

WorkBench Release Notes



WorkBench is a Graphical User Interface that allows configuration from an AKD drive.

Two Installers distributed with each release:

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

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

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

Release Summaries

Version: 1.5.0.23850, December 13, 2011

- + Motion Tasking Issues
- + General Issues
- + IO Issues
- + Tuning Issues

Version: 1.5.0.22676, October 12, 2011

- + Tuning Issues
- + General Issues
- + IO Issues
- + Homing Issues
- + BASIC Issues
- + Motion Tasking Issues

Version: 1.4.0.17612, April 27, 2011

- + General Issues

Version: 1.4.0.17230, April 07, 2011

- + General Issues
- + Tuning Issues
- + Motion Tasking Issues
- + IO Issues
- + Feedback Issues
- + BASIC Issues
- + Homing Issues

Version: 1.3.0.14158, August 09, 2010

- + General Issues

Version: 1.5.0.23850 Release Date: December 13, 2011

Requirements

Required Components:
.NET Framework 4.0

Supported Operating Systems:
Windows XP
Windows Vista
Windows 7

Motion Tasking Issues

Fixed Bugs

- **WB-Motion Tasks: the older motion tasks files (xml) cannot be imported in 1.5 release. (3472,R-01844)**
Issue:
The user is unable to import motion task files that were exported with previous WB releases. The backward compatibility is not ensured.
Solution:
WB is checking the file and when not compatible, it will convert it internally to the .ast format before to import.

General Issues

Fixed Bugs

- **VLM motor database error: the line counts for incremental encoders is wrong. (3518)**
Issue:
The line counts is wrong by a factor of 4 (wrong unit in the database). It causes wrong position indication - FB not usable.
Solution:
Database fixed to have the value with the correct unit.

IO Issues

Fixed Bugs

- **Digital I/O: using mode 22 is causing some problem when the view is opened. (3444)**
Issue:
The user is not able to set value 32 (and possibly some other values) after digital I/O view has been opened.
Solution:
Fixed digital I/O view - now any valid value can be set using the view.
- **Digital I/O: configuration in mode 2 is broken. (3445)**
Issue:
We have 2 problems configuring this mode. First, the value of the motion task to start is not written in the drive, causing all sort of confusion. Second, the list of the available motion tasks is not refreshed when reopening the view (it should, some MT can have been added).
Solution:
Fixed the 2 issues, now mode 2 can be configured normally.
- **Digital I/O: registration move digital I/O trigger is not shown correctly. (3449)**
Issue:
The triggers for the registration move are incorrect. This is coming from another bug (3445) - digital I/O is not set correctly.
Solution:
Fixed by 3445.

Tuning Issues

Fixed Bugs

- **Localization Problem: unpredictable behavior of the Autotuner with locales that are not US. (3503)**

Issue:

Depending on the locales, the autotuner may work or not. For Finnish locales it is crashing - preventing the user to run any autotuning.

Solution:

Fixe localization issue with strings coming from the drive (not localized).

Version: 1.5.0.22676 Release Date: October 12, 2011

Requirements

Required Components:

.NET Framework 4.0

Supported Operating Systems:

Windows XP
Windows Vista
Windows 7

Tuning Issues

Fixed Bugs

- **Bode Tool: Bugs in Plot Area (D-02371)**

Issue:

When zooming in on a bode plot with cursors, it was possible to zoom in a way that plotted a cursor in the white space around the plot area.

Solution:

Plotting has been fixed so that cursors cannot be plotted outside the plot region.

- **Bode Tool Simulation Bug (3219)**

Issue:

A bug was identified when simulating tuning under the following conditions:

- 1) Measurement Type: Closed Loop
- 2) Biquad 3 or 4 had a filter

When these conditions are present, directly after a measurement the Measured and Simulated Closed Loop traces would not be equal.

Solution:

A calculation error was found and corrected when Closed Loop measurements were made.

- **Bode/Autotune sets current Excitation above IL.LIMITN/P limits (3080)**

Issue:

Min/Max of BODE.IAMP is restricted on the firmware to the min and max of IL.LIMITN and IL.LIMITP. However when the Default Settings button is pressed on the GUI, the current amplitude is set to 20% of the motor continuous current. This is a problem because the GUI does not check the limits of IL.LIMITN, IL.LIMITP, or DRV.IPEAK.

Solution:

GUI has been modified to clamp BODE.IAMP based on the lowest of the three current limits.

Feature Changes

- **Enhance VL.KI, PL.KP, and Lowpass Autotuning results (2277)**

Issue:

Autotuning results for VL.KI and PL.KP would step by a factor of two leading to large variations in Autotuning results. The Lowpass tuning frequency also returned relatively coarse results.

Solution:

The Autotuning algorithm has been refined to allow for deeper and improved searching to find the best tuning results possible.

General Issues

Fixed Bugs

- **Loading a parameter file containing a command buffer definition for a digital input will crash the WB. (3096)**

Issue:

The parameter file cannot be loaded (error message is poor).

Solution:

Fixed the parsing of the file, accepting spaces in strings (this is the case for command buffer commands).

- **Miscellaneous scope issues and enhancements. (2897,R-01485)**

Issue:

Different issues on the scope:

- The axes scale should be kept for several sequential recording (the feature exists, but not easily accessible).
- The axes zero lines should be displayable (the feature exists, but not easily accessible).
- Loading a scope setting is not refreshing correctly the trace colors

Solution:

Problems fixed by modifying the code:

- Feature added to context menu of the axes.
- Feature added to context menu of the axes.

- Fixed, the colors are now refreshed accordingly to the scope settings loaded.

- **Home view is crashing when connected to a BASIC drive. (3235)**

Issue:

Opening the Home view when connected to a BASIC drive will cause the view to crash.

Solution:

The Home view is not shown anymore when connected to a BASIC drive (HOME.x keywords are not supported by the BASIC FW).

- **Units configuration: custom configuration fields should be visible as soon as one of the dimension is using custom unit. (D-02391)**

Issue:

Having only acceleration unit defined as custom, the fields will not be shown, blocking the user from configuring the custom ratios and unit label.

Solution:

Acceleration custom unit is now displaying the correct fields.

- **Scope view and velocity view are crashing when resolution is set to 120dpi (XP) or mad larger (Vista/Win7). (D-02483)**

Issue:

Setting a specific resolution is making these 2 views to crash.

Solution:

Fixed the issue, views working fine in these resolution as well.

- **When CmdSource or OpMode have discontinuous range, WB will not work properly. (3359)**

Issue:

New BASIC drive has a range of 0 and 3 for the CmdSource - 1 and 2 not being valid. Setting the value 3 will crash the WB - and you cannot recover if you set the value manually - you have to use a telnet. This problem is due to discontinuity in the range.

Solution:

Fixed in WB to support discontinuous range.

- **Faults & Warnings view is out of sync in some conditions. The display order is bad, faults & warnings are displayed alternatively. (D-02523)**

Issue:

The Faults&Warnings view doesn't match what is returned by the drive. Display order is poor, we should have first faults and then warnings.

Solution:

The view is in sync with what is returned by the drive and display order is fixed to display faults before warnings in priority order.

- **TCP/IP view - IP address validation is not correct. (D-02541)**

Issue:

Current validation is not allowing to set a gateway with 0.0.0.0 - that is a valid value.

Solution:

Change the validation scheme to allow this.

- **Using same tree node object with different drives causes refresh problem. (D-02548)**

Issue:

If you disconnect from a drive and reconnect to another drive - having a different type - using the same tree node item, the drive type information will be wrong, still showing old drive type.

Solution:

Fixed the refresh problem when disconnecting/reconnecting using the same drive type.

- **Initial default linear motor tuning is wrong - VL.KP is not set. (D-02559)**

Issue:

VL.KP is not set when setting up a linear motor. It can let a very high or very low VL.KP - as it was before, being dangerous or not letting to move the motor with a very small gain.

Solution:

VL.KP is now set correctly for both type of motors when setting them up.

- **German localization issues - fixed some of the remaining. (3386)**

Issue:

Problems:

Load parameter with mismatched versions is showing a dialog box with some bad layout. Tuning titles for slider tuning and autotuning have to be changed. Enable/Disable view: some layout issues with active diagram and controlled stop diagram.

Solution:

Fixed.

- **Scope: canceling a refresh operation is letting the scope in a bad state. (3392)**

Issue:

If the user cancel a data retrieve during a refresh operation, the scope is let in a bad state. The user is then unable to do any recording until WB is relaunched.

Solution:

Problem fixed in the recorder mechanism.

1. Problem fixed in the recorder mechanism.

- **German WB / Custom motor form: the layout is completely broken and the view is not usable at all. (3410)**

Issue:

Unable to use the custom motor form.

Solution:

Fixed the layout problem.

New Features

- **Several new drive versions are not supported (SynqNet / NB drive). (2984)**

New Feature Details:

The user is unable to download SynqNet FWs (themodel is not recognized and the FPGA is detected as invalid). New rev 9 drives (NB models) are not recognized in the file filter dialog box.

Solution:

The code is fixed to support SynNet and NB drive models.

- **The drive should be able to be configured to support lower voltage. (R-01455)**

New Feature Details:

The FW has the feature to support half voltage on HV and MV drives.

Solution:

A field has been added in the Power View to allow the user to configure this.

- **Parameter upload/download over EtherCAT (using TwinCAT master). (2926,R-01536)**

New Feature Details:

The AKD Console should support parameter upload/download. This should be supported for Ethernet and TwinCAT communication channels.

Solution:

AKD Console has been updated to implement this feature on both channels.

- **FW download for latest HW revision and new fieldbuses should be supported in the GUI. (R-01440)**

New Feature Details:

Our latest control board revision (rev 9) is not supported - FW download is blocked. Some fieldbuses are unknown (SynqNet, ...), the GUI should support all the possible variants.

Solution:

Implement support for new hardware (NB drive) and support for different fieldbuses (EtherNet/IP, ProfiNet, SynqNet).

- **HW revision information stored in the drive should be shown in WB. (R-01524)**

New Feature Details:

HW revision is available using DRV.INFO, not visible in any WB view.

Solution:

HW revision is now shown under Overview View - only when available from the drive (showing '-' when not available).

- **Localization: add support for faults and warnings localization. (S-07307)**

New Feature Details:

Faults&Warning should be understandable without any possible confusion by the user.

Solution:

Implemented localization support and created the German resources.

- **Fieldbuses: added a root view for all fieldbus views (overview). (S-07324)**

New Feature Details:

The drive is supporting different fieldbuses and we need a grouped access to them. The root view should provide as well a quick overview about the drive connectivity.

Solution:

Implemented a Fieldbuses view.

- **GUI support for Ethernet/IP keywords. (R-01628)**

New Feature Details:

Support for Ethernet/IP keywords should be given.

Solution:

Implemented a specific Ethernet/IP view giving access to these keywords.

- **GUI support for in position output mode (digital out). (R-01535)**

New Feature Details:

In position modes should be configurable from the GUI.

Solution:

Implemented support for mode 17, and fixed configuration behavior for mode 3 and 4.

- **Fieldbuses can override the disabling of the drive - the user should be able to know about that. (R-01651)**

New Feature Details:

When a fieldbus is connected to the drive, it can disable it overriding all other inputs. In our diagram showing the different possible sources for disabling the drive, the fieldbus source should be shown.

Solution:

The fieldbus disable source has been added to the disable sources diagram, showing clearly if the drive is disabled on request from the fieldbus.

- **GUI support should be provided for new EMU modes (6-9) and fix for old modes regarding absolute index configuration. (R-01562)**

New Feature Details:

The new modes (6-9) should be configurable and the new parameters should be accessible when in these modes (pulse width / check speed fault). For old output modes (1-2), absolute index logic should be modified, it was wrong in all WBs.

Solution:

Implemented support for new modes 6-9 and fixed behavior for mode 1-2. For absolute index, we added a computed field (Full Offset) that will sum the integer absolute offset and the fractional part index offset.

- **GUI support to configure IP Address: mode / address and other TCP/IP properties. (R-01590)**

New Feature Details:

The FW allows to configure the drive in different IP modes (rotary switches/fixed IP / auto). The GUI should allow easy configuration and nice reconnection to the drive after changing the IP address.

Solution:

Implemented a TCP/IP view to configure the IP mode and all specific fields depending on the mode. Once the changes are applied, WB will wait and try to reconnect to the drive at the new address (if possible).

- **GUI support for configuring general purpose digital I/Os on X9. (S-07420)**

New Feature Details:

The FW supports using X9 pins as general purpose I/Os, the GUI should allow an easy configuration of this feature.

Solution:

Implemented support for this new emulation mode (X9 configuration) and added new tab in digital I/O view to configure the I/Os themselves.

- **GUI support to configure X9 and FB3 accordingly. (S-07622)**

New Feature Details:

We need to provide support to let the user to configure the X9 connector as an input for the tertiary feedback (FB3).

Solution:

New X9 configuration is supported. FB3 keywords support was added to WorkBench.

- **List of indexed keywords should be in the numerical order. (S-07665)**

New Feature Details:

Currently the alphanumeric ordering is used: DIN1.x / DIN10.x / DIN11.x / DIN2.x. 10/11 values should appear after the 9 index.

Solution:

Indexed keywords are now sorted using the numerical order for the index.

- **Opmode and CmdSource can be changed when the drive is active for FW >= 1.4. (R-01545)**

New Feature Details:

FW >= 1.4 are supporting changing opmode and cmdsource on the fly, but GUI is blocking this. The GUI should allow it for every FW >= 1.4.

Solution:

Change on the fly is blocked for FW version < 1.4 and now allowed for FW version >= 1.4.

IO Issues

New Features

- **GUI support for analog output low pass filter (cutoff frequency). (R-01558)**

New Feature Details:

A new AOUT.CUTOFF keywords exists in the drive, GUI support is needed.

Solution:

This feature is configurable in the Analog Output view.

Homing Issues

New Features

- **GUI support for new homing mode 13 (Home no Move). (R-01602)**

New Feature Details:

The GUI should fully support the mode 13 (diagram, right parameters enabled or not).

Solution:

Home View is modified to fully support the mode 13.

BASIC Issues

Fixed Bugs

- **AKD BASIC - Program Name Field does not always update in WB. (3211)**

Issue:

The program is sometimes not reflecting the name set by the user.

Solution:

Interface is changed and the refresh problem is fixed.

- **AKD BASIC - WB application crashing while clicked first time on Limit Icon.**

.....

(3236)

Issue:

Opening the Limits view using a BASIC drive will cause a crash.

Solution:

Problem fixed, Limits view will open nicely independently from the drive type.

New Features

- **AKD BASIC - Added code template support (wizard). (S-06831)**

New Feature Details:

It is difficult for a user to write some statements like interrupt handlers, move commands, and select case.

Solution:

We provide easy to use wizard to insert these code templates (with some user configuration).

- **AKD BASIC - Multiple documents edition support. (S-07195)**

New Feature Details:

Edition in different files simultaneously should be possible. Edition while the program is running should be possible.

Solution:

Multiple edition through tabbed docked documents is possible and edition while a program is running is possible as well.

- **AKD BASIC - Advanced syntax highlighting (dynamic depending on the minimum targeted FW version). (S-06897)**

New Feature Details:

We should have a way to ensure that a program will run giving a minimum target version. A clear feedback should be given to the user.

Solution:

The user is able to choose the supported target minimum version using a combo box in the Program View. The syntax highlighting will be updated accordingly - showing which keyword is supported or not for the targeted version.

- **AKD BASIC: input from console support. (S-06834)**

New Feature Details:

The language BASIC support an 'input' command to get values from the user. WorkBench should provide a way to give this console input value back to the drive.

Solution:

Implemented an input field inside the console view.

- **Support for AKD BASIC using offline drives. (3250)**

New Feature Details:

It should be possible to write and compile program using an offline drive. The program cannot be downloaded or run.

Solution:

BASIC offline drives have been added. Editing and compiling is supported. Download and run are not currently simulated correctly.

- **Autoformat in BASIC code editor. (S-06829)**

New Feature Details:

Autoformat feature for the BASIC language is not available. The user has to indent properly to have readable code.

Solution:

Autoformat feature for BASIC language is implemented provided a good support to have nicely formatted code.

Motion Tasking Issues

New Features

- **Support for analog input used as target velocity inside a motion task. (R-01662)**

New Feature Details:

The FW allows to define an analog input as target velocity for motion task. WB should allow to configure easily the analog input and the motion task(s) to support this feature.

Solution:

Implement the support for analog mode 2 in the Analog Input View and the possibility to choose the target velocity inside each motion task.

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Requirements

Required Components:

.NET Framework 2.0

Supported Operating Systems:

Windows XP
Windows Vista
Windows 7

General Issues

Fixed Bugs

- **Scope channels grouping is causing problems when refreshing data from drive or loading from CSV file. (3035)**

Issue:

The channels will be grouped badly on Y-axes causing a problem with ranges. It happens when loading data from the drive and

from CSV file.

Solution:

The channels are now grouped correctly.

Version: 1.4.0.17230 Release Date: April 07, 2011

Requirements

Required Components:
.NET Framework 2.0

Supported Operating Systems:
Windows XP
Windows Vista
Windows 7

General Issues

Feature Changes

• **Enhance compatibility with firmware older than version 1.1. (1953)**

Issue:

WorkBench shows a message 'Invalid firmware' when connecting to older firmware. This firmware should be supported, at least for the main views.

Solution:

A new compatibility status has been developed: Obsolete. This status indicates that the firmware is old, but a reduced set of functionalities is supported.

• **WorkBench should be able to save the current motor/feedback configuration as a custom motor. (2018)**

Issue:

If users want to create a custom motor after setting some parameters to configure it, then users must enter the parameters in the custom motor edition form. The process should be handled by one click.

Solution:

This functionality is accessible through a button added in the Motor View. Clicking on the button will create a custom motor for current parameters

• **Anti-resonance filters should be easily visible (filters overview). (2299)**

Issue:

The user is unable to see the type of filter without clicking on each filter to see the detail.

Solution:

New interface has been added which shows the type of each filter on the main view.

• **Opened combo boxes should not shorten the displayed text. (2358)**

Issue:

Texts in a closed combo box can be shortened, but the text should be shown in its entirety when the combo box is open.

Solution:

The combo box width is now adapted to the content and shows the entire text when open.

• **Duplicate drive objects in the drive tree should be removed when exiting WorkBench. (2413)**

Issue:

The user can add duplicates for the same drive and the drive tree will grow, creating confusion.

Solution:

When closing WorkBench, all duplicate drives are removed. At next startup, the drive tree will be clean.

• **Each view should use the main poll interval defined by the host. (2486)**

Issue:

Some views are not using the main poll interval (defined in the host). It is problematic if the application needs a custom refresh rate.

Solution:

All views are using the poll interval defined in the host, except some special refreshes that need a higher poll interval.

• **Anti-Resonance low pass filter has new default values in the firmware; WorkBench should have the same. (2647)**

Issue:

The firmware has new default values for the low pass AR filter. WorkBench should set the same default values when a low pass value is set.

Solution:

New default values implemented (F num= 5000 / Q num=0.705 / F den=400 / Q den = 0.707).

• **Velocity loop diagram should reflect how the drive is working. (2709)**

Issue:

Different filters have been introduced in the velocity loop to enhance the behavior of the drive. The schema in WorkBench should reflect these changes, according to the different firmware versions.

Solution:

Velocity loop schema is updated accordingly.

• **New brake mode support in WorkBench. (2773,R-01441)**

Issue:

A new brake mode was introduced in the firmware and should be supported in WorkBench.

Solution:
Support for this mode has been added in WorkBench.

- **DINx.MODE 23 (analog multiplier) extended support. (S-06013)**

Issue:
Firmware implements AKD BASIC virtual machine and WorkBench should provide simple support:

- Code editor (simple, no syntax highlighting).
- Compile, download and run functionality within WorkBench.
- Different outputs allowing the user to understand what happens (error list, compiler outputs)
- EtherNet console output (console coming from the VM in the drive)

Solution:
Features have been added in WorkBench.

- **Motion tasks: text describing the MT type have been updated to be more understandable. (S-05892)**

Issue:
The texts used for motion task type are confusing.

Solution:
These texts have been clarified.

Fixed Bugs

- **Detailed values should be visible for anti-resonance filters set by the Autotuner. (2219)**

Issue:
Users need to see which parameters are set by the Autotuner (to verify it or check repeatability).

Solution:
Users can now see these parameters in read-only fields.

- **Double-click behavior in different connect views should be homogeneous. (2313)**

Issue:
Double-click behavior is different in different parts of WorkBench and this is confusing for the user.

Solution:
Double-click behavior is now homogeneous on double-click.

- **AKD Parameter files comparer . (2423)**

Issue:
Users should be able to compare two or more parameter sets from different drives and have a representation to visualize the differences.

Solution:
A basic parameter comparer is added. Motion Task comparison is missing.

- **The offline single motion task edition should be available for offline drives. (2445)**

Issue:
Users must write motion tasks to the drive before being they can edit motion task details.

Solution:
The offline single motion task editor is now available at any time.

- **AKM feedback names are misspelled. (2454)**

Issue:
AKM feedback names are misspelled.

Solution:
Names are correct now.

- **WorkBench over EtherCAT: make Enable/Disable read-only. (2531)**

Issue:
Offline behavior is not working correctly for Enable/Disable.

Solution:
This behavior now works correctly.

- **Limits view and velocity loop view should reflect correctly if the velocity will be limited or not depending on the omode and command source. (2539)**

Issue:
The warning "not used in position mode" can be confusing. If you use Service Motion, the velocity limit will be taken into account in position mode, but not by the velocity loop. These limits are ignored inside the velocity loop as soon as the operational mode is set to position. The views should always reflect the drive behavior.

Solution:
The text has been changed to: Ignored by velocity loop. This text appears when position mode is selected.

- **Layout in some views using 120 dpi is broken; some fields are hidden or shortened. (2545)**

Issue:
Some views are difficult to understand (cut fields) and in some cases not usable (fields not accessible at all).

Solution:
The 120dpi layout has been checked and fixed in the different views.

- **In service motion, acceleration/deceleration values are not taken in account in Torque mode. (2548)**
Issue:
 Displaying these fields in Torque mode is confusing. The fields should be hidden for this mode.

Solution:
 The fields are hidden in Torque mode.
- **WorkBench should be able to handle firmware 52-10 as obsolete firmware. (2564)**
Issue:
 The user should be able to connect to a drive with 52-10 firmware.

Solution:
 This firmware version is accepted as an obsolete version.
- **Command line tool should be available and working (discover/download). (2565)**
Issue:
 The command line tool should work with any version.

Solution:
 Problems when downloading firmware from old versions are now fixed.
- **Crash occurs when closing a KAS project while the Scope View is opened. (2570)**
Issue:
 KAS crashes if you close an application when the scope is triggering, recording or retrieving data.

Solution:
 This issues is now fixed in the code.
- **MOTOR.NAME value cannot be set correctly in the offline drive. (2588)**
Issue:
 WorkBench is currently limiting the length to 10 characters, while 20 should be supported.

Solution:
 WorkBench now allows 20 characters.
- **Current loop proportional gain computed by the system is declared out of range. (2590)**
Issue:
 After selecting a motor, a current proportional gain is computed and set to the drive. If you edit this value through the application setting it smaller, you will receive an error. The system complains that the value is too big (but smaller than the preceding one). You will be blocked until you set a value in the range.

Solution:
 The range information coming from the drive is wrong. IL.KP range is now fixed in the drive.
- **Warning on Digital I/O View is not clear enough when FB2 is using X7. (2592)**
Issue:
 The X7 connector is used by Digital I/O and FB2. When FB2 is using X7, a clear warning should be displayed in the Digital I/O View

Solution:
 Warning modified to be more clear and link to FB2 view added.
- **Offline simulation is not correct for DRV.NVLIST. (2608)**
Issue:
 The behavior of DRV.NVLIST is not correct when Autoset value is changed. Read-Only parameters should not appear in the list.

Solution:
 DRV.NVLIST behavior is now correct in offline drives.
- **Some homing modes will not work when activated just after a drive enable. (2612)**
Issue:
 If you set automove for one of these homing mode, the drive will not home correctly.

Solution:
 Enabling automove with these modes is disabled in WorkBench.
- **Motor Wizard no longer sets Current Loop Gain correctly. The value set is wrong. (2774)**
Issue:
 The current loop gain is wrong when simply using built-in features.

Solution:
 A calculation was wrong (thousand factor error using kHz in place of Hz). This issue has been fixed.
- **Capture engine cannot be configured form Home View when mode 10 is selected. (D-02088)**
Issue:
 Home mode 10 requires a specific capture engine configuration (such as mode 3,6,11 - modes with index); this feature should be available using 1 button in the view.

Solution:
 This mode is now working like the other index modes (3,6,11).
- **Opening the Scope View on a drive resets the REC.GAP parametr to 1, despite the fact that it was set to something else before. (2911)**
Issue:
 If you configure your scope with a gap other than 1, when you open the scope for the first time it will reset the value to 1. This behavior is abnormal, unless you are loading your projects to the drive.

behavior is abnormal, unless you are loading your presets to the drive.

Solution:

The value was reset unexpectedly by WorkBench code; this behavior is correct now.

• **During a drive setup wizard, only minimal steps are required from the user. (2966)**

Issue:

When the motor or feedback is auto-identified, the user should not be asked to fill in this information - the steps should be skipped.

Solution:

Any step that can be skipped by autodetecting the values is now skipped.

• **Overflow in communication between WorkBench and the drive is blocking some important features. (2976)**

Issue:

When a communication overflow occurs, some features do not work anymore:

- Autotuner will have a buffer overflow (WorkBench is unable to get the data from the drive sufficiently fast)
- Stop button does not work during a retrieve data operation after a recording

Solution:

We fixed some issues that were generating too much communication:

- New drive setup wizard is fixed and not generating anymore communication when closed
- When doing an autotuner, we disable the watch view (no refresh occurs on the values)
- While retrieving data for the scope, we disable the watch view (no refresh occurs on the values)

• **Creating a motor using 'Create Motor' functionality and then using it is causing problems; the pole numbers are not set back correctly (factor 2). (2978)**

Issue:

If you create a motor using parameters and then reuse this configuration, you may get unpredictable results if values are changed unexpectedly. For poles counts and Back EMF constant, these values were not saved correctly.

Solution:

Values are now saved and set back correctly.

• **KBM motors needs a commutation alignment when set up. The drive setup wizard should include this step. (2611)**

Issue:

The drive setup wizard does not provide a way to perform commutation alignment, but you can jog your motor (causing runaway if you are not configured properly). You should perform a commutation alignment in the setup process of these motors.

Solution:

The drive setup wizard is now providing a commutation alignment view for KBM motors.

• **Autotuner fails with some high inertia systems (2940)**

Issue:

A problem was identified in the Autotuner when trying to tune a small number of high inertia mechanics. Resulting tuning would have a very low VL.KP gain and a very high VL.KI gain.

Solution:

A revision has been made to the Autotuner to eliminate this error.

New Features

• **Scope settings should be loaded automatically if user requires this. (2278)**

New Feature Details:

If users prepare complex settings and want to use them on different drives, they must load the settings by opening the setting tab and selecting the settings manually. Users should be able to choose to load settings automatically.

Solution:

A new feature is implemented, which allows users to select whether or not to load settings automatically. This feature allows full flexibility, depending on the need of the user.

• **It should be easy to find a particular drive when many are listed. (2294)**

New Feature Details:

When many drives are present on the network, it is very difficult to search for one in the list because they are not sorted

Solution:

The drives can now be sorted based on column headings by clicking on the column header.

• **Configuraton of Y axes should be flexible for the user. (2297)**

New Feature Details:

Currently, channels are grouped by type on Y axes. If you recorded 2 channels of the same type but with very different scales (position / position error), it is very difficult to see both well. It should be possible to have different scales

Solution:

A new feature has been added which has better default groups depending on the channel type, and also has the ability to add user-defined groups. The user can now freely create different axes and assign the channels to them.

• **Users should have a rapid way to obtain an overview of motion running in the drive. (2389)**

New Feature Details:

The motion status is returned using a value defined in bits. It is time consuming for the user to decode the status to understand what is happening in the drive.

Solution:

A new view, Drive Motion Status, quickly shows the drive status in detail.

- **Different motor data are missing or wrong; some feedback options are missing. (2551,R-01511)**

New Feature Details:

Different data and feedback option issues are present with motor database.

Solution:

The following elements are fixed:

- AKM5 and bigger should have the SFD feedback available
- AKM8 motors should be available
- C/CH and D/DH motors are not setting the proper feedback type
- Brake apply/release delays, thermal time constant coil for AKM motors are now taken from the motioning DB
- Motor phase for DDL motors is now set to 120 degrees (in place of 0)
- Thermistor fault threshold value is now set correctly when selecting a motor

- **AKD Parameter files comparer: enhance Motion Task comparison. (2616)**

New Feature Details:

Users need to be able to easily compare parameters and motion tasks.

Solution:

Specific motion tasks comparison support was added.

- **Linear motor data should be imported correctly. (2617)**

New Feature Details:

Linear motor data should be available.

Solution:

Data are now imported from Motioning database.

- **Linear motor: feedback indicator should work correctly. (2618)**

New Feature Details:

Linear feedback indicator should work correctly and infinitely (going out on the right, coming back on the left - and opposite). The mechanical position within an electrical revolution (between pole pairs) should be represented correctly.

Solution:

New linear user control feedback implemented and integrated.

- **Linear motor units should be fully supported. (2619)**

New Feature Details:

Some units are still in rotary units despite the fact that a linear motor is configured.

Solution:

Firmware modifications have been made to address this; issue is fixed in WorkBench for some units and offline simulation updated.

- **EtherCAT (using TwinCAT) should be integrated in standard WorkBench build. (2648)**

New Feature Details:

A specific build was necessary for EtherCAT (using TwinCAT). Some features were handled differently, causing confusion.

Solution:

EtherCAT drives are included in normal tree view. The user can choose easily between Ethernet or EtherCAT (via TwinCAT).

- **Parameters that are read-only because AutoSet is on should be correctly signaled to the user. (2693)**

New Feature Details:

When AutoSet is on, it is disturbing for the user to have one parameter as read-only and not knowing why (such as IL.KP).

Solution:

Text near IL.KP has been added to indicate why it is read-only.

- **Home mode view should support unrecognized modes newly added to the firmware. (2704)**

New Feature Details:

If a new mode is added in the firmware, the user should be able to configure it (without validation).

Solution:

Home view fixed to handle an unrecognized mode, letting the user to edit any field (no validation).

- **Configuration support for new analog output modes (10,11) should be provided. (2705)**

New Feature Details:

Using WorkBench, the user should be able to configure properly the analog output (with two new modes: 10,11).

Solution:

New modes are implemented and supported in Analog Output View.

- **WorkBench analog deadband mode support added. (2711)**

New Feature Details:

Analog deadband mode should be configurable from WorkBench, and corresponding schemas updated accordingly.

Solution:

This feature is implemented in Analog Input View.

- **WorkBench support for Modulo. (R-01425)**

New Feature Details:

The user should be able to configure the modulo functionality using WorkBench.

Solution:

New view for Modulo support has been implemented.

- **WorkBench support for motion task registration added. (R-01424)**

New Feature Details:

The user should be able to configure registration for motions task through WorkBench. A simple wizard for default behavior is needed (3 different modules have to be configured -MT, Digital I/O, Capture). The advanced configuration must be done through different views.

Solution:

A new tab was added in the motion task advanced editor. In this view, the user can see an overview of the current configuration and launch the wizard for simple configuration. For advanced configuration, the user must open the respective views.

Tuning Issues

Feature Changes

- **On Autotune Failure/Abort, previous tuning is restored to drive. (2226)**

Issue:

On older releases, if the Autotuner was stopped, or aborted, the tuning from intermediate tunings would be left on the drive. With the intermediate tunings in place, the drive could potentially be tuned worse than it was before Autotuning started. If an Autotune is aborted or fails, the tuning on the drive before Autotuning was started should be restored.

Solution:

When the Autotuner starts, the current tuning is saved internally. If the Autotuner is aborted, or fails for any reason, the tuning saved at the beginning of Autotuning is restored back to the drive.

- **Rename Autotuner to "Performance Servo Tuner". (2461)**

Issue:

The Autotuner has been renamed to "Performance Servo Tuner".

Solution:

This name is now changed in WorkBench.

Fixed Bugs

- **Units need to be correct for linear motor. (2652)**

Issue:

When using a linear motor, the units should be displayed in linear units across all views.

Solution:

Autotuner has been updated to display linear units in the MaxSpeed box. Units are selected from Unit Selection view.

- **Performance Servo Tuner did not always save correct Overspeed value, causing crashes on Autotunes/Bode Plots after opening WorkBench subsequently. (2459)**

Issue:

On older releases, if the user changed the Velocity units on the drive (from the default of RPM), it was possible the Performance Servo Tuner could miss the Unit change and not save it. This led to possible conditions of a saved Velocity Overspeed that was outside the Overspeed limit based on configured mechanics.

Solution:

The Performance Servo Tuner has been updated to ensure the change in Velocity Units is always saved. This avoids conditions in which a saved Velocity overspeed may be outside the Overspeed limits and then restored to the Performance Servo Tuner later.

- **Making a Bode measurement clears out IL.KACFF (2518)**

Issue:

Running the Bode tool clears out the Acceleration Feedforward term on the drive (IL.KACFF).

Solution:

Code has been refactored to remove this bug.

- **Velocity Loop AR Filter improperly identifies a notch (resonator) as a lead lag. (2476)**

Issue:

After tuning a servo in the Performance Servo Tuner manually, if the user viewed the Velocity Loop, a lead lag filter would be identified as a notch filter, not a lead lag. A manually tuned resonator (notch) filter would be identified in the Velocity Loop as a lead lag filter.

Solution:

The Performance Servo Tuner had Notch and LeadLag swapped when writing those filter types to the AKD drive. This has been fixed.

- **The autotune procedure stops in the middle of the process when German locales are set (comma as decimal separator). (2913)**

Issue:

Running the autotuner with system locales different from the US can cause problems with a comma as decimal separator.

Solution:

This issue has been corrected to support the different locales.

New Features

NEW FEATURES

- **The different tuning methods should be protected against modification from concurrent methods. (2493)**
New Feature Details:
Using the Slider Tuning after an Autotune is inappropriate because it will leave the system in an unstable state. The preceding tuning should be cleared prior to setting new values using another method.
Solution:
Slider Tuning shows different views depending on the current AR configuration. The user must explicitly erase preceding parameters before using the slider tuning.
- **Autotuner/Bode tool can import previously saved CSV files. (2510)**
New Feature Details:
The Autotuner/Bode tool can now import a previously saved FFT in a CSV file. This feature can be used for support purposes and tuning may be performed on the saved machine data.
- **Autotuner/Bode tool now plots feedback filters (1810)**
New Feature Details:
The frequency response of the feedback filters (AR3 + AR4) can now be plotted on the Bode Plot after an Autotune, or Bode Measurement.
- **Autotuner/Bode Tool can simulate machine performance based on tuning parameters (1808)**
New Feature Details:
Now, after a Bode Measurement is made, the AKD can be disabled, and machine performance can be simulated by entering tuning parameters. This feature allows the user to fine tune a machine, and greatly reduce the number of instabilities during machine tuning.

Known Issues

- **Bode Tool cannot run Sine Sweep with starting frequency below 1.0 Hz. (1738)**
Issue:
A problem has been identified when a Bode Sine Sweep is run and the starting frequency is below 1.0 Hz.
Temporary Workaround:
A temporary patch has been implemented in WorkBench so the user cannot enter less than 1.0 Hz in the Sine Start Frequency box. When this problem is fixed, the lower limit of 1.0 Hz will be removed from the Sine Start Frequency.

Motion Tasking Issues

Feature Changes

- **Special behavior with digital input mode set to 4 should be signaled to the user. (2416)**
Issue:
When digital input mode 4 is set, motion task 0 is ignored. A warning regarding this behavior should be displayed to the user.
Solution:
A contextual warning has been added to the different motion task views.

Fixed Bugs

- **Motion Task view export/import does not support unit conversion. (2422)**
Issue:
If users export some tasks with given units and reimport them later on in WorkBench with different units, no conversion takes place.
Solution:
The values are now converted using the units stored in the file and the values that are current in the drive. For custom units, the number of turns at motor shaft is constant; this value is converted at the end of the mechanics.

New Features

- **All parameters of a motion task should be editable in the Motion Tasks grid editor. (2354)**
New Feature Details:
The user wants to quickly edit all parameters inside the grid editor for motion tasks.
Solution:
All parameters are now shown in the grid (when More view is open).

IO Issues

New Features

- **Digital inputs filter should be configurable in WorkBench. (2748)**
New Feature Details:
The digital input configuration should be accessible from WorkBench.
Solution:
This configuration is added in the Digital I/O view.
- **New Digital input mode 23 (analog algebraic sign) should be supported in WorkBench. (2774)**
New Feature Details:

new feature Details:

The configuration of digital input mode 23 should be possible from WorkBench. The complexity of the mode (low byte/high byte) should be made easy by the user interface.

Solution:

Interface is now implemented for mode 23.

Feedback Issues

New Features

- **Feedback types GA/GB/LA/LB are missing and should be added to the motor database. (2813)**

New Feature Details:

A motor with this feedback is difficult to configure.

Solution:

Missing feedbacks have been added to the database.

BASIC Issues

Homing Issues

New Features

- **Full WorkBench support for homing mode 12. (2702)**

New Feature Details:

Home mode 12 does not have correct text description, and a drawing would help the user to configure this mode.

Solution:

Additional support for the user has been added to WorkBench.

Version: 1.3.0.14158 Release Date: August 09, 2010

Requirements

Required Components:

.NET Framework 2.0

Supported Operating Systems:

Windows XP
Windows Vista
Windows 7

General Issues

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 in the drive.

- **Units display is confusing. (1396)**

Issue: (Identified in Version 1.1.0.11368)

Showing custom values (UNIT.PIN/UNIT.POUT) 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:

Custom values are hidden in the problematic cases. An indication was added near the unit when counts are 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.

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 parameter was changed, and the documentation has been updated to display the correct parameter.

• 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 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:
Refresh has been fixed 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:
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, etc.).

Solution:
Missing data were added to the 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 creates a custom motor from an existing one or a copy by importing, the generated name contain spaces. Spaces will be rejected by the firmware, so the user must modify the default name.

Solution:
Default names 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 parameter associated with the button.

...the hint is now showing the parameter 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 parameter 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:

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 users are 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:

Refresh algorithms are correct now.

- **Sampling interval is 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 is 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:

The diagram is correct now.

- **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 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 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 occur 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 WorkBench link is broken. (2268)**

Issue:

When clicking on the user WorkBench 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 included.

- **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:

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 settings, 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 edits correctly. Edits should be always blocked when any motion task engine is running.

Solution:

Editing is now always blocked when motion 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 in 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 is now 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.

Feature Changes

- **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 the 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: (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.
- **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 allowed in this case.

Solution:

Modified behaviors according to this new drive state.

- **Drive setup wizard should be synchronized with view 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. Users can also use an editor to setup easily the different command buffers.

- **The application should be able to use the 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 parameter 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.

number determines the encoder resolution.

Solution:

This selection is now correctly implemented in the 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:

Panic button now always works 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:

Two new views are implemented.

- **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:

A new interface has been added 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 have been 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 are clearer now.

- **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 is 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 problems. (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

Diagram: Negative Limit Switch, 1 - Start Position, 2 - Positive Limit Switch, Reference Point

Settings:

- 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 Message: Error. Click on the message to close. Press Tab to ignore and continue.

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