view (part number). It will also adapt the process to feedback type whether or not the feedback type is auto-identified.

- **KBM motors should be supported. (1927)**

Issue:

KBM motors must be configured manually as custom motor.

Solution:

KBM motors have been added to the standard motor database.

- **Digital inputs triggering command buffers should be supported. (1945)**

Issue:

The user should be able to configure easily command buffers and bound them to digital inputs.

Solution:

In Digital I/O view, the user can configure the binding from digital physical inputs to command buffers. He can also use an editor to setup easily the different command buffers.

- **The application should be able to use old project file format. (1989)**

Issue:

When upgrading the application, the user should be able to import old project data.

Solution:

Import mechanism has been implemented. All official WorkBench releases will be supported.

- **Help system should be available at anytime, also when a modal form is opened. (2005)**

Issue:

Help system is not available when a modal form is opened. This is particularly annoying in the macro edit window where keyword help is useful.

Solution:

Help system is now shown by another process, available at anytime.

- **Motor part number selection should set correctly Feedback resolution whenever possible. (2021)**

Issue:

Choosing the part number should set a maximum of properties when it is deterministic. For encoder motors (AKM), the part number determines the encoder resolution.

Solution:

Implemented in motor selection algorithm.

- **Panic button should work in any case when drive is online. (2046)**

Issue:

Inside KAS, the Panic button is not working when a drive is online but no AKD view has been opened. The Panic button should disable all drives that are online.

Solution:

Fixed in WorkBench. Panic is now always working when drives are online in KAS.

- **Fieldbus type should be changed using WorkBench (if the drive supports it). (2051)**

Issue:

The fieldbus type can be changed in some drive models. It should be possible to change fieldbus type using the graphical user interface.

Solution:

This functionality is implemented in the new version through the Overview view. This functionality will be enabled only for drives that support this feature.

- **Implemented two new views: Commutation Alignment and Wake & Shake. (2061)**

Issue:

The commutation process is unclear for the user, it should be better presented.

Solution:

Implemented the two new views as specified.

- **New drive type CC (multiple connectivity) should be supported. (2070)**

Issue:

The new CC drive type should be supported and the application should allow the user to change the connectivity of the drive.

Solution:

User interface is modified to take in account the new type, and users can change the connectivity using a simple dialog box.

- **WorkBench Support for Observer. (2076)**

Issue:

Observer functionality in velocity loop should be configurable using WorkBench.

Solution:

Added new interface in Velocity Loop View and in Scope View to access these parameters.

- **New encoder emulation modes. (2077)**

Issue:

Support was requested for two new modes implemented in the firmware. These two modes allow the user to output emulated encoder signals out the X9 (Emulated Encoder) connector, and input a step handwheel signal into the X7 (High Speed Opto IO) connector simultaneously.

Solution:

New modes and their respective properties were added to the user interface.

- **In motor selection view, special field is not required for standard motors. (2080)**

Issue:

Entering customization part number on standard motors requires unnecessary user work.

Solution:

Removed customization part number fields. If customization is required, the user should use the custom motor definition possibility.

- **The wizard should inform the user about what is set. (2081)**

Issue:

The application should inform the user when something is automatically identified. For the motor and feedback, if the automatic identification is used and some steps skipped, a clear message should inform the user about what was set.

Solution:

A balloon message will be displayed each time a task is done automatically by the wizard and skips one or more steps.

- **Scope settings are reset between two records. (2099)**

Issue:

When doing two sequential records, the Hide presets are lost in the scope. A hidden channel will be shown again after the next record.

Solution:

The settings are now maintained when recording again.

- **Capture view should be simplified for the user. (2122)**

Issue:

Filtering is misplaced in this view and it should be removed. Grouping is not optimal with preconditions.

Solution:

Layout modified according requests.

- **The Step & Direction interface should be modified according new requirements. (2141)**

Issue:

The user needs an interface adapted to the drive behavior.

Solution:

New views implemented.

- **Autotuner tunes the control loops, however no validation moves or disturbances are made to validate stability. (1585)**

Issue:

The Autotuner tunes the Velocity and Position loops, however no validation is made to verify stability.

Solution:

A checkbox has been added to the Autotuner, which if checked, commands a short move and monitors the drive to detect any chance of instability. If an instability exists, then the drive faults out with Fault 133: Instability during Autotune.

- **Enhanced task editor should be available directly from the motion task grid editor. (2143)**

Issue:

The user should be able to edit all fields in offline mode and easily from the grid view.

Solution:

A single task editor is available from the grid by double-clicking a row.

- **Implement support for new homing mode (Find Index). (2149)**
Issue:
The application should support homing mode 11 (Find Index), correctly setting the Capture engine for this specific mode.

Solution:
Support has been added and a warning is shown to the user if Capture engine is not set correctly. Near the warning, a simple button will allow the user to configure easily the Capture engine.
- **Programmable Limit Switches support. (2150)**
Issue:
The user should be able to edit easily PLS from the application.

Solution:
New view added to support this functionality.
- **Motor selection should force the user to enter only mandatory fields. (2179)**
Issue:
The user enters only what is necessary, but may want to know what is mandatory and what is not. The most flexibility occurs with less mandatory work.

Solution:
Modified the interface to better signal what is mandatory. The user is forced to enter mandatory information.
- **Peak current limitation should only be visible when configured. (2180)**
Issue:
The display is confusing. The peak current limitation triggered by using digital input should only be shown if configured.

Solution:
The label has been changed for better understanding and field hidden when this feature is not used.
- **Edition of the Digital Command Buffer should be easy and intuitive. (2181)**
Issue:
The first implementation was too complex. The user was able to edit all buffers together, many buttons were available, and the workflow was not clear enough.

Solution:
User interface is simplified and workflow more intuitive.
- **Capture layout and naming should be slightly adapted to be more intuitive. (2182)**
Issue:
Layout and naming is confusing.

Solution:
Modified layout and naming.
- **Support Digital Input Mode for CmdSource/Opmode change (mode 22). (2283)**
Issue:
WorkBench should provide a user interface for this mode. The edition of DINx.PARAM is more than just a number.

Solution:
Special editor implemented.
- **In Settings View, remove the Software Auto-Enable checkbox. (2355)**
Issue:
This functionality is shown at the wrong place and is accessible in Enable/Disable View. It should be removed from this screen.

Solution:
Checkbox removed.

Known Issues

- **Navigation Pane remains disabled if the Autotuner fails to complete the positive and negative friction tests. (1450)**
Issue:
The Abort handler for the Autotuner did not include code to re-enable the Navigation Pane.

Temporary Workaround:
Abort Autotuner handler code was re-factored to fix this bug.
- **Replication of drive display in Overview view has some problem. (2126)**
Issue:
The display is not reflecting correctly the blinking status that can appear on the drive display (Dynamic Brake). In that particular case, the right dot is not refreshed correctly.

Units Display is Confusing (1396)

Units

You can select the units used for positions, velocities and accelerations.

Select Type of Mechanics: Motor Only

Position Unit: 0 - Counts

Velocity Unit: 0 - RPM

Acceleration Unit: 0 - RPM/s

Less <<

PIN: 1

POUT: 1

Label: cm

Position: -6,235,431,552,000 Counts

Position Units selected in "Counts" should not offer the visual of the PIN (units.pin) or the POUT (units.pout) they will not effect the setup.

More>>
Should offer the facts :
1 motor rev = (32bit fixed).

Popop Error Message that Cannot be Cleared (1532)

Home

This page is used to issue a homing command. The home command is used to zero the drives position.

Select the type of homing motion you wish to use:
1 - Find limit input

Acceleration: 10,000,001.192 rpm/s

Deceleration: 10,000,001.192 rpm/s

Direction: 1 - Positive

Distance: 0.000 deg

Position: 0.000 deg

Position Lag: 180.000 deg

Velocity: 500.000 rpm

Velocity Factor: 50 %

Positive Limit Switch: Digital Input 2

Controls

Found:

Done:

Active: Start

Error:

Position Feedback: 5,507.282

Error

Click on the message to close.
Press Tab to ignore and continue.

CS STO No Faults 1 Warnings Found AKD-P00306-NAEC-0000 no_name (Online) - Connects