Kollmorgen WorkBench Release Notes

WorkBench is a Graphical User Interface that allows configuration from different Kollmorgen devices.

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: 1.17.0.2215, May 25, 2018

+ General Issues

Version: 1.17.0.1599, November 09, 2017

+ General Issues

Version: 1.16.0.41, March 20, 2017

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Version: 1.15.0.27, October 05, 2016

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Version: 1.14.0.67687, January 15, 2016

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Version: 1.13.0.60679, December 02, 2014

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Version: 1.10.0.39534, September 13, 2013

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Version: 1.12.0.56592, June 06, 2013

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Version: 1.9.0.36087, May 30, 2013

+ General Issues

+ Homing Issues

+ BASIC Issues

+ Tuning Issues

Version: 1.8.0.32358, December 26, 2012

+ General Issues

Version: 1.17.0.2215   Release Date: May 25, 2018

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.6.1	Windows 7
	Windows 8
	Windows 10

General Issues

Fixed Bugs

- **WB - KAS Integration: navigation tree view randomly stuck, not displaying. (D-07511)**
  Issue:
  Randomly, when opening WB views inside KAS, the navigation tree remains empty, stuck.

  Solution:
  Fixed, the navigation tree is now always showing.

- **WB - Discovery: crash when using a VPN. (D-00000)**
  Issue:
  If a VPN is used while discovering, it may generate exceptions when broadcasting the network, causing a WB crash as exceptions are not caught properly.

  Solution:
  Exceptions are now caught properly, using a VPN will not crash WB anymore. However, if the VPN is hijacking all the network adapters, you may not be able to see your devices. If it is the case, please contact your network administrator to undesrtand the VPN policies.

- **WB - Encoder Emulation: stepper control related keywords displayed in the wrong context. (D-00000)**
  Issue:
  The stepper control keywords are displayed for mode 7 & 9, it is incorrect.

  Solution:
  Stepper control keywords are now only shown in mode 15,16,17.

- **WB - Bode Plot Export: corrupted CSV file. (D-07533)**
  Issue:
  Exporting a Bode Plot to a CSV file was generating twice the file size, with half of the data being invalid.

  Solution:
  The export has been fixed.

New Features

- **WB - AKM2G: support for the motor series. (D-00000)**
  New Feature Details:
  AKM2G Motor Series is not supported in the internal WB database.

  Solution:
  WB support AKMG2G motors from the internal motor database.

Version: 1.17.0.1599   Release Date: November 09, 2017

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.6.1	Windows 7
	Windows 8
	Windows 10

General Issues

New Features

- **WB: MKD-C/N model and file download support. (S-17781)**

New Feature Details:
MKD-C/N models are not supported in WB.

Solution:
MKD-C/N models are now supported, displaying the correct information. The overview will have an indication about the axis using mult-axes MKD-Ns. The FW update process will handle these new models properly.

- **WB: MKD-C/N toplogy view expansion. (S-17780)**
  New Feature Details:
  MKD-C/N topologies support up to 3 strings and up to 14 devices per string (current diagram limit is 2 strings with each 8 devices at maximum).

  Solution:
  The topology diagram has been extended to support 3 strings, up to 14 devices per string. We are able as well to display models and faults at the node level. The STO will be shown differently if it is coming from a local or network input.

- **WB: navigation using a dual tree structure (master/detail). (S-18807)**
  New Feature Details:
  When several drives are displayed in the single tree hierarchy, it is difficult no navigate between drives and it is easy to be confused about the drive currently selected.

  Solution:
  The new navigation hierarchy is built on a dual tree structure in a master/detail form. The master tree allows the user to select the device and the slave tree allows to select the view within the device.

- **WB: safety integrated in the dual tree structure, including project management and safe grouping features. (E-02435)**
  New Feature Details:
  Safety group creation and management of the parameterization packages were not possible.

  Solution:
  The safety features are now fully integrated in the dual tree navigation structure, allowing the users to create and manage safety groups. For each of these groups, the user can handle parameter packages and download them into the safety devices. All these data are made persistent using a project structure which is saved and can be reloaded by the user.

  - **WB: support for new thermistor types. (S-18386)**
    New Feature Details:
    The new thermistor types are not supported properly.

    Solution:
    Support added through the whole application.

- **WB: support for the thermal sensor source. (S-18388)**
  New Feature Details:
  New motors will support new feedback devices and therefore the thermal sensor source can come through different channels. A new parameter will be added to configure this.

  Solution:
  WB supports the new parameter (thermal sensor source) if it exists.

- **WB: full download support for MKD-N devices. (S-18376)**
  New Feature Details:
  This device type has a 2 axes model number, the power EEPROM should be programmed according to which axis we are currently connected to.

  Solution:
  WB and the console have been fixed to program the EEPROM appropriately.

Fixed Bugs

- **WB: Motion Task button confusing text. (5948)**
  Issue:
  The button writing motion tasks into the drive is labelled "Save Motion Tasks To Drive", it is confusing as in fact they are not saved in NV RAM, only written to the current values.

  Solution:
  The button label has been changed to "Update Motion Tasks" to remove the confusion.

- **WB: auto discovery is not stopped properly generating unnecessary network traffic. (D-06825)**
  Issue:
  In the following cases the auto discovery is not stopped, generating unnecessary network traffic:

  - Using the connect dialog box
  - Connecting to an MKD/AKD-C device with existing subdevices

  Solution:
  The auto discovery is stopped properly in both cases when not needed.

- **WB: random problems with localized versions. (D-07160)**
  Issue:
  Some part of the software is not behaving properly when translated (dialog can be closed when they shouldn't, some events not passed properly, ...).

  Solution:
  The localization has been fixed.

Feature Changes

- **WB: Discovery optimization to minimize the broadcast communication peak in AKD/MKD-C/N structures. (S-**

18328)

Issue:
When using AKD/MKD-C/N structures with many devices (more than 40), the answers to our broadcasted discover request is creating traffic congestion resulting in packets loss.

Solution:
To avoid the peak, the initial request will get smaller answers back. In a second pass, WB will ask individually each device for the full information.

- **WB: Safety file description updated to match the data dictionary V1.4. (S-18097)**

  Issue:
  The safe file description should match exactly what is in the SMM, otherwise the user may not configure the SMM properly.

  Solution:
  Safe file description updated to V1.4.

- **WB: enhance project management (create/open/save) to be more user friendly. (S-18480)**

  Issue:
  The project management is not very intuitive, mainly because it is managed at the folder level (the folder has to be manually created, the saving is always done when closed, ...).

  Solution:
  The project is now a single file containing all the information. The user can manage it as he would in other applications like Office, it should be much more intuitive.

Version: 1.16.0.41   Release Date: March 20, 2017

Requirements

Required Components:
  .NET Framework 4.6.1

Supported Operating Systems:
  Windows 7
  Windows 8
  Windows 10

General Issues
New Features

- **WB: scope performance improvement. (S-17079)**

  New Feature Details:
  The scope retrieve data process is taking far too long (30s for 10,000 samples on 3 channels).

  Solution:
  We increased the chunk size to retrieve data. The retrieve time should be lower (about 30% on old HW, up to 10x faster on new HW).

- **WB: cogging compensation allows automatic re-enabling after a teach move. (S-17680)**

  New Feature Details:
  For each teach move, the cogging compensation is disabled by the drive. As it is not visible in the view, users regularly forget to re-enable it after the teach.

  Solution:
  A new check box has been added into the view, allowing the user to enable the compensation after the teach move.

- **WB-Console: allows disabling the drive before download. (S-17681)**

  New Feature Details:
  If the drive is enbaled, the download operation is blocked.

  Solution:
  A new flag 'forceDisable' has been added so the user can force a disable of the drive prior to the download.

Fixed Bugs

- **WB: crash when opening the feedback view on some computers. (5608)**

  Issue:
  Opening the feedback view throw an exception - seen as a crash in WorkBench. It occurs randomly on some computers (for now, only German OS - but not reproducible on all German OS).

  Solution:
  The feedback view is fixed - changing the layout structure fixed the problem.

- **WB: Parameter Compare does not work in German if any motion task present. (5506)**

  Issue:
  The Parameter Compare does not show any result if you use it with German WB with some of the compared devices having motion tasks.

  Solution:
  Problem fixed, results are displaying the same in German than in English.

- **Scope: the Scale To Fit All command does not always work. (5804)**

  Issue:
  After a recording, if no axis is explicitly clicked, the Scale To Fit All command is not having any effect.

  Solution:
  Problem fixed, Scale To Fit All should work in all cases, even when no axis is selected.

- **KAS integration: crash when KAS is closed while scoping. (5826,D-07061)**

  Issue:
  If the user leaves KAS while scoping, it crashes.

  Solution:

Crash fixed.

- **EIP dynamic mapping reorders when editing an existing mapping. (5895,D-07073)**

  Issue:
  If you edit an existing mapping, it will be reordered in ascending order, breaking your existing mapping as the master is configured for a precise order.

  Solution:
  Reopening and existing mapping will keep the user defined order.

- **Feedback codes for Hiperface types (AKM motors) are incorrect for AKD devices. (5884,D-07074)**

  Issue:
  The feedback codes are incorrect for Hiperface feedbacks supported by AKD, confusing for the user.

  Solution:
  Fixed according to spec.

Tuning Issues
Fixed Bugs

- **Autotuner crash if current loop limit is lowered. (5937,D-07104)**

  Issue:
  When the user is lowering IL.LIMITP below DRV.IPEAK and below MOTOR.IPEAK, the autotuner will fail when setting BODE.ILFTHRESH.

  Solution:
  The autotuner is now taking in account IL.LIMITP to perform a correct calculation.

Version: 1.15.0.27   Release Date: October 05, 2016

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.6.1	Windows 7
	Windows 8
	Windows 10

General Issues
Fixed Bugs

- **WB: support alternate port number for telnet connection (other than 23). (5301,S-16351)**

  Issue:
  Specifying an alternate port when connecting to WB using the custom IP address is crashing.

  Solution:
  The user can connect to the devices using a custom hostname containing the port number (e.g. 10.51.70.23:22). It will connect as long as the device is listening on that port. The BASIC console will NOT work if you specify an alternate telnet port.

- **WB: drive topology is lost when closing the application. (5387,D-06773)**

  Issue:
  The topology configured by the user is lost when exiting the application (all disconnected drive execpt the first one are lost).

  Solution:
  The topology is properly stored when exiting and restrored properly when connecting again.

- **WB: reading array indexes in base 16 is crashing WB (D-06819)**

  Issue:
  If the user sets the read format in hexadecimal (16), reading any array content will throw an exception.

  Solution:
  WB now supports indexes written in hexadecimal form.

- **WB: localization errors when downloading firmware (D-06841)**

  Issue:
  Some of the messages displayed when downloading a firmware are displayed in the OS language, not in the user chosen language.

  Solution:
  The culture properties are now set properly on the downloading threads, the application displays all messages in the user chosen language.

- **WB: manual scales are lost even when Remember Axis Scaling is set. (5517)**

  Issue:
  With Remember Axis Scaling activated, if the range on one of the axis is changed and a new record performed, the previously set manual ranges were lost on other axes.

  Solution:
  As soon as Remember Axis Scaling is activated, the scales are not changing anymore, even if you edit one of then and make a new record.

- **WB: the number of FB pole pairs is not saved properly when creating a motor. (5601)**

  Issue:
  The custom motor definition is using pole pairs and the drive is defining the pole count. We currently do not convert when creating a custom motor, we should divide the number of poles by 2.

  Solution:
  The unit conversion is fixed, it is now correctly saved as pole pairs.

New Features

- **WB: allows the user to manage NV operations when saving/loading parameter files. (S-16657)**
  New Feature Details:
  Loading a parameter file using FSoE does not allow the user to perform a NV save just after the operation, therefore parameters are lost after the next reboot of the drive.

  Solution:
  WB allows now to add a NV save operation at the end of the parameter file. Any load of that file will be saved in NV memory without further action of the user.

- **WB: supports basic mathematical operations between 2 channels. (E-02170)**
  New Feature Details:
  Some users wants to perform mathematical operations on recordable traces to get specific information (e.g. error signal using a subtraction).

  Solution:
  WB supports the 4 basic mathematical operations between 2 channels (addition, subtraction, meultiplication, division). It is freely configurable by the user and they can be stored within scope settings.

- **WB: support for home mode 17 (use user position) (S-16521)**
  New Feature Details:
  The FW supports a new homing mode - WB should provide graphical support for it.

  Solution:
  Full support implemented for home mode 17.

- **WB: supports mathematical operations between existing user traces. (S-16848)**
  New Feature Details:
  User traces can only reference channels as source for mathematical operations.

  Solution:
  WB supports mathematical operations between existing user traces (they have to be define in order - no forward references possible).

- **WB: migrated to new .NET framework 4.6.1 / dlls and exes are now signed. (S-16874)**
  New Feature Details:
  Dlls/exes were not signed, preventing to sign any derivative work. Asynchronous proraming was not available in old fremawork, preventing easy responsive user inerface programming.

  Solution:
  All our projects are now signed and migrated under .NET Framework 4.6.1. It means that XP and Vista support are dropped (Microsoft does not support .NET 4.6.1 under these OSs.

- **WB: better user support for stepper control configuration. (S-16881)**
  New Feature Details:
  The current screen is not providing a lot of information on how to configure the feature.

  Solution:
  The view has now a drawing showing where and how the parameters have effect for the stepper feature.

- **WB: cogging compensation support. (S-16824)**
  New Feature Details:
  No user interface support for cogging compensation.

  Solution:
  User interface provided through a new configugartion view to adjust the correction table, and modifications in the current loop view to enable/disable the functionality.

- **WB: support for home mode 18 (find home input then find next feedback zero) (S-17039)**
  New Feature Details:
  The FW supports a new homing mode - WB should provide graphical support for it.

  Solution:
  Full support implemented for home mode 18.

Version: 1.14.0.67687   Release Date: January 15, 2016

Requirements

Required Components:
   .NET Framework 4.0

Supported Operating Systems:
   Windows XP
   Windows Vista
   Windows 7
   Windows 8
   Windows 10

General Issues
New Features

- **Support for user notes attached to scope traces, included in exported CSV files. (S-15704)**
  New Feature Details:
  There is no way to add contextual information to scope traces. The current CSV format doesn't support any easy addition and will create compatibility management issue.

  Solution:
  New flexible CSV file format implemented, supporting user notes.

- **Support for the new service motion acceleration/deceleration keywords. (S-15705)**
  New Feature Details:
  The current service motion functionality is using the drive acceleration/deceleration limits. Changing these values while commisionning for testing purpose is chnaging drive protection limits. We need to have specific acceleration/deceleration values for

the service motion - not touching the drive limits while testing. Two new keywords were introduced for that purpose in the FW - SM.ACC/SM.DEC.

Solution:
The service motion view is now using these new keywords when they are available. The limits are shown to the user - but they cannot be changed within that view.

- **WB-EIP View: support for dynamic mapping visualization (command/response). (S-15772)**
  New Feature Details:
  Dynamic mapping support is missing in the UI - it is difficult for the user using the terminal.

  Solution:
  The dynamic mapping is presented as a list showing mapped addresses. The current values of the objects are refreshed regularly.

- **WB-EIP View: support for dynamic mapping configuration (command/response). (S-15718)**
  New Feature Details:
  EtherNet/IP object mapping configuration through the terminal is painful.

  Solution:
  The object mapping can be configured using the user interface. The users sees all possible objects and the currently configured object.

- **WB-EIP View: support for configuring the acceleration and decelartion of EIP moves. (S-15789)**
  New Feature Details:
  Feature not configurable from the user interface.

  Solution:
  These 2 new keywords are available from the user interface.

- **WB-EIP View: added search capability on objects in the dynamic configuration dialog. (S-15804)**
  New Feature Details:
  The EtherNet/IP possible object list is big and therefore it is difficult to find the object you are looking for.

  Solution:
  A search criteria filtering the object list has been added to the dialog.

- **WB: CKM Motor full support in the UI. (S-15773)**
  New Feature Details:
  CKM motors are not supported - data have to be entered manually.

  Solution:
  CKM full support within WB. The data are currently missing - as soon as we will get them they will be added and the motors available for the end user.

- **FW download support for the new device generation. (S-16070)**
  New Feature Details:
  Our new devices are using a new FW update mechanism. WB doesn't support it.

  Solution:
  WB fully support the new devices using a TFTP tchannel to update the new FW. The firewalls should be opened appropriately.

- **FW download support for the new device generation (command line). (S-16071)**
  New Feature Details:
  Our new devices are using a new FW update mechanism. WB console doesn't support it.

  Solution:
  WB console fully support the new devices using a TFTP tchannel to update the new FW. The firewalls should be opened appropriately.

- **Support for motor field weakening (permanent magnet). (S-15331)**
  New Feature Details:
  Feature present in the FW, not shown in the UI.

  Solution:
  Full UI support added.

- **Added new AKD-N models support (DGEC/DTEC). (S-16060)**
  New Feature Details:
  AKD-N models support is incomplete.

  Solution:
  AKD-N models support is up-to-date.

- **Support for new AKD-C/N EtherCAT structure. (S-15945)**
  New Feature Details:
  The new scheme is unknown to WB, therefore not seen when discovering through TwinCAT.

  Solution:
  Old and new scheme are available in WB - AKD-C will now be discoverable through TwinCAT.

- **SFD Gen3 support for AKM series (motor database selector). (5253,S-16099)**
  New Feature Details:
  SFD Gen3 is not available for AKM series.

  Solution:
  Added full SFD Gen 3 support for AKM series.

- **Verify that each FW image can fit within the drive memory structure. (S-16092)**
  New Feature Details:
  Some FW images are becoming bigger than their pre-allocated zone in flash memory. It is dangerous to let such images being dowloaded in the drive.

Solution:
We verify each image against their respective pre-allocated zone in memory and fail the download if it doesn't fit. In a later modification, we will update the allocation zone to allow the bigger image to fit.

- **The performance servo tuner should be disabled with low resolution feedback types (halls only). (5272,S-16205)**
  New Feature Details:
  Low feedback resolution feedbacks are producing very bad result when autotuned.

  Solution:
  The functionality is disabled when low resolution feedbacks are selected.

- **Provide visualization of the hall states within the feedback view. (5274,S-16204)**
  New Feature Details:
  The Halls states are not visible in the user interface, the terminal has to be used to troubleshoot any problem.

  Solution:
  The feedback 1 view provides a Halls states visualization when they are mounted in the motor.

- **TwintCAT startup file export wizard enhancements (4944,S-15265)**
  New Feature Details:
  The path to the template path is lost, the user has to always navigate down to it. The device revision can be selected automatically by getting it from the drive.

  Solution:
  The UI is now storing the path to the template file, even when closing the application. When the revision is available from the drive, it is automatically selected.

- **TwintCAT startup file export wizard includes when required the mandatory setup keywords. (4950,S-15238)**
  New Feature Details:
  When exporting only keywords having actual values different from their default values, we may miss keywords that are mandatory for drive setup. The drive will fault if they are not set at least once.

  Solution:
  The user has now an option to add the mandatory setup keywords, even if their actual value equals to their default value.

- **Halls only supported amongst motor series. (5296,S-16229)**
  New Feature Details:
  VLM series exist with halls only but not available in WB. Custom motor cannot be set with Halls only.

  Solution:
  VLM series and custom motor support now the halls only selection.

- **Automatic file sytem resizing to fit new firmwares which may have bigger sizes. (S-16242)**
  New Feature Details:
  Some new firmwares have reached a size that they will not fit in the existing file system. If they are downloadedd they may corrupt the drive.

  Solution:
  Incremented the FW file version to prevent any old WB to download one of these files. The new WB will verify that FW fits the file system or will try to resize it.

- **Parameter file loading enhancements. (S-16360)**
  New Feature Details:
  After loading a parameter file into a device, the user is not aware that the parameter values are not saved in NV memory and he has no easy way from the dialog bog to do it.

  Solution:
  At the end of the loading process, we added an information telling that the parameters are not saved in NV memory. We added as well a Save To Device button to allow direct action from the user.

Fixed Bugs

- **Property editor in Compare Engine views may open in the wrong place, preventing the user to close it. (4976,D-06466)**
  Issue:
  When the property editor is open near the right or bottom of the screen, the close button may not be accessible. The user is unable to close the window using the mouse and regular close button. Alt+F4 still works and allows the user to close the editor.

  Solution:
  The window will reposition itself around the edited component to be fully visible within the screen. It is not possible for any reason - it will be placed as before - bottom right of the component.

- **Wake&Shake view doesn't publish all the W&S available keywords. (5073,D-06570)**
  Issue:
  As the keywords are not available in WB, the user doesn't notice important keywords that may have to be set properly before running the process.

  Solution:
  Missing keywords have been added to the view.

- **Parameter editor in read-only mode has refresh issues. (D-06684)**
  Issue:
  When hitting a key while the carret is within a read-only text editor (WinForms), the auto refresh is stopped and never restarted.

  Solution:
  Fixed, the auto refresh is not stopped.

- **Bode Plot measurement should not set any parameter in the drive. (5024,D-06683)**
  Issue:
  Doing a Bode Plot measurement changes the IL.FRICTION parameter. Doing a measurement should not chnage any parameter.

Solution:
The value is not changed anymore doing a bode measurement.

- **Unexpected disconnect using a drive started in resident mode. (5309,D-06715)**
  Issue:
  Unxpected disconnect while using a drive in resident mode if you connect to it reusing an existing node from the tree (only when the watch panel is opened with some watch items created on the node previously).

  Solution:
  Fixed.

- **AKD-C/N discovery issues. (5275,D-06741)**
  Issue:
  In some scenarios, the AKD-Ns are not getting the connection info refreshed properly, even the manual refresh is not working.

  Solution:
  The autorefresh mechanism is now ensuring a proper refresh of the connection info. The manual refresh is performing a deep refresh that should ensure a refresh in any case.

Feature Changes

- **WB - EIP View: refactored to use new internal editors and ready to support EIP mapping. (S-15715)**
  Issue:
  EIP mapping is needed - the current view/technology cannot support it.

  Solution:
  We refactored the existing view to support mapping functionalities.

Tuning Issues
New Features

- **WB: Performance Servo Tuner has a new CSV export format, supporting user notes. (S-15914)**
  New Feature Details:
  Some users want to add a custom note/comment attached to an exported autotune/bodeplot dataset.

  Solution:
  The old CSV format being not easily expandable, we created a new common CSV format for the scope and the autotuner. A user note editor has been added to the user interface and is exported/imported to/from the csv file.

IO Issues
New Features

- **WB: full user interface support for analog mode 3 (monitor thresholds). (S-15886)**
  New Feature Details:
  The analog mode 3 is not supported in the UI, it has to be configured using the terminal.

  Solution:
  Full support for mode 3 has been added, including the edition of thresholds and an analog gauge showing the different values graphically.

Fixed Bugs

- **Analog Input - user edition overdidden by screen refresh. (5187,D-06648)**
  Issue:
  When the user edits the torque/velocity/position scale, the value is suddenly overriden by a screen refresh.

  Solution:
  Refresh is not occuring anymore while editing.

Feedback Issues
Fixed Bugs

- **Feedback View: the resolution label/unit is confusing using BiSS Mode C Renishaw feedback type. (5238,D-06665)**
  Issue:
  The encoder resolution label indicates Sine Cylces/Rev. This feedback type is digital, not having any sine cycles. The resolution as to be given in Counts/Rev.

  Solution:
  The label has been changed to Rotary/Linear Encoder Resolution.

- **Watch panel - continuous polling on invalid item. (5252,D-06673)**
  Issue:
  If an invalid keyword or variable is set as watch item, it will be polled indefenitely returning each time an error.

  Solution:
  If a watch item returns an error, the polling for this item is stopped until the next reconnection.

Version: 1.13.0.60679   Release Date: December 02, 2014

Requirements

Required Components:
.NET Framework 4.0

Supported Operating Systems:
Windows XP
Windows Vista

General Issues
New Features

- **Support for second STO channel. (S-12172)**
  New Feature Details:
  Second STO channel available in ADK48 is not supported. The status bar is showing the status for STO1 only (simply shown as STO).

  Solution:
  Status bar is showing STO status or STO1 and STO2 status depending on the device type (including AKD48).

- **Export current drive configuration to a TwinCAT startup file (only for EC drives). (S-12763)**
  New Feature Details:
  In some application, the drive has to be initialized via the master EtherCAT. To allow an easy configuration, once the drive is tuned for the application, the paremeters can be dumped into a TwinCAT startup file.

  Solution:
  This functionality was available outside of WB, it is now integrated and available for any EC drive. The user can choose what he wants to export (NV paremeter set) and the ESI file to use.

- **Support a second field for the device identification (freely usable, up to 32 chars). (S-12731)**
  New Feature Details:
  The current device name can contain only 10 chars, which is quite short for a specific nomenclature. A user friendly naming and a specific nomenclature should be available at the same time - helping quick and easy and identification of the devices.

  Solution:
  We added a new field named custom identifier, it can contains up to 32 chars. This field is published through the broadcast mechanism and therefore visible in the start page to select more easily the correct device.

- **Full support for custom identifier in the user interface. (S-15040)**
  New Feature Details:
  The custom identifier is only editable through the terminal.

  Solution:
  Full support has been added for this keyword, it is now editable in the 'More' section of the Overview view.

- **Support for ICH Series Ironcore DDL (linear high voltage motors). (S-12683)**
  New Feature Details:
  No support for this motor serie - the user has to enter all data.

  Solution:
  Full support for all motors of this serie.

- **Support for new feedback types in AKMH motors. (S-15087)**
  New Feature Details:
  Some new AKMH feedback types are not supported currently in WB.

  Solution:
  Full support for all planned AKMH feedback types combination.

- **Support #IT:options section within the FW files. (4861,S-15155)**
  New Feature Details:
  Some special section has been added for custom use under EtherCAT, it should be ignored by WorkBench not blocking the user to load these modified files.

  Solution:
  The section is supported and its content completely ignored.

- **WB - TwinCAT Startup file: support several devices in one ESI file. (S-15153)**
  New Feature Details:
  ESI files can contain several different devices within the same file, it is currently not supported.

  Solution:
  Multiple devices within one ESI file is supported, asking the user to chose which one has to be used.

- **TwinCAT startup file - string value support. (S-15160)**
  New Feature Details:
  String value like drive name are not supported and not written in the startuip file, they should.

  Solution:
  String values are supported.

- **Export compliance (controlled HW). (S-15224)**
  New Feature Details:
  New controlled HW will not allow any uncontrolled FW to run on it - a fault will be generated.

  Solution:
  To prevent this problem and avoid confusion, we block any incompatible FW download on new controlled HW.

Fixed Bugs

- **The navigation tree is not always expanded properly when navigating using links between views. (D-05227)**
  Issue:
  If the user navigate to a view which was never open and linked to a node being inside a collapsed parent using a link from another view, the navigation tree is not behaving properly: the node is selected but not visible as it is inside the collapsed parent (it should expend automatically).

  Solution:

The behavior is fixed, when required the parent node is expanded to make the selected node visible.

- **Download process is not able to terminate properly in intense network environment (AKD-C/AKD-N). (S-14928)**

  Issue:
  Performing multiple downloads in the AKD-C/AKD-N network environment is failing at the end of the download, not able to write the verification bytes.

  Solution:
  The end of the download process has been changed to be less timing sensitive, basing the progress on handshaking.

- **When first opening the scope, the Y Axes will not be chosen properly (matching the unit of the signals). (4860)**

  Issue:
  The Y axes are not set properly when opening the scope for the first time - they are set to Default. It will result with all signals under unknown unit, making the graph difficult to interpret.

  Solution:
  Y axes ar now initialized properly when opening the scope view in all cases.

- **Display replication (7 segmets LED) problem. (D-06341)**

  Issue:
  When the drive is configured in hexadecimal, the values for type/digits/interval are returned in hexa. Our parsing doesn't support this.

  Solution:
  Fixed the parsing to support decimal and hexadecimal numbers.

- **Disconnection while downloading FW using direct connection (Auto-IP). (4766,D-06315)**

  Issue:
  When rebooting, before or after the download, the IP address may change using Auto-IP protocol and we got disconnected. We were unable to find the drive back and connect to it agin.

  Solution:
  A double problem was causing the issue: IP address changing, MAC address not get properly before the reboots. We can now get the MAC address in all circunstances, the drive will be able to reconnect properly.

- **Accessibility of motor type is not shown properly in WB, causing a crash when edited. (D-06419)**

  Issue:
  For new feddback memories, the motor type is defined and therefore coming read-only out of the drive. The motor view is showing it as read/write. When the user tries to set it, the application crashes.

  Solution:
  The UI is refreshed properly based on the keyword accessibility, shown read/only when required, blocking any user edition.

- **Motor View warnings are sometimes displayed wrongly. (D-06420)**

  Issue:
  For old feedback memories, we display a warning nearby the motor phase, to indicate that it is not automatically set. For some new motor types, the keyword desn't exist but the warning is still shown creating an odd UI display.

  Solution:
  We do not display anymore warnings for non displayed keywords.

- **Linear units conversions are wrong in offline drives for velocity and acceleration/deceleration. (D-05145)**

  Issue:
  The linear velocity is wrong by a 16'000 factor and the accel/decel is wrong by a factor of 16'000^2.

  Solution:
  Linear units conversions are fixed.

- **Firmware download failure when having watch panel opened. (4759,D-05153)**

  Issue:
  Firmware download fails randomly when some watch items are displayed for the concerned drive when starting the operation. It is occuring more often when using user variable watch items. The issue is due to some thread closing the communication while getting the value from the drive.

  Solution:
  We fixed the threading issue by stopping any watch item refresh before the download operation is launched.

IO Issues
New Features

- **Digital Output Mode 23 (compare output) support. (S-12143)**

  New Feature Details:
  DOUT mode 23 is not supported for DOUT 1/2. The mode configuration is not supported at all for DOUT 9/10/11, it should as the compare engine can be used with these outputs.

  Solution:
  Mode 23 fully supported for DOUT 1/2/9/10/11 in the user interface.

Motion Tasking Issues
Fixed Bugs

- **Import of linear motion tasks is doing improper conversion. (4845)**

  Issue:
  Importing linear motion tasks is doing the unit conversion using rotary units - which is wrong. It results in invalid values when the linear and rotary units are different (often the case).

  Solution:
  The import process is fixed - using the correct conversion factor depneding on the motor geometry.

Homing Issues
New Features

- **Home mode 16 support. (S-15135)**
  New Feature Details:
  Home mode 16 is not supported in WB - no drawing and no specific field visibilty management.

  Solution:
  Home mode 16 is fully supported.

Tuning Issues
Fixed Bugs

- **FFT points edit field can be set to an invalid value. (4815,D-06256)**
  Issue:
  By clicking quickly or continuously on the up/down buttons to edit the FFT points, you can set an invalid value (not being a power of 2). If you edit again the value or launch an autotuner process, WB will crash using this invalid value.

  Solution:
  The user cannot enter an invalid value. We increased the protection against continuous or quick clicking, the value will always be a power of 2.

Version: 1.11.0.51660   Release Date: December 16, 2013

Requirements

Required Components:
 .NET Framework 4.0

Supported Operating Systems:
 Windows XP
 Windows Vista
 Windows 7
 Windows 8

General Issues
Fixed Bugs

- **Crash when trying to export to a file which is opened in Excel. (4347,D-04664)**
  Issue:
  WB should not crash when a simple I/O problem occured.

  Solution:
  The export will indicates an error in that case, not crshing. With Excel, we cannot better, it locks the file so we are not able to touch it.

- **When F1 is pressed in AKD-C String x view, the application crashes. (D-04664)**
  Issue:
  The string view is currently completely empty - the user may be tempted to press F1 to get some help, the application will crash.

  Solution:
  Empty view is not really helpful and confusing, we replaced the empty view by the topology view - it is more matching what a user will expect to see by clicking on the string node.

- **Being in error state the navigation should be disabled - motion profile table. (D-04711)**
  Issue:
  When being in error state in motion profile table - by editing the table name - the navigation is not disabled. Navigating to another view will freeze WB.

  Solution:
  Problem fixed - navigation is disabled.

- **Being in error state - disconnecting the cable is enabling the navigation and hanging the application. (D-04719)**
  Issue:
  While being in error state, disconnecting the cable from the drive is hanging up the application.

  Solution:
  Problem fixed - navigation remains disabled as it should.

- **Motion tasks are not persisted properly when using offline drives. (4414,D-04438)**
  Issue:
  Motion tasks are not saved properly using offline drives. When you quit WB, the tasks are lost - the exported parameter file will not contained them neither.

  Solution:
  Leaving and relauching the application is keeping the motions tasks. The exported parameter files contain the motion tasks.

- **Non existing keywords are refreshed regularly (automatic refresh) - causing unnecessary communication and error messages. (D-04011)**
  Issue:
  We are refreshing invalid keywords in automatice refresh - creating unnecessary communication and errors.

  Solution:
  In automatic refresh, we will not poll invalid keywords. However, explicit refresh will still poll these keywords as we need to check if they are valid or not.

- **Thermistor type is not set properly when selecting a motor from the database. (4528,D-04710)**
  Issue:
  The thermistor type is not set when taking a motor from the WB database.

  Solution:

Fixed - the thermistor type is now set accordingly.

- **Units for motor Back EMF constant are not coherent in offline drives. (4484,D-04700)**
  Issue:
  The unit for Ke (Back EMF Constant) is not correct - it should be Vrms/k-rpm and it is Vpeak/k-rpm in offline - once you have opened the motor view. We have 2 issues, the unit is wrong and changed by using the motor view - it should have been initialized properly before.

  Solution:
  The unit is correct - driven by the motor type (linear/rotary). It is inialized properly from the begining.

- **Block loading of incompatible parameter files. (S-11706)**
  Issue:
  Loading an AKD-C parameter file inside a drive is a non sense, the opposite as well.

  Solution:
  We should block the loading and inform the user.

- **Cannot download new FW file format to production devices (not containing model information). (4603,D-04811)**
  Issue:
  The production people cannot put the FW in the drive before programming the EEPROM (model).

  Solution:
  If the drive is empty (no model) - the FW can be downloaded without model checking.

- **The AKMH motors are not presented in a logic order. (D-04810)**
  Issue:
  The AKMH motors are presented in the order of their creation in the database - which doesn't make any sense to the user.

  Solution:
  We are now sorting all motors based on their name, in xml database file and when displaying in WB.

Feature Changes

- **The discovery panel should not hide AKD-N devices not having a parent (development units). (4350,S-11609)**
  Issue:
  Developpers having AKD-C devices with their own lab power supoply will connect through the backdoor, no CPS in the system. In that specific configuration, there is no way to connect to the AKD-C, as it is not visible in the discovery.

  Solution:
  AKD-N devices not having a parent are visible in the discovery panel - when they have a parent thea will be hidden. More generally, we hide sub-devices, meaning any device having a parent.

- **Changing feedabck type name from SCS to SFD3. (S-11781)**
  Issue:
  The name should match the marketing/documentation name.

  Solution:
  Changed everywhere to SFD3 in place of SCS..

- **The bandwidth of the current loop should not be bigger than the quarter of PWM frequency. (S-11818)**
  Issue:
  For drives having a low PWM frequency, we should limit the bandwidth.

  Solution:
  IL.KP algorithm fixed to limit te current loop bandwidth properly.

- **Drive discovery should not ping automatically and avoid ping burst. (S-11709)**
  Issue:
  Pinging during drive discovery has 2 main problems: it will fail the Auto-IP process and will reduce the bandwith during ping burst causing failures for fieldbuses.

  Solution:
  We removed ping from the automatic discovery, only broadcast will be used. If no drive are found on a sub-network, the user will be able to ping manually. The bing burst will be configured to limit the number of ping by burst and insert some time between the different burst.

- **Gain scheduling table can be read-only depending on the motor type. (S-11886)**
  Issue:
  IPM motors needs a specific gain scheduling table computing. As this table is done in the FW based on different parameters, the table itself will be read-only. WB should reflect this properly.

  Solution:
  The table will be shown as read-only if the table is not writable in the FW.

- **Avoid unnecessary warning around EEPROM download. (D-04831)**
  Issue:
  The AKD-N doesn't have any InRush protecting the EEPROM writing. WB is giving an erroneous warning that can confuse the user.

  Solution:
  The warning will not be given if the device doesn't contain any InRush protection.

New Features

- **Support for new AKD-C. AKD-N models. (S-11634)**
  New Feature Details:
  These devices have new models - we need to support them to allow ease of use, particularly around FW download.

  Solution:

AKD-N DBEC,DFEC,DSEC / AKD-C CBEC models supported.

- **Display different RMS values on scoped signals (True and AC). (4373,S-11614)**
  New Feature Details:
  The scope is giving the RMS value for a signal, currently being AC RMS. Some users want AC RMS, some others want True RMS - for different purposes.

  Solution:
  We have now both values: AC RMS and True RMS displayed with clear description.

- **Support the replication of different device displays. (4555,S-11630)**
  New Feature Details:
  The AKD-C has only one digit 7-segment diaplay, it should be displayed properly.

  Solution:
  WB is now supporting old and new display keyord. It is ready for future display type.

- **Better FW download protection. (4494,S-11598)**
  New Feature Details:
  With the new devices (AKD-N/C), we have different power EEPROMs. We were protecting against downloading the wrong FPGA type, but not all for different EEPROM values.

  Solution:
  We have added the target model in the FW file - it will be check and not allow any wrong download. This new format will be introduced first for AKD-N/C and WB will refuse to download the old format to these devices. It will protect the exchange of FW files between regular AKDs and AKD-N/C devices.

- **The application should warn for unsaved data for any edited device - inlucing sub-devices. (S-11556)**
  New Feature Details:
  The application is not warning for unsaved data in sub-devices - it should.

  Solution:
  Any device will warn for unsaved data - including sub-devices.

- **SCS (Single Cable SFD) feedback type support. (S-11605)**
  New Feature Details:
  SCS is not supported.

  Solution:
  SCS feedback type support, including the visibility of the configuration fields. Motor selection allows usage of SCS.

- **Full DIN mode 26 support (Suspend Motion). (S-11607)**
  New Feature Details:
  DIN mode 26 not supported in WB (text).

  Solution:
  Full support added - text describing the mode added to WB.

- **AKD-C support through TwinCAT. (S-11578)**
  New Feature Details:
  AKD-C cannot be discovered neither connected to using WB through TwinCAT. It is required to configure it without connecting to the Ethernet service port.

  Solution:
  Support added, the AKD-C will be seen and the user can connect to it. The underlying AKD-N devices will not be seen under the AKD-C, they will be seen at the ETherCAT level - the user has to connect to them individually.

- **Modbus unit configuration enhancement. (S-10498)**
  New Feature Details:
  The configuration of Modbus units is not obvious.

  Solution:
  We have added a link in the unit view to offer a link to the Modbus view. We have added some text information in Modbus view to clarify how it works with derivated units.

- **New thermistor type support. (S-11751)**
  New Feature Details:
  The user interface is supporting only types 0 & 1 - there a 4 new available in the FW. Type set for AKMH is 0, it should be 4.

  Solution:
  Added the support for all known types in WB and setting the appropriate type for AKMH.

- **Interior Permanent Magnet motor support. (S-11412)**
  New Feature Details:
  IPM are not supported in term of type and some properties are missing.

  Solution:
  IPM motor type is fully supported, including the new required properties.

- **Support for digital output mode 22 (In-Rush Relay State). (S-11780)**
  New Feature Details:
  Text for mode 22 is not correct, parameter accessibility not managed.

  Solution:
  The new mode 22 is fully supported.

- **Motor temperature support in degree Celsius. (S-11800)**
  New Feature Details:
  The thermistor actual value is currently shown in Ohm, which has some sense as the limits are defined in Ohm. The FW recently added a keyword to show it in degree, which is more meaningfull for the end-user.

  Solution:

WB has the support for this new keyword when available. When the value is invalid (non-linear thermistor), the value is hidden.

- **Over-speed limit full support. (S-11835)**
  New Feature Details:
  Over-speed limit is influnced by different factors. Currently, the user has no way to know what is the absolute speed limit execpt by looking all different limitations. We introduced a new indicator (VL.VFTHRESH) in the FW making this calculation and indicating what is the limit that will trigger a fault.

  Solution:
  WB has the support for this new keyword in the limit view.

- **Downloading to an AKD-C/N will disable the whole group of drives belonging to the same network. (S-11615)**
  New Feature Details:
  When you download to a NSD, when the device will reboot after download, the communication to following devices will be interrupted. If these devices are running motion, the behavior is unpredicatble as fieldbus is cut.

  Solution:
  All drives in the same network will be disabled before to start the download. The firmware will ensure the behavior, WorkBench will warn the user about this behavior.

- **Support for FW file version 1.2. (S-11918)**
  New Feature Details:
  AKD-N devices will have a lot of different models, but the different parts of the software package are perfectly the same.

  Solution:
  The new format file allows to define several models valid for the same FW file, therefore we can have 1 file for several models. We implemented this FW file support in WB.

- **AKMS motor serie support. (S-11413)**
  New Feature Details:
  AKMS will come out soon and we need to support them in the manual motor selection of WB.

  Solution:
  Implemented the import of the data to our internal motor database and added an AKMS motor selector in WB.

- **Support for new bit in disable sources. (S-11983)**
  New Feature Details:
  FW has added a new bit in DRV.DISSOURCES: bit 10, AKD-C Download Request.

  Solution:
  Support implemented in our controller and added the bit in the device active diagram status.

Tuning Issues
Fixed Bugs

- **The default max velocity in the performace servo tuner view is not set properly based on current drive units. (4508,D-04695)**
  Issue:
  When reseting to default values in the autotuner - having a unit different from the default for velocity - the default value will be incorrect. Running the autotuner may fail reaching too fastly the lower velocity limit - preventing the user to obtain a succesfull tuning.

  Solution:
  Fixed - unit management had a bug.

- **Bode measurement may start in unexpected OpMode (4635)**
  Issue:
  If a user leaves the Performance Servo Tuner, and sets the drive OpMode to something other than the value it was when the Performance Servo Tuner was left, and if Performance Servo Tuner is re-entered and a Bode measurement is started in this new mode, the drive OpMode will revert to what it was before the PST was left.

  Solution:
  The Performance Servo Tuner has been updated to reflect drive OpMode regardless of where it is changed.

Version: 1.10.0.39534   Release Date: September 13, 2013

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.0	Windows XP
	Windows Vista
	Windows 7
	Windows 8

General Issues
Fixed Bugs

- **Windows resources leaks. (D-04297)**
  Issue:
  WB is using a lot of user objects and not releasing them when a drive is disconnected or deleted. After som time, it will reach the OS limit and crash.

  Solution:
  We fixed the main leaks - it still remains some minors in some views. Opening a lot of different views on different drives, without disconnecting/deleting can still reach the maximum limit and crash - it should not occur often.

- **CANopen drive connectivity is wrongly reported in offline simulation. (D-04295)**
  Issue:
  Error appearing in the log - can be confusing for the user. Can eventually trigger some errors around specific CANopen behaviors.

Solution:
Connectivity reported properly - error does not appear anymore.

- **Loading of the WB views is slow, particularly in KAS. (S-11486)**
  Issue:
  The reactivity of the application is low - the loading of the views is freezing too much the UI.

  Solution:
  We disabled the auto refresh from the drive during the loading of the view We gain average about 15% in KAS when loading the view.

- **Random disconnection when trying to download FW. (S-04594)**
  Issue:
  Just after selecting the file for download, just before rebooting, WB disconnects. Nothing happens to the drive - but you have to connect again. The bug is random, maybe 1 time on 10 downloads.

  Solution:
  Fixed - it should never disconnect.

- **Autotuner filters are not always refreshed properly. (4505,D-04601)**
  Issue:
  When the user runs an autotuner, sometimesthe filters are not updated properly in the user interface, being correctly set in the drive. It can create confusion and wrong simulation.

  Solution:
  Fixed - the filters are refreshed properly.

New Features

- **HKM part numbering support. (S-10711)**
  New Feature Details:
  Support for HKM part numbering is missing.

  Solution:
  Implemented HKM part numbering scheme.

- **Drive model support extended, including formware download. (S-11039)**
  New Feature Details:
  KC1-M not supported by WB.

  Solution:
  Drive model and firmware download supported.

- **Navigation tree view adaptation and fixing views for AKD-C. (S-11228)**
  New Feature Details:
  Only Overview and Terminal views were available for the AKD-C (Central Power Supply) devices. Others are needed to configure and monitor properly the device.

  Solution:
  We added back the other useful views. Some of the views were crashing due to missing keywords in the drive, we modified them to load properly - still some problems can exist around some functionalities that we will fix soon.

- **Adapt the Overview view to work with standard drives and the AKD-C (Power Central Supply). (S-11002)**
  New Feature Details:
  The Overview view has a lot of references to drive - it should be renamed device as an AKD-C is not a drive at all. All functionalities related to enabling/idsabling should be hidden had the device cannot be enabled/disabled by the software.

  Solution:
  Labels/Texts fixed to use the right terminology. All buttons/information labels regarding state of the device have been adapted to be generic.

- **KC2 drive model and FW download support. (S-11217)**
  New Feature Details:
  Need support for KC2 models and respective FW download.

  Solution:
  KC2 B and P model support, including FW download.

- **Navigation tree nodes can have different icon representation for the same node. (S-11288)**
  New Feature Details:
  For the same node we want to display a contextual icon - depending on some other conditions like the device type.

  Solution:
  Generic mechanism implemented. For the overview view, we display now a different icon for CPS devices than other devices.

- **Detect and support command grouping feature through ASCII SDO. (S-11294)**
  New Feature Details:
  The FW was supporting the command grouping through telnet, it s now supported through ASCII SDO. The support is indicated through DRV.FEATURES keyword. To allow compatibility between the different programs, a new specific feature indicator has been added for that - currently not supported by WB in KAS.

  Solution:
  Modified WB to support the corresponding feature id.

- **Correct view set for AKD-N devices. (S-11396)**
  New Feature Details:
  Feedback2 / Encoder Emulation / Electronic Gearing are not supported by AKD-N devices, they should not be visible in the navigation tree.

  Solution:

They are now hidden for this type of device.

- **Navgation tree handling AKD-N devices as subdevices from AKD-C. (E-01708)**

  New Feature Details:
  AKD-N devices are currently shown at the root level as other AKD drives. It is difficult to know to which strcture they belongs to.

  Solution:
  Adapt the navigation tree to have the AKD-N devices under the AKD-C grouped on their respective string.

- **AKD-C: topology view showing the connected AKD-N devices and their status. (S-11530)**

  New Feature Details:
  It is very difficult to see what is the status of the strings and the different devices.

  Solution:
  The view has been added to WB - summarizing all this information in one single diagram in the view - updated with the current devices status.

- **Motor support: new brush motor type. (S-11485)**

  New Feature Details:
  Motor type brush (8) is not supported - the user is unable to edit the correct parameter for them.

  Solution:
  Motor type brush is fully supported.

- **Feedback type support: new feedback type (None - 1). (S-11567)**

  New Feature Details:
  Feedback type none (1) is not supported - the user is unable to see the correct text for it and the dial should not be shown.

  Solution:
  Feedback type none is fully supported.

- **Capture position source selection. (S-11281)**

  New Feature Details:
  The FW has a new feature allowing the user to select the position source for the capture engine. WB doesn't provide any possibility to configure it.

  Solution:
  Full support added in WB Capture Position View.

- **Capture position source selection. (3968,S-11589)**

  New Feature Details:
  The device status logic for AKD is wrong, not matching exactly the drive logic. The diagrams are missing or incomplete for AKD-C and AKD-N respectively.

  Solution:
  Diagram logic is now matching the device behavior, and we have different diagrams for the different device types.

Feature Changes

- **During a firmware download, we should only update EEPROM when the model in drive and file are fully matching. No action and no warning in other cases. (3970,S-10576)**

  Issue:
  Some warning messages are confusing for the user around EEPROM updates. We should not update a custom EEPROM with a standard one - we should only update if the model in drive and file are fully matching.

  Solution:
  We removed all warnings and update the EEPROM only when models are fully matching. We added some log statements to follow what happened in the application log files.

- **Drive network configuration loaded properly from parameter file. (S-11218)**

  Issue:
  Currently, there is no special mechanism, IP.x keywords are loaded like all others. The FW was only exporting the mode, all other parameters being ignored. It can end up by a mode changing and as other parameters are not set, the drive will change its network configuration at next bootup. Most of the time, the user will want to import parameters but ignore network configuration, unless it is a drive replacement.

  Solution:
  The IP.x keywords are not anymore exported normally, they are handled specifically (comments in the file). Old WBs will simply ignore them. New WBs will parse the comments and detect if the network settings are different. If they are, the application will ask the user if he wants to apply them to the drive. Much more flexible, preventing unexpected network configuration change and still allowing the user to update its network configuration from the parameter file - particularly usefull if you make a drive replacement.

- **Scope should work for AKD-C devices. (S-11014)**

  Issue:
  Motion keywords are not available in AKD-C devices. Using the scope on this devices, may lead to a crash if the user tries to write or trigger an action using one of these keywords.

  Solution:
  The tabs and UI items containing/using these motion related keywords are now hidden when the device connected doesn't support them.

- **Fault&Warnings view should work properly for AKD-C devices. (S-11013)**

  Issue:
  There is no disable in the AKD-C, the action will only be to clear the faults.

  Solution:
  The view adapts to the device type, showing the right texts and enabling/disabling the buttons appropriately.

- **Parameters view should work properly for AKD-C devices.. (S-11012)**

  Issue:
  A lot of keywords have been removed in AKD-C, it shows a lot of empty group in the view.

Solution:
We removed the groups - as the number of parameter is small, it looks acceptable. Furter clean fix will be required.

- **Parameters Load/Save view should work properly for AKD-C devices. (S-11015)**
  Issue:
  The possibility to download parameters should be blocked when it can be dangerous (drive enabled, drive connected to the cps enabled). In that cases, we should disable appropriately the actions that can be dangerous. The FW is giving this information back computed depending on the device type - we should use it appropriately in WB.

  Solution:
  The view is using the right keyword from FW - enabling accordingly.

- **Split power view in 2 different views for power and regen information. (S-11322)**
  Issue:
  The power view will be enhhanced to support extended information on AKD-C devices. We don't have enough space for this extended information and the regen configuration.

  Solution:
  Regen configuration is extracted to a new dedicated view, letting more space to enhance the power view with new information.

- **Adaptation for toolbar/statusbar/menu items to work properly when connect to AKD-C/N devices. (S-10560)**
  Issue:
  The toolbar/statusbar/menu items are using the DRV.ACTIVE keyword. They are using as well some other keywords like DRV.EN / DRV.DIS, they are not available in CPS. Indicatory are different depending from the device type in the status bar.

  Solution:
  General fixes for the different devices to support the different keywords.

- **Regen view added to the setup wizard. (S-11406)**
  Issue:
  The regen parameters were extracted from the power view to create a separate view. Doing this - these parameters were not anymore available during the setup wizard process. For NSDs, the regen doesn't exist - it should not appear in the setup process.

  Solution:
  Setup wizard updated to handle properly the regen parameters in the sequence when required.

- **Power view enhanced to include AKD-C output power information. (S-11291)**
  Issue:
  Reading current power values in numeric fields is not very user friendly, it is difficult to see how far we are from the warning and/or fault levels. Output values (voltage/current/power) are not displayed for AKD-C device, they have to be as it is the main functionality of the device.

  Solution:
  We implemented an anlog visualization to see better the current values against their respective limits. We added the new AKD-C parameters for monitoring and configuration.

- **Support for the new broacast answer from the drive (AKD-N extension) and add persistent storage of the discovery in WB. (S-11003)**
  Issue:
  More information has been added for AKD-N drives to be able to inform about the AKD-C/N topology - typically returning the parent of the AKD-N, its string and node id. We need to store the network discovered topology to be able to access it and build the topology under the AKD-C when connecrting to it.

  Solution:
  Support for the new data and backward support for older FWs. We are now storing the full topology to be accessible. We added as well events that will notify registered clients if it changes.

- **Scope in AKD-C should not show signals that are not available for channel or trigger selection. (S-11431)**
  Issue:
  Proposed signals don't exist in teh drive, the scope will not work.

  Solution:
  We verify that the signals exist before to add them in the list.

- **HKM motors are renamed AKMH. (S-11503)**
  Issue:
  The name and part number scheme has changed for hygienic motors. We have to adapt WB and the import tool to get the correct data.

  Solution:
  Changed both to support the new name.

Tuning Issues
Fixed Bugs

- **Navigation disabled at the wrong moment when navigating around autotuner. (4366,D-04319)**
  Issue:
  Switching views intensively around the Autotuner will let the navigation panel disabled. It occurs randomly - about once 1 hour.

  Solution:
  Trial fix by sequencing the threads differently.

- **Autotuner: importing a csv file is not loading properly the filters. (4434,D-04507)**
  Issue:
  Filter configuration is not loaded - this is annoying as support needs all data to be able to nalyze customer problem and send back some better tuning. As filters are ignored, it will create confusion. The current workaround is to enter the filters manually.

  Solution:
  Fixed - filter values are now properly loaded.

IO Issues
Fixed Bugs

- **Digital I/O view is crashing for some devices having non sequential I/O indices (DIN 3..6 removed). (S-11486)**
  Issue:
  Not able to use the digital I/O view for these devices.

  Solution:
  The view is fixed - supporting discontinuous I/O indices.

Version: 1.12.0.56592   Release Date: June 06, 2013

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.0	Windows XP
	Windows Vista
	Windows 7
	Windows 8

General Issues
Feature Changes

- **Service motion timing drawing is not matching the drive behavior for new FWs. (S-12009)**
  Issue:
  From FW 1.9.8 onwards, the timing defined in velocity and position mode is applied on the constant velocity part of the move. In older FW, it was including the acceleration, constant speed and deceleration part.

  Solution:
  Drawing displayed according to the FW version, showing the correct application of timing.

Fixed Bugs

- **Navigation between AR filters is possible when being in error state. (D-04766)**
  Issue:
  When being in error state after entering an invalid value using AR filters, it is still possible to navigate to another AR. Then the interface is in a bad state, displaying the error on a field that is not related at all.

  Solution:
  The navigation is now properly blocked on the AR filter list, not allowing to change the AR filter edited if any error is present.

- **Unit conversion issue. (4659,D-04921)**
  Issue:
  When using Gera-Belt (angular) - going out of the view and coming back is changing the PIN/POUT value. Opening the Units View is inverting the unit conversion ratio.

  Solution:
  The unit conversion ratio is now properly loaded.

- **F12 Key is not always triggering the Panic action. (D-04859)**
  Issue:
  If the Drive Active Diagram is opened, pressing F12 has no action. F12 should work in all places to ensure a quick reaction to a panic trigger.

  Solution:
  We added a common handling on all WPF components to take care of F12 press - it is routed to the panic action.

- **AKD-N drives may not be discoverd using TwinCAT (D-05100)**
  Issue:
  The AKD-N drives are registred in new FW as AKD-N devices, not anymore as AKD devices. Our discover algorythm is ignoring AKD-N as it was not the original device type, so these devices are not visible when discovering.

  Solution:
  We added the new device type AKD-N as supported in TwinCAT discovery, it is now appearing correctly.

New Features

- **Scope view - Servo Gains: added main current loop gains. (S-12215)**
  New Feature Details:
  When tuning a system using the scope to measure the response, it is annoying to switch back and forth between views to set properly the current loop gains (friction / offset).

  Solution:
  We added to the Scope View - Servo Gains a current loop group to allow edition of these parametrs while being in the scope view.

- **Encoder Emulation - Stepper mode support. (S-12141)**
  New Feature Details:
  No support in WB for the stepper mode support (just recently added in the FW).

  Solution:
  Support added for the 3 new emulation modes (15/16/17). The view is publishing as well the 2 new keywords Step Mode and Step Command.

- **Support in offline drive for array type keywords - including persistence. (S-12207)**
  New Feature Details:
  Array type keywords are currently not working in offline simulation: some hicups around help string (coming from offline files) and they are not persisted when leaving the application.

Solution:
Persistence problem has been fixed. Help strings in offline files will be fixed by the FW team.

- **Support for new homing mode 15 (next feedback zero). (S-12259)**
  New Feature Details:
  FW supports a new homing mode - not supported in the UI, edition of the parameters should be done using the terminal.

  Solution:
  Full support in the UI for this new mode.

- **Support for dynamic brake peak current limit. (S-12266)**
  New Feature Details:
  The dynamic brake current limit is not configurable in WorkBench, only through the terminal.

  Solution:
  Full support in the UI for this limit - added to Limits view.

- **Support for new drive models (AKD-C/N wirth S3, new PDMM version). (S-12345)**
  New Feature Details:
  The new models need to be supported to allow correct model detection and proper FW download.

  Solution:
  New models added (ADK-C/N with S3, PDMM M1).

Tuning Issues
Fixed Bugs

- **Autotuner is unstable with Observer enabled (4722)**
  Issue:
  The Autotuner may come up with an undesirable tuning combination if the Observer is enabled (VL.OBSMODE = 1) before Autotuning begins.

  Solution:
  A prompt has been added to Autotuning. If VL.OBSMODE = 1, Workbench will alert the user that continuing will turn off the observer (by setting VL.OBSMODE to 0)

- **Autotuner OpMode changes unexpectedly (4739)**
  Issue:
  If Autotuning is aborted by the user, the OpMode of the drive may not be restored to the state it was before Autotuning was started in.

  Solution:
  The Autotuner state machine has been updated to fix edge cases where this bug occurred.

- **Unit support for array keywords (S-12322)**
  Issue:
  Array values can hhave units in the FW, WB should display properly the unit.

  Solution:
  Units are fully supported on the WB side, including on array keywords.

Version: 1.9.0.36087   Release Date: May 30, 2013

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.0	Windows XP
	Windows Vista
	Windows 7
	Windows 8

General Issues
New Features

- **Encoder Emulation: full UI support for new modes 12/13/14 (index-passthrough). (S-10488)**
  New Feature Details:
  Mode 12/13/14 are not supported, the user has to know which parameter to edit and use the terminal.

  Solution:
  Full support, showing the right fields.

- **Downloading a BASIC program using the WorkBench Console tool. (S-10142)**
  New Feature Details:
  Updating several drives with the same BASIC program cannot be automated.

  Solution:
  The WorkBench Console allows now the download of a compiled BASIC program (bin file). The process of uploading several drives can be now automated.

- **Some particular views (e.g. Terminal) should get the focus as soon as the node is selected in the tree view - allowing the user to type immediately, sparing one click. (S-10446)**
  New Feature Details:
  In the preceding WBs, when clicking on the Terminal View node, the user was then imediately able to type in Terminal as the view got immediately the focus. With the new implementation, if you type 'up' - as the tree has still the focus - it will change the current view to the preceding one in the tree. It is very annoying as users are used to direc focus and want to go fast when going to Terminal

  Solution:
  The different tree view widgets are now configurable - they can get the focus automatically when they are selected in the tree view.

We have configured the Terminal view to behave this way - other views willnot take the focus as you need anyway to click where you want to start to edit.

- **Printing from BASIC program code. (S-10480)**
  New Feature Details:
  The user cannot print his program from within the BASIC IDE.

  Solution:
  Printing feature implemented for BASIC code. The printing options are configurable part of the Program View options.

- **Autotuner: support for drag&drop tuning interface. (S-10630)**
  New Feature Details:
  Adjusting manually gains/frequencies is difficult to reach the desired bode shape - requires a lot of experience and feeling.

  Solution:
  Drag&drop tuning allows the user to visually adjust the shape of the response in the frequency domain (bode plot). The gains/frequencies will be adjusted based on the change given to the curve.

- **Full Hiperface DSL support in Feedback1 view. (S-10552)**
  New Feature Details:
  Hiperface DSL feedback parameters are not editable in the FB1 view.

  Solution:
  Full support added to the FB1 view.

- **Support for Sercos III drive models. (S-10485)**
  New Feature Details:
  Sercos III models are not supported (WB display / FW download).

  Solution:
  Full support added for Sercos III drive models.

- **BASIC firmware compatibility management enhancements. (S-10705)**
  New Feature Details:
  If the FW is too old for the new compiler version (before 1.9), the new WB will not allow any download to the drive because it will cause a crash. In some other cases, the FW needs to know what was the compiler version used for a given program.

  Solution:
  A special view will be displayed when the FW is too old, indicating clearly to the user the incompatibility and which options are possible to solve the issue.

- **TwinCAT support: allow specifying project AmsNetId and TwinCAT 3 support. (S-10829)**
  New Feature Details:
  In some TwinCAT configurations (using a different target net id than the project net id), the drives are not discovered and the user has no way to access them through TwinCAT using WorkBench. TwinCAT3 is not supported - no drives discovered.

  Solution:
  The auto discover feature was working randomly - we decided to remove this feature and ask the user to enter always the project net id. We updated the client dlls and TwinCAT 3 is now supported.

- **BASIC - WB should give detailed information when a program is incompatible with the FW it is downloaded to. (S-10957)**
  New Feature Details:
  When any compatibility issue is detected by the FW, the program is marked as invalid and cannot be started. The FW is providing some cryptic information through VM.PGMERRORLIST, but very difficult to understand for the end-user.

  Solution:
  WB provide a clear list of compatibility issues in term of human understandable descriptions. It will appear in the Program View Error List.

- **Firmware download should be allowed only when it is not dangerous for the system. (S-10950)**
  New Feature Details:
  WB was allowing the FW download mainly when the drive was not active. For the new devices (CPS/NSD), the condition is a bit more complex depending on the power state and eventual other devices on the EtherCAT strings.

  Solution:
  The computation of the condition is deferred in the FW and is available through a new keyword: DRV.DOWNLOADALLOWED. WB will use this new keywords if it is available and DRV.ACTIVE for old firmwares.

- **The motor selection will take care of possible deratings depending on the feedback type and/or the brake presence. (S-10713)**
  New Feature Details:
  The max supported continuous current of the motor is not derated depending on the motor configuration. It should depending on the FB type and/or the brake presence. For some high performance applications it can be dangerous for the motor.

  Solution:
  Ics is computed according the motor configuration set by the user. Currently only for AKM and VLM series - for other motors Ics remains the same for all configuration.

- **Motor temperature configuration/monitoring complete support. (S-10943)**
  New Feature Details:
  Current access to the motor temperature configuration is not ideal (inside motor selection dialog - more section). The access should be easier and all parameters should be available (MOTOR.RTYPE is not displayed).

  Solution:
  A new view (Motor Temperature) is added containing all parameters. It is easily accessible under the Motor node. This view is as well displayed during the drive setup wizard when required.

Fixed Bugs

- **Refresh problem for AR filters (velocity loop). (D-03820)**

Issue:
Changing the filter type out of the velocity loop view and coming back to it will not refresh it properly - confusig.

Solution:
Refresh now working properly.

- **Offline: changing the drive type and/or FW version is causing refresh issues. (D-03263)**
  Issue:
  Different issues occur when you switch from one drive type to another or changing the FW version. Some views will have a weird behavior or show some UI interface elements that they should not - confusing for the user. Restarting WB and inspecting again the same drive will always solve the issue, the probems appear only when the user change in WB and directly access the drive.

  Solution:
  Enhanced/fixed the drive type/FW change version.

- **Problem in Analog Input View using FW prior to 1.4. (D-03884)**
  Issue:
  Opening the Analog Input View using a FW prior to 1.4 is causing an exception as a keyword used in the view was not existing.

  Solution:
  The non-existing keyword is handled and theview is behaving correctly.

- **Navigation tree view refresh issue when used in 120dpi. (D-04004)**
  Issue:
  When WB is used in 120dpi, creating an offline drive from the Start Page is not refreshing correctly the tree view. Other similar refresh issues can be observed in the tree view used in 120dpi.

  Solution:
  The issue was coming from a strange interaction with the toolbar resizing. Fixing the interaction has made the refresh issue to disappear.

- **Switching between views/acting one nodes is blinking a lot - even when the view is not changed. (D-04005)**
  Issue:
  Performing some actions on the non selected node is reloding the current view - it is not necessary and ugly. When disconnecting, the views are changed many times, this not necessary and ugly.

  Solution:
  The selected view is reloaded only when it is required - making less bliking and speeding up the application..

- **Switching between views/acting one nodes is blinking a lot - even when the view is not changed. (4148,D-04005)**
  Issue:
  Performing a full autotuning will modify the service motion settings and not revert them back once completed.

  Solution:
  After the autotuning process, all service motion properties will be reseted to their prior values.

- **Position Capture View has some refresh issues. (D-03857)**
  Issue:
  Arming the capture engine will disable the configuration widgets - refreshing the view manually (F5) will show them as enabled again. It can be confusing for the user.

  Solution:
  Enabled state is now coherent through the different refreshes (pressing F5).

- **Terminal macro editor: using long commands wrapped on several lines and the keyword popup window can cause crash. (D-03616)**
  Issue:
  Using long commands in macro editor (several lines), selecting in keyword popup window (space key), will cause an application crash.

  Solution:
  The macro editor is now behaving correctly with long commands.

- **Power View: refresh issues when values are changed manually by the user. (D-03818)**
  Issue:
  Using predefined values, then changing to some user defined value using the terminal and coming back to the Power View will create refresh issues (remains showed as a predefined value).

  Solution:
  Power view is refreshed appropriately.

- **Drive name length is not coherent through WB for online/offline drives. (D-03272)**
  Issue:
  The FW drive name length is set at 10 (using telnet). WB is limiting at 20 - creating a FW error when trying to set it to the drive. Our offline simulation is limiting at 15.

  Solution:
  All string length limitation should be aligned on the FW limitation: 10 char. WB is modified this way, all limitations at 10.

- **Using macro to fill in command buffer is not working. (4201,D-03870)**
  Issue:
  Using macro to test command buffer (repeated inserts) is not working. Only the first command for the buffer in the macro will be set to the buffer in the drive. It is due to the fact that macro comment delimiter is the same than the command buffer separator.

  Solution:
  The macro executer is modified to support execution of specific marcos (command buffer) containing the comment delimiter (semicolon). Comments are not allowed in command buffer macros!

- **WB: just opening some views is causing the drive to be marked as dirty - with no change done by the user. (D-03891)**
  Issue:
  The user will be confused that just opening some views, the drive will be marked as dirty. He will not be sure if any change was

done or if WB is doing some unexpected change in the drive. The following views are affected: Power View / Programmable Limit Switches View / Motion Profile Table View / Motion Tasks View / Single Motion Task View / Scope View.

Solution:
Some views are fixed for unexpected change to the drive. Some keywords are not marking anymore the drive as dirty - because they are in fact not chnaging any value (MT.TNUM/MT.NUM).

- **Extra communication remains when scope is opened and exited. (D-04009)**
  Issue:
  The communication should be always reduced to the minimum to allow the maximum performance of the system. Letting some communication when a view is exited is bad - it will eat some bandwidth and load the drive for nothing.

  Solution:
  The communication after leaving the scope is now reduced to 0.

- **Setup Wizard - Move View: buttons can be out of sync. (D-04002)**
  Issue:
  The Enable/Disable button (middle of the view) is out of sync and some time not executing any action. The Jog left/right/stop buttons can show incoherent values - jogging left and right at the smae time.

  Solution:
  Behavior is fixed and new UI layout put in place to make it easier to use.

- **Slider Tuning behavior when changing the load inertia can be confusing. (D-03940)**
  Issue:
  When the user changes the load inertia (by clicking the checkbox or changin the value), the bandwidth is changed. VL.KP remains the same, and is used to calculate the bandwidth taking in account the load inertia. VL.KI/PL.KP are not computed at that moment, and they do not correspond anymore to the displayed bandwidth. This is per design, only an explicit user change on the bandwidth (slider or numeric up/down) will set the values to the drive - computing all 3 parameters based on the bandwidth. In other cases, we don't change the values in the drive - the user can have changed some of them intentionally.

  Solution:
  The behavior will remain the same - it is coherent with the whole WB philosophy, the drive is the master and we change value only on user explicit actions. The make the user more aware about the fact that VL.KI/PL.KP can be out of sync with the bandwidth displayed, we have added warnings when they are out of sync.

- **Network interruption to a drive while a macro runs is causing some trouble. (D-03980)**
  Issue:
  The disconnection time looks random and longer than usual timeout. When reconnecting, the terminal is in a weird state with no carret

  Solution:
  Terminal is reseted to a clean state when reconnecting.

- **Tab navigation is not working in the tree view (pressing Tab key is not jumping to the view). (D-04031)**
  Issue:
  For users using the keyboard to navigate in the tree view and then jump into the view, the Tab key should allow to exit the tree and give focus to the view. It is currently not working.

  Solution:
  Pressint Tab key being in the navigation tree will give the focus to the selected view.

- **Creating a custom motor using a KC1 drive will crash WB. (D-04028)**
  Issue:
  KC1 users are unable to create custom motors from a currently connected configured motor.

  Solution:
  Creation of custom motors works for KC1 drive.

- **Exiting Gain Scheduling view while importing a table is causing trouble. (D-03908)**
  Issue:
  If the user exits the scheduling view while importing a table, and come back later on - the import process is hung and failure message is displayed.

  Solution:
  Navigation tree will be disabled while importing to avoid any unexpected navigation out of the view.

- **Opening Motion Profile Table with old FW not supporting this feature will cause trouble. (D-03938)**
  Issue:
  If MPT is opened with a FW no having the correct keywords, the view will hang up and the user will be blocked.

  Solution:
  Motion Profile Table View will not be shown if its is not supported (avoiding unexpected opening).

- **Renaming of the drive in the treeview has some issues. (D-04034)**
  Issue:
  In some cases, the user is not able to validate his entry by pressing the Enter key. The value is sometimes taken by giving the focus to another node. The behavior is not consistent and predictable as it should be.

  Solution:
  Behavior is now consistent and keyboard keys, lost focus events are working as expected.

- **Home View - start/stop button status may be incorrect depending of the drive state. (D-03928)**
  Issue:
  Start button is shown as active when a motion is running - it should not, starting teh home procedure will fail.

  Solution:
  Home start/stop button is accurate based one teh drive state and different possible motion in the drive.

- **Using special chars in motor backup filename is crashing the application and not saving the motor data. (D-02573)**
  Issue:

When the user saves his current motor (Create Motor in Motor View), if he enters any special char in the motor name, the application is crashing.

Solution:
An error message will be given to the user indicating that invalid chars have been used for the motor filename.

- **Gain Scheduling View: when the user enter some invalid error, error state is shown but the user is not prevented to navigate to an other view - it should. (D-03929)**
  Issue:
  It is not coherent with the error management within the application. The user should not be allowed to navigate away from a view if any error is present.

  Solution:
  As long as an error is present, the user will not be able to navigate to another view.

- **Importing a blank CSV file in the Scope is crashing the application. (D-03930)**
  Issue:
  Empty file or any data problem importing a file should not cause a crash.

  Solution:
  Empty file is handled properly and general file problems are caught.

- **Loosing Ethernet connection can cause trouble in some circunstances. (D-03880)**
  Issue:
  If the connection is lost while the scope view is loading, the application will hang and needs to be restarted.

  Solution:
  Detection of disconnection is detected and properly handled.

- **Service Motion is not updated correctly when Setup Move View is used. (D-03948)**
  Issue:
  Service motion is not updated with a running move started in Setup Wizard Move View.

  Solution:
  Service Motion is updated accordingly to the current move.

- **Read/Write state of motor parameters is not refreshed correctly. (D-03894)**
  Issue:
  The motor parameters can be shown as editable when they are not in the drive, editing them will cause a crash (exception).

  Solution:
  Motor parameters read/write state is now updated correctly, preventing the user to edit a read/only parameter.

- **Navigation tree: focus/selection issue. (D-04103)**
  Issue:
  In different cases, the selection or the focus is not always set to the node we expect, particularly when editing the drive name in the tree view (using dbl-click or contextual menu).

  Solution:
  Issues are fixed, the selction/focus should be given to the expected node.

- **KAS integrated WB is crashing in some curconstances if you add a watch item and disconnect. (D-04199)**
  Issue:
  Adding a watch item, without opening any WB view inside KAS integration, will crash if you disconnect the device.

  Solution:
  You add watch items upon your convenience and disconnect, problem fixed.

- **Workbench disconnects from the drive after a firmware download. (4344,D-04290)**
  Issue:
  After downloading the FW, WB disconnects for the drive. Manual connection is still possible.

  Solution:
  Problem fixed, WB reconnects after the FW download.

- **Password keywords should not appear in the lookup list - they are use only very occasionally. (4349,D-04293)**
  Issue:
  The lookup/autocompletion in terminal is proposing the feedback password keyword. It should not as it is only occasionaly used and in that case causing problem as it is always completeting the keyword in a way we don't expect.

  Solution:
  Problem fixed, all password keywords are hidden in terminal.

- **Refresh issues in some cases using the Parameter ComboBox. (D-04300)**
  Issue:
  Depending on the widget focus sequence between the combobox and the other components, the combobox will not refresh anymore. The seuqence is pretty difficult to reproduce, but once it occurs, refresh is not working anymore.

  Solution:
  Lost/Got focus seems to be buggy and tricky in .NET framework. We changed to some other events sequence that looks more reliable. Refresh is now working nicely in all conditions.

- **Very long string in Terminal is causing a disconnect. (4374,D-04336)**
  Issue:
  If a very long string is entered, the drives get disconnected. It should show a proper error.

  Solution:
  Fixed.

- **Anti-resonance filters should have correct default values when choosing the type. (D-04187)**
  Issue:
  Changing the filter type should set the 4 filter parameters to the right values - otherwise the filter effect can be incorrect.

Solution:
Fixed - all filters types requiring a value change when changing the type are updated properly.

Feature Changes

- **New basis tuning parameters. (S-10632)**
  Issue:
  Some applications were unstable using the default tuning parameters or the slider tuning (basis tuning).

  Solution:
  Basis tuning has been changed. The values will be computed differently and applied from different places:

  - Connecting a motor with a memory - it will be loaded in drive and tuning computed (BW 75Hz)
  - Selecting a motor from the WB built-in database (BW 75Hz)
  - Using the slider tuner (BW from the user using the slider bar)

- **BASIC correct syntax highlighting/autocomplete/compiler errors based on the selected target. (S-10879)**
  Issue:
  Syntax highlighting, autocomplete and compiler errors were all based on the compiler knowledge about FW keyword implementation. We implemented a new solution that is more reliable, the user can choose the compiler support (All) or a specified FW. The available parameter set will be computed based on different files resulting in an accurate set used for highlighting/autocomplete/compilation. As the set is the same, results will be totally coherent and matching the user selection.

  Solution:
  Better implementation of the program target selection, resulting in more reliable behaviors and feedbacks to the user.

- **Update AKM motor database and selection scheme. (S-10715)**
  Issue:
  The AKM motors line has evolved - more motor/feedback combinations. The WB database is outdated, not allowing all possible combinations.

  Solution:
  We update the selection scheme based on latest documents from NA and EU.

Homing Issues
Fixed Bugs

- **Home View: max distance parameter is only available for recent FWs, it should be hidden when not available. (D-03909)**
  Issue:
  Showing a parameter that is not relevent for a FW version is confusing, even more if you can edit it.

  Solution:
  The parameter will be invisible if the parameter is not available - and even if the parameter is visible, the read only will be set appropriately.

BASIC Issues
Fixed Bugs

- **BASIC - interacting with the virtual machine in the terminal can cause crashes or display wrong state in the program view. (D-04099)**
  Issue:
  The application should be updated correctly and support interaction using the terminal. We should never crash and display as good as we can the current state of the virtual machine. The crash is caused by changing the program name in the terminal and starting it just after in the program view. The state of the program view is not updated correctly when starting a program from the terminal (including duplicate terminal).

  Solution:
  We fixed the different issues - it should not crash anymore and it should refresh the view correctly.

- **Feedback1 view problems around read-only state for encoder resolution - particularly in offline. (D-03066)**
  Issue:
  The encoder resolution field doesn't have always the right accesibility status (read-only / read-write). In offline, this is not behaving properly according to the proper online behavior.

  Solution:
  The view is fixed to show the correct status. The offline simulation is fixed to match the online behavior.

- **Feedback1 view editing and refresh problems. (D-04180)**
  Issue:
  Edition is not possible in FB1 view, the value set is immediately reverted to the preceding value stored in the drive. If the drive is enabled and then disabled, the parameter text boxes remain in read-only state, they should be editable.

  Solution:
  Implemented a fix for both issues.

- **The new slider tuning algorythm is not working with old FWs when the motor is autoset. (D-04221)**
  Issue:
  The new slider tuning is not setting any parameter from the bandwidth. As the motor is autoset, IL.KP is read-only in old FWs - making the whole setting operation of parameters failing.

  Solution:
  When IL.KP is read-only, we set properly all parameters and we display a warning nearby IL.KP to indicate that it is read-only.

Tuning Issues

Fixed Bugs

- **Autotuner having a lot of failures at stability motion phase. (4363,D-04320)**
  Issue:
  The stability motion is failing too often. When setting the service motion to reverse, it will then fail following autune within stability motion.

  Solution:
  Fixed the issue - autotuner having the right move for the sability motion move.

- **Navigation disabled at the wrong moment when navigating around autotuner. (D-04319)**
  Issue:
  In different cases, exiting the autotuner will let the navigation disabled, blocking any navigation possibility for the user.

  Solution:
  Fixed in different places (Position Capture navigating with arrows to Autotuner, using Parameters).

- **Very long string in Terminal is causing a disconnect. (4367,D-04318)**
  Issue:
  The filters shown in autotuner for the default values (after Clear tuning) are not correct.

  Solution:
  Fixed - the values were not cleared fully properly.

Version: 1.8.0.32358   Release Date: December 26, 2012

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.0	Windows XP
	Windows Vista
	Windows 7
	Windows 8

General Issues
New Features

- **KAS interface: add support to access non-volatile functionalities. (S-09967)**
  New Feature Details:
  KAS wants to have acess to some built-in NV functionalities that are in WB. The interface should provide clean wrapper to know if any parameter was edited during the connection session and a method to save parameters to NV RAM.

  Solution:
  Interface implemented.

- **KAS interface: add support for help overriding - allowing kAS to display the help using given context. (S-09947)**
  New Feature Details:
  KAS has its own help files including AKD help. The interface should provide a mechanism that will allow KAS to be notified when help is required and pass the context - then it will be available to show the right content.

  Solution:
  Interface implemented.

- **Extend motor types support - specifically induction motors. (S-09868)**
  New Feature Details:
  The motor type support has been extended in the FW - using coded bits in the MOTOR.TYPE keyword integer value. Old WBs were not handling this correctly - being messed up between linear/rtary when using new motor type values (2,4).

  Solution:
  Implemented full support in WB, particularly around motors, custom motors and unit management.

- **KAS interface: add support for language and locales selection. (S-09968)**
  New Feature Details:
  In WB, the user can choose the language and locales from the operating system are used. As KAS is including the view, it should be able to set the language and teh locales according to what is set for KAS to have an homogeneous representation.

  Solution:
  The facade has an interface to set the language and the locales. Currently, the only language supported is en-US as KAS is not translated.

- **KAS <-> AKD WB Integration: access to WB settings through facade. (S-10036)**
  New Feature Details:
  KAS user wants to save WB application settings, project settings and device settings.

  Solution:
  The WB facade implements acess to application and project settings. The device facade will allow access to device specific settings. The save/load will be handled by KAS using the facades.

- **WB: Program View enhancement - Code snippet/Wizard mixed button is confusing. (S-09914)**
  New Feature Details:
  Wizard buttons under code snippet button is confusing.

  Solution:
  Refactored - added 1 button more for the wizards.

- **WorkBench DIN mode 25 - Controlled Stop Without Enable - support. (S-10032)**
  New Feature Details:
  DIN mode 25 not supported in WB.

  Solution:

Support added.

- **WorkBench support for FB source selection in the different control loops. (S-09903)**
  New Feature Details:
  The FW allows the user to choose the FB source for the different loop (Position / Velocity / Commutation). WB soesn't publish thes keywords and the user have to configure using the terminal.

  Solution:
  Support added in each respectiveview.

- **WorkBench support for induction motor parameters. (S-09900)**
  New Feature Details:
  Some parameter for induction motors are missing in the motor view. They have to be shown only when they are relevant.

  Solution:
  New parameters added, visible/hide status managed for all parameters.

- **AKD<->KAS GUI integration: the disconnected view should be specific to the environement (KAS/WB). (S-10006)**
  New Feature Details:
  KAS as a completely different connection mechanism, the disconnected view should show relevant information/actions.

  Solution:
  A specific KAS view has been implemented. In WB, we will see the usual view (as before), in KAS, we will see this new view with the right information.

- **AKD<->KAS GUI integration: WB is dynamically updating editable status form fields based on FW keyword attribute [Blocked]. (E-01463)**
  New Feature Details:
  Some keywords in the drive should be non-editable depending of the drive op-mode. The FW is blocking the keywords based on the op-mode and fieldbus protection configured, WB is just using keyword attribute [blocked] to show the fields as editable or not.

  Solution:
  Implemented for all text/combo-boxes connected directly to a keyword and for all keyword known as to be blockable (fbus protection mode 1 and 2).

- **AKD<->KAS GUI integration: KAS specificities (hidden functionalities). (S-10118)**
  New Feature Details:
  Following functionalities have to be hidden (no-sense in KAS): FW Download, Changing drive type, Delete drive, Watch Panel, Connect/disconnect.

  Solution:
  All these functionalities are hidden when views are shown in KAS.

- **Support Centralized Power Supply structure in the WB tree structure. (S-10353)**
  New Feature Details:
  A lot of views are not useful for CPS devices.

  Solution:
  Tree structure is adapted to CPS (only 2 views for now - Overview View and Terminal).

- **Hiperface DSL support (basic). (S-10046)**
  New Feature Details:
  Hiperface DSL is not supported - wrong enum texts, dial not shown.

  Solution:
  Basic support implemented: displayed text and dial is shown correctly (for now, no parameters).

- **Enhance Power View support for under/over-voltage warnings and display the effective power dissipated in regen resistance. (S-10043)**
  New Feature Details:
  The current power dissipation shown is intantaneous, no real value as the warning will be thrown based on the effective power dissipation. Under/over-voltage warning thresholds are not editable in the view.

  Solution:
  The dissipated power is now using the REGEN.POWERFILTERED FW keyword (remains on REGEN.POWER for older FW). New edition fields have been added for the warning thresholds.

- **WB allows a user override for different keywords ranges (Digital I/O modes, ...). (S-09869)**
  New Feature Details:
  KAS users want to have limited values for different I/O modes that are not meaningful when using an EtherCAT master.

  Solution:
  The ranges can be modified using an xml configuration file. The FW range remains the absolute master, user ranges can only remove possible values from the FW allowed values - using an include/exclude merge mechanism.

- **New topology viewer (configurable) (S-10286)**
  New Feature Details:
  Tree view should be easiyl configurable for any targeted application, allowing the user to have an adapted user interface.

  Solution:
  New component in place. Customization for KAS in place.

- **New navigation text link. (S-10360)**
  New Feature Details:
  Old navigation link were difficult to maintain and they were not updating their state correctly according to navigation target availability.

  Solution:
  New component implemented. Its behavior is driven by the navigation manager - making everything managed in one central point.

- **Offline files for FW 1.8. (S-10343)**

New Feature Details:
Offfline FWs required to work with drive having 1.8 FW.

Solution:
Offline FWs 1.8 generated for all drive types.

- **Motor database update. (4269)**
    New Feature Details:
    Motor data have evolved over time - The WorkBench database is outdated and not matching specifications.

    Solution:
    The database is updated - main changes are IPeak current for AKMs and Coil Thermal Time Constants for IC/IL.

Fixed Bugs

- **Performance tuning is hanging up throwing a Firmware Exception error when tryinf to Autotune with a slow/loaded network or a slow computer. (4125)**
    Issue:
    Having 10MB adapters, loaded network or slow computer wil create a recorder buffer overflow - the computer is not reading fast enough from the drive, the circular buffer is overflowing. Currently, it will throw a FW exception not showing any clear error message. We cannot not solve the overflow, but we can give a much clearer indication.

    Solution:
    Buffer overflow error is given when it happens. To solve the overflow itself, you need better communication performance (network, computer).

- **AKD<->KAS GUI integration: using motor database or custom motors is crashing KAS. (D-03589)**
    Issue:
    Using the Select Motor dialog is shosing the motor database as empty. Trying to use the current motor to create a custom motor is throwing execptions and causing problem in KAS.

    Solution:
    Both issues are fixed.

- **German localization: hidden/missing word in translation. (4113,D-03871)**
    Issue:
    The verb determining the action on the button is hidden - confusing for the user (Clear History).

    Solution:
    Modified the size of the button to make the verb visible.

- **Single Motion Task editor opened from Motion Task grid is not reflecting the correct data. (D-03420)**
    Issue:
    Opening the Single Motion Task editor, the profile type and profile table is not loaded correctly.

    Solution:
    Fixed the loading of these parameters when opening the editor from the grid.

IO Issues
New Features

- **GUI support for DOUT mode 21 - Immediate Fault Disable Output - support (S-09970)**
    New Feature Details:
    Missing test and GUI handling for this new DOUT mode.

    Solution:
    Added full support for this new mode.

Fixed Bugs

- **The digital command buffer is wrongly limited to 20 chars in the Parameter List View. (4202,D-03869)**
    Issue:
    The command buffer can contain up to 127 chars (FW limit). The Parameter List View is limiting the length to 20 chars, it can be confusing and annoying for theu user if he wants to edit in this view.

    Solution:
    Parameter List View is now configured to support the right length.

Tuning Issues
Fixed Bugs

- **Autututoner is not reloading properly the different filters when the process is finished. (4158,D-03851)**
    Issue:
    Some time (not always reproducible), the filters are not loaded correctly at the end of an autotuner process. Then, the simulated curves are out of sync with real mesures as filters are not correct for the calculation.

    Solution:
    New component implemented. Its behavior is driven by the navigation manager - making everything managed in one central point.

- **Autotuner: sine excitation is broken. (4230,D-03874)**
    Issue:
    The user is not able to perform an Autotune or Bode measurement using sine excitation. The process is stopped at the beginning with a validation error (coming from a hidden components).

    Solution:
    Fixed the possible excitation gap range depending on the excitation type.

Requirements

Required Components:
    .NET Framework 4.0

Supported Operating Systems:
    Windows XP
    Windows Vista
    Windows 7

BASIC Issues
Feature Changes

- **Support for the 2nd communication channel used for the console. (S-09748)**
    Issue:
    The drive now provides 1 channel for output and 1 channel for input to fix multi-thread issue. WorkBench must handle the new channel.

    Solution:
    The console will now connect to the 2 channels if both are available.

Service Motion Issues
Fixed Bugs

- **Connection issue depending on previous configuration of service motion done. (D-03427)**
    Issue:
    User cannot reconnect to a drive after scope view has been opened and service motion been reconfigured.

    Solution:
    Fix in service motion controller.

General Issues
Feature Changes

- **Custom specific motion profile table available. (S-09392)**
    Issue:
    This feature was hidden for a while and not usable for the user.

    Solution:
    The customer specific motion profile is now fully available for end-users. We fixed as well problems in Motion Task grid editor around profile tables.

Fixed Bugs

- **Foldback parameters naming and usability enhancement. (3811)**
    Issue:
    Some parameter description (Overall Folback Current) is not clear for the user. Setting User Fault Level should be supported by a kind of wizard setting its value to a meaning full value (min value from drive/motor continuous currents).

    Solution:
    Labels in the view updated and wizard button added to achieve basic valid user fault level setting.

- **Offline digital buffer programming is not working - data get lost. (3878)**
    Issue:
    When editing a digital buffer, you cannot enter any command with parameters (having a space between the command and the parameter. Once clicking ok, the parameter value is lost.

    Solution:
    Fixed in offline simulation.

- **Refresh/Localization problems in Units View. (3895)**
    Issue:
    When a parameter is changed in a specific mechanic, POUT parameter is not refreshed correctly immediately. The localized display of numbers is not correct.

    Solution:
    Fixed refresh problem and localization issue.

- **Lookup keywords list in terminal should be updated according to the password protection level. (3890)**
    Issue:
    Deactivating the password in some cases was not updating correctly the lookup keywords list.

    Solution:
    Password management is enhanced and the lookup list is updated correctly.

- **WB crash when reconnecting to BASIC drives if disconnected while debugging. (3946)**
    Issue:
    If the user is disconnected from the drive (for any reason) while debugging a program using his basic drive, reconnecting to the drive will crah WB (particularly if the drive was rebooted).

    Solution:
    WB disconnection cleaned up, allowing a clean new connection.

- **Status bar not updated correctly when the drive is not the current selected device. (4021)**
    Issue:
    If some external trigger (HW disable) changes the drive status and WB is currently showing an other drive, when going back to the current drive by clicking on the overview view, the status bar is not refreshed.

Solution:
The status bar is now refreshed fully when the drive is selected back.

- **In BASIC offline drives, the position/velocity/acceleration values/units are not updated according to the user choice. (4001)**
  Issue:
  In offline drives, if you change the units (something else than Counts16bits), the values displayed are not converted and the unit is not displayed correctly.

  Solution:
  Values are now converted and units displayed correctly.

- **WorkBench is not showing anymore error messages coming from the FW. (3953)**
  Issue:
  FW should send error message very occasionaly, but WorkBench should show them allwoing the user to undesratnd what happened.

  Solution:
  The FirmwareException is gain in place - any non handled error coming from the FW will be signaled to the user.

- **WB crashes when the drive is disconnected while running autotuning process. (3997)**
  Issue:
  If the network connection is lost while autotuning, WB is crashing. It should go in disconnected view and not show any crash messages.

  Solution:
  WB will go in disconnected view without crashing. The drive will reamin in the last state - as the connection is lost, we cannot do anything to stop it.

- **Random crash while using Prameter List View. (3967)**
  Issue:
  Sometimes, while recurrently disconnecting/connecting a drive and using Parameter List View, the view will crash while opening.

  Solution:
  Fixed the problem - not crashing.

- **Random connection problem when connecting to a drive having watch items opened. (D-03610)**
  Issue:
  The user click on connect, but WB is coming back again in disconnected state without any message for the user.

  Solution:
  Fixed the problem - connecting nicely.

- **AR filters in Velocity Loop View have some strange behavior. (4089)**
  Issue:
  The user is annoyed using AR filters. Opening/closing the tabs will change the sign of gain when using a notch filter, different wranings will appear inadequately, somes values are lost.

  Solution:
  Fixed the different problems.

- **AR filters frequency ranges are incorrect. (D-03632)**
  Issue:
  The drive is limiting to a range 5 - 5000Hz but WB is giving some other values, it is incoherent and confusing for the user. In some cases, a default value can be out of range very confusing and annoying.

  Solution:
  Fixed the frequency ranges to match the drive ranges.

New Features

- **Support for extended timeout value given by the drive. (S-09311)**
  New Feature Details:
  Until now, timeouts were hard-coded in WB, based on the command. The FW added a special tag in thehelp to give us back the special timeout values (when extended).

  Solution:
  Implemented the support for this new attribute - extended timeouts coming from the drive.

- **Support for new FW keyword type [Array]. (S-09587)**
  New Feature Details:
  Until now, accessing memory values in the FW for different internal devices was done using an address keyword and then a value keyword. It means that you need 2 sequential calls to get/set a value - first to set the right address, second to get/set the value. This is not an atomic call and can lead to problems and it is not efficient. We decided with the FW team to implement a new type that will support arrays, allowing the user to set/get one value at an index within one single call.

  Solution:
  Implemented [Array] keyword suppord in WB. The offline simulation is supporting them as well.

  - **Support for DOUTx.MODE 19 (S-09569)**
    New Feature Details:
    Digital output mode 19 is unknwon in WB.

    Solution:
    Added support (description and behavior) in WB.

- **Fault history is giving wrong date/time information. (S-09354)**
  New Feature Details:
  When a fault occured before the last power-on of the drive, the date/tiem cannot be computed. The drive doesn't have a RTC - we rely on runtime clock - as soon as you power-off the drive, this clock is stopped.

Solution:
Fixed the fault display - any fault that occured before last power-on will not have any date/time indication.

- **Support for CPS device (Centralised Power Supply). (S-09357)**
  New Feature Details:
  CPS part number and new FPGA models are not supported - download of FW files for this device will not work.

  Solution:
  Implement support for CPS: model number, download correct FPGA number and specific additional FPGA.

- **Support NSD digital output relay missing. (3938)**
  New Feature Details:
  Connecting to a NSD drive and opening the Digital I/O view will crash WorkBench. The NSD drive doesn't have a digital relay output.

  Solution:
  Digital Relay mode is hidden when the keyword doesn't support it.

- **Discovery protocol can be configured by network adapter. (3740,S-09601)**
  New Feature Details:
  The network is polluted by a lot of discovery packets (broadcast/ping). In some cases it is disturbing a lot other applications using intensively the network - like fieldbus master.

  Solution:
  We implemented configuration possibilities, letting the user choose which discovery method is used on which adapter. The user can as well configure the interval between discovery.

- **Full support for Service Motion modes. (S-09833)**
  New Feature Details:
  SM.MODE 2 is not supported by WorkBench and displaying incoherent information when set using the terminal.

  Solution:
  SM.MODE 2 is now supported. The view was refactored to support nicely the different FW implementations.

- **Wake&Shake: support for a new parameter allowing to change the commutation angle check process (WS.CHECKMODE). (S-09867)**
  New Feature Details:
  In some specific application the default commutation check algorythm is causing problems.

  Solution:
  The user can now choose how the commutation angle will be checked depending on his needs.

- **Wake&Shake: support for the new parameter WS.TSTANDSTILL (only available for mode 1). (S-09866)**
  New Feature Details:
  FW implemented this new parameter to specicify how long the max current is applied in mode 1, WB should support it in the configuration screen.

  Solution:
  Added in W&S view - only accessible in mode 1.

Motion Tasking Issues
Fixed Bugs

- **Importing motion tasks having PIN/POUT set with different locales can cause issues. (3864)**
  Issue:
  When PIN and/or POUT is set with a value bigger than 1000, and OS locales different from US are used, the import process will crash (invalid number format).

  Solution:
  The import process is now working with any PIN/POUT values for any locales.

Tuning Issues
Fixed Bugs

- **Autotune tab display is sometime corrupted (tab appearing/disappearing). (3577)**
  Issue:
  Launching the Autotuner in tuning mode and then switching to bode mode is not displaying always the the tuning tab.

  Solution:
  Tabs are displayed correctly independantly form previous user sequence.

IO Issues
New Features

- **GUI support for DOUT mode 20 - Controlled Stop Active - support (S-09969)**
  New Feature Details:
  Missing test and GUI handling for this new DOUT mode.

  Solution:
  Added full support for this new mode.

Version: 1.6.4.27850   Release Date: May 21, 2012

Requirements

Required Components:	Supported Operating Systems:

Brake Issues
New Features

- **GUI support for brake immediate cionfiguration. (S-09037)**
  New Feature Details:
  Feature available in the FW - only cionfigurable using the terminal.

  Solution:
  Full support added in GUI, inside Brake View.

Tuning Issues
Fixed Bugs

- **Slider tuning problems. (3422,D-03136)**
  Issue:
  Slider tuning is sometimes changing gain just by opening the view. The behavior is particularly weird when spcifying a load inertia. In any case, the slider tuning should not chnage any gain unless the user explicitely moves the slider or edit the badnwidth value.

  Solution:
  View is refactored to work properly. Mainly load inertia is now taken in account correctly - and the gains are only set if the user chnages something, not by just using the view.

General Issues
New Features

- **Command grouping support - several command send in on request to the drive - minimizing communication. (S-09038)**
  New Feature Details:
  Telnet channel is overfilled by communication. Having a lot of small commands is leading to a big overhead on the FW side to read input and build the answer.

  Solution:
  Commands are grouped (when FW supports it) - it is minimizing the communication time and making telenet channel more efficient.

- **GUI support for current compensation in Current Loop View. (S-08756)**
  New Feature Details:
  The GUI doesn't have any view for IL.FRICTION / IL.OFFSET. The user has to use the terminal to use them - and he should know them.

  Solution:
  The current loop view is exposing these values, making their understanding and edition easy.

- **WB support for new Wake&Shake parameter: WS.TDELAY4. (S-09144)**
  New Feature Details:
  The user cannot access this parameter in the W&S view.

  Solution:
  The parameter is now available in the 'More' section for Mode 0.

- **I/O Option Board Support. (E-01457)**
  New Feature Details:
  The AKD can be fitted with an optional I/O card. WB shoudl provide full support to configure it.

  Solution:
  We implemented different elements to support the I/O option board:

  - Updated digital I/O view
  - Updated analog input view
  - Updated analog output view
  - Updated parameter load/save view to support SD card
  - Updated download process to support I/O borad FPGA

Fixed Bugs

- **FW version detection problem when connecting to the drive. (3795,D-03223)**
  Issue:
  Connecting to a drive that has an unsupported version seems to display all sort of different weird messages. Sometimes the version is shown as unsupported as it should. This occurs particularly when connecting to the drive - new connection or just after download.

  Solution:
  Version identification after connecrion has been cleaned up - it should work nicely now.

- **Parameter load and reset default values operation are allowed in some cases while the drive is active. (D-03098)**
  Issue:
  Changing parameters by loading a file or reseting values is dangerous while the drive is active.

  Solution:
  These operations are now correctly disabled as soon as the drive is active - there was some refresh problems..

- **Memory leak / cpu usage too high when running for a long time. (3789)**
  Issue:
  Starting WB, connect to a drive letting just the Overview opened is increasing the memory usage with the time. Looking with

analyzer, we have clearly a memory leak in the refresh/comm layer.

Solution:
Fixed the refresh/comm memory leak. With the analyzer, we don't see anymore the leak.

BASIC Issues
New Features

- **Easy support of the VM autostart configuration. (3736,S-08881)**
  New Feature Details:
  VM.AUTOSTART can only be configured using terminal. As it is an important feature for the end user - it should be available in the Program view.

  Solution:
  Toggle button implemented in the Program View.

- **BASIC compiler - FW version compatibility management. (S-09220)**
  New Feature Details:
  If the user is using the latest compiler and download his program in an older FW not supporting the keywords using, the prgram will crash. The user should be able to configure his FW target and have the compiler giving error if a keyword is not supported.

  Solution:
  In the program view, the user can change the minimum targeted FW - it should be his drive FW. If he compiles a program not supported by the configured FW, the compiler will give errors. By default, the minimum targeted FW will be set to the connected FW version.

- **Installer: the user should be able to chose the the startup application language while installing. (S-09185)**
  New Feature Details:
  Some users don't know the language of their OS - if they cannot have their application starting in the language they chose during installation, they will be stucked.

  Solution:
  The installer is modifed to let the user choose if the application will start using installation language or default OS language.

Fixed Bugs

- **Syntax higlighting is not correct for bitwise operators and shift functions. (S-09342)**
  Issue:
  The syntax highlighting is not matching the compiler for bitwise operators (BAND, BOR, BXOR, BNOT) and shift functions (SHL, SHRA, SHRL) are missing. This is confusing for the user - highlighting should match exactly compiler syntax requirements.

  Solution:
  Syntax highlighting is fixed.

Version: 1.6.0.26478   Release Date: March 28, 2012

Requirements

Required Components:	Supported Operating Systems:
.NET Framework 4.0	Windows XP
	Windows Vista
	Windows 7

Tuning Issues
Fixed Bugs

- **Autotuner can no longer run before Wake and Shake has completed (S-08297)**
  Issue:
  The Autotuner would not wait for Wake and Shake to complete before beginning the Autotuner process. This woudl cause Wake and Shake to start at the same time as the Autotuner.

  Solution:
  The Autotuner now inhibits starting until Wake and Shake has successfully completed.

- **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:
  Fixed localization issue with strings coming from the drive (not localized).

- **Program View: warnings are not listing in error List tab when ther is no error. (3584)**
  Issue:
  If the user compiles a program that has warnings but no errors, they are not displayed in the error list view - they should. It will let the user that the program is fine, not seeing the warning.

  Solution:
  Warnings are displayed - as well when no compilation errors are present.

BASIC Issues
Fixed Bugs

- **(3347)**
  Issue:
  The Stop/Panic actions are only stopping movement, not at all a running program. As a program can enable a drive and start movement, we have to stop running program(s) as well.

Solution:
Stop/Panic will stop movement and any running program if in the scope (Stop - only selected drive / Panic - all connected drives).

- **Opening overview view will revert the name of the drive if it was set using a program or the terminal. (3453)**

  Issue:
  The name is reverted to preceding value opening the overview view without doing anything else - if value was changed using another input (terminal/BASIC).

  Solution:
  The name is now updated correctly and not reverted back.

- **The autoformat is causing some problems by creating non compilable code. (3408)**

  Issue:
  Each time the user press enter the autoformat will modify the code to soemthing that will not compile. Very annoying for valid statements (label: / <= / a$).

  Solution:
  These issues are fixed and we added an option to disable the Autoformat while enabling (disabled by default).

- **Download/Upload source code to and from the drive should be supported by the GUI. (3377)**

  Issue:
  The user is unable to put in a drive the source code (download) and get it later on from the drive (upload).

  Solution:
  These features are now implemented and functional. The download of the source code to the drive is optional (configuration).

- **Missing keyword in syntax highlighting: 'continue'. (3483)**

  Issue:
  The keyword 'continu' is not identified as a BASKIC keyword and therefore not highlighted, confusing for the user.

  Solution:
  Syntax highlighting is fixed - putting the keywords in the right color.

- **When cmd source is in mode 5 (program) - we should warn the user that vel / acc / dec limits are not effective. (3480)**

  Issue:
  With no warning, the user can have the impression that the limits are effective while it is not the case due to the cmd source selected.

  Solution:
  Warning is displayed near these fiels in program mode (cmd source = 5).

- **Program View / Console output: scroll bar is not functioning as expected . (3549)**

  Issue:
  With some outputs, the scroll bar behavior is impredictible. It is going back and forth as sonn as some strings are identical within the conplete list.

  Solution:
  The console output is fixed, scrolling now always to the end of the list.

- **Program view: autocomplete enabling should be configurable. (S-08404)**

  Issue:
  The autocomplete is triggered by pressing any key or specifically Ctrl+Space. Some users will probably want to configure this upon their needs, having any key triggering the autocomplete, Ctrl+Space or no autocomplete at all. Autocompletet can be annoying for very epxerienced programers.

  Solution:
  The autocomplete feature is configurable in the options of the Program view.

- **Autocomplete problems with multiple variable declarations. (3664)**

  Issue:
  Declaring several variables in the same dim statement is causing problem for the autocomplete.

  Solution:
  Fixed, any variables declared is recognized by the Autocomplete.

- **AKD BASIC - Autoformat not working when 'exit sub' is used in the code. (3690)**

  Issue:
  Autoformat is messing up the layout making it confusing if exit sub is used.

  Solution:
  Fixed, autoformat will indent nicely.

New Features

- **Using cls in BASIC program is hanging up WB. (3197)**

  New Feature Details:
  Using the cls is freezing WB (console output problem).

  Solution:
  Console output has been enhanced - WB is not freezing anymore on cls command.

- **Autocomplete feature in the BASIC editor. (S-06830)**

  New Feature Details:
  The user should know every BASIC keyword, drive parameters, ... in detail. With the autocomplete feature, the editor will propose suitable keyword or drive parameter based on what the user has already entered. The list is updated at every keypress.

  Solution:
  Feature implemented.

- **AKD BASIC - Better handling error of runtime errors. (3436)**

  New Feature Details:
  When a runtime error occured, the user has no idea wheer in its source code. This is really diffcult to debug, we should provide a much better feedback showing the offending instrauction.

  Solution:
  When a runtim error occured, now WorkBench is showing on which line by showing a red background. The user can only stop the execution, but before this, he can see where the problem occured and can use expression evaluator to understand the underlying problem.

- **Cleaning up of views for BASIC drive (online/offline). (3516)**

  New Feature Details:
  Some views are displaying invalid information for BASIC drive, it is confusing..

  Solution:
  We solved different issues, now the views should be correct for BASIC drives (offline/online).

- **BASIC Modbus wizard. (S-08654)**

  New Feature Details:
  Configuring Modbus mapping on BASIC variables is quite difficult and annoying for the user.

  Solution:
  Modbus wizard will read current configuration from the program and allow the user to edit it easily, writing back the changes into the program.

- **BASIC - Password protection support. (S-08728)**

  New Feature Details:
  The FW supports BASIC code password protection (using terminal). WB should offer easy support to allow the user to activate/deactivate password protection.

  Solution:
  WB supports implemented in Program view.

- **AKD BASIC - Text message appearing in the console output cannot be copied. (3666)**

  New Feature Details:
  In some case, it will be really usefull to be able to copy the console output (debug purpose).

  Solution:
  Copy of the full output is implemented (Copy To Clipborad). Selection is not possible, onyl whole copy is possible - you can then cleanup using your preferred text editor.

- **AKD BASIC - Writing to program variables using the expression evaluator. (S-08827)**

  New Feature Details:
  Expression evaluator is now able to write to any valid 'left' expression using a 'right' expression being itself evaluated (e.g. i=(i*2)+1). Array element writing is possible as well.

  Solution:
  Implemented in Program View.

- **AKD BASIC - Camming wizard. (S-08825)**

  New Feature Details:
  Defining a camming profile is a complex task - you have to define a lot of points. The camming wizard will extract current camming profile from BASIC program and allow you to edit it. Once edited, you can write it back in the program under a nice subs structure.

  Solution:
  Implemented in Program View.

- **AKD BASIC - Intr.Timer is not highlighted correctly in the code editor. (3699)**

  New Feature Details:
  Intr.Timer not higlighted - Intr.Time is highlighted, this is wrong and confusing.

  Solution:
  Syntax highlighting fix.

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 realeases. The backward compatibility is not ensured.

  Solution:
  WB is checking the file and when not compatible, it will convert it internally to thel ast format before to importd.

- **Motion Task: in single editor, the type displayed when loaded is always 'Absolute' indenpendently from what is really set in the drive. (3627)**

  Issue:
  The type shown in the single online MT editor (direct from the tree view) is always 'Absolute'. It is confusing, showing something different to what is in the drive.

  Solution:
  Fixed, the editor will show what is coming from the drive.

- **Status of the Motiontask is not updated in the Motiontask view. (3785)**

  Issue:
  Different refresh problems are present in the motion task view - it can give wrong/confusing information to the user (particularly the Start/Stop button not being enabled correctly).

  Solution:

Refresh issues fixed in motion task view.

General Issues
Fixed Bugs

- **Typo in fault message (F139). (3474)**
  Issue:
  Typo - can be confusing.

  Solution:
  Fault message fixed.

- **Editing macros in the Terminal view using tabs to validated lookup choice is causing some trouble. (3467)**
  Issue:
  If the user validate th lookup proposition by pressing tab, it will insert a Tab char in the string inside the marco. When the macro will be executed, the specific line will fail.

  Solution:
  Tab key is now acting like Enter key when validating a lookup choice. It will validate the choice and put the carret just after if without any other character.

- **Unknow feedback type supported by the FW, should net let WB in bad state. (D-02836)**
  Issue:
  If the user connect WB to a new FW supporting new FB type, WB should operate gracefully by providing the minimum of information it cans - but it should not confuse the user.

  Solution:
  Fixed WB to display the user choice with no error, but not displaying any field as we don't know what is valid.

- **KAS integration: cross thread exception when using parameter list view. (3598)**
  Issue:
  Using parameter list view is throwing execption when used in KAS. Some strange sequence is leading to this problem.

  Solution:
  Fixed, cross-thread call is now done correctly avoiding the exception.

- **Encoder Emulation Screen: selecting output mode 1, there is no possibility to set the encoder resolutions (DRV.EMUERES). (3662)**
  Issue:
  The user is not able to configure the output resolution for mode 1.

  Solution:
  Resolution field is again visible - for all output modes.

- **Encoder Emulation Screen: the tree node is not available when you connect to a drive that has cmd source set to Program. (3663)**
  Issue:
  The user cannot access easily the functionality.

  Solution:
  Fixed the problem - the view will be visible.

- **Analog Output Screen - Units for Velocity Scale are wrong. (3513)**
  Issue:
  The scaling is not understandable by the user. The FW is giving invrted units like rpm/V - it should be something like V/rpm.

  Solution:
  The problem is there from the beginning and for backward compatibility reason, we cannot change the behavior. We indicated that the gain is inverted by adding a 1/X in the graphe. It means that a 1000 rpm/V value will create a gain from 0.001 V/rpm - used in the computation chain.

- **Slider Tuning Screen asks for a ratio, but the value is realy an inertia . (3567)**
  Issue:
  The label is confusing, telling inertia ratio, but the expected value is an inertia.

  Solution:
  Fixed the label.

- **Loading a CSV file ine the scope that is already opened in Excel is crashing WB. (3643)**
  Issue:
  It is quite common to have a file openend in different viewers. WB is behaving badly - not being able to open a file that is held by Excel.

  Solution:
  Fixed, CSV file can be loaded as well when Excel (or any other application) is showing it.

- **Drive enabled indicator in WB is not always correct. (3706)**
  Issue:
  When enabling a drive, closing WB and reconnecting to the same drive, the enabled state is wrong. Some refresh on the indicator is missing - can be missleading for the user to have a wrong enabled/disabled indicator.

  Solution:
  Enabled/Disabled indicator is now refreshed correctly.

- **WB should handle correctly unset values in the drive (error message back from the FW).. (3675)**
  Issue:
  When a FW has a bad alignmenet between range and value checking (range is defined 1 to 3, checking is 2 to 5) - the FW will return an error if WB tries to set value 4. Using a combobox, it will result with this combobox having this wrong value set - not showing the value currently in the drive. Despite the FW error, WB should always display the correct value - being in sync with the drive.

Solution:
When the FW return an error, the WB widget will be refreshed accordingly (fix specifically for combobox, others were workig).

- **Faults/Warnings in the status bar from WorkBench is not refreshed correctly. (3771)**
  Issue:
  In some cases, a fault can occur on the drive, displayed on the LED drive display, but not shown in ths status bar. There is a refresh problem in the toolbar for faults and warnings.

  Solution:
  Refresh issues fixed in status bar for faults and warnings.

New Features

- **Export for DIFVAR output (list of NV parameters that have a current value different from default). (S-07570)**
  New Feature Details:
  The DIFVAR output can be useful for external applications. WB user should have an easy way to export the outputof this command to a text file.

  Solution:
  Feature implemented under Tools menu (per drive).

- **Support for AKD PDMM part number (AKD-Mxxxxx-MCEC-xxxx). (S-08461)**
  New Feature Details:
  Unable to connect to a MCEC drive (using telenet port). The model number will not be recognized and WB will refuse to connect.

  Solution:
  Implemented support for this model number.

- **Filter out non supported device from the discovery dialog. (S-08380)**
  New Feature Details:
  Seeing non supported device in the discovery is confusing if you cannot connect to them.

  Solution:
  Restricted tha MAC address range to supported devices only.

- **Full Tamagawa feedback support in GUI. (S-08317)**
  New Feature Details:
  The Tamagawa feedback is not fully supported by the GUI (fields edition).

  Solution:
  Full support implemented.

- **Modbus simple configuration support. (R-01446)**
  New Feature Details:
  The user cannot configure basic parameters from Modbus using WorkBench.

  Solution:
  Implemented simple view to support basic parameters.

- **Wake&Shake: suport for new mode 2 and cleaning up of WB view for mode 1. (R-01509)**
  New Feature Details:
  Mode 2 was not supported requring the user to configure it using terminal.

  Solution:
  The view has bee modified to support mode 2. We have as well merged W&S view and Commutation Alignment view.

- **WB fails to save parameter file when connected to older FW (e.g. 1.4.0.009). (3794)**
  New Feature Details:
  WB is not backward compatible - loosing functionality when connected to older FW.

  Solution:
  Fixed - older FW were working differently, now WB is supporting old way and new way.

IO Issues
Fixed Bugs

- **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.

Homing Issues
New Features

- **Add full WB support for home mode 14 (home reference - one direction). (S-08880)**
  New Feature Details:
  New home mode in the drive that we have to support fully in WB. This mode introduced a new keyword HOME.DISTMAX that is

effective for all other modes. We made the views adaptade to this.

Solution:
Implemented in Home View.

Version: 1.5.0.23850   Release Date: December 13, 2011

Requirements

Required Components:	**Supported Operating Systems:**
.NET Framework 4.0	Windows XP
	Windows Vista
	Windows 7

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 databse). 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).

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

Version: 1.5.0.22676   Release Date: October 12, 2011

Requirements

Required Components:	**Supported Operating Systems:**
.NET Framework 4.0	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:
  Fiexd the parsing of the file, accepting spaces in strings (this is the case for command buffer commands).

- **Miscellenaous 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 easiyl accessible).
  - The axes zero lines should be displayable (the feature exists, but not easiyl accessible).
  - Loading a scope setting is not refreshing correctly the trace colors

  Solution:
  Problems fixe 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 BSIC drive (HOME.x keyworsd 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 acceleartion unit defined as custom, the fileds 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 fien 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, teh 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 themotor 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 scop 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.

- **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 fileldbuses are unknow (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 creeted 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 wisth / 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 fiels (Full Offset) that will sum the integer absolut 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 specif fields depending on the mode. Once the changes are applied, WB will wait and try to reconnect to the drive atthe 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 alphanumric 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

- **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 hominh mode 13 (Home no Move). (R-01602)**
  New Feature Details:
  The GUI should fully support the mode 13 (diagram, right parameters enbaled 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 whil 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 th supported target minimum version using a combo box ine 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:
  Utoformat 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 Anlog Input View and the posibility to choose the target velocity inside each motion task.

Version: 1.4.0.17612   Release Date: April 27, 2011

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 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 inteval 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 multiplicator) 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

- **Detailled 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 to 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 opmode 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 proportinal 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 afetr 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 presets to the drive.

  Solution:
  The value was reset unexpectly 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 alignement, 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 alignement 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 dives 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 satus 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 form the motioneering 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 Motioneering database.

- **Linear motor: feedback indicator should work correctly. (2618)**
  New Feature Details:
  Linear feedback indicator should work correctly and infinitively (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 cofigurable 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 bale 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 resepctive 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 intermedieate 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 Max Speed 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.KACCFF (2518)**

  Issue:
  Running the Bode tool clears out the Acceleration Feedforward term on the drive (IL.KACCFF).

  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 identifed 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 aututuner 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

- **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 reducse 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 algebric sign) sould be supported in WorkBench. (2774)**
  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.

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. We are 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.

- **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 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.

  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.