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Welcome to ABB Automation Builder 1.2.0
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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: 14 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:

- Automation Builder 1.2.0 is not containing the Safety PLC – AC500-S feature for the latest version. AC500 Firmware V2.5 does not support functional safety components. For safety applications we recommend to install and use Automation Builder version profile 1.1 (which contains AC500 Firmware V2.4). For details please refer to section Safety PLC – AC500-S.
- 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 1.2.0 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.
  Please uninstall previous Automation Builder versions before installing Automation Builder 1.2.0.
- Automation Builder 1.2 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 1.2 via menu "Tools" → "Device Repository".
- Only the English documentation contains the latest changes for Automation Builder 1.2.0. All other languages (DE, FR, ES, CN) are available for Automation Builder 1.1. Latest documentation packages can be found on the ABB website: www.abb.com/plc → Download Documentation, then select your language.

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Changes in Automation Builder 1.2.0

The release includes 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: - SVN versioning support of Automation Builder projects: o Multi user engineering: Coordination of shared access for developers to objects within the same project o Online and disconnected offline workflows possible o Log of changes: It can be reproduced what changes have been made, when and by whom. o Difference view and merging between revisions o Restore of old revisions. Changes done by mistake can by undone at any time. o Archiving of specific revision of a project. It is always possible to go back to older versions. o Simultaneous development of multiple branches of a project - ECAD integration: o data exchange supports CS31 and third party devices o data exchange to Zuken E3 - Support of Automation Builder floating licensing: o Floating licenses offer to have an m:n ratio between number of licenses and number of users. o Spatial and temporal sharing of licenses between team members o Easy switchover between several workstations with a single license Remark: Special documentation available from ABB Support, covering installation, activation and configuration of the license server - Automation Builder setup improvements: o Faster installations and updates via parallelization o Disk space checks - Automation Builder Installation Manager: o Enable modifications of installed software including additional tools and customer specific packages - Usability Improvements: o Improved Device Editor via horizontal tab control o Improved Project Compare ▪ Project compare support for logical exchange global variable lists ▪ Multi-select in I/O mapping list ▪ Implementation of "Accept" on devices o Improved Device type overview via Device Information Tab - Performance Improvements IO Mapping for improved usability o Reduced loading time of IO Mapping Tab when bulk number of devices (or channels) needs to be supported o Improved refresh of IO Mapping Tab (after changes in Device Tree) o Improved performance of copy and paste actions - Documentation: o Unified help structure across IEC editor and device configuration o Single source help files ▪ Automation Builder Platform online help now also contains IEC61131 Editor online help ▪ IEC61131 Editor online help still existing for the scope of the IEC61131 Editor scope **Technology previews*:** o Open Device Integration: user friendly parameterization of ACS355 on Modbus TCP and Modbus RTU including storage of settings and application parameters **Solutions:** **Technology previews*:** o PackML support: ▪ quick start via a comprehensive and partly tailored template o Pump station configuration wizard: ▪ Creating pump applications via configuration ▪ Guidance through the preferred workflow	**1.2.0**

Known problems	*ID*
Pump station configuration wizard: Object disappears after PLC update or PLC target change Workaround: not available	AB-8203
Previous Automation Builder projects including third party modules will show question marks in device tree after project upgrade Workaround: use a project archive to upgrade projects to keep all third party device descriptions	AB-2240
whenever an ACS880 - IEC61131-3 device is added or deleted along with PLC and other objects ,subsequent delete operation of PLC and other objects throwing Language model error Workaround: confirm error message, no further issues are known	AB-8245
In SVN project versioning commit window, error message appears when double clicking on "Project Settings" node Workaround: not available	AB-7913
If higher CodeMeter versions than 5.10 are installed on your PC you have to restart your PC after Automation Builder 1.2 installation to make your Automation Builder licenses available again	

* Disclaimer: Technology Previews are designed to give you a sneak peek at upcoming technologies. They are non-final versions of our product and should NOT be taken as a measure of the fit, finish, capability, and overall quality of the final release (including user documentation). Technology Preview features can be removed without further notice. If you use the preview, you could experience things that go wrong, data that gets lost, and things to change. While we don't stop you using these versions in projects, we don't recommend it if you cannot afford data loss and the usual quirks of running preview software. It will not be possible to call ABB Support hotlines for help with Technology Preview features. If you are interested in getting support for a Technology Preview feature this can be done in the context of a piloting. In this case please contact us to set up a piloting agreement.

PLC - AC500:

Functional changes / New features	*Version*

AC500 Configuration:
- New device types:
  o PM585-ETH
  o CM550-DDCS:
  ▪ 2 x DDCS (Distributed Drive Communication System) channels
  ▪ Fiber optic as transmission medium
  o CM592-DP (replacement for CM572-DP)
  ▪ easy configuration update from CM572-DP to CM592-DP
  o PM595 with EtherCAT
- Condition Monitoring System (CMS):
  o Engineering of condition monitoring solution based on FM502
  o 16 fast sampling IEPE/+-10V channels with encoder connectivity for vibration analysis and machine monitoring
  o Library function for control and data analysis
  o Combination with other IO for e.g. temperature measurement
- AC500 Firmware Identification and Update via Automation Builder:
  o Identify firmware version on AC500 devices
  o Download of matching firmware by Automation Builder
- Advanced IO device handling: define structures (DUT) of devices
  o Productivity improvements: Modularity in hardware can be reflected in Automation Builder → Re-use during configuration and application programming
  o In general: Access to IO channels without need for defining individual mappings
- General CAN improvements:
  o New editor for complete PDO configuration (no modal dialogs)
  o Improved SVN support
- MultiOnlineChange Tool:
  o Enable parallel downloads to PLCs via multiple instances of MultiOnlineChange tool
  o Option to select up to 5 firmware files incl. file type (firmware, boot code, display, etc.) that are written to the PLC
  o The timeout to download one file and to reboot the PLC can be manually set (activation delay)
  o For firmware 2.4 and newer, the sdcard.ini is always written to the PLC
- Enable library licensing via WIBU licensing
 	
Technology previews*:
  o IEC Application Programming in Automation Builder
  ▪ Global variable lists (GVL), user defined data unit types (FUT) and structured text POUs can be added to application object in Automation Builder
  ▪ All objects are copied automatically to the IEC 61131 editor
  o Open Modbus RTU/TCP device integration based on ACS355
	2.5.0

Bug corrections	*Version*
Various stability improvements	**2.5.0**

Known problems	*ID*

Configuration parameters for Modbus TCP client do not exist in the Modbus-TCP client tab Workaround: Configure parameters in Modbus TCP server tab	AB-7928
Invalid use of character ' in alarm string leads to runtime exception on PLC Workaround: use $ as escape character for special characters (like ')	AB-6852
CODESYS project is still marked as dirty when changes are undone/deleted Workaround: check the changes and save/don't save project correspondingly	AB-4383
Drives below CM592-DP PROFIBUS coupler cannot be connected to Automation Builder. Error message "Unable to connect to drive" is shown Workaround: use instead CM572-DP	AB-8100
Copy/paste of communication protocol sub-trees (e.g. PROFIBUS) between two different parent node types (e.g. CM572-DP and CM592-DP) is only supported within one and the same Automation Builder instance: - If the protocol sub-tree is copied between different Automation Builder instances and with different parent node types, all parameters are set to their default values. - If the protocol sub-tree is copied between two Automation Builder instances, but below the same parent node type (e.g. CM572-DP to CM572-DP), all parameters keep their values. Workaround: use export and import functionality	AB-7822
ECAD import/export does not work for modular EtherCAT IO modules Workaround: not available	AB-7751
In case of INVALID task intervals (e.g. 0) just a warning is shown not an error Workaround: double check the settings and warnings	AB-7577
Parameters might get changed for third party modules in Device Editor (e.g. watchdog (ms) and VLAN Id) Workaround: not available	AB-7357
For CAN the check for double COB-Ids is not working properly. No error message is shown Workaround: double check COB-Ids	AB-7169
II_Settings are missing in project tree of Extension_Bus after merging projects via SVN Workaround: not available	AB-6937
Function Export Boot Project and Firmware (SD Card) generates invalid SD card image The AB1.2 functionality "Application-Node" -> "Export"->"Boot project and firmware (SD card)…" generates and SD-Card with invalid folder names for the PLC PM595-4ETH and PM591-2ETH. A PLC will not be updated with this SD Card. Workaround: The folder name can be corrected by editing the folder name in a file explorer. Please rename the folder names as follows: • SD-Card created PM591-2ETH for version V2.5 or higher ○ Rename the folder name \FIRMWARE\PM591-2ETH to \FIRMWARE\PM591_2.ETH ○ Rename the folder name \USERDATA\PM591-2ETH to \USERDATA\PM591_2.ETH ○ Edit the file sdcard.ini have and rename **all** folder names in the section [CPU] to PM591_2.ETH: ▪ Firmware=FIRMWARE\PM591-2ETH\2_5_1\Pm59xRD.gza ➔ ▪ Firmware=FIRMWARE\PM591_2.ETH\2_5_1\Pm59xRD.gza • SD-Card created PM591-2ETH for version smaller than V2.5 ○ Rename the folder name \USERDATA\PM591-2ETH to \USERDATA\PM591_2.ETH • SD-Card created PM595-4ETH for version V2.5 or higher ○ Rename the folder name \FIRMWARE\PM595-4ETH to \FIRMWARE\PM595_4.ETH ○ Rename the folder name \ USERDATA \PM595-4ETH to \ USERDATA \PM595_4.ETH ○ Edit the file sdcard.ini have and rename **all** folder names in the section [CPU] to PM595_4.ETH: ▪ Firmware=FIRMWARE\PM595-4ETH\2_5_1\PM595.gza ➔ Firmware=FIRMWARE\PM595_4.ETH\2_5_1\PM595.gza • SD-Card created PM595-4ETH for version smaller than V2.5 ○ Rename the folder name \USERDATA\ PM595-4ETH to \USERDATA\ PM595_4.ETH	AB-8419, AB-8421, AB8422
EtherCAT Firmware for an internal coupler of PM595-4ETH To use EtherCAT on an internal communication module of a PM595-4ETH the FW has to be updated via an SD-Card. Please download the installation package and follow the instructions: http://search.abb.com/library/Download.aspx?DocumentID=1SAP192000R4302&LanguageCode=en&DocumentPartId=&Action=Launch	

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AC500 Firmware:

Functional changes / New features	*Version*
○ Ethernet: ○ IEC60870-5-104: Variable Broadcast Address for General Interrogation FB from AC500 (AC500 IEC60870-104 type C_IC_NA_1). ○ System: ○ New CPU parameter "Task compatibility mode" with values: ▪ File Handling priorized for Idle CPU time (default/same as v2.4.x) ▪ Balanced Handling of Ethernet and file operations for Idle CPU time ▪ Ethernet Handling priorized for Idle CPU time ○ Support of CM5xx firmware identification and download from Automation Builder (AB) ○ Support of PM5xx firmware identification and download from Automation Builder (AB) ○ Display firmware V2.9 - extension for EC58x (Custom specific) ○ PM59x: Increased HEAP memory for CMS Signal Processing Lib (C-Code) ○ EtherCAT: ○ Support of EtherCAT slaves with several layers of submodules (e.g. Beckhoff EK1110) ○ Support of sync units ○ EtherCAT support on PM595-4ETH, internal couplers ETH3 and ETH4 can now be used as PROFINET master or as EtherCAT master. ○ Support of new devices: ○ New PROFIBUS DP communication module CM592-DP (as replacement of CM572-DP) ○ New AC500 CPU PM585-ETH ○ New AC500-eCo PLC PM566-ETH	**2.5.1**

Bug corrections	*Version*
- PROFINET: ○ PM595-4ETH shows configuration error in case of configuration of PROFINET for internal coupler ETH3 and/or ETH4 and external coupler CM579-PNIO in slot 1 or slot 2 and SM560-S. Fixed - File handling: ○ File handling in RUN mode of PM5xx (e.g. by CAA_File_, write Bootproject, ..) can limit the Ethernet throughput to guarantee volume. The can lead to timeout e.g. in Modbus TCP communication. Fixed - System: ○ Online change + RESET: Project with large structures with REAL/LREAL variables can lead to fault values after Online change and followed by RESET. Fixed ○ "IEC conversion function LWORD_TO_STR() doesn't work for numbers > (2^32)-1". Fixed - Webserver: ○ PM595-4ETH can crash when typing a LREAL Variable in Webvisu. Fixed - Online access: ○ Force will not be released when logged in via Ethernet and connection is broken (no logout). Fixed	**2.5.1**

C/C++ Programming:

Functional changes / New features	*Version*
- C/C++ Toolchain: ○ Now supports compiler optimization for size (-Os) - User interface: ○ Export of C/C++ library binaries for all PLC types - FWAPI: ○ Added wrapper functions for requesting unique identifiers from PLC (e.g. MAC address of onboard ethernet interface)	**2.5.0**

Bug corrections	*Version*
- C/C++ Toolchain: ○ Fixed link errors related to link-time initialization of struct members - User interface: ○ Fixed various errors in Automation Builder C/C++ user interface	**2.5.0**

Known problems	*ID*
Online change not possible with C++ libs Workaround: not available	AB-2127

Safety PLC - AC500-S:

Automation Builder 1.2.0 is not containing the Safety PLC – AC500-S feature for the latest version. AC500 Firmware V2.5 does not support functional safety components.

Resulting behavior: When opening a project that contains functional safety components in Automation Builder 1.2.0 the following error message will be displayed: "The project contains objects that are not supported by the current installation: AC500_S. Please install the appropriate packages."

Recommendations:
- New projects: For projects containing functional safety components install and use Automation Builder version profile 1.1 (which contains AC500 Firmware V2.4).
- Existing projects: Projects containing functional safety components shall not be upgraded to Automation Builder 1.2. Open and modify these projects instead in compatibility mode for previous Automation Builder versions. We recommend to install and use Automation Builder version profile 1.1 (which contains AC500 Firmware V2.4).

The functional safety feature for Automation Builder 1.2 will be again available with Automation Builder 1.2 Service Release 1.

Note 1: Before using the functional 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 functional safety projects on SM560-S Safety CPUs require the purchase of a PS501-S license enabling package.

Control Panel – CP600:

Functional changes / New features	***Version***
PB610 Panel Builder: - Tag dictionary: o Redesign of tag dictionary o New graphical interface for dictionary o Native support for complex data items like multi-dimensional arrays, structures - Data logging: o New data logging tools for collecting and sharing more data at the HMI level o Data acquisition and storage of multiple data items o Synchronous sampling of values with same time stamp o Improved data export for logged data to *.csv file format: Single table/file for multiple data items with the same timestamp - Recipes: o Improved operation with recipes (functionality, performance) o Add/delete data sets at runtime o Copy/paste recipe sets at runtime o No more necessity to specify the maximum number of sets for any recipe at runtime o Recipe data can be copied from/to USB device o File selection via browser o Recipe actions added to tracing support in audit trail o New system variables for recipe dump o Performance/reliability improvement for renaming recipe actions - Runtime: o Improvement of runtime performance o Optional compilation of components (page files) of the projects. Content of compiled files is transferred as binary format rather than a text (XML) format. o Reduced time for change pages at runtime - PB4WEB: o Option of designing pages for HTML5 web access - BACnet protocol: o The implementation of the BACnet protocol follows the B-OD device profile with the exception of AE-VN-A. - Ethernet IP protocol: o The Ethernet IP protocol can be added by means of an external plug-in, available for download. - Simatic S7 ETH protocol: o The Simatic S7 ETH protocol can be added by means of an external plug-in, available for download. - ABB Pluto protocol: o The ABB Pluto protocol has been improved for easier tag management with Pluto Safety PLC. - Media player widget: o For CP651, CP661, CP665, CP676: Play videos from a playlist for. o Storage of video files:USB drive, flash card or SD card. o Two types of widgets: One includes a multimedia frame for user control, the other is a plain frame without user control.	**2.0.0.161**

- Browser widget: o For embedding web pages into HMI device pages. o HTML5 compatible browser widget based on the WebKit engine. - Alarm management: o Remote acknowledgement of alarms - Multilanguage support: o Memory consuming fonts can be moved to external memory (USB/SD) - Java-Script: o Syntax-directed editor for Java-Script (auto-complete code coloring, highlighting - Macros: o New macros to upload/download files from remote client to the control panel. - E-mail: o SSL support for sending emails encrypted - PDF viewer: o For CP651, CP661, CP665, CP676: Launch of PDF viewer. - Touch screen position: o System variables for touch pressure that report continuously x and y position.	
Panel Builder integration into Automation Builder: - Panel Builder new project wizard is used when launching Panel Builder the first time for a new CP600 panel object - Panel Builder project rename in Automation Builder device tree possible - Panel Builder Project Information available in Automation Builder: o Fast access to project information without launching Panel Builder	**1.2.0**

Known problems	***ID***
Panel Builder fails to open from Automation Builder when any previous Panel Builder version is uninstalled Workaround: uninstall also the latest Panel Builder version via Control Panel and then run the Automation Builder setup again which is then reinstalling the Panel Builder version and fixing this problem	AB-4286
<user logoff and screen saver> Problem X: Keypad problems on Login page if screen saver is enabled and triggered before user logoff. Workaround: Do not enable user automatic logoff while screen saver is also enabled. Instead of that, add a LogOut action into the onStart event of the Screen Saver.	2.0.0.161

Control Panel – CP600-eCo:

Functional changes / New features	***Version***
PB610-B Panel Builder 600 Basic: Engineering software for configuration and programming of CP600-eCo control panels This software package provides the following main components and features: - Configuration, programming and commissioning of CP600-eCo control panels - Multiple communication protocols - Alarm management and historical alarm lists - User management and security - Data logging and trend presentation - Multilanguage applications - Powerful macro editor - Vector graphic capabilities - Support of multiple layers and object transparency - Remote access	**2.0.0.161**
Panel Builder integration into Automation Builder: - Same functionality as for CP600 panels	**1.2.0**

Known problems	***ID***
Panel Builder fails to open from Automation Builder when any previous Panel Builder version is uninstalled Workaround: uninstall also the latest Panel Builder version via Control Panel and then run the Automation Builder setup again which is then reinstalling the Panel Builder version and fixing this problem	AB-4286
<user logoff and screen saver> Problem X: Keypad problems on Login page if screen saver is enabled and triggered before user logoff. Workaround: Do not enable user automatic logoff while screen saver is also enabled. Instead of that, add a LogOut action into the onStart event of the Screen Saver.	2.0.0.161

Panel Builder 600 Runtime:

Functional changes / New features	*Version*
PB610-R Panel Builder 600 Runtime HMI Runtime software for Win32 platforms - Run your PB610 applications on Windows 32bit-based computers with the benefits of a powerful computing platform. - Fully compatible with PB610. - Supported protocols depending on the PC´s interfaces	**2.0.0.161**
Panel Builder 600 integration into Automation Builder: - PB610-R can be found in additional tools section of Automation Builder Installation Manager. Note: The Automation Builder License Manager must be used to activate a license for PB610-R	**1.2.0**

Known problems	*Version*
- USB adapter (e.g. USB ←→ RS-485 adapter) shall be connected to the target PC for serial protocols: If the USB adapter is unplugged and plugged to the target PC during operation, PB610-R will not automatically resume from the interrupted communication. Workaround: restart PB610-R	**2.0.0.161**

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 6.0 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"

The AutomationBuilder Addin in RobotStudio is now adopted to handle the RobotWare 6.x format.

Functional changes / New features	*Version*
Support for RobotWare 6.0x General: Since the data and format in the I/O configuration has changed in RW 6.x, the addin is extended to handle both new and old robotware versions (5.x and 6.x).	***6.02.6690***

Bug corrections	*Version*
IRC5 Integration Package: - Minor stability improvements	**1.2.0**

Programmable Drive:

Note 1: In order to program ACS880 drive there shall be Application programming license (+N8010) loaded to drive memory unit. Please contact ABB representative.
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 1.9 or newer is recommend. See appendix 1 how to set Drive composer pro working parallel with Automation Builder.

VERSION INFO	
ABB Driveware IEC programming package	3.5.515.1119
Automation Builder	1.2
Compiler version**s**	3.4.4.30, 3.5.7.0
ABB Standard library in project (AS1LB)	1.0.1.2
ABB System library in project (AY1LB)	1.9.0.8
D2D communication library in project (AY2LB)	1.9.0.2
Target FW	AINFX 2.30 (recommended*)
Target device ACS880_AINF_BCU12_M_V3_5	3.5.5.0 (BCU-12/02/22)
Target device ACS880_AINF_ZCU12_14_M_V3_5	3.5.5.0 (ZCU-12 /14)
Target device ACS880_AISF_BCU12_M_V3_5	3.5.5.0 (BCU-12)
Target device ACS880_AISF_ZCU14_M_V3_5	3.5.5.0 (ZCU-14)

*) If used with older firmware please check that parameters in Drive Interface are available in target and version 3.4.4.30 compiler must used.

Functional changes / New features	***Version***
There is available a support for F-series IO modules for IEC-programming purpose. Current there is available support for 5 pc of FIO-01 modules in fixed node DDCS addresses (5,6,7,8 and 9). These node addresses are dedicated for F-series modules which are located on external DDCS bus. External DDCS bus requires FDCO-01/02 or and FEA-01 modules to host FIO-01 module. Supported maximum number of I/O mappings to these modules is 100. As On-line help is not yet updated please contact ABB representative to get more detailed information of the use extension IO.	1.2.0
There is support for the newer compiler version. This compiler corrects the bug TFS-16752 and TFS-48371. Application programs compiled with this new version of the compiler can be used only on the drives which are having firmware version AINFx 2.3. or later.	1.2.0
The reporting of errors related to the application parameters and events is improved. The AB message window shall display details of errors. These errors are caused because of the inconsistent data created in application parameters and events manager. AB user interface is not able to block all cases to enter inconsistent data. See bug TFS-48409.	1.2.0
IecVarAccess library added. Compiler 3.5.7.0 uses it in case of Symbol Configuration.	1.2.0

Bug corrections	*ID*
Drive CODESYS compiler for ZCU-12 and ZCU-11 is not compiling the VAR TEMP type variables correctly. This causes drive to crash.	TFS-16752
APEM Parameter Family causing "XmlDeserialization" error while downloading. There is now better error message.	TFS-48409
Internal Error (C28x) invalid type size in case notation “result:= var1.2 AND var2.1;” is used. New version 3.5.7.0 of the compiler must be used.	TFS-48371
If you log out, close and reopen a project you have to rescan a node again even if it seems to be scanned and it was already scanned during previous session.	AB-4432
Different application parameter types (REAL/UDINT/UINT/...) with same family selected will not create boot application.	AB-4429
When parameters are reset to default in BCON, bit pointers to application memory can point to the wrong memory location. Fixed in ACS880 firmware AINFx 2.12:	TFS-32805
Decimal parts for Default, Minimum and Maximum -fields of REAL type application parameters are rounded (1.5 is rounded to 2, 0.3 to 0).	TFS-31622
Login to drive fails because the start-inhibit is not granted if the drive external start trigger type is **level** (par 20.2 and 20.7). There is now an instruction displayed: Change drive in local control mode.	TFS-31758
FW pointer parameter is disconnected from the application in case of restore to default and macro change commands with firmware versions 2.01.0.0.	TFS-21655
In case different data type Parameters with same Family Selected in APEM fails to Create Boot Application. Build error created.	AB-4429
Custom name of mapped parameter does not disappear after it becomes unassigned.	AB-3222
Wrong parameter value written to parameter in case of -0.0. When using functions MUL or DIV in IEC application the result may be -0.0. (0.0 x -1 = -0.0 or 0.0 /-1 = -0.0). In this case the written parameter value is negative maximum value instead of 0.	TFS-37415
PID_REAL function block version1.1 updated to ABB Standard library 1.0.1.2. If the high or low limit was reached, the PID calculation will be continued with allowed reference even if TC has value 0. In the previous version PID output was standing in high/low limit in case of TC value 0.	
Loading package remove option (3) of the application fails with Drive loader 2.1 in case the application is first loaded with Automation builder Create boot application -command.	
16-bit interface support is impossible to enable if the parameter belongs family.	TFS-18878

Known problems	*ID*
IEC program download to RAM fails in case fieldbus or other drive is writing to application parameters. REMEDY: Disconnect PLC communication or use option (Pro-level) to load application directly to permanent memory (ZMU).	TFS-40187
User Set’s may have incompatible parameter values if the drive is not having same original application. Saving User Set and loading it back loads all drive interface mappings back even if there is no application after reset origin. REMEDY: Use application loading package to remove incompatible User sets (option 4).	AB-6682
Pointer type of FW parameters which are linked to application memory are not cleaned from the User sets in case of some other application has been downloaded to drive and User set is loaded back. REMEDY: Use application loading package to remove incompatible User sets (option 4).	TFS-16751
Import parameter XML file in ApplicationParametersandEvent editor is not working properly. REMEDY: Use only Export XML.	AB-6645
Visualization of Tools object is not having content.	AB-4385
Total hiding firmware parameters option In Drive Interface has no effect.	AB-3933
Formatted parameters are not working properly.	TFS-17859
Create Boot application to multiple device fails before a login at least one device is done. This command is available only in Pro/In-house mode. Download interrupts to load Application.dat file. REMEDY: take a login to one device and logout after that multidownload works.	TFS-33155
In case selecting Function Type to “Signal” (readonly) and existing variable is Global (GVL) then parameter creation fails. Parameters are not fully available or drive trips to fault 64A3 and no parameters are created at all.	TFS-49494
Create Boot application to multiple device fails before a login at least one device is done. This command is available only in Pro/In-house mode. Download interrupts to load Application.dat file. REMEDY: take a login to one device and logout after that multidownload works.	TFS-33155
IEC Variable Scope "Var_CONFIG" is not supported.	TFS-48758

Drive Manager:

Functional changes / New features	*Version*

- Improved process data mapping with new “process data editor”
  o Process data selection made easy. Now data can be choose from a window where it shows all drive parameters.
  o Automatically create symbol names and descriptions after process data selection.
  o Change PPO type by keeping the symbol names and descriptions.
  o Generate default symbol names and descriptions
- ACS380 drive support for both PROFIBUS and PROFINET.
- New structure of drive object
	1.2.0

o Drive Management node is removed and now Process data editor, Drive Management, Monitoring tabs are available on drive device object. o Drive firmware selection can be made in Drive Management tab. - New Firmware support o ACS880 – AINFX 2.12.0.0, AINFX 2.21.0.0 o ACS580 – ASCC2 1.50.0.0 o ACS850 – UIFI 2900 o ACSM1 Speed – UMFI 1881 o ACSM1 Motion – UMFI 1881 o ACS550 – 316A	

Bug corrections	***Version***
- Process data selection window is behaving erratically for ACS850, ACQ810, ACSM1 drives. Unable to choose parameters from 40 to 99 groups. - All drive devices are not organized under Drives Category. - Drive status (Running/Stopped) & Mode of control in Drive Manager was not updating after changing Drive firmware when online. - Selected drive firmware is not saved in project file when reopened the drive manager always loads default firmware. - Process data symbol name is updated even when cancel button is clicked. - Selected firmware of specific drive is not shown in Drive overview window. - New Libraries ACSDrivesComPN_AC500_V24.lib for Profinet, ACSDrivesComPB_AC500_V24.lib for Profibus are not added to Codesys Library manager when Drive manager object is added. - Selected parameters are not visible in monitoring window for ACS380 drive. - Existing Process data variable name was deleted when check box “Overwrite PPO symbol names & description after changing process data” is unchecked in process data editor. - Drive Manager for ACS880 FW2.12 fails to fetch all parameters and looses communication frequently. - Process data variable names & descriptions are not saved in the project file after save -> close project -> open project file. - Automation Builder is crashed when user edit same bit pointer/ value pointer/ binary parameter twice in Drive Manager. - Text in drive manager is overlapping when non recommended resolution is selected.	1.2.0

Known problems	***Version***
- Drive Manager doesn’t go online with drive connected under CM592-DP module. Workaround: No workaround Use CM572-DP instead. - While going online with PLC focus is always changed to first tab of active editor and during logout always last tab of active editor is getting the focus. Workaround: No workaround - Drive Manager does not support FENA-21 Workaround: No workaround - No synch between Process data tab and Drive Manager’s FBA data in & data out parameter group with 32 bit parameters. Workaround: While configuring offline data in FBA data in & data out in drive manager if 32 bit parameter is selected then leave next parameter as empty. - When we connect multiple drives from Drive overview, it connects only one drive under some specific scenarios. Workaround: Connect drives one by one then it works.	1.2.0

Servo Drives:

Changes for Servo Drives package from 1.1.2 to 1.2.0:

Functional changes / New features	***Version***
Mint WorkBench: - Add support for EthernetPOWERLINK on MotiFlex e180. Can now be selected as a network CN in the system configuration wizard. - New Autotune test to measure or estimate the motor magnetizing current for induction motors. - Autotune options now have separate options per test. - General improvements to the Drive Setup and Operating Mode wizards. - Add confirmation on delete from Mint Library. - Add MotorPowerFactor API. - All files are now digitally signed as 'ABB Technology Ltd'.	**Build 5818**
Integration into Automation Builder: - File export dialog now shows modern folder view. (AB-7399) - Support added for SVN integration. (AB-4050, AB-4046, AB-4042) - Add support for MotiFlex e180 firmware Build 5815.3.0 and Build 5817.8.0	**1.2.0**

Bug corrections	*Version*
Mint WorkBench: - Mint WorkBench now includes resources for all offline MicroFlex e150 and MotiFlex e180 controllers. (AB-7244) - Mint HTTP Server tray control application now correctly checks for administration rights. (NCR06434) - Fix crash in Mint Machine Center when scanning MotiFlex e180. (NCR06387) - Add missing resolver resolution in the Drive Setup wizard for MotiFlex e100. (NCR06381) - Serial port baud rate is now correctly changed during scanning. (NCR06357) - Byte order for default gateway value now correctly set. (NCR06353)	**Build 5818**
Integration into Automation Builder: - Mint editor tab no longer blank if first opened whilst logged in. (AB-8170) - Only offline devices that can be connected to are shown in the change connection dialog. (AB-7897) - The connection status is correctly updated when opening and closing Mint WorkBench. (AB-7881, AB-7487, AB-4266) - A crash no longer occurs when launching an offline Mint WorkBench. (AB-7877) - Can now correctly delete Servo Drive objects from the device tree. (AB-7501) - Only one instance of Mint WorkBench can be started per Servo Drive object. (AB-7486) - Undo no longer causes the device tree to display incorrectly. (AB-7475) - Mint WorkBench installs correctly. (AB-7417) - User is correctly prompted on import when overwriting files of the same origin. (AB-7401) - Cannot now remove Servo Drive object whilst connected Mint WorkBench is open. (AB-6632) - File import does not cause a crash. (AB-4241)	**1.2.0**

Known problems	*Version*
Mint WorkBench: - Installation of Mint WorkBench is not silent. (AB-4087) Workaround: The security dialogs presented during device driver installation must be accepted manually.	**Build 5818**
Integration into Automation Builder: - Upgrading a project from AB 1.1 to AB 1.2 may not work correctly. (AB-6893) Workaround: Export the files from each Servo Drives object and then import into freshly added objects in the AB 1.2 project. - The Change Connection dialog can be blank.(AB-6541) Workaround: Using the Mint HTTP Server tray control, select Properties and open the Web link. When the servers' web page has loaded, check if any online or offline controllers are present. If the web page does not load: o Check for another service using the port (default is 8080) o Check that ASP.NET 4.5 is enabled. Check in 'Turn Windows features on or off'.	**1.2.0**

Drive composer pro:

Note 1: *New version 1.10 of startup and maintenance PC tool Drive composer pro is available.*

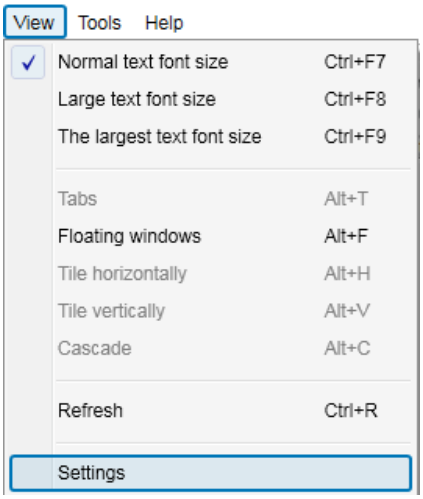
Note 2: *Drive composer pro is compatible with for common architecture devices such as ACS580 and ACS880 drives, DCT880 power controller, and PRO-33.0-TL solar inverter.*

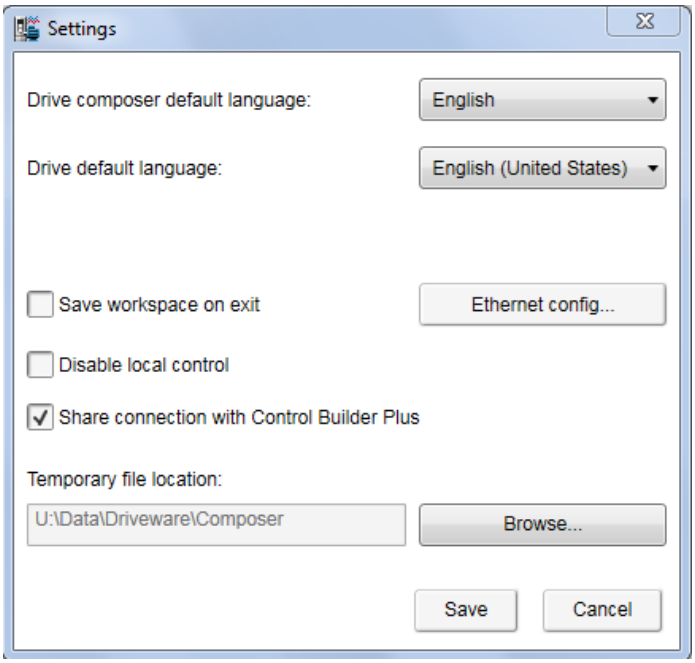
Functional changes / New features	*Version*
Drive composer pro: - Opening of a support package as file drive including parameters, event logger and system info - Enhancements in Adaptive Programming (ACS880 only) o Additional blocks o Parameter read / write - Support for HVAC drives (ACH580) - Drive type based control of available modules and features **Automation Builder integration:** - Embedding of FSO configuration into Automation Builder project	**1.10.0**

Bug corrections	*Version*
- Fixed database for FSO-12 fault AUX codes	**1.10.0**

Appendix 1: How to use Drive Composer Pro and Automation Builder in parallel

Update Settings of Drive composer pro to get it working parallel with Automation Builder (*Share connection with Control Builder Plus*).





Appendix 2: Release notes HA Library Package 2.4.2

The software Libraries in HA Library Package V2.4.2 have been tested with the following versions:

- Automation Builder V1.1, Firmware V2.4.2 (CPU and CM574), CI590-CS31-HA: Firmware T3.0.15
- Automation Builder V1.2, Firmware V2.5

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The error-free operation of the HA Libraries V2.4.2 with other products / software / firmware versions can not be guaranteed.

This README file contains important information about the library and it´s installation.

Changes in different versions

Previous library versions:

V1.0.0 HA_CS31_AC500_V13.lib	
V2.0.0 HA_CS31_AC500_V20.lib	
V2.3.0 HA_CS31_AC500_V23.lib (2013-12-11)	HA_CS31_CALLBACK_STOP updated from program to function
V2.4.0 HA_CS31_AC500_V23.lib (2014-04-29)	Support of more than one CS31 bus by using CM574, Bug fixes.
V2.4.1 HA_CS31_AC500_V23.lib (2014-10-24)	Adaptation for compatibility with new FW 2.4.0 (LIB-391, LIB-394)
V2.4.2 HA_CS31_AC500_V23.lib (2015-03-27)	bugs fixes (LIB-347, LIB-419, LIB-347, LIB-418)

Known limitations or bugs

- A list of limitations can be found in the online help: High Availability - System Technology - System structure - HA-CS31 Limitations
- CI590 Sync ERR LED is not blinking after switchover (manual). This is fixed with CI590 FW T3.0.15
- CI590 Analogue + Digital output compare is not working. This is fixed with CI590 FW T3.0.15

Installation and Update

The AC500 HA Library Package, Version 2.4.2 is part of the Automation Builder

Whats new in Version V2.4.2

- Support of more than one CS31 bus by using CM574 with new function blocks.
- HA_CS31_CALLBACK_STOP updated from program to function.
- New PID function blocks to use dedicatedly with Digivis Faceplates.
- Visulization for Control, Diagnosis and Synchronization function blocks.
- New HA system overview visualization.
- Increased total size of the sync entry array from 256 to 1024.
- Timer & RAMP Utility function block synchronisation gaps are fixed.
- fG_HA_PRIMARY, fG_HA_PM1_PRIMARY Variable status update issues are fixed.
- Adaptation for compatibility with new FW 2.4.0
- Several bugs fixed

Appendix 3: Release notes PS553-DRIVES 1.2.0

AC500 libraries for control and communication to ABB ACS and DCS Drives using ABB Drives Profile.

The software Libraries PS553-DRIVES V1.2 have been tested with the following versions:
ABB Automation Builder V1.1.2 / V1.2.0
AC500 FW versions V2.4.5 / V2.5.0

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Incidental or other damage that may result from the use of other versions of product / software / firmware versions.

The error-free operation of the PS553-DRIVES V1.2.0 with other
Products / software / firmware versions could not be guaranteed.

This Release Note contains important information about the library and it´s installation.

Changes in different versions

V1.2.0: (27.10.2015)
Added following new libraries (V1.0.0)
- DCSDrives_AC500_V24.lib
- ACSDrivesComPB_AC500_V24
- ACSDrivesComPN_AC500_V24
- ACSDrivesComModTCP_Ext_AC500_V24

Several improvements in the existing libraries
- ACSDrivesBase_AC500_V20.lib (V1.1.2)
- ACSDrivesComModRTU_AC500_V20.lib (V1.1.2)
- ACSDrivesComModTCP_AC500_V22.lib (V1.0.1)

Update of online help and examples

V1.1.7: (17.07.2013)
Corrections in PB / PNIO Example documentations - now version E
Added Presentation "PS553 Library Introduction and Exercises V34.pdf" and
ACS Drives - AC500 overview fieldbus connectivity.xls in folder "Examples\PS553-DRIVES"

V1.1.6: (17.05.2013)
Update of folder structure, documents and projects in Examples

V1.1.5: (03.05.2013)
Update of AC500 online help (CAA-Merger11.chm) - Version delivered with Control Builder Plus V2.3.0

V1.1.4: (12.04.2013):
Update of AC500 online help (CAA-Merger11.chm) including German translation.

V1.1.3: (03.04.2013):
Update of example documentations and AC500 online help (CAA-Merger11.chm).

V1.1.1: (16.01.2013):
ACSDrivesBase_AC500_V20.lib:
Bug fixes in existing visualizations for webserver use
ACSDrivesComModRTU_AC500_V20.lib:
Bug fixes in existing visualizations for webserver use
installshield:
Bug fix to install (setup) documentation without libraries

V1.1.0: (14.12.2012):
ACSDrivesComModTCP_AC500_V22.lib:
new library for Modbus TCP communication to all ACSxxx drives
ACSDrivesBase_AC500_V20.lib:
New function blocks for fieldbus independent control and scaling
Bug fixes in existing function blocks and visualizations
ACSDrivesComModRTU_AC500_V20.lib:
New function blocks for Modbus RTU communication to all ACSxxx drives
New function blocks for communication to generic slave devices used on same RTU line.
Bug fixes in existing function blocks and visualizations
Documentation:
Update of chm docu in CAA-Merger11.chm
Examples:
New examples for connection with Profibus, ProfiNet

V1.0 (10.12.2010):
Release for AC500-eCo and ACS3XX

Known bugs

- CANOpen is not working with FCAN module (AB-8046)
- Drive manager may be disconnected if user is using Profinet / Profibus DPV1 read write function block in PLC. (AB-8376)
- PrmType of ACS_PB_PN_PRM_DPV1_DATA_TYPE cannot be set via enum. Please use integer value (LIB-940)

Installation and Update
PS553-Drives library, documentation and examples are installed as part of Automation Builder installation.
User can also use the setup.exe file to start the Installshield.

The installation consists just of copying files, which can also be done manually.
Use the following instructions:

- We recommend copying the folder "PS553-DRIVES" to the standard library folders.
- Copy the folder "PS553-DRIVES" to the standard library folder
  - C:\Program Files\Common Files\CAA-Targets\ABB_AC500\AC500_V12\library
  - To update with a newer library version, just replace the old library file with the new one.
- copy the documentation file "CAA-Merger-11.chm" to the standard documentation folders
  - C:\Program Files\ABB\AutomationBuilder\Online Help
  - C:\Program Files\3S Software\CODESYS V2.3\Help
  - To update with a newer documentation version, just replace the old file with the new one.
- Copy examples for PS553-DRIVES to a folder of your choice or the standard examples folders under
  - C:\Users\Public\Documents\AutomationBuilder\Examples\PS553-DRIVES

Remark:
If the setup.exe is used older versions of the files will be overwritten.
If however the files that are already installed are newer than in the install package, they will not be overwritten.
If the older versions should be installed they have to be copied manually.

CONTENTS --> PS553-DRIVES package

1. Library files

There are following library files:

1. ACSDrivesBase_AC500_V20.lib (2015-10-27 V1.1.2)
   - Control blocks for ACSxxx drives using ABB Drives Profile
   - Scaling block
   - Read/Write blocks for Modbus (RTU + TCP)
   - General structures

2. ACSDrivesComModRTU_AC500_V20.lib (2015-10-27 V1.1.2)
   - Communication blocks to ACS and DCS drives via Modbus RTU
   - Communication blocks to generic slave devices via Modbus RTU
   - General structures for communication to generic slave devices

3. ACSDrivesComModTCP_AC500_V22.lib (2015-10-27 V1.0.1)
   - Communication blocks to ACS and DCS drives via Modbus TCP.
     PM595-4ETH and PM591-2ETH are not supported.

4. ACSDrivesComModTCP_Ext_AC500_V24.lib (2015-10-27 V1.0.0)
   - Communication blocks to ACS and DCS drives via Modbus TCP.

5. ACSDrivesComPB_AC500_V24.lib (2015-10-27 V1.0.0)
   - Communication block to ACS and DCS drives via Profibus.
   - Read / Write blocks for Profibus DPV0 and DPV1 and PZD.

6. ACSDrivesComPN_AC500_V24.lib (2015-10-27 V1.0.0)
   - Read / Write blocks for ACS and DCS drives via Profinet DPV1.

7. DCSDrives_AC500_V24.lib (2015-10-27 V1.0.0)
   - Control blocks for DCSxxx drives using ABB Drives Profile.

2. Documentation

The description of the function blocks
is located in the documentation "CAA-Merger-11.chm", in the folders
C:\Program Files\ABB\AutomationBuilder\Online Help
C:\Program Files\3S Software\CODESYS V2.3\Help
This online documentation file contains a chapter for each library of the package.

3. Examples

Programming examples and their documentation can be found in folder "Examples\PS553-DRIVES"

Note:
The examples have to be considered as one

Simple way of programming with the provided function blocks.
The initial values in the examples are adapted to the drive parameters used in the laboratory.

Appendix 4: Release notes PS563 Water Library Package 1.2.0

The software Libraries in PS563 Water Library Package V1.2.0 have been tested with the following versions:

- Automation Builder V1.0 (CBP 2.3.0), CPU-FW V2.3
- Automation Builder V1.1, Firmware V2.4.2
- Automation Builder V1.2, Firmware V2.5

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The error-free operation of the PS563 Water Library Package V1.1.0 with other products / software / firmware versions can not be guaranteed.

This README file contains important information about the library and it´s installation.

Changes in different versions

PS563 Water Library Package	LogData_AC500_V23.lib	PUMP_AC500_V23.lib	HMI Example	PSCT Pump Station Configuration Tool (Technology Preview)
V1.0.0	V1.0.0 (2013-10-24)	V1.0.0 (2013-10-22)	HMI_ACQ_V18_Example.zip	n/a
V1.1.0	V1.1.0 (2015-04-17)	V1.0.1 (2014-10-15)	HMI_ACQ_V191_Example.zip	n/a
V1.2.0	V1.1.0 (2015-04-17)	V1.1.0 (2015-09-15)	HMI_ACQ_V191_Example.zip	V1.0.0

Known limitations or bugs

LogData_AC500_V23.lib

- Not running on Eco
- CPU firmware must be V2.3.3. or higher
- Use SD card from ABB
- Maximum number of files (input of FB LOG_HANDLING) is limited to 500, if SD card is formatted with FAT16

PUMP_AC500_V23.lib

- (no known limitations)

HMI project for pumping functions in ACQ810

- Old version HMI_ACQ_V18_Example.zip: If the number of drives connected is less than three then Parameter values updating in CP600 panel might be slow. -> Fixed with HMI_ACQ_V191_Example.zip

Installation and Update

The PS563 Water Library Package is part of the Automation Builder. It can be selected as a Solution during installation.

Whats new in Version V1.1.0

- PUMP_AC500_V23.lib compatible with new CPU type PM595
- LogData_AC500_V23.lib: Bugs fixed (details in LOG_VERSION_INFORMATION)
- HMI example compatible with Panel Builder V1.91.0

Whats new in Version V1.2.0

- PUMP_AC500_V23.lib with new simulation blocks
- Pump Station Configuration Tool as Technology Preview

Disclaimer: Technology Previews are designed to give you a sneak peek at upcoming technologies. They are non-final versions of our product and should NOT be taken as a measure of the fit, finish, capability, and overall quality of the final release (including user documentation). Technology Preview features can be removed without further notice. If you use the preview, you could experience things that go wrong, data that gets lost, and things to change. While we don't stop you using these versions in projects, we don't recommend it if you cannot afford data loss and the usual quirks of running preview software. It will not be possible to call ABB Support hotlines for help with Technology Preview features. If you are interested in getting support for a Technology Preview feature this can be done in the context of a piloting. In this case please contact us to set up a piloting agreement.

Appendix 5: Release notes PS564 Temperature Control Library Package 1.0.0

The software Libraries in PS564 Temperature Control Library V1.0.0 have been tested with the following versions

- Automation Builder V1.1 (CPU-FW V2.4, Panel Builder V1.9)
- Automation Builder V1.2 (CPU-FW V2.5, Panel Builder V2.0)

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The error-free operation of the PS564 Temperature Control Library V1.0.0 with other products / software / firmware versions can not be guaranteed.

This README file contains important information about the library and it´s installation.

Changes in different versions

This is the first version V1.0.0

Known limitations or bugs

Cooling not possible if Heat is disabled (LIB- 918)
If TECT_WrongLimits error is generated, then Reset warm is required to reset the Error. (LIB- 939)

Installation and Update

The PS564 Temperature Control Library Package is part of the Automation Builder. It can be selected as a Solution during installation.

Whats new in Version V1.1.0

This is the first version V1.0.0