AADvance

The Next Step in Automation

Release Note 1.33

AADvance

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Release 1.33 Contents

AADvance 1.33 is an incremental release of AADvance Release 1.3. This Release Note includes the following information about AADvance Release 1.33:

- Hardware and Software Builds for this Release
- Enhancements to the System
- Corrected Problems and Anomalies in this Release
- Restrictions that still Apply
- Tech Notes, Product Notices and Product Safety Advisories
- Product Compatibility Rules
- Technology Support and Additional Resources

Issue Record

Issue	Date	Comments
01	June 2014	First Issue

DOCUMENT NUMBER

The UK document number is 554833

Hardware and Software Builds for this Release

Part No.	Description	Hardware Release	Software Identity	Software Release
SOFTWARE				
	AADvance DTM - HART	N/A		v1.3
T9030	OPC Portal	N/A	354190	1.20.508
T9082U	IEC 61131 Workbench, USB, 1 User, 1 Controller License	N/A	354130	1.20.518
T9082D	IEC 61131 Workbench, Hard Drive, 1 User, 1 Controller License	N/A	354130	1.20.518
T9083U	IEC 61131 Workbench, USB, 1 User, Unlimited Controllers License	N/A	354130	1.20.518
T9083D	IEC 61131 Workbench, Hard Drive, 1 User, Unlimited Controllers License	N/A	354130	1.20.518
T9084U	IEC 61131 Workbench, USB, 5 User, Unlimited Controllers License	N/A	354130	1.20.518
HARDWARE + FIRMWARE				
T9100	Processor Base	G2	N/A	N/A
T9110	Processor Module	H18, H19, I18, I19 **(*Note 1)**	N/A	N/A
		J20	354170 354210 354280 390370 354260 354700	Build 308 Build 160 Build 157 Build 325 Build 152 Build 103
T9110 ControlFLASH	Firmware for the Processor Module	N/A	354400 354170 354260 354280 390370	v1.032 - (Build 0308) Build 308 Build 152 Build 157 Build 325

Part No.	Description	Hardware Release	Software Identity	Software Release
T9110 Recovery ControlFLASH	Recovery Firmware for the Processor Module	N/A	354720 354700 354260 354280 390370 354210	v1.001.103 - (Build 0103) Build 103 Build 152 Build 157 Build 325 Build 160
T9300	I/O Base Unit	B C	N/A	N/A
T9401	Digital Input Module, 24 V dc, 8 Channel, Isolated	H15 I15	354080 354250 354270 390450	Build 158 Build 174 Build 180 Build 152
T9402	Digital Input Module, 24 V dc, 16 Channel, Isolated	D15 F15	354080 354250 354270 390450	Build 158 Build 174 Build 180 Build 152
T9431	Analogue Input Module, 8 Channel, Isolated	H15 I15	354080 354250 354270 390450	Build 158 Build 174 Build 180 Build 152
T9432	Analogue Input Module, 16 Channel, Isolated	D15 F15	354080 354250 354270 390450	Build 158 Build 174 Build 180 Build 152
T9451	Digital Output Module, 24 V dc, 8 Channel, Commoned	H12 K12	354270 390470	Build 162 Build 156
T9481	Analogue Output Module, 3 Channel	J14 K14	354270 354440 354450 390490	Build 160 Build 150 Build 150 Build 151
T9482	Analogue Output Module, 8 Channel	O14 P14	354270 354440 354450 390490	Build 160 Build 150 Build 150 Build 151
T9801	Digital Input TA, 16 Channel, Simplex, Commoned	F G	N/A	N/A
T9802	Digital Input TA, 16 Channel, Dual, Isolated	E F	N/A	N/A
T9803	Digital Input TA, 16 Channel, TMR, Isolated	F G	N/A	N/A
T9831	Analogue Input TA, 16 Channel, Simplex, Commoned	F G	N/A	N/A
T9832	Analogue Input TA, 16 Channel, Dual, Isolated	E F	N/A	N/A
T9833	Analogue Input TA, 16 Channel, TMR, Isolated	F G	N/A	N/A

Part No.	Description	Hardware Release	Software Identity	Software Release
T9851	Digital Output TA, 8 Channel, Simplex, Commoned	E F	N/A	N/A
T9852	Digital Output TA, 8 Channel, Dual, Commoned	E F	N/A	N/A
T9881	Analogue Output TA, 8 Channel, Simplex, Commoned	B C	N/A	N/A
T9882	Analogue Output TA, 8 Channel, Dual, Commoned	B C	N/A	N/A

* NOTE 1   The firmware must be upgraded using the ControlFLASH files shown in the table.

Enhancements to the system

The following enhancements are included in this release.

- **Increase Variable Bindings Memory**

  The Variable Bindings (KVB) memory has been increased in size from 64 K to 128 K. This will allow you to increase the number of variable bindings that you can set up between controllers in an application.

- **New Workbench license for 5 Users, Unlimited Controllers**

  New license option T9084U is available: this is an AADvance Workbench license for 5 Users and no limit to the number of controllers. It is only available as a USB license option: it will work with Windows XP Service Pack 3; Windows Vista; Windows 7 and Server 2003 in both 32-bit and 64-bit versions.

Corrected Problems and Anomalies in this Release

The following problems and anomalies have been corrected in this release.

- **Digital Output Module Shutting Down**

  Under certain operating and environmental conditions noise can be present of one of the digital output module voltage rails. These voltage rails are sampled to ensure that they are within a specific tolerance; but the noise occasionally caused the monitoring circuit to report an over-voltage, resulting in the DO module shutting down. An internal filter has been improved that reduces the effect of the noise and prevents the module from shutting down.

- **I/O initialization stalled - TN30051-01 (answer id. 544046)**

  If, during a controller start-up an I/O module failure occurs it can stop the I/O initialization. As a result, the controller start-up process fails to complete, leaving the application program suspended. Changes to the controller start-up have been made that prevents this from occurring.

- **System power up with a 48 module configuration**

  The maximum number of I/O modules supported by an AADvance controller is 48. Certain configurations, particularly when the majority is Digital Output Modules, can result in a system not starting-up correctly after a power cycle. Changes to the controller start-up have been made to prevent this from occurring.

- **Processor loss of synchronization**

  In dual processor configurations it was possible under certain conditions for the two processors to lose synchronization, but continue to run asynchronously. Although the I/O still went to its fail-safe mode, it was possible for any binding data to be incorrect. Changes to the controller have been made to prevent this from occurring.

- **Spurious Soft Error Detection (SED) faults - TN30056-01 (answer id: 564815)**

  Each AADvance module uses one or more FPGA's to provide the communication interface between the processor and the I/O modules. The manufacturer of the FPGA used in AADvance released a Product Notification identifying that this device could spuriously generate SED errors. The FPGA manufacturers recommended changes have been made to the controller to prevent this from occurring.

- **Processors lost synchronization after an on-line update**

  It is possible that on-line updates to a large system with more than 37 I/O modules installed can cause the processors to lose synchronization. Changes to the controller have been made to prevent this from occurring.

- **Loss of SNCP Kernel Variable Bindings (KVB) communication**

  Under certain conditions it was possible for both links of dual SNCP bindings configuration to fail. Changes to the controller have been made to prevent this from happening.

- **PN2013-09-001- AADvance Controller Consume Network Status Function Block**

  This affected only systems using multiple controllers, SNCP variable data bindings and the KvbConsNetStatus function block. When an on-line update was carried out on the producer controller, the function block stopped working and its outputs remained in the same state prior to the on-line update. This problem affected systems using operating versions up to and including processor build 283. It has been resolved in build 303 onwards.

- **On-line Updates resulted in unexpected behavior to POUs with names that have leading or trailing spaces - PSA 2013-10-002 (answer id. 568726)**

  Program Organization Units (POUs) that contained leading or trailing spaces in their names can cause variables in those POU's to revert to their configured (or default) initial values instead of current values after the completion of an on-line update. This can result in unexpected logic behavior after an on-line update. POU names include programs, functions and Function Block names. Changes to the Workbench have been made to detect and prevent this from occurring.

- **Full size Modbus write packets**

  AADvance controllers using modus (TCP or RTU) were unable to write the full 125 word (or 2000 Boolean) data packets. Changes to the controller have been made to prevent this is from occurring.

- **Workbench out of Memory error**

  Applications programs with a large number of resources (> 16) could cause the PC to run out of memory which resulted in the Workbench hanging. Changes to the Workbench have been made to prevent this from occurring.

Restrictions

The following restrictions still apply to this release.

- **Importing/exporting to/from Excel**

  The Workbench provides the option to export/import to and from Microsoft Excel, this function will only work fully when using Excel 2007 or above. If a user has an older version of Excel they still have the option to export/import to and from CSV files.

- **Processor firmware versions must be the same**

  Multiple processors must contain the same version of firmware for synchronized operation. You can check the loaded firmware versions and download the latest versions if required using ControlFLASH (see the AADvance Configuration Guide for detailed procedures).

- **SNTP**

  Changes made to the SNTP configuration do not become active until after a power cycle.

- **SOE**

  Reference variables connected to SOE events are not reported by the OPC Portal Server.

- **Not recognizing Software Licenses**

  Windows 64-bit versions of the operating software will not recognize Workbench soft (hard drive) licenses; Workbench licenses on USB dongles are recognized.

Tech Notes, Product Notices and Product Safety Advisories

These Tech Notes, Product Notices and Product Safety Advisories apply to this AADvance release:

Number/answer id	Title
TN30006-01	Scan and throughput time
TN30014-01	Workbench communications may stall
TN30017-01	No live data in Workbench simulator
TN30020-01	CSV file import of REAL variables
TN30025-01	Accuracy of SOE time stamps
TN30027-01	Different data types in a FOR loop will halt a controller
TN30032-01	Second resource set to 1 confuses debugging
TN30033-01	Changing resource number of a controller leaves Flash files
TN30036-01	Modify structure numbers corrupts attributes
TN30037-01	Local variable wired to Analogue Output: custom shutdown setting in raw counts
TN30039-01	Resizing columns causes Workbench to close
TN30040-01 (503735)	HMI Communication Performance
TN30044-01 (509666)	Wiring an element of a structured variable does not work
TN30046-01 (515434)	Online update not performed if changes are not applied
TN30047-01 (543511)	OPC Server 1.20.508 Installation Fix "Failed to get data for IDVersion"

Number/answer id	Title
TN30049-01 (543513)	Significant digits of decimal data in program constants and variable initial values
TN30050-01 (543514)	CURRENT_ISA_DATE functions not synchronized
TN30051-01 (544046)	Defective I/O Module prevents start up
TN30052-01 (547008)	Analogue Output Modules may default to 60s PST
TN30054-01 (549387)	Consumer tags lost through Archive and Restore
PN2013-04-001 (539930/31)	AADvance T9100 Processor Base Unit Over current
531022	Changing the address of a producer does not update the consumer variable that use that producer definition
549384	Saving the Hardware Link or Link Architecture Views forces recompilation
562451	AADvance discover will only allocate a gateway to the first port of each processor
549382	Multiple TCP Modbus slaves on the same processor must have unique port numbers

Product Compatibility Rules

These rules apply to this release:

- T9110 (and T9120) processors and Workbench MUST be from the same Product Release (i.e. R1.33).

- Workbench licenses: the versions tested are those in the list (given earlier in the document).

- AADvance Workbench licenses R1.2 and later can be used; earlier license versions are not compatible.

- Analogue output modules must use Release 1.33 firmware.

Compatibility	Release 1.33	Builds from previous releases which are functionally compatible but not certified. (*see Note 2)
If you have Workbench…..	Build 1.20.518	None
You need processor…..	J20	None
	Firmware in H18, H19, I18, and I19 must be upgraded using the ControlFLASH files listed in the Hardware and Software Builds section.	
You can use these I/O modules T9401	H15, I15	F8, G9, H10, H11, H13, I12
T9402	D15, F15	B8, C9, D10, D11, D13, E11, F12
T9431	H15, I15	F8, G9, H10, H11, H13, I12
T9432	D15, F15	B8, C9, D10, D11, D13, E11, F12
T9451	H12, K12	H8, I9, J9, K9. K10, H11, K11
T9481	J14, K14	J13
T9482	O14, P14	M11, O13

* NOTE 2   If you have questions about build compatibility contact TechConnect Support.

Technical Support and Additional Resources

Publication Number

Document Number	Publication Number	Title
553630	ICSTT-RM446k-EN-P	Safety Manual R1.3 Issue 10_C
553631	ICSTT-RM447I-EN-P	Solutions Handbook R1.3 Issue 09
553632	ICSTT-RM448H-EN-P	System Build Manual R1.3 Issue 08
553633	ICSTT-RM405E-EN-P	Configuration Guide R1.3 Issue 07
553634	ICSTT-RM406E-EN-P	Troubleshooting and Maintenance Manual R1.3 Issue 09
553850	Not specified	AADvance Demo Unit User Manual R1.3 Issue 02
553701	ICSTT-RM407D-EN-P	OPC Portal Server User Guide R1.3 Issue 03
553847	ICSTT-RM449D-EN-P	PFH avg and PFD avg R1.3 Issue 05

User Documentation is available at the Rockwell Automation Literature Library under the "**Product**" information "Critical Process Control & Safety Systems (ICS Triplex)".

DOWNLOADS

The product compatibility and download center is:

www.rockwellautomation.com/rockwellautomation/support/pcdc.page?

Use: GetDownloads➔FindProduct Downloads ➔Product Search "Search = AADvance" will find Release Note 1.33 and the firmware.

PRODUCT INFORMATION

Product Notifications and product support are available at the Rockwell Automation Support Center at:

http://rockwellautomation.custhelp.com

At the **Search Knowledgebase** tab select the option "**By Product**" then scroll down and select the ICS Triplex product **AADvance**.

A login is required. If you do not have an account then you can create one using the "Sign Up" link at the top right of the web page.

IMPORTANT	To access premium answers requires a TechConnect support contract.