****

Welcome to ABB Automation Builder 1.1.0

****

This README file contains important information about the Automation Builder and the Control Builder Plus software.
Please read this file carefully and completely. It contains the latest information and relevant documentation.

System Requirements:

- Pentium PC, 1GHz, 3 GB RAM
- Hard disk memory: 10 GB
- SVGA graphics adaptor 256 colors, resolution of 1024x768 pixels
- USB 2.0 port

- Windows 7 (32/64 Bit) Professional / Enterprise / Ultimate
  Windows 8.1 (32/64 Bit)
  Limited support for Windows XP (Service Pack 3 or later): some features can't be installed and used refer to release notes of each option for details

Attention:

- The installation of the ABB Automation Builder software requires administrator rights.
- Prior to installation, the Automation Builder/Control Builder Plus, CODESYS software and the CODESYS Gateway Server must be shut down.
- Automation Builder 1.1 installation completely replaces installed versions of Automation Builder/Control Builder Plus. Side-by-side installations of Automation Builder and Control Builder Plus are not supported.
- **Installed Automation Builder 1.1 versions shall be uninstalled before installing a higher Automation Builder 1.1 version. The patch update from AB1.1.0.824 to AB1.1.0.835 however can be installed without prior uninstallation.**
- Only the English documentation contains the latest changes for Automation Builder 1.1. All other languages still show the state of Automation Builder 1.0.
- Automation Builder 1.1 creates a new device repository. Devices which had been installed additionally in previous versions of Automation Builder/Control Builder Plus have to be installed in Automation Builder 1.1 via menu "Tools" → "Device Repository".

Table of contents

Changes in Automation Builder 1.1.0

The service release includes changes for the following device groups:

ABB Automation Builder:

The following notes are related to Automation Builder Platform, platform extensions, Installer and Installation Manager:

Functional changes / New features	*Version*
Automation Builder: - Installation and update is provided via internet - Unified product naming - License Enforcement **General usability improvements:** - A changed device tree structure - An improved add object dialog - Improved IO mapping by providing one tree based and one list based IO mapping dialog, showing also the mapping of devices and whole sub trees (like a fieldbus or the local IO bus). From list based IO mapping copy paste data exchange with Excel, generic ex/import function - Cleaned up context menu e.g. different Ex/Import function - Project and object comparison including difference and merge functionality - Flexible device name, device type and device tag display in device tree - Customization of user interface via options editor (Tools → Options) **Electrical Engineering Interface:** - Enable round trip engineering with difference and merge functionality between Automation Builder and EPLAN P8 and Excel: csv - Show imported device tags on device tree objects **Automation Builder Installation Manager:** - Maintaining all installed Automation Builder software within one tool - Install additional customer packages	**1.1.0**

Bug corrections	
Bugs corrected with version AB1.1.0.835:	
License Activation: Improved error handling during Automation Builder license activation	[AB-6421] [AB-6402] [AB-6382]

Known problems	*ID*
Automation Builder Installer: The setup leaves temporary folders and files after creating offline installation. The setup does not remove these when the installation is finished. Workaround: Windows disk clean up to be used: Open Disk Cleanup by clicking the Start button, clicking All Programs, clicking Accessories, clicking System Tools, and then clicking Disk Cleanup.	DAE-1110
Automation Builder Installer: Running the setup from the offline installation files in a folder whose path exceeds a certain length limit may fail. In case the path name is too long the setup will issue an appropriate error message. Workaround: Copy the offline installation folder to a folder with shorter path name.	DAE-688
Collaboration Interfaces: In Automation Builder's Project Compare window the mouse scroll wheel will not work. Workaround: Use the windows scroll bars to scroll through the window content.	DAE-674
Collaboration Interfaces: Automation Builder allows to select some functions like e.g. "Add object", "Update object", "CSV import", "Cut" although being in online mode shall be disabled in online mode. Importing a pbf-file in online mode will lead to an error and a corresponding message will show up. Workaround: Log off and switch back to offline mode before selecting "Add object", "Update object", "CSV import", "Cut", or importing files.	DAE-663
Core Components: Opening the I/O-mapping list for a CM589 protocol node and an unusual high number of modules may take a very long time. Workaround: For typical project sizes with up to 20 modules this is not an issue. For larger configurations the mapping list has to be closed, to avoid that the editor does not respond anymore for a long period of time. When saving the project the user shall ensure that the mapping list and corresponding editor is closed so that they are not	DAE-1100

opened on project opening.	
Core Components: The 3S package manager has been removed from the Automation Builder Menu. Automation Builder customer packages can be installed via Automation Builder Installation Manager. Workaround: In case that the 3S package manager is needed anyhow it can be added to Automation Builder via the Tools menu and selecting Customize.	DAE-1099
Core Components: Installing GSDML files in Automation Builder without having administrator rights may lead to inconsistencies. This is due to writing the corresponding database to the Windows programs files folder. Without administrator rights the file is redirected from Program Files folder to Windows virtual store. Workaround: Ensure to have administrator rights, i.e. log on with administrator privileges when installing device descriptions.	DAE-1096
Core Components: When upgrading projects from previous versions that use user management permissions, like projects that contain AC500-S Safety devices, make sure to logon with a user account that has sufficient permissions to edit, add and remove all devices in the project. Otherwise the project cannot be migrated to the new structure in Automation Builder 1.1. Failure to do so will result in an inconsistent project. Workaround: Before upgrading a project ensure you have the required privileges. If prompted to provide the credentials do not cancel the request. This applies especially to safety projects.	DAE-1040
Core Components: In Automation Builder online mode it is possible to add objects to the project. Trying to roll back that action via Undo command or using the Redo command later on may lead to a flickering device tree and may corrupt the project. Workaround: In online mode do not add or remove objects to the project and neither use the Undo nor the Redo command.	DAE-1018
Core Components: The Automation Builder setup (start_menu.exe) may not be started successfully while Norton Antivirus is active. The setup is identified as suspicious file and Norton Antivirus will try to block and/or remove the file. Workaround: Deactivate Norton Antivirus during setup.	DAE-426
Core Components: The GatewayService.exe from CoDeSys V3.5.1.x may consume more than 50% (average) of CPU performance on the PC. Workaround: Activate at least one Ethernet adapter on the PC or the virtual machine.	DAE-168
EPlan Interface: The scope of a pbf file for importing in to Automation Builder is limited to one single PLC (i.e. one Configuration project in Eplan must contain only one PLC) including all its connected devices. Current release version supports PLC and its connected devices from Vendor “ABB Automation Builder Products Gmbh” and therefore not covers other ABB devices like Drives, Motion, Panel and 3rd party devices	
EPlan Interface & IO Mappings CSV Ex/Import: Descriptions of IO channels are ignored by the difference and merge dialog window. Therefore, they are always taken over into the project; even if other modifications of the corresponding channels are rejected	
IO Mappings CSV Ex/Import: While importing IO mappings CSV with diff view, in the diff and merge view when accepted the channel with empty variable the difference is not reflected in diff and merge view, but after closing the diff view the empty variable is taken over and allocated to the IO channel	DAE-1190
EPlan Interface: DC5xx IO module signals does not get imported from EPlan.	DAE-1189
EPlan Interface: In reimport or roundtrip import cases, if any changes done at EPlan by adding a new communication module with connecting to one of the PLC slot or replacing existing communication module, then those device changes to the communication modules are not displayed as connected to PLC slots during import in Automation Builder Diff and merge view, instead those CM modules are added under the device pool.	DAE-492
IO Mapping: Undo/redo for IO Mapping tab is not linked with global (or application's) undo/redo functionality. This may cause false change of state of few buttons	DAE-806

PLC - AC500:

Note 1: Compatibility of Automation Builder/Control Builder Plus
Automation Builder 1.1 offers special compatibility features for projects created with Automation Builder 1.0 or Control Builder Plus V2.2 and V2.1. Side-by-side installation of different versions is not required.
Projects created with Automation Builder 1.0 or Control Builder V2.2 and V2.1 can be opened in two different ways:

- Opening in the compatibility mode: The project is opened with the version it was initially created with. In this case, newer features and devices cannot be used.
- Opening in the update mode: The project is updated to the newest version. However, the new features and devices may require an update of the PLC firmware as well. After the update, the project can no longer be opened with previous versions. Keeping a backup copy for further use with previous versions should be considered.

Projects created with previous versions can be updated to the new version.
For further information, please see the end user documentation and online help.

If you are using a PLC with a firmware version older than that of the Automation Builder, the PLC will generate a diagnostic message if features are used that are not yet supported. In this case, you should consider updating your PLC to a firmware equal to or higher than the version of Automation Builder.

Functional changes / New features	***Version***
AC500 Configuration/Control Builder Plus **New Devices:** - New PLCs: PM595-4ETH, PM591-2ETH - New communication module: CM597-ETH, CM589-PNIO - New IO modules: FM562, DO524, DO562, DO573, DC562 **Improved usability:** - Device Tree restructuring - Terminal bases of AC500 stations are included in configuration (combination of TB5xx and PM5xx as top level tree node) showing matching number of extension modules - PM5xx type change via parameter selection - Flexible device name, device type and device tag display in device tree - Harmonized object naming - Object compare including difference and merge functionality - Improved Ex-/import of IEC project **Communication configuration:** - Ethernet split between physical interfaces and logical protocols - Improved integration of communication protocols (e.g. copy/paste of protocols from one PLC to another) - Multi-port protocols can be configured - Improved IEC60807-5-104 support: List based IEC60870-5-104 data points (remove large tree) **Flexible configuration:** - Support of multiple different HW configurations which can be switched at runtime using function blocks or the display	**2.4.0**

Bug corrections	
Bugs corrected with version AB1.1.0.835:	
AC500 programming application: Errors shown during opening of AC500 programming applications for Windows users with blanks in their user names are resolved.	[AB-6442]

Firmware:

Module	Description	CPU	PM554	PM554-ETH	PM556-ETH	PM564	PM564-ETH	PM572	PM573-ETH	PM582	PM583-ETH	PM590-ETH	PM591-ETH	PM591-2ETH	PM592-ETH	PM595-4ETH-F	PM595-4ETH-M	PM590-ARC	CM574-RS	CM574-RCOM	SM560-S	Devices
C-Code	C-Code: Enable Online change for projects with C-Code Note: needs CODESYS >=V2.3.9.45		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
C-Code	C-Code: support of C++ for PM59x-ETH (not PM595-4ETH-x)											x	x	x	x			x				
C-Code	C-Code: Add standard libraries functionality of Prio 3		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
C-Code	C-Code: Add standard libraries functionality of Prio 2		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
Config	Flexible configuration (FlexConf) for IO devices connected to local I/O-Bus - handling of multiple HW–configuration files		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
Device	Support of new Condition Monitoring System (CMS) FM502-CMS														x							FM502-CMS
Device	Support of new PLC PM590-ARCNET																	x				TB511-ARCNET TB521-ARCNET
Device	Support of new PLC PM591-2ETH													x								TB523-2ETH
Device	Support of new PLCs PM595-4ETH-F and PM595-4ETH-M															x	x					
Ethernet	Protocol SNTP (Simple Network Time Protocol) for eCo CPUs with Onboard Ethernet - CPU as time slave			x	x		x															
Ethernet	IEC608070-5-104: support of "2nd connection" - multiple substations on one PLC								x		x	x	x	x	x	x	x					
Ethernet	IEC608070-5-104: support of "2nd port" for PLCs with Multiple Onboard-Ethernet													x		x	x					
Ethernet	Support of new Ethernet coupler CM597-ETH (as replacement for CM577-ETH)							x	x	x	x	x	x	x	x	x	x	x				CM597-ETH
PROFINET	Support of new PROFINET IO device coupler CM589-PNIO							x	x	x	x	x	x	x	x	x	x	x				CM589-PNIO
System	New display firmware V2.8 - support of MultiOBE, FlexConf-ID							x	x	x	x	x	x	x	x			x				

Known problems	ID
Automation Builder:	
C++ Code: Online change is not possible if a program uses an external library compiled with the C++ compiler (G++). Using external libs compiled with the C-Compiler (GCC) there are no limitations to online change functionality. Workaround: Do not use C++ libraries in case online change functionality needs to be supported.	CFG-2911
C-Code: Using the Automation Builder version with C-lib with old firmware versions like 2.3.3 causes the PLC to stop and carry out a reset for every download or online change without prior notice. This behavior will show up even if the c-code was not changes. Each change in e.g. ST-code causes this behavior. Workaround: Mitigation for C-Code customers: (a) Stay with CoDeSys 2.3.9.40. This will still work with RTS .45 (with broken OC and missing new C++ support) (b) Update PLCs to RTS 2.4.7.45 along with CoDeSys 2.3.9.44	CFG-2583
C-Code: When renaming a C-Code POU after importing its implementation from a CSV-File the old name of the POU is still included in the C_Code_App.c and C_Code_App.h. Workaround: remove the old POUs manually from these files.	CFG-2466
C-Code: Removing application node fails to remove C-Code libs from IEC library list. When one (or more) existing C-Code application(s) is/are deleted by deleting the Application node, this leads to obsolete library includes (C-Code external libs) in the CoDeSys V2.3 project. Workaround: Workaround: Explicitly remove C-Code application node before removing then application node	CFG-2315
Device description import: For 3rd party slaves the parameters Device-ID, Product-ID of fieldbus components that are defined in the device descriptions are not read only and can be edited in Automation Builder.	CFG-2654

Workaround: Do not edit the parameters.	
EtherCAT: On CI512-ETHCAT modules connected via CM579-ETHCAT coupler the binary outputs will be swapped. I.e. powering on the CI512 ETHCAT digital output DC0, the module 3.0 DO8 will be on, powering on the digital output DO8, the module 1.0 DC0 will be on. This is due to an issue with correct handling of little and big endian byte order. Workaround: Engineering has to care and configure the modules accordingly. The mapping of the bits has to be swapped in mind.	CFG-3008
EtherCAT: Activating S2S communication in the EtherCAT leads to a non-operational process image. This does not apply for all devices but has been observed with Bosch drives. To activate S2S communication "autoconfig=no" has to be used. In this case the XML file being created is faulty and the process image is not working. Workaround: Two workarounds exists: a) Delete FMMU for Indradrive mailbox state. Mailbox messages will be processed anyway as the EtherCAT stack will read via mailbox state register instead of FMMU. b) Define FMMU for the mailbox state as the last FMMU in the row. The user has to check if this is supported by the device and if the device will enter operation mode. Edit the ESI file and move the MBoxState FMMU to the end of the file. Then import the ESI file once again. <Fmmu>Outputs</Fmmu> <Fmmu>Inputs</Fmmu> <Fmmu>MBoxState</Fmmu>	CFG-2811
EtherCAT: The handling and look&feel of EtherCAT Slots and Modules were changed in the CoDeSys V3.5 SP4 P1-4 in comparison to the Control Builder Plus V2.3. Workaround: n/a	CFG-2597
EtherCAT: Automation Builder does not create alignment PDOs for the device headmodule itself. These are also not configured or mapped within the InitCmds and are therefore also missing in the EtherCAT network configuration file. Workaround: The EtherCAT network configuration file has to be patched, i.e. the alignment PDOs have to be added.	CFG-2573
GVL Export: On export of the global variable list it seems that settings may get lost. Writing flags for symbol export of GVL variables seems to fail depending on flag combinations. Writing the symbol configuration does not work reliably for all possible combinations of settings. This is due to limitations of the export format supporting only symbol attributes for the whole GVL. Separate attributes for every symbol are not supported. Workaround: Restrictions of the CoDeSys export format have been observed. The format supports only symbol attributes for the whole GVL. There are no separate attributes for each single symbol supported.	CFG-2596
Import Mapping: Import mappings from CSV-file do not work for PROFINET slaves. Affected are the I/O modules attached to the bus modules but not the bus modules itself. If the user tries to import mappings new mappings will be missing. Existing and renamed mappings will not be updated. No error message will show up. Export is not affected. Workaround: n/a - There is no workaround.	CFG-2638
Load/Save: When ABB Control Builder Plus is opened from Desktop Icon, a file "Default.dfr" is created at desktop. Workaround: After closing Control Builder Plus the file can be deleted.	CFG-748
Module editor: For the CM588/CM589 slaves the configuration check is different to other modules. The check is made on adding the objects: when the size of the I/O module together with the size of the existing configured modules is larger than the allowed limit, the module is not added and a message box is displayed to inform the user. For other modules the check is carried out in the background and a message is displayed in the message window. So for the CM588/CM589 the configuration can never exceed maximum size limits. On the other hand there is no editor that can show the current size that is occupied. Workaround: n/a - No workaround needed	CFG-2624
Profinet: Update of V2.0 Profinet slave devices to V2.3 does not work. New parameters are not added (PNIO2). Workaround: 1) Open CBP V2.1/V2.2 2) Install V2.1/V2.2 device descriptions of 3rd-party Profinet slave devices 3) Load and upgrade the V2.0 project with CBP V2.1 or V2.2. 4) Store the V2.1/V2.2 project. 5) Open the stored V2.1/V2.2 project with CBP V2.3.	CFG-2409

Profinet: The structure of the Profinet devices has changed from V2.0 to V2.1. From version V2.3.0 onwards the CBP checks the configuration and cannot deal with the old format of V2.0 Profinet devices. Workaround: 1) Open CBP V2.1/V2.2 2) Install V2.1/V2.2 device descriptions of 3rd-party Profinet slave devices 3) Load and upgrade the V2.0 project with CBP V2.1 or V2.2. 4) Store the V2.1/V2.2 project. 5) Open the stored V2.1/V2.2 project with CBP V2.3.	CFG-2396
Safety: The sdappl command doesn't work properly in conjunction with SM560-S. If the PM5xx parameter "Behavior of outputs in stop" is changed to "Actual state in hardware and online" then the sdappl command in the PLC-Browser generates only the boot project for the PM5xx. The SM560-S boot project is not created. Of course, both CPUs are in stop mode. In this constellation the data transfer between CPU and couplers is not stopped. It seems that is the reason why the SM560-S boot project is not created. Workaround: First perform the online command "Reset" on the PM5xx to properly stop the DPRAM data transfer. Thereafter, the use of the sdappl command works as expected.	CFG-2274
ST-Editor: Declaration 'PROGRAM' in a POU leads to an error message The command "Edit declaration header" is still invisible in TabularEditor of via POU_Editor. Anyhow the dialog appears via user click on the declaration. Workaround: The declaration 'PROGRAM' is not yet support please do not select.	CFG-2258
System: Opening a project created with a prior version of CB (CB 2.1 and 2.2.1 profiles) or AB (CB2.3.0 profile) allows the user to decide if this will be opened with the most current profile or with an old profile. When selecting an old profile a message box will indicate that the CoDeSys V2.3 project is not up to date and the user will be asked to have the configuration created. Selecting either option will lead to an error opening the project or show CoDeSys without content. Workaround: The project has to be opened with the latest profile AB1.1 and thereby upgraded to AB1.1 profile version.	CFG-2994
System: Exchange of objects between AB1.1 projects being based on different profiles, i.e. AB1.1 and a predecessor profile version like CB2.x.y, via copy and paste will not work. Both projects have to be based on the same profile version have Workaround: Update the projects so that these are based on the same profile version number. After having updated the projects exchange of object is possible using copy and paste functions.	CFG-2982
System: Auto-log off fails in case of network connectivity being interrupted during source code upload from PLC. No error message will show up and Automation Builder will not respond. The Corrupted Source file cannot be deleted in directory and no source code upload can be done to this directory afterwards. The Automation Builder waits forever at the CoDeSysV23 COM interface. Workaround: The CoDeSys process has to be killed via Task manager.	CFG-2465
System: Incorrect behavior at Chinese language selection. Two options can be selected for Automation Builder: a) Set the interface language of AB to "same to Microsoft Windows". b) Set the interface language of CBP to "select language" + "Chinese" Generally, there are many different language keys for Chinese like "zh-CHS", "zh-CN", "zh-TW", "zh-CHT", etc. In Automation Builder "zh-CHS" is used as Chinese tagging ("zh-CHS" means "Chinese simplified .NET") for the Device Descriptions . The same applies for the resources. The Device Repository plugin does not recognize "zh-CHS" as Chinese when the windows language is a Chinese one. Workaround: For the plugins "zh-CHS" displays the texts in Chinese language at the UI even if the windows language is another one. But for the DevDesc with the setting "zh-CHS", the translation is unknown when the Chinese windows language is another one than "zh-CHS".	CFG-2462
System: Saving an unchanged CoDeSys V2.3.9.x project can trigger dirty flag on Automation Builder. Anyhow logging in directly will be possible as well as doing online changes. This issue will not cause a full download. Workaround: n/a	CFG-2339
System: Automatic update of safety projects with 3rd party F-Devices does not work correct. After creating the boot projects for both PM5xx and SM560-S CPU, the system doesn't start after a power cycle	CFG-2273

because of configuration error. Workaround: After the system performed the automatic update do a manually change of an F-Parameter (e.g. F_WD_Time) in the 3rd party device and create configuration data for non-safety and safety manually.	
System: Tabular declaration editor: array initialization not compatible to CoDeSys V2.3. Issue is that the input assistant of AB generates code but the compiler does not allow the declaration of the wizard. Automation platform uses "[]" for array initialization, CoDeSys V2.3 doesn't. Textual representation in AB: MyVarTabular: ARRAY[0..10] OF INT := [3, 8, 34, 8(0)]; required representation in CoDeSys V2.3: MyVarTabular: ARRAY[0..10] OF INT := 3, 8, 34, 8(0); Workaround: Remove "[]" from declaration.	CFG-2257
Update device: When a project is upgraded installed CANopen EDS-files in AB1.1 are not recognized: In case of an upgrade from CB2.3 to AB1.1 only one eds file (CAN-CBX-AO412_SW_1_10.eds) is not recognized. In case of upgrade from 2.2 to AB1.1 all three eds files are not recognized. Attached are the eds files Workaround: Workaround for update issue V2.3 -> 1.1: Automatic update does not work, so the user has to manually update the EDS files. Workaround for the update issue V2.2 -> 1.1: Update the project from V2.2 to V2.3 and then to AB1.1	CFG-2922
Update device: Opening and updating old i.e. V2.1 and later projects with 3rd party devices fails due to 3rd party devices not being updated. This is due to a changed repository location. Re-importing the devices will not work either. Workaround: To resolve this issue the user has to create a project archive with the old CB version and open and update this with the current Automation Builder version.	CFG-2854
Update device: In projects, that are set read only an update of PLCs is possible. Afterwards the application can be uploaded to CoDeSys which will lead to inconsistent data. Workaround: Do not update devices in projects that are set read only.	CFG-2663
Update device: Automatic device update may be confused by version mismatches between PLC and interface for example: a PM564 PLC (2.3.1.0) with COM2 ASCII (2.3.0 configuration is updated to a PM573. Changing the COM2 to RS232 mode fails due to a version mismatch. Workaround: As workaround a following update project or update on the tree node solves this issue	CFG-2643
Update device: Changing the target CPU in Automation Builder will lead to a loss of all system event settings configured in CoDeSys. Workaround: Before changing the target note all configured system event settings and re-apply the settings again after having changed the target.	CFG-2431
User management: When permission checks fail during an undo/redo operation this will corrupt the tree and require restart of Automation Builder. The problem may show with handling of safety devices, for example withdrawing the deletion of a safety PLC, which requires special permissions. If undo/redo is selected for deletion of a safety PLC the user has to logon and provide appropriate credentials. If these are not provided as requested the tree will become corrupt. See CFG-2411 Workaround: If prompted for credentials do not press Cancel. Avoid undo/redo for actions for which you do not have sufficient privileges.	CFG-2641
User management: Group may not have permissions to carry out actions although it is granted by default. Explicitly assigned rights always override inherited rights. This has to be taken into account when assigning to or removing rights from a user group. Workaround: Explicit rights override inherited rights. If for example the "Safety" group has "modify" rights specified by default and modify rights are denied for "Everyone" group by the user, then "Safety" group has no "modify" rights anymore. These rights have to be granted explicitly again by the user.	CFG-2447
User management: Copying a PLC with safety module and safety PLC and refusing to provide required credentials leads to PLC configuration where all safety devices are missing. Further on the coupler slot is missing that originally hosted the	CFG-2411

safety module. See CFG-2641. Workaround: If prompted for credentials do not press Cancel. Provide appropriate credentials as requested. Avoid any actions for which you do not have sufficient privileges.	
Windows 7: Opening an English project with a German installation of CoDeSys V2.3 will lead to problems locating the CoDeSys 2.3 Libs under the path "Programme" (Windows 7). Workaround: Change the path setting: go to -> Projekt -> Optionen -> Verzeichnisse and change "Programme" to "Program files". This will correct the issue.	CFG-2426
CODESYS (IEC 61131 Editors):	

-DWORD_TO_LREAL and UDINT_TO_LREAL: DWORD/UDINT value can not be proper converted to LREAL if DWORD/UDINT > 16#80000000.
Note: For PM595-4ETH CODESYS compiler generates warning.
 	
Workaround: add new function:
FUNCTION DWORD_TO_LREAL_ABB : LREAL
VAR_INPUT
x: DWORD;
END_VAR
VAR
b: LREAL;
END_VAR
b := DWORD_TO_LREAL(x);
IF b < 0.0 THEN b := 4294967296.0 + b; END_IF;
DWORD_TO_LREAL_ABB := b;
 	
call function DWORD_TO_LREAL_ABB instead of DWORD_TO_LREAL in user program:
PROGRAM PLC_PRG
VAR
a: DWORD;
b: LREAL;
END_VAR
b := DWORD_TO_LREAL_ABB(a);
	CD-979

-64Bit data types cannot be used as return value for C-function-POUs on PM595-4ETH. Workaround: (a) Use smaller return value instead or return as struct. (b) Use a POU of type function block (FB) instead	CD-965
-If name of global variable lists ends with _Variable_Mapping, this list is deleted by AB / create configuration data Workaround: Avoid names of global variable lists (GVL) ending with _Variable_Mapping. This suffix is reserved for variable lists generated by Automation Builder.	CD-960
-If a comment is opened with (*, but not closed with *) then export from CODESYS is possible but no import. Workaround: Close comments with *) before export	CD-922
-Online access via 3S drivers "Tcp/ip" and "Tcp/Ip (Level 2 Route)" is no more possible via CM577-ETH and CM597-ETH Workaround: Use driver "ABB Tcp/Ip Route AC"	CD-918
-If in alarm table "all alarm groups" is defined, Alarm table will not work in webvisu. Workaround: Don't use "all alarm groups" for webvisu.	CD-917
-"check for overlapping memory areas" doesn't work for %R area Workaround:	CD-906
-A button in visu is activating the wrong bit when using notation in FB: Buttom : BYTE -> visu access toi BOOL as: Buttom.0. Workaround: declare variable as Buttom1, Buttom2 : BOOL and access in visu as Buttom1, Buttom2.	CD-890
-The curve of Trend cannot be shown in case of trend was group with another visu element Workaround: Don't Group trend element with other(s).	CD-889
-DigiVis and CBP/CODESYS cannot be online at the same time.. Workaround: use different PCs	CD-882
-Buttons in Alarm Display of CoDeSys Visu shown in Online Mode in English and in WebVisu in German. Workaround:	CD-881
-Error message "...Error.xml not found" on login to PLC in project with Diag_AC500_V20.lib using POU	CD-880

DIAG_CPU_EXT with integrated visualization and dynamic texts. Workaround: Update location of file Error.xml in Visu -> settings -> Dynamic texts	
-C-Code: Init values for arrays in external libraries is not supported: 1) Create a new project with a C-Code app(GCC and ANSI-C) and a POU 2) Define an Array [0..10] OF INT := 1,2,3; and press Apply 3) The attached error message occurs --> The C_CODE_APP_1_INIT.c , C_CODE_APP_1_Shell.c and the selection of all libraries were deleted! Workaround: Don't init arrays in declaration of external libraries.	CD-879
-CoDeSys V2.3.9.x crashes in Watch Editor if "Insert variable" is chosen and immediately without filled in a variable "Append variable" is chosen. Workaround: Fill in a variable before click on "Append variable"	CD-852
-OPC Automation wrapper DLL is missing in OPC-Server V3 Setup. Workaround: Install additionally OPC Server V2.0. This setup installs the automation wrapper DLL.	CD-847
-After changing language in CODESYSs to Japanese it is not possible to change to another language. Workaround: Edit entry Language in file CODESYS.INI (in folder of CODESYS.EXE): Language=English	CD-846
-In very seldom cases of resolution and scaling settings of PC it can happen that the Access right setting editor is not full visible. Workaround: change the resolution/scaling settings	CD-844
-Visu editor: In alignment menu there are empty lines Workaround: don't care	CD-837
-Alarm handling in the PLC is not supported by the eCo range. Workaround: Use PLC with more data.	CD-826
-Projects with web visu cannot be loaded with Service tool CST.exe Workaround: Use AB/CBP or SD card to load Bootproject into PLC	CD-825
-Global search of variables in HMI does not work for "Find next" and "Replace". Variable found in HMI in case of using "Message window" Workaround: Use message window	CD-824
-Issuing an update of the C-Code-POU-interface translates all variable and function names into upper case, while the definitions in the POU interface remain in lower case/camel case. Workaround: If needed, use only upper case in POU declarations	CD-819
-When webserver is enabled and OPC server is connected to PLC, error message "the last online service has not been executed correctly" can pop up while downloading to PLC. Workaround: Download project again. Use gateway driver "3S Tcp/Ip Level 2 Route"	CD-817
-WEB visu: keys <Return> and <ESC> are not supported in web visualization Workaround:	CFG-2071 CD-814
-WEB visu: no support of scroll bars. Workaround: Set the right solution in the Target settings->Visualization ("Display width in Pixel" and "Display height in Pixel") for the visus.	CFG-2070 CD-813
-(* @TEXT_IMPLEMENTATION := 'ST' *) the above additional lines appear inside the code area of an "ACTION" when using the export functionality for a POU and importing the file again. every export/import adds an additional line. CODESYS version >=2.3.9.40 Workaround: delete the additional line	CD-802
-When a user is browsing the help files in CBP/AB->CODESYS V2.3 (e.g. Help for AC500 sys Libs) and in parallel opens a CODESYS V2.3 project without CBP/AB, the helpfiles disappear while the object tree still stays. Workaround: Close the Online help before open the standalone CODESYS V2.3 project	CD-796
-Window "Input assistant" not visible on Primary and Secondary monitor in case of PC with external Monitor configured as "Primary". Workaround: When your machine opens up a window on the invisible monitor, make sure that it's still selected. Now you can use the alt+space bar shortcut to bring up a positioning menu. Even though the window is on the invisible screen, the positioning window should pop up on the edge of your current display.	CD-785

Select the 'Move' option. At this point it is very *important* to use your keyboard arrows to move the window; the mouse won't work. But once you lock on to the window (by using the arrow keys just once) you can then use your mouse and it'll jump your invisible window to your current display.	
-If in Target settings dialog, tab "General", the option "Load bootproject automatically" is activated, after download of project with WEB visualization the message "Incomplete download of webvisu" appears and WEB visu will not work. In consequence, on download to PLC, CoDeSys transfers bootproject (boot.zip and webvisu.zip) to PLC, BUT it doesn't transfer webvisu files separately, as it is usually done on download. Workaround: Unselect option "Load bootproject automatically" or reboot PLC after download if using WEB visualization	CD-775 CD-815
-SysLibABBCfg.lib is added to lib manager (e.g. by configuring COMx to Modbus), even if already included. Workaround: Delete manually included library	CD-763
-WEB visu: Values of tables not shown or with wrong values using template function for columns. Workaround: use tables without "template" in webvisu	CD-761
-Size of external libraries not included in overall calculation. Workaround: Use file size dialog (Online -> Show File size)	CD-754
-Loading application to PLC in CODESYS V2.3.9.x when OPC-Server is running (with heavy OPC stress) can lead to error/abort loading. Error Message "Last online service 62…". In this case no project is loaded to PLC. Workaround: Download project again	CD-671
-If Alarm handling in PLC is activated in target settings the events are reset in Task configuration. Workaround: Assign the callback again in Task configuration	CD-645
-Trace does not work after adding task(s) in task configuration. Workaround: Save project, close and re-open CODESYS	CD-639
-V2.2.0: PS501 Setup (start_menu.exe) does not start with Norton Antivirus Workaround: Deactivate Norton Antivirus during setup	CD-634
-OPC server V3.x: no support of ARRAY OF DATE_AND_TIME and LINT Workaround: Don't use this data types for OPC variables	CD-626
-OPC configuration V3.x: It is not possible to define a default configuration and reset the OPC server to this configuration.	CD-625
-Import of Input mapping on existing project creates duplicate variables in Codesys. Workaround: Duplicate GVLs created by import need to be deleted manually.	CD-597
-Errors that occur in the WebServer are not displayed in the visualization in the browser. Workaround: In case of malfunction check your visualizations.	CD-568
-The user must be aware, that it is possible to create non-displayable web visualization with CoDeSys. If you use a lot of complex elements the web visualization might not work correctly. Workaround: Reduce the complexity of your web visu.	CD-560
-OPC Log is getting updated with UTC Time whereas PC is configured for GMT+x:xx Workaround: Check with UTC time	CD-541
-For webserver visualization xml files generated are stored in "<InstallDir>\Codesys v2.3\compile" which is a hidden folder. For PC based webserver user should copy xml files to Visu folder. Workaround: Since ProgramData folder is hidden, user should set "Show hidden files" checked in Windows Operating System to see files. Use function ""	CD-534
-CoDeSys Service Tool as of version 1.0.1.3 fails to upload (PLC->PC) source code of a V2.x project (source.zip). Workaround: Use CoDeSys instead of Service Tool.	CD-524
-Download (File->Download) of files with a size of zero bytes is not possible with CoDeSys Service Tool as of version 1.0.1.3. Workaround: Use CoDeSys instead of Service Tool.	CD-523
-CoDeSys Service Tool (CST) as of version 1.0.1.3 is not able to connect to PLC via serial interface (TK503/TK504). Workaround: Workaround: (a) Use Ethernet interface or (b) Connect to PLC with CoDeSys instead of Service Tool.	CD-522 CD-624
-Other Windows application might use the same ports as CoDeSys Gateway does. In very seldom constellation an online connection to the PLC cannot be established in this case. Workaround: Close all applications and first start CoDeSys and establish your connection.	CD-506

-CoDeSys visualizations must not be named COM1, COM2, etc. up to COM9. If visualizations are named this way CoDeSys does not generate an xml file for this visualization. The whole visualization does not work in this case. CoDeSys does not generate any notifications in this case. Workaround: Use other names than COM1 ... COM9 for visualization files. E.g. COMX, COM1_ or COM11 will work.	CD-447
-On a PC (XP or Windows 7) with more than one user accounts it is possible to create via a remote control application several active sessions. In each session an instance of CBP, codesys V2.3 opcserver and gateway.exe can be started. Every time a new gateway instance is started one or two error message boxes are popping up stating that port 1210 or 1211 is already in use. But after pressing "ok" the gateway instances are running. Workaround: Acknowledge message box to start the multiple instances.	CD-416
-For the OPC-Server V3.3.2.31 it is not allowed to use a serial gateway. Workaround: Use Ethernet Gateways	CD-412
-For the OPC-Server V3.3.2.31 it is not allowed to use a serial gateway. Workaround: Use Ethernet Gateways	CD-404
-With OPC Server V2 it is not possible to browse tags with standard user rights Workaround: - use OPC Server V3 for Windows 7 - stick to release notes for handling instructions: 1. Admin right is required to run "OPC Configurator" 2. In DCOM Configuration of "OPC Server for Codesys V2.0", Identity should be configured for Admin User in order to browse tags.	CD-386
-With UAC Enabled, "Show EDS" is not able to resolve the path to Virtualstore and hence not able to find file opened with "Show EDS" on EDS Configurator. Workaround: Please see "PS501 V2.1.0 compatibility with Windows 7 Enterprise 32/64 bit"	CD-379
-Sycon.net with Standard User right is not accepting new TCP/IP gateway connection. Workaround: Please see "PS501 V2.1.0 compatibility with Windows 7 Enterprise 32/64 bit"	CD-365
-The setup is tested with virus scanner McAfee. In case of any problems during the installation process please temporarily disable your virus scanner. Workaround: In case of any problems during the installation process please temporarily disable your virus scanner.	CD-306
-The online help documentation for Italian, Polish, Russian and Portuguese is not available for CoDeSys. For these languages CoDeSys comes up with English online help.	CD-305
-The file size menu is not available in Chinese version, thus missing functionality. i..e the menu contains a blank row, pressing this area has no effect. Workaround: After switching to English the menu can be accessed.	CD-286
-If CoDeSys is controlled by a command file and is started with the command line option /batch it might not work or might crash. Workaround: In such a case execute the commands from the file "CoDeSys.bat".	CD-250
Libraries:	
-CAA File: FILE_Write doesn't behave like other CAA File POUs regarding xDone and xError on timeout - xDone = TRUE and xError = TRUE. Other CAA File Blocks, like File_Open only set xDone OR xError. Workaround: Consider this behavior in application	LIB-382
- SysLibVisu VisualObjectType: documentation issue inside 3S help section "Programmability" component "bInputDisabled": - Column Effect: "if FALSE: Inputs in category 'Input' are ignored" -> should be: "if TRUE: Inputs in category 'Input' are ignored" - Column Example: "vis1.bInputDisabled:=FALSE;" -> should be: "vis1.bInputDisabled:=TRUE;" Workaround: Consider this behavior in application	LIB-244
-SysLibVisu VisualObjectType : documentation issue inside 3S help: dwTextFlags must be encoded in hex (e.g. 16#24 -> center both horizontal and vertical) instead of decimal (as it is documented). Workaround: Consider this behavior in application	LIB-243
-SysLibVisu VisualObjectType : not possible to use stTextDisplay for setting a text to the visualization Workaround: Consider this behavior in application	LIB-242
-SysLibVisu VisualObjectType: parameter nAngle doesn't work. Workaround: Consider this behavior in application	LIB-241
-FB PNIO_WRITE and PNIO_WRITE_EXT: If the input "DATA" has value "0" the output DONE will never set to true.	LIB-188

Workaround: set input DATA to a valid value	
-Parameter FILE_UNPACK_USE_ABSOLUTE_PATH_SAVED_IN_ARCHIVE does not work on archives including drive specifiers. Workaround: Use only archives without drive specifiers in path information	LIB-118
-The input EN isn't processed by the FBs CNT_CS31_EXT, CNT_DC551 and CNT_IO. Workaround: Due to compatibility FBs cannot be changed. The counter specific EN_X pins work.	LIB-110
-The function block ECAT_GET_DCLK_DEVI does not function correctly in most cases.	LIB-106
Firmware:	
CANopen: after STOP - START of PM5xx CM578-CAN sends OLD values to CI58x => DOs go on for appr. 2s Workaround: Switch off/on CI58x together with PM5xx	CPUFW-1558
C-Code: ANY task that is created with SysTaskCreate doesn't care about E2 / stopping the PLC. Workaround: must be handled in user application	CPUFW-3299
C-Code: Online change of project with C-Code library leads to crash of PM5xx. Workaround: Do not perform Online change when using C-Code. Unselect option in CODESYS target settings / General -> Online change	CPUFW-2773
C-Code: Interpretation of plain char type as unsigned: DIAB: -> Default is unsigned char GCC: -> Depends on ABI: unsigned char as defined in PowerPC EABI IEC: -> BYTE and BOOL default to unsigned char Workaround: Default is unsigned char	CPUFW-2423
CPU param: CPU parameter: Behavior of outputs in stop = Off in hardware and online". In stop mode the actual state is shown when the stop is caused by IEC program (e.g. with POU DIAG_EVENT). If E2 (or other error causing the PLC to stop) is NOT generated from IEC task context IEC and IO outputs behave as expected (set to zero). Workaround: If DIAG_EVENT is called from a separate task this problem does not occur.	CPUFW-1977
CS31-Bus: In case of connection of AC31 modules like 07AC91, 07AI91, DC91 to CS31-Bus of COM1 and/or COM2 of CM574-RS, PM5xx-eCo, PM57x or PM58x a lot of bus errors occurs. Sometime this modules disconnects and reconnects. S500 modules don't show such effects. Workaround: use devices out of actual S500 assortment or use CPU PM59x	CPUFW-1833
Diagnosis: CS31-Bus: devices 07DC91/07DC91-AD - an overload (=short circuit) should generate an error 47 according to the documentation but it generate error 46 Workaround: use error number 46 for overload (=short circuit)	CPUFW-3310
Diagnosis: After the reboot of a PLC with boot project triggered by • a power cycle or • the PLC-Browser command "reboot" and continues process voltage for the IO-Modules the IO-Modules connected on the local IO-Bus might generate a diagnosis message "Overflow Diagnose buffer IO Modul x" (Detail: E4 9 14-<ModulNummer>-31-31). It might occur for the IO-Modules AI531 V2.5 and V2.9, CD522 V2.5 and DA501 V2.5. Workaround: The message can be ignored. Exchange the effected IO-Module with a module with Firmware version V3.07 or higher.	CPUFW-1980
Diagnosis: The CM574 generates an invalid diagnosis message (4 / 9 / 30 / 1 / 0 / 2) with the restart after a module crash. Workaround: This message can be ignored and acknowledged, the functionality of the CM574 is fully given.	CPUFW-1719
EtherCAT: When the EtherCAT communication module CM579-ETHCAT has an erroneous configuration or no EtherCAT device is on bus, then CPU stops communication with the PC. CODESYS shows the message "Communication Error". Workaround: correct EtherCAT configuration and connect at least one EtherCAT device.	CPUFW-2364
Ethernet:	CPUFW-3196

Ethernet/CM597-ETH: configuration error when BOOTP and DHCP selected Workaround: use BOOTP or DHCP	
Ethernet: Modbus TCP: different handling of OBM time in CM577-ETH and Onboard Ethernet: CM577-ETH: OMB time only for Modbus client (ETH_MOD_MAST) Modebus server has a longer (not configurable OMB time) Onboard Ethernet: OMB time is the same for Modbus client and Modbus server. Workaround: Use an additional CM577-ETH to have two different connections with different OMB times.	CPUFW-2877
Ethernet: In very seldom cases a PLC might not be able to establish Ethernet communication. This occurs only if the Auto Negotiation functionality is enabled. To reestablish the connection again unplug and plug the cable again or reset the connected switch. Workaround: Disable the Auto Negotiation functionality and use fix communication parameters.	CPUFW-1051
File handling: CAA_File library: FILE_DiskStatus returns INVALID on disks that are not ready Workaround: check for "INVALID"	CPUFW-3269
File handling: CAA_File library: FILE_ArchiveAddFile archives an empty file with pack option FILE_PACK_WITHOUT_PATH with path	CPUFW-3267
File handling: SysLibFile library: As of V2.3.x, dtLastAccess.time is always 00:00 on call of SysFileGetTime() Workaround:	CPUFW-2833
File handling: CAA_File library: FILE_MOVE abort does not work incase of calling FB with xExecute:=FALSE immediately after set parameter ABORT. Workaround: Wait some time, before calling FB with xExecut:=FALSE	CPUFW-2642
File handling: CAA_File library: At the moment only 20 CAA FB can be started in the same time (xExecute is TRUE).If user tries to start any further FB, the error code 5082 is provided, which is AsyncMgr error code. Error code should be replaced by FILE_ERROR code. Workaround: Do not use more than 20 CAA file POUs at the same time.	CPUFW-2516
File handling: For all files system the user has to consider the overhead from the file system handling ... Workaround: Fill a file device only up to 90%	CPUFW-1899
File handling: POU File_DirRename:Renaming of directories with open files is not prevented by the PLC Workaround: check for open files before renaming	CPUFW-1430
IEC code: Floating Point PM59x: DINT_TO_LREAL(16#80000001) => result is positive value Workaround: use DINT_TO_LREAL (-2147483647)	CPUFW-270
IEC60870: IEC60870-5-104: Configured a substation and a control station on one PLC (PM595-4ETH). Both interfaces in same subnet. Trying to connect primary interface listing socket from local address fails. Connectiong secondary address (2nd interface) works. So local connection fails, not even an accept is reported. Loop connection on one interface does not work. Workaround: Loopback connections are currently only possible on the loopback interface (127.0.0.1) and not on any other IP-Address/Interface. Even for testing a local IP address can't be connected from the same interface.	CPUFW-3344
IEC60870: Telecontrol: (IEC60870-5-104) connection does not function properly after a long cable break Workaround: restart PLC after long cable break	CPUFW-1433
Modbus: Modbus TCP: operator panel with update time=0 (as fast as possible) can disturb CS31-Bus and Profibus communication	CPUFW-2219

Workaround: set update time of operator panels to 100-200ms	
Modbus: Ethernet: When communicating from the PLC with a Modbus-TCP device via the onboard Ethernet interface the first communication requests fail until the PLC established the connection. The function block MOD_ETH_MAST returns with an error. Workaround: Assure in the application that a following request will only be started if the first request succeeded.	CPUFW-1633
Online access: Online access via 3S drivers "Tcp/ip" and "Tcp/Ip (Level 2 Route)" is no more possible via CM577-ETH and CM597-ETH Workaround: Use driver "ABB Tcp/Ip Route AC"	CD-918
Online access: Download: Declaration of a high number of VAR RETAIN PERSISTENT variables leads to logout and takes a very long time (e.g. for 64 kB >20 minutes!) Workaround: use %R area instead of VAR RETAIN PERSISTENT	CPUFW-3230
Online access: Combination PM5xx V2.0.6 and CM574-RCOM V2.1.3 does not work. Any download to CPU causes crash of PLC. Workaround: update CPU with compatible FW via SC card	CPUFW-2207
Online access: In case Control Builder Plus and CoDeSys are connected simultaneous to a PLC and in the PLC-Browser the command "?" to list all possible command not all commands are listed. Workaround: Enter the ""?"" command again.	CPUFW-1826
Online access: Online access serial: All applications (e.g. CoDeSys V2.3.9x, Control Builder Plus online mode, OPC-Server, ...) which want to communicate to one or several PLCs must use the same serial communication driver if they want to communicate at same time. Workaround: use the same serial driver for all connections	CPUFW-1746
Online access: When a PLC is configured with a long time out until PLC goes to run (e.g. SNTP is configured to wait for SYNC before Run or MaxWaitRun for a coupler and bus not coming up) and when START is executed before the condition for switch to RUN is reached, CoDeSys looses connection. After logging in again everything works fine. Workaround: Reduce the ""Wait for synch"" time or/and the MaxWaitRun time for the coupler modules.	CPUFW-1650
Online access: communication error in case of AC500-eCo CPU and 10 S500 extensions on I/O-Bus Workaround: Use default settings for online access (19200 baud)	CPUFW-1529
Online access: Display of the task priority shown not the correct value for interrupt task -> It is not the shown value of the bootproject! Workaround: No workaround. Interrupt task: Shown priority is the internal operating system priority	CPUFW-1072
POU: POU PROD_DATA_READ does not work with incorrect input handling. Workaround: correct input handling	CPUFW-2414
PROFINET: different behavior in case of PROFINET Bus error on CM579-PNIO: 1. loss of 1 IO device - inputs of this device = 0, other updated 2. loss of all IO devices --> last values for all inputs in online mode, in HW outputs are off Workaround: Check state of slaves with POU PNIO_SYS_DIAG	CPUFW-3224
RCOM: TLS>0 does not work with dial up modems Workaround: use HSM Eco Modems for dial up connections	CPUFW-2410
SD card: CM574 / sdappl In addition to zipped Boot project the file *.chk is copied on SD card. Workaround: ignore the *.chk file	CPUFW-1709
SD card: SD card write protection function is not available for AC500-eCo CPUs Workaround: SD-card write protection is not evaluated by AC500 CPUs. Write protected cards can be overwritten. Protect the SD card by yourself.	CPUFW-748 ECOHW-11

Service tool: CoDeSys Service Tool as of version 1.0.1.3 is not able to connect to PLC via serial interface (TK503/TK504). Workaround: (a) Use Ethernet interface or (b) Connect to PLC with CoDeSys instead of Service Tool.	CPUFW-2012
SMTP: AC500 does not consider time zones. Workaround: If you are sending an e-mail from the PLC and the time zone is relevant add a note in the content of the email.	CPUFW-1727
System: DWORD_TO_REAL conversion: different result in PM59x and PM55x/56x/57x/58x: DWORD_TO_REAL(4294967295)=4.29E+09 in PM59x and -1 in the CPU types without FPU. Workaround: use DWORD_TO_DINT to get signed value in PM59x	CPUFW-2222
System: REAL/LREAL: PM5xx throws an alignment exception if a floating point instruction tries to access memory on a NOT aligned address. Workaround: In case of usage of floating point variables on addressed areas %M and/or %R address must be dividable by 4 for REALs and by 8 for LREALs.	CPUFW-2017
Systemevents: only system events START and STOP are recommended to use. Workaround: Do not use other system events	CPUFW-2491
WEB server: Bitmap List does not work with WEB server 1. Create Visualization page for webserver 2. insert bitmap element 3. instead of defining path to the bitmap statically use "Bitmap variable" [STRING] that contains the path to a bitmap and which can be changed during runtime Workaround: Define path to the bitmap statically.	CPUFW-2806
WEB server: Webvisu is not downloaded to SD card via PLC browser command sdappl, if no bootproject is created and downloaded before. Workaround: - Download project - Create bootproject - Download bootproject - Perform command sdappl	CPUFW-2692
WEB server: zoom to vis command which includes references of placeholders is not working with webserver Workaround: 1. %s instead of $Placeholder$ in text menu 2. Dummy visu with reference to placeholders visu	CPUFW-2504
WEB server: Using "programming keywords" e.g. NOT, AND, ... in an input dialog title of a visu element leads to an compile error if they are written in small letters. E.g. "This is not used". Error is only generated at rebuild all. Workaround: write keywords in capital letters	CPUFW-2473
WEB server: In AC500 NONE_OR_CLIENTWRITELOCK is used and indeed it means "all Webclient can perform write access if the parameter CurrentWriteAccessClientId is -1". This behavior is missing in documentation. Workaround:	CPUFW-1837
WEB server: If a web visu contains invalid references to files (i.g. the referenced files are missing in the defined location) CBP generates an error message during the download of the project and hints which file is missing for download. On the PLC all files of the visualizations will be deleted and the web visualization cannot be used. Workaround: CoDeSys displays an error message which file of the web visualization is not available. In this case please correct the visu and download the project again.	CPUFW-1770
WEB server: Wrong configuration of tables (multidimensional tables configured out of different arrays) does not work with WEB server. Workaround: Use for each array an own table or define a multidimensional array to display in one table.	CPUFW-1643
WEB server: Watchlists could only be saved on user ramdisk and are deleted after restart of PLC.	CPUFW-1641

Workaround: Read watchlists via FTP before power off.	
WEB server: only one font can display on webbrowser, different with the font display on the CoDeSys visualization Workaround: Don't use different fonts in webvisu	CPUFW-1594
WEB server: ActiveX-Element display incorrectly Workaround: don't use Active-X element in webvisu	CPUFW-1593
WEB server: Alarmtables don't work on webvisu if "All alarm groups" is selected. Messages aren't displayed properly. Workaround: Don't select "All alarm groups"	CPUFW-1506
WEB server: the webvisu does not work correctly when multiple browsers on the same machine are connected to it. This yields unpredictable results because the two clients cannot be distinguished correctly when they are on the same machine. Workaround: Use only one client on one PC, panel,.. Workaround for Firefox: set MOZ_NO_REMOTE=1 via firefox -ProfileManager	CPUFW-1317 CPUFW-1418
WEB server: In WMF-file integrated text isn't displayed in visualization Workaround: Don't use WMF-file with integrated text	CPUFW-1310
WEB server: The following datatypes are wrongly displayed in the webbrowser with the mentioned formatting strings: byte with %i and %u, in both cases only the format letter (i or u) is displayed without the % sint with %s shows the two's complement when negative values should be displayed udint with %d shows a -1 if the maximum possible value of this datatype should be displayed udint with %i and %u, in both cases only the format letter (i or u) is displayed without the % dint with %i,only the format letter (i) is displayed without the % lreal with %2.9f shows the infinity sign if the maximum/minimum value of this datatype should be displayed udint with %s shows a -1 if the maximum possible value of this datatype should be displayed real and lreal with %s shows 0.0 if the minimum possible value of this datatype should be displayed lreal with %s shows the word infinity if the maximum possible value of this datatype should be displayed char with %c, only the format letter (c) is displayed without the % instead of a single letter Workaround: Don't use this datatypes in webvisu	CPUFW-1304
WEB server: option "Best fit in online mode" doesn't work properly Workaround: WEB server: Option "Best fit in only mode" is not recommended for web visualization.	CPUFW-921

Safety PLC - AC500-S:

Note 1: Before using the safety configuration and programming tools contained in Automation Builder, you must have read and understood the AC500-S Safety PLC User Manual (see www.ABB.com/PLC). Only qualified personnel are allowed to work with AC500-S safety PLCs.
Compiling and executing safety projects on SM560-S Safety CPUs require the purchase of a PS501-S license enabling package.

Functional changes / New features
Internal updates only - no functional changes

Bug corrections
Internal improvements only - more stable

Known problems
Refer to the latest version of AC500-S Safety User Manual located at http://www.abb.com/PLC

C/C++ Programming:

Functional changes / New features	
Improved standard and system libraries (FWAPI) - C standard library: Added C99 specific functions - System libraries: Added support for SysLibTask - See API documentation located in `<Automation Builder Dir>\CCodeToolchain\FWAPI\2.4\doc` for details.	**FWAPI 1.3.0**
Added basic support for C++ on PM590/591/592 Added support for GCC C++ compiler **Important:** RTTI and Exceptions are not supported yet. Added **limited** support for GCC Standard C++ library: C++ wrappers for standard C library **Important:** Other parts of GCC Standard C++ library are not officially supported, although they may work (Containers, algorithms). Especially, streams are known to not work at all!	**C/C++ Builder 2.4.0**
C/C++ POUs can be organized in folders C/C++ Functions, Function blocks, Data types can be organized in sub-folders in Automation Builder object tree	**C/C++ Builder 2.4.0**

Bug corrections	
Online change Online change is possible, if: Changes are limited to IEC application part Application is not compiled with C++ compiler Application doesn't make use of function pointers	**C/C++ Builder 2.4.0 using CoDeSys 2.3.9.46**

Known problems	
Runtime errors due to alignment problems on PM595 **Problem:** If IEC data structures are passed to C/C++ libraries as parameters, GCC might generate code that assumes the structure elements to be 8 byte aligned. Since this is usually not the case, the PLC might throw an alignment runtime error. **Note:** Other PLC types are not affected! **Workaround:** User should manually enforce structure elements to be 8-byte alignment by using padding structure elements.	**C/C++ Builder 2.4.0 using GCC 4.7.3**
64-bit return values of FUNCTION POUs not working **Problem:** C/C++ FUNCTION POUs that return a 64-bit fundamental data type (LREAL, LINT, ULINT, LWORD), are known to return corrupt data on PM595. **Notes:** PLC types with FPU (PM590, PM591 and PM592) are **not** affected! Non-fundamental data types with size >= 64-bit are **not** affected **Workaround:** Use a non-fundamental data-type (struct) or a fundamental data type != 64-bit (e.g. REAL instead of LREAL) as return value	**C/C++ Builder 2.4.0 using CoDeSys 2.3.9.46**

Control Panel – CP600:

Note 1: It is recommended to uninstall Panel Builder 1.80 before installing Automation Builder 1.1 Standard or Premium edition containing a newer version of Panel Builder 1.90

Functional changes / New features	*Version*
Panel Builder PB610: New Control Panels CP651, CP661, CP665, CP676 are supported Communication to ABB robot controller IRC5 is supported	**1.90.0.1058**

Bug corrections	*Version*
Panel Builder PB610: "ABB CoDeSys Serial" protocol: "RS485" removed from online-help Update of documentation of all communication modules and removal of references to products not related to ABB and not supported Corrections for the support of Intermec PB50 printer	**1.90.0.1058**
CP600 Integration Package: Various bug fixes and improvements in stability	**1.1.0**

Known problems	*Version*
Panel Builder PB610: When several versions of Panel Builder are installed side-by-side and one version is uninstalled the file association of ".jpr" files is deleted and the projects can't be opened anymore from Automation Builder or via double-click in file system on the project files Workaround: associate manually the file extension ".jpr" again after Panel Builder uninstallation with the desired installed Panel Builder version (Windows explorer "open with -> Choose default program…" on Panel Builder project files)	**Any Panel Builder version**

Programmable Drive:

Warning1: Before firmware version AINLx 1.5 IEC-programs writes/reads drive firmware parameters directly in internal scaling (Including input/output mapping). **The change to external parameter scaling shall take effect in drive firmware version AINLx 1.5 onwards.** In case of updating drive firmware to AINLx 1.5 please ensure correct functioning of the IEC application program. Check all firmware parameter write / read functions and mappings (drive interface) carefully. More information is available in Bug correction of System library chapter.

Note 1: In order to program ACS880 drive there shall be Application programming license (+N8010) loaded to drive memory unit. Please contact ABB representative. However firmware version AINFx 1.62.0.0 or older are not requiring license on drive.
Note 2: In order to get ABB Standard and System library visible disable *Enable simplified library handling* and *Hide system libraries* options in Library management Tools/Options/Feature.
Note 3: Drive composer pro version 1.6 or newer is recommend. See appendix 2 how to set Drive composer pro working parallel with Automation Builder

VERSION INFO	
ABB Driveware IEC programming package	3.5.4.1202
Automation Builder	1.1
Compiler version	3.4.4.30
ABB Standard library in project (AS1LB)	1.0.1.1
ABB System library in project (AY1LB)	1.9.0.7*
D2D communication library in project (AY2LB):	1.9.0.2*
Target FW:	AINFX 1.9x**
Target device ACS880_AINF_ZCU11_M_V3_5	3.5.4.1 (ZCU-11 /13)
Target device ACS880_AINF_BCU12_M_V3_5	3.5.4.1 (BCU-12/02/22)
Target device ACS880_AINF_ZCU12_M_V3_5	3.5.4.1 (ZCU-12 /14)
Target device ACS880_AISF_BCU12_M_V3_5	3.5.4.1 (BCU-12)
Target device ACS880_AISF_ZCU14_M_V3_5	3.5.4.1 (ZCU-14)

*) Target ZCU-11 is having library 1.9.0.5 and is not supporting D2D communication library.
**) Target ZCU-11 only AINF4 1.62.x.x supported

Functional changes	
ABB Drive ware IEC programming package New parameter description file for ACS880 firmware version AINLX 1.9x added to Drive Interface.	**3.5.4.1202**
Firmware Supports cleaning of the firmware pointer parameter mappings to old application code (output) in case new application loaded. Otherwise pointer parameter mappings settings of the old application may cause unexpected behavior as pointing to random value.	**AINLX1.9**

Bug corrections	
ABB Driveware IEC programming package **APEM** No more "Error object reference not set to an instance of an object" after changing a bit number of the added bit list - row in Parameter creation -window. (Jira DAE-539) After save, close and open the project, selection list rows can be added. The names of added rows are correct. (Jira DAE-544)	**3.5.4.1202**

There is still some problem when deleting selection list rows. See more appendix 4 and Jira DAE-826. Selection list default value was not updated when changing between parameters. Also after opening a project the selection list default value was empty and user had to change selection list before it was populated. These default value editing problems of the selection list type application parameter were fixed. (Jira DAE-614, BZ9460) . The handle string and the bit index are in sync now. Bit handles are updated when the parameter index changes. So if the application has several bit list parameters it might no more happen that there are two bit handles with the same name. It caused XmlDeserializationFailed –error. (BZ7569)	

Known problems	
ABB Driveware IEC programming package Use of too many VAR TEMP definitions in program code will lead control board booting. (BZ9985) In case the pointer parameters of Master follower functionality (62.01-03) or with Fieldbus process data mapping (53.01-10) are linked to application parameters the application download to RAM memory fails. REMEDY: In order to load application to drive M/F link and fieldbus process data writing shall be stopped. (BZ4871) Create Boot Application -download of the application fails if the Drive composer pro monitoring is running at same time. REMEDY Stop monitoring and repeat download. (BZ8515) Drive parameters of data type POINTER (REAL) can be assigned to IEC variables of arbitrary type (BOOL, UINT, TIME etc.). Doing this does not give any error messages in CBP. It is even possible to create a boot application. If the boot application is created, the drive gives error message "Application loading: 64A4" (in CBP and Control Panel). Such a problem does not exist with data type POINTER (BOOL) drive parameters. (BZ9213) User set (see parameter 96.10-13) are not cleaned in case the new application program is loaded. There can be FW parameters with value pointing to old application and this may cause unexpected behavior as the FW parameter is pointing to random application memory location. Inspect loaded user set that there are no parameters having value *Application ptr* without having corresponding mapping in new application Drive Interface(BZ9970).	**3.5.4.1202**

Drive Manager:

Functional changes / New features	***Version***
- ACS580 drive support added - ACS550 RETA support added. - Fault/warning texts are available instead of numerical code - Connection is not disconnected automatically if the fieldbus related parameters are changed.	**1.1.0**

Bug corrections	***ID***
Drive Rating is not displayed(Empty) in the DM	DAE-118
(ACS880 Multi language support) Multi language : Few thing are not changing to German After changing the CBP to German	DAE-119
FIO-11 and FIO-01 is lacking for ACS880	DAE-346
Drive Manager export file for Drive Composer (entry) cannot be imported/exported.	DAE-419
Drive Overview shows Connected status for a drive having station address mismatch.	DAE-553
When more than one parameters are monitored and one is made invisible for a while, then "index out of range" error is thrown while exporting to CSV	DAE-622
When a single parameter data samples are exported to CSV, the first sample is improper.	DAE-633
Cannot import parameter in Drive manager	DAE-652
Import of ACQ810 is not working	DAE-692
AB showing errors in 200 group all parameters of ACS880	DAE-662
ACS880 BCON drive can't be connected to using drive manager.	DAE-554
Drive Manager tab doesn't not appear for ACSM1 Motion Drive	DAE-615

Drive management is not working for firmware for UMF1183 for ACSM1 motion on communication Profinet_IO	DAE-611
Profinet not working properly for Drives	DAE-822
When we connect Drive in Drive Manager it is showing "Communication error during login" Popup message	DAE-823
Mouse click on column header in monitoring view throws exception in drive manager	DAE-799
PROFINET slave devices from ABB Oy must be updated	DAE-1062
Drive Manager cannot connect with PM595 via intern. CM579-PNIO - V2.7.0.20	DAE-1053
Drive Manager creating Unhandled Exception error in online	DAE-1047
Error is displayed on adding Visualization to ACS880	DAE-1026
ACS880 - Status symbol not showing in Drive Manager for Particular firmware version	DAE-1015
ACS880-Not working with build 708 for particular firmware version	DAE-1012
Drive Status Icon not updating in Drive Manager device tree	DAE-880
Possible to edit the parameters of Project in the Parameter Group 51(Panel Comm)	
Parameter difference are not showing properly	
While monitoring if user changes certain settings as max limit/min limit and then he adds few more parameters to be monitored, the user settings are not anymore restored to default.	
Profinet Modules not allowing Drive to Connect in online	
Drives configured with two different PLC ,when we log out any one PLC ,it disconnects drives in other PLC in Drive Manager	
There is no title for the message window.	
PROFINET slave devices from ABB Oy must be updated	
PPO-PNIO module mapping loosing variables data for Drive in Profinet "while open 2.3.1 backup with AB 1.1	
Not prepared to do write conversion for parameter" error crash message window	

Known problems	***ID***
Text is overlapping if larger font is selected. Workaround: Always use normal font.	DAE-448
Changing Drive type when PLC is in online mode- creating Unhandled Exception error Workaround: Should not update device configuration when PLC is online	DAE-718
Copy parameters from Drive to project and vice versa not working for some parameter	
Automation builder hangs and showing Blank screen, when Drives configured with Higher PPO sides and Monitoring is enabled.	

Servo Drives:

Note 1: Changes for Servo Drives Package since from V2.3.1.8 to 1.1.0.X

Functional changes / New features	
MicroFlex e150 Firmware Support Add support for MicroFlex e150 firmware versions: Build 5713.8.0 Build 5714.4.0 Build 5715.4.0 Build 5716.2.0	**1.1.0**
MotiFlex e180 Support Add support for MotiFlex e180 servo drives. Supported firmware versions: Build 5809.3.0 Build 5805.4.0	**1.1.0**
Update to Mint WorkBench Mint WorkBench Build 5812 now included: Support for MotiFlex e180	**1.1.0**

Bug corrections	
None	

Known problems	
None:	

Drive composer pro:

Note 1: *Drive composer pro version 1.6.3. is incompatible to Windows XP and can't be installed on PCs with Windows XP as operating system!*

Note 2: *Drive composer pro version 1.6.3. is delivered only as part of Automation Builder.*

Functional changes / New features	
New version of startup and maintenance PC tool **Drive composer pro 1.6.3** is available. Version 1.6.3 is delivered only as part of Automation Builder.	**1.6.3**
Drive composer pro is for Common architecture drives such as **ACS580** and **ACS880**. When version 1.6.3 is used as part of Automation Builder it does not require a separate registration.	**1.6.3**
All parameter files are automatically embedded into the Automation Builder project, when launching Drive composer pro from Automation Builder	**1.6.3**

Robot Controller – IRC5:

Software requirements

Operating System	
Microsoft Windows 7 SP1	*32-bit edition*
Microsoft Windows 7 SP1 (recommended)	*64-bit edition*
Microsoft Windows 8.1 (recommended)	*64-bit edition*

Note: *RobotStudio 5.61 does not support Windows XP and Vista. The reason is that RobotStudio uses .NET Framework 4.5 which is not supported by XP or Vista.*
RobotStudio is not tested on Windows 8.1 32-bit edition, why it is not added to the list of supported operating systems. However, at the time of writing, there are no known obstacles that prevent RobotStudio to run on Windows 8.1 32-bit.

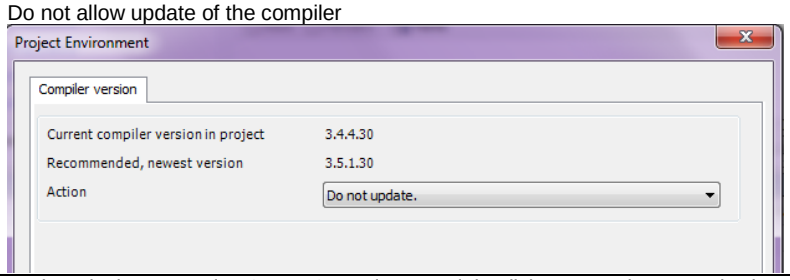
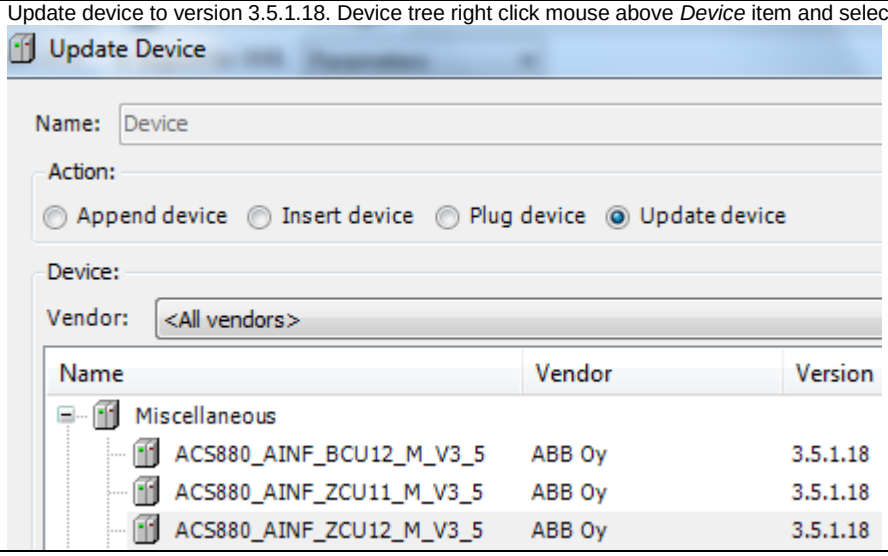
Details on release information for RobotStudio are listed in "Release Notes RobotStudio.pdf"

Bug corrections	*Version*
IRC5 Integration Package: - Various bug fixes and improvements	**1.1.0**

Known problems	
None	

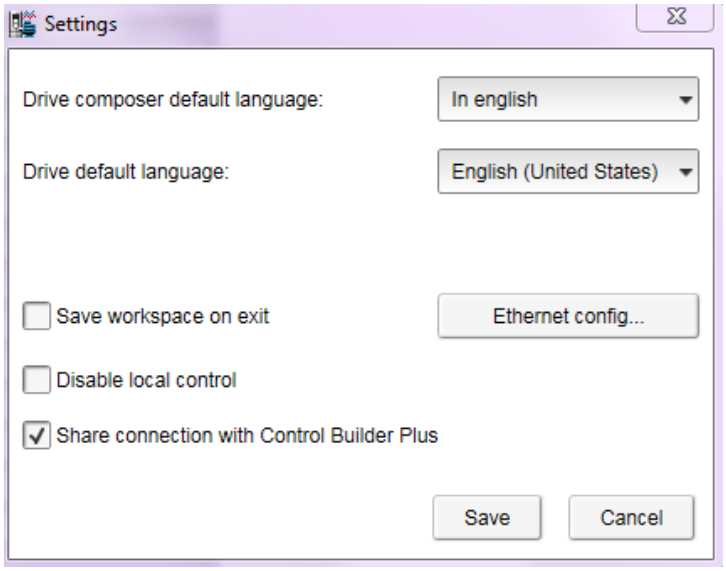
Appendix 1: How to open existing project archives after updating ABB Driveware IEC programming package

Upgrade instructions	
1.	Open the old project archive (File / Project Archive / Extract Archive) Select project archive file Select correct new location to extract this project

2.	Do not allow update of the compiler 
3.	Update device to version 3.5.1.18. Device tree right click mouse above *Device* item and select Update device. 
4.	Compile (Be aware that default ABB library names are changed and this may cause compiling errors as the same functions are found several libraries. Remove overlapping library installations)

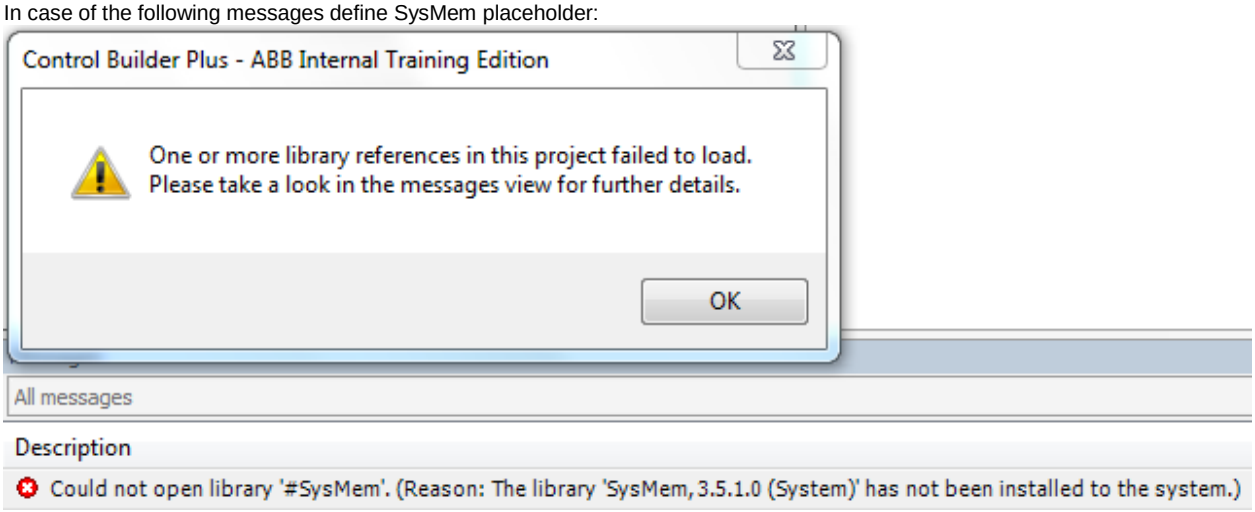
Appendix 2: How to use Drive Composer Pro and Automation Builder in parallel

In order to share communication connection with Drive Composer Pro the following setting must be active (*Share connection with Automation Builder*)

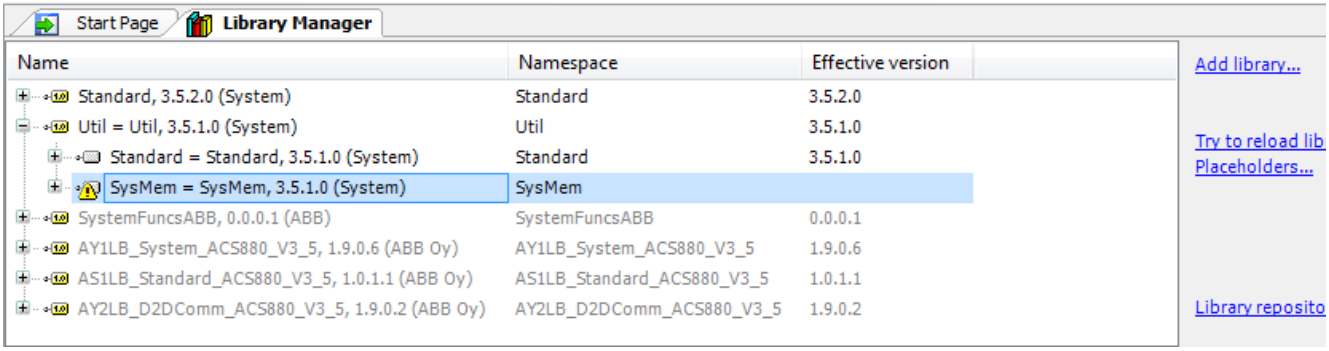


Appendix 3: How to define SysMem placeholder to existing projects using Util library

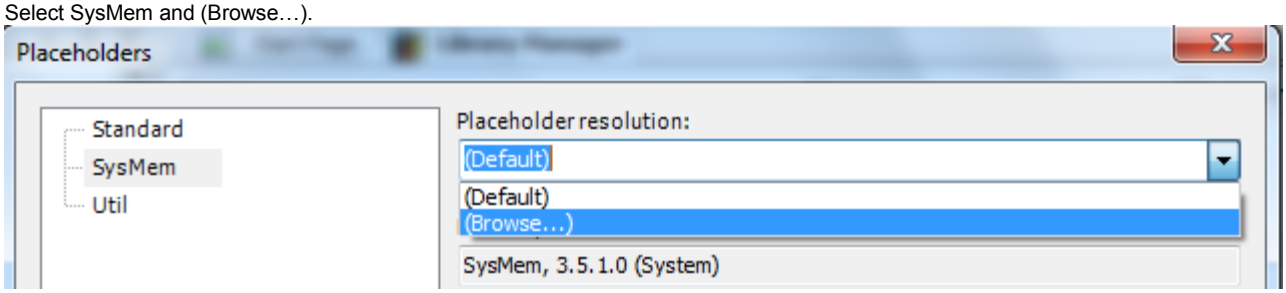
In case of the following messages define SysMem placeholder:



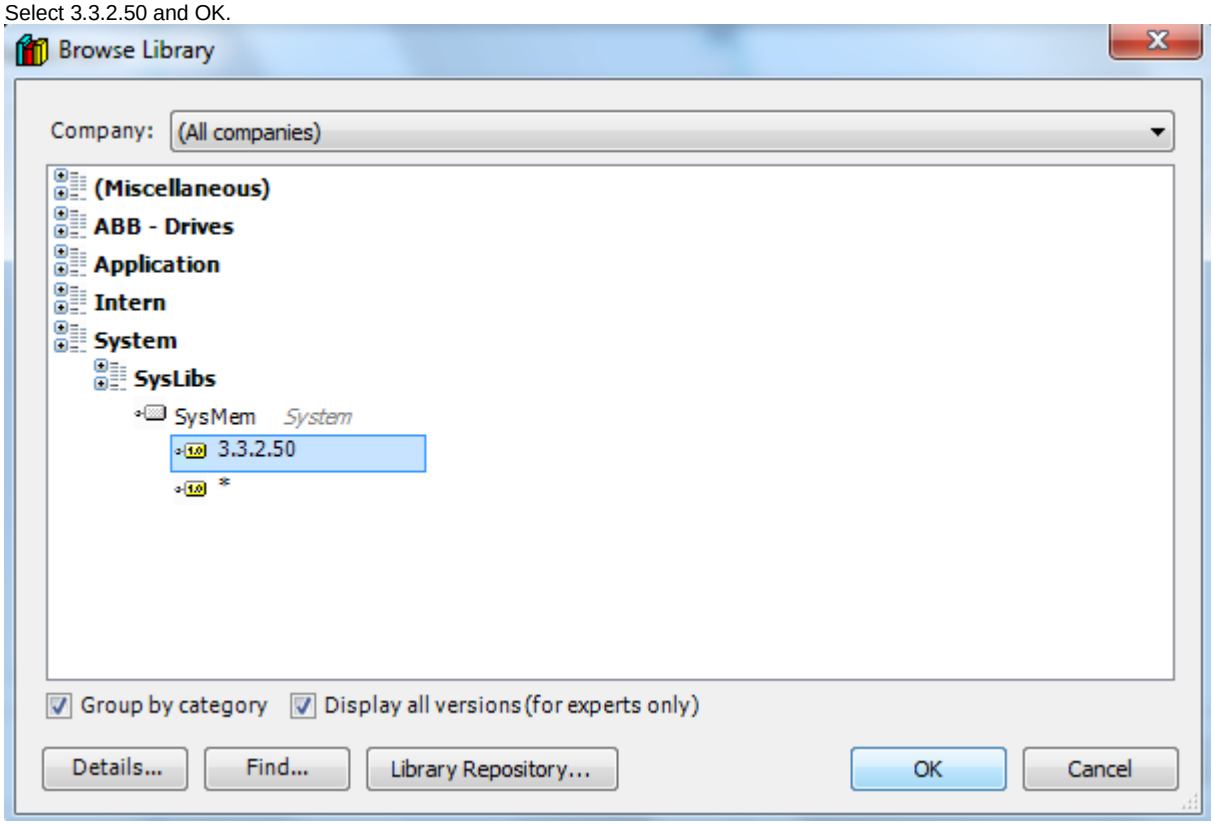
Select Placeholders…



Select SysMem and (Browse…).

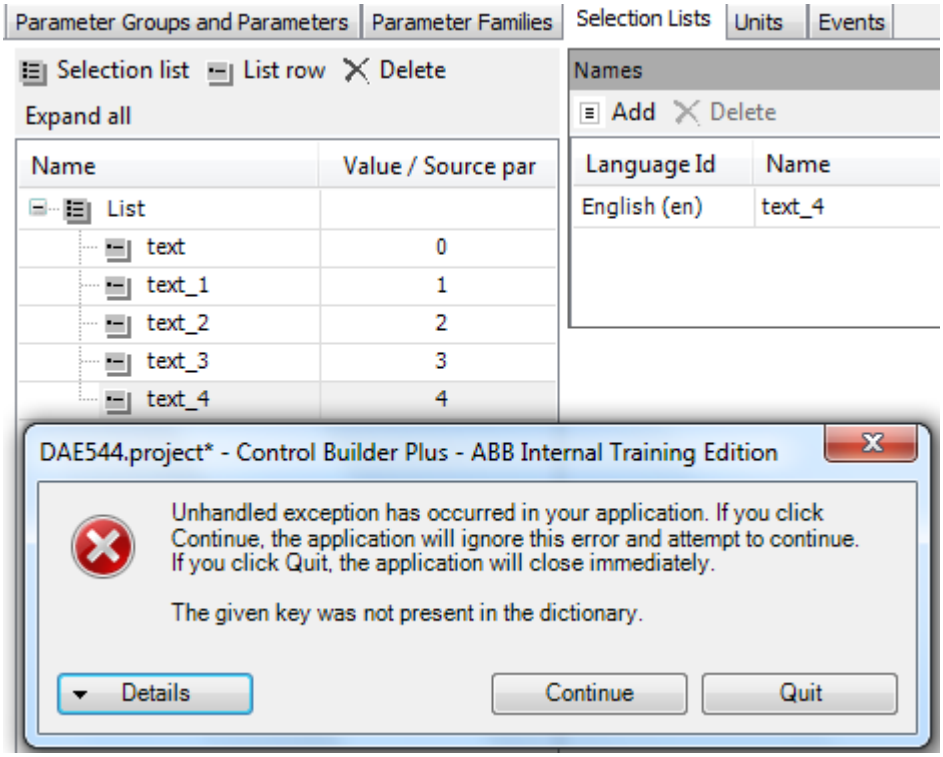


Select 3.3.2.50 and OK.



Appendix 4: Deleting an old list row from an existing selection list

If you try to delete a selection list row first after opening the project the following error message appears:



The row will be removed after clicking Continue and Delete once more.