RSLogix 5000 Version 16.00 Release Notes

Introduction

This help file is designed to introduce you to the RSLogix 5000 product. In this file, you will find information on installing the software, system requirements, and known limitations in this release.

A Logix5000 system (ControlLogix, CompactLogix, FlexLogix, DriveLogix, and SoftLogix) baseline release consists of a set of compatible hardware, firmware, and software components that provides system functionality. This release note describes concerns and issues associated with the components that are included in this Logix5000 system release. Read it carefully to avoid potential hazardous conditions. If you need more information about a particular issue or have other questions, contact your local Rockwell Automation representative.

We recommend that you also review the information concerning the previous major revision, RSLogix 5000 version 15, before you update RSLogix 5000 software. The RSLogix 5000 Release History can be accessed during RSLogix 5000 software installation. At the Rockwell Software Common Setup installation Step 1, select RSLogix 5000 and then click on the “View Release Notes for Selected Product” hot link. (Refer to the Installation Notes section of this document for additional details on installing the RSLogix 5000 software.)

Choosing Your RSLogix 5000 Package

RSLogix 5000 is a scalable software solution, used to program and configure any of the Logix5000 family of controller products. Depending on the functionality required one or more product catalog numbers might be needed to acquire the appropriate software functionality. The following table will help you to determine which RSLogix 5000 package is best suited for your application needs.

RSLogix 5000 Enterprise Series Bundle	***Professional Edition***	***Full Edition Concurrent License***	***Full Edition Node Locked License***	***Standard / Network Edition***	***Standard Edition***	***Lite Edition***	***Mini Edition***	***Service Edition******
Catalog Number	9324-RLD700NXyyE*	9324-RLD600yyF*	9324-RLD600yyE*	9324-RLD300NXyyE*	9324-RLD300yyE*	9324-RLD250yyE*	9324-RLD200yyE*	9324-RLD000yyE*
Controllers Supported	CompactLogix 5300 FlexLogix5400 ControlLogix5500 DriveLogix5700 SoftLogix5800	CompactLogix 5300 FlexLogix5400 ControlLogix5500 DriveLogix5700 SoftLogix5800	CompactLogix 5300 FlexLogix5400 ControlLogix5500 DriveLogix5700 SoftLogix5800	CompactLogix 5300 FlexLogix5400 ControlLogix5500 DriveLogix5700 SoftLogix5800	CompactLogix 5300 FlexLogix5400 ControlLogix5500 DriveLogix5700 SoftLogix5800	CompactLogix 5300 FlexLogix5400	CompactLogix 5300 FlexLogix5400	CompactLogix 5300 FlexLogix5400 ControlLogix5500 DriveLogix5700 SoftLogix5800
Programming Languages:								
Ladder Diagram (LD)	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Upload/Download and View Only
Function Block Diagram (FBD) and Advanced Process and Drive control blocks (9324-RLDFBDENE, or via 9324-RLDMLPE)	Fully Supported	Fully Supported	Fully Supported	Upload/Download Included, Editor Available Separately	Upload/Download Included, Editor Available Separately	Fully Supported	Upload/Download Included, Editor Available Separately	Upload/Download and View Only
Sequential Function Chart (SFC) (9324-RLDSFCE, or via 9324-RLDMLPE)	Fully Supported	Fully Supported	Fully Supported	Upload/Download Included, Editor Available Separately	Upload/Download Included, Editor Available Separately	Fully Supported	Upload/Download Included, Editor Available Separately	Upload/Download and View Only
Structured Text (ST) (9324-RLDSTXE, or via 9324-RLDMLPE)	Fully Supported	Fully Supported	Fully Supported	Upload/Download Included, Editor Available Separately	Upload/Download Included, Editor Available Separately	Fully Supported	Upload/Download Included, Editor Available Separately	Upload/Download and View Only
Miscellaneous Features:								
PhaseManager (9324-RLDPME)	Included	Included	Included	Upload/Download Included Editor Available Separately	Upload/Download Included Editor Available Separately	Upload/Download Included Editor Available Separately	Upload/Download Included, Editor Available Separately	Upload/Download Included
RSLogix 5000 GuardLogix Safety Editor (9324-RLDGLXE)	Included	Included	Included	Upload/Download Included Editor Available Separately	Upload/Download Included Editor Available Separately	N/A	N/A	Upload/Download and View Only
Highly integrated Motion	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Upload/Download Only	Upload/Download and View Only
Graphical Trending	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported	Fully Supported
DriveExecutive Lite (9303-4DTE01ENE)	Included	Included	Included	Included	Included	Available Separately	Available Separately	Available Separately
FBD PIDE Autotune (requires FBD option) (9323-ATUNEENE)	Included	Included	Included	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately
FuzzyDesigner (9324-RLDFZYENE)	Available as a Separate Application	Available as a Separate Application	Available as a Separate Application	Available as a Separate Application	Available as a Separate Application	Available as a Separate Application	Available as a Separate Application	N/A
RSLogix Emulate 5000 (9310-WED200ENE)	Included	Available Separately	Available Separately	Available Separately	Available Separately	N/A	N/A	Available Separately

RSLogix 5000 Enterprise Series Bundle	Professional Edition	Full Edition Concurrent License	Full Edition Node Locked License	Standard / Network Edition	Standard Edition	Lite Edition	Mini Edition	Service Edition***
Concurrent License	N/A	Fully Supported	N/A	N/A	N/A	N/A	N/A	N/A
Passwords / Security:								
Logix CPU Security Tool	Included	Included	Included	Included	Included	Included	Included	Included
Routine Source Protection	Included	Included	Included	Included	Included	Included	Included	Included
Security Server Emulator (FTAP Install Required - include on disk)	Included	Included	Included	Included	Included	Included	Included	Included
FactoryTalk Security Server Support (FTAP Install Required - included on disk)	Included	Included	Included	Included	Included	Included	Included	Included
System Configuration / Network / Communications:								
RSLinx Classic	OEM Included**	Lite Included	Lite Included	Lite Included	Lite Included	Lite Included	Lite Included	Lite Included
RSNetWorx for ControlNet, DeviceNet, EtherNet/IP (9357-CNETL3, 9357-DNETL3, 9357-ENETL3 individually or 9357-ANETL3 combined)	Included	Available Separately	Available Separately	Included	Available Separately	Available Separately	Available Separately	Available Separately
RSLogix Architect (9326-LGXARCHENE)	Included	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately
Miscellaneous Files & Tools:								
Electronic manuals (PDF)	Included	Included	Included	Included	Included	Included	Included	Included
Start Page	Included	Included	Included	Included	Included	Included	Included	Included
ControlFLASH with Firmware	Included	Included	Included	Included	Included	Included	Included	Included
FBD ActiveX Faceplates	Included	Included	Included	Included	Included	Included	Included	Included
PLC-5/SLC-500 Translation Tool	Included	Included	Included	Included	Included	Included	Included	Included
Tag Data Upload / Download Tool	Included	Included	Included	Included	Included	Included	Included	Included
RSLogix 5000 Project Compare Tool	Included	Included	Included	Included	Included	Included	Included	Included
Tag Custom Data Monitor Tool	Included	Included	Included	Included	Included	Included	Included	Included
DeviceNet Node Commissioning Tool	Included	Included	Included	Included	Included	Included	Included	Included
Logix5000 Task Monitor	Included	Included	Included	Included	Included	Included	Included	Included
Logix5000 Clock Update Tool	Included	Included	Included	Included	Included	Included	Included	Included
RSLogix 5000 DeviceNet Tag Generator	Included	Included	Included	Included	Included	Included	Included	Included
Safety Reaction Time Tool	Included	Included	Included	Included	Included	Included	Included	Included
GuardLogix Safety Estimator	Included	Included	Included	Included	Included	Included	Included	Included
RSView SE Demo (50 Tags / 2 Hour Limit)	Included	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately	Available Separately
RSLogix 5000 Upgrades:								
	N/A	N/A	Full node locked to Full Concurrent license 9324-RLD6U6FxxU	N/A	Multi-Language Pack (9324-RLDMLPE), PhaseManager	Lite to Full 9324-RLD25U6yyE*	Mini to Standard 9324-RLD2U3yyE*	Service to Standard 9324-RLD0U3yyE*

RSLogix 5000 Enterprise Series Bundle	Professional Edition	Full Edition Concurrent License	Full Edition Node Locked License	Standard / Network Edition	Standard Edition	Lite Edition	Mini Edition	Service Edition***
			Full to Professional 9324-RLD6U7yyE*		(9324-RLDPME), RSLogix 5000 GuardLogix Safety Editor (9324-RLDGLXE), and PIDE Autotune (9323-ATUNEENE) options extend Standard to match Full	Lite to Professional 9324-RLD25U7yyE*	Mini to Professional 9324-RLD2U7yyE*	Service to Full 9324-RLD0U6yyE* Service to Professional 9324-RLD0U7yyE*

* Replace yy with the appropriate language code where: DE = German, EN = English, ES = Spanish, FR = French, IT = Italian, JP = Japanese, KO = Korean, PT = Portuguese. and ZH = Chinese

** The RSLogix 5000 Professional Activation must be installed on the personal computer hard disk in order to activate RSLinx Classic.

*** Service Edition requires controller firmware at revision 12 or above.

System Requirements

To use RSLogix 5000 software effectively, your personal computer must meet the following hardware and software requirements.

Hardware Requirements
The personal computer must meet these minimum requirements. Using a computer meeting the recommended characteristics will improve performance.

Characteristic	*Minimum Required*	*Recommended*
Processor	Pentium II	Pentium 3 or better
Speed	450 MHz	733 MHz
RAM Memory	128 Mbytes	256 Mbytes
Hard Disk Space	1.3 Gbytes free	1.3 Gbytes free
Video	800x600 pixels 256 colors	1024x768 pixels True Color
Pointing Device	Any Windows-compatible pointing device	Any Windows-compatible pointing device

Software Requirements
Operating system and service pack compatibility:

- RSLogix 5000 has been tested on the following operating systems:
  - Microsoft® Windows XP Professional with Service Pack 2
  - Microsoft® Windows Server 2003 R2 Standard Edition with Service Pack 1
  - Microsoft® Windows 2000 Professional with Service Pack 4
- RSLogix 5000 is expected to operate correctly on the following operating systems, but has not been tested:
  - Microsoft® Windows XP Home
  - Microsoft® Windows Server 2003 Standard Edition with Service Pack 1
  - Microsoft® Windows 2000 Professional with Service Pack 1, 2, or 3

  Note: The Chinese, Japanese, and Korean Editions of RSLogix 5000 are supported only on Microsoft® Windows XP and Microsoft® Windows Server 2003.

  Starting with Version 14, RSLogix 5000 does not support Microsoft® Windows NT® Workstation Version 4.0. RSLogix 5000 software also does not support Windows NT 3.51, Windows NT 3.50, Windows Me, Windows 98SE, Windows 98, Windows 95, or Windows 3.x operating systems.

Additional software product considerations:

- RSLinx™ Classic communication software is not required to install RSLogix 5000; however it *is* required in order to perform online communication with controllers.
- Microsoft® .NET Framework Version 1.1 must be installed on the same computer on which the RSLogix 5000 software will be installed, for version V13.00 and later. This software is included as part of the RSLogix 5000 installation.

Revision Information

Supported Logix Controllers

While RSLogix 5000 continues to extend its functionality with each new release, the physical controllers that it supports will vary. New controllers are added, and in some cases support for existing controllers may be removed. While a specific controller may not be supported by the current release, the side-by-side installation of multiple revisions of RSLogix 5000 will in most cases provide a means to support the older hardware. If you decide to migrate from one controller to another, a project created for one controller can be easily converted to another controller via the controller properties configuration dialog within RSLogix 5000. Additionally, if you open a project that is configured for a controller that is no longer supported and the older revision of RSLogix 5000 is not installed, RSLogix 5000 version 15 and above will provide an appropriate warning and will automatically provide the option to convert the project to one the controllers supported by the release. The following table provides a breakdown of the various Logix5000 controllers and the initial or minimum version of RSLogix 5000 that is required and, in case the controller is no longer supported, the last or maximum revision of RSLogix 5000 that provided support for the controller:

Controller Catalog Number	*Minimum RSLogix 5000 Major Revision*	*Maximum RSLogix 5000 Major Revision*
ControlLogix 1756-L1	V1	V13
ControlLogix 1756-L53	V6	V11
ControlLogix 1756-L55	V6	Current
ControlLogix 1756-L60 M03SE	V13	Current [1]
ControlLogix 1756-L61 Series A	V12	Current
ControlLogix 1756-L61 Series B	V12	Current
GuardLogix 1756-L61S	V14	Current [2]
ControlLogix 1756-L62 Series A	V12	Current
ControlLogix 1756-L62 Series B	V12	Current
GuardLogix 1756-L62S	V14	Current [2]
ControlLogix 1756-L63 Series A	V10	Current
ControlLogix 1756-L63 Series B	V12	Current
ControlLogix 1756-L64	V16	Current
FlexLogix 1794-L33	V6	V13
FlexLogix 1794-L34	V6	Current
Compact Logix 1769-L20	V7	V13
Compact Logix 1769-L30	V7	V13
Compact Logix 1769-L31	V13	Current [1]
Compact Logix 1769-L32C	V13	Current [1]
Compact Logix 1769-L32E	V13	Current [1]
Compact Logix 1769-L35CR	V13	Current [1]
Compact Logix 1769-L35E	V12	Current [1]
Compact Logix 1768-L43	V15	Current [1]
SoftLogix 1789-L60	V6	Current [1]
DriveLogix5720 PowerFlex 700S	V8	V13
DriveLogix5730 PowerFlex 700S 2	V13	Current [1]

[1] Excludes GuardLogix V14 release
[2] Excludes V15 release

Cross Product Revision Interaction

Before performing this upgrade, note that Logix5000 controllers and ControlLogix Motion modules in your system must contain a revision of firmware that is compatible with this version of RSLogix 5000. However, previous revisions of network and I/O modules can operate in your system with the new controller firmware contained in this release. Additionally, other software tools such as RSNetWorx for ControlNet and RSLinx Classic have been tested to ensure compatibility with this version of software. Because of this, we recommend that you use the most current versions of these tools. The following tables list the most recent revisions of software and firmware that have been tested and validated together.

Software

RSLogix 5000 Version	*RSLinx Classic Version*	*RSNetWorx for ControlNet Version*	*RSNetWorx for DeviceNet Version*	*RSNetWorx for EtherNet/IP Version*
V16.00	2.51.00.21 (CPR 7)	8.00.00 (Build 15) (CPR 7)	8.00.00 (Build 15) (CPR 7)	8.00.00 (Build 15) (CPR 7)
V15.03 / V15.02 / V15.01 / V15.00	2.50.00.20 (CPR 7)	6.00.00 (Build 97) (CPR 6)	6.00.00 (Build 97) (CPR 6)	6.00.00 (Build 97) (CPR 6)
V14.01 / V14.00	2.43.01.23 (CPR 6)	5.11.00 (Build 31) (CPR 6)	5.11.00 (Build 31) (CPR 6)	5.11.00 (Build 31) (CPR 6)
V13.04 / V13.03 / V13.02 / V13.01 / V13.00	2.42.00 (Build 18)	4.21.00 (Build 50)	4.21.00 (Build 50)	4.21.00 (Build 50)*

Hardware

RSLogix 5000 Version				
	V16.00	***V15.03 / V15.02 / V15.01 / V15.00***	***V14.01 / V14.00***	***V13.04 / V13.03 / V13.02 / V13.01 / V13.00***
Controllers				
ControlLogix 1756-L1, -L53, -L55, -L61, -L61S, -L62, -L62S, -L63, -L64, -L60M03SE	L55 – Series A, Version 16.02 L61 – Series A & B, Version 16.07 L61S – Series B, Version 16.06 L62 – Series A & B, Version 16.07 L62S – Series B, Version 16.06 L63 – Series A & B, Version 16.07 L60M03SE – Series A, Version 16.02 L64 – Series B, Version 16.02	L55 – Series A, Version 15.03 L61 – Series A & B, Version 15.03 L62 – Series A & B, Version 15.03 L63 – Series A & B, Version 15.03 L60M03SE – Series A, Version 15.03	L61 – Series A & B, Version 14.2 L61S – Series B, Version 14.33 L62 – Series A & B, Version 14.2 L62S – Series B, Version 14.33 L63 – Series A & B, Version 14.2	L1 – Series A, Version 13.34 L55 – Series A, Version 13.34 L61 – Series A & B, Version 13.44 L62 – Series A & B, Version 13.44 L63 – Series A & B, Version 13.44 L60M03SE – Series A, Version 13.10
FlexLogix 1794-L33, -L34	L34 – Series A & B, Version 16.01	L34 – Series A & B, Version 15.03	Not applicable	L33 – Series A, Version 13.33 L34 – Series A & B, Version 13.33
CompactLogix 1768-L43	L43 – Series A, Version 16.04	L43 – Series A, Version 15.03	Not applicable	Not applicable
CompactLogix 1769-L20, -L30, -L31, -L32C, -L32E, L35CR, -L35E	L31 – Series A, Version 16.03 L32C – Series A, Version 16.03 L32E – Series A, Version 16.03 L35CR – Series A, Version 16.03 L35E – Series A, Version 16.03	L31 – Series A, Version 15.03 L32C – Series A, Version 15.03 L32E – Series A, Version 15.03 L35CR – Series A, Version 15.03 L35E – Series A, Version 15.03	Not applicable	L20 – Series A, Version 13.19 L30 – Series A, Version 13.19 L31 – Series A, Version 13.33 L32C – Series A, Version 13.33 L32E – Series A, Version 13.34 L35CR – Series A, Version 13.33 L35E – Series A, Version 13.34
DriveLogix5720 PowerFlex 700S	Not applicable	Not applicable	Not applicable	Series A, Version 13.15
DriveLogix5730 PowerFlex 700S 2	Series A, Version 16.03	Series A, Version 15.03	Not applicable	Series A, Version 13.20
SoftLogix 1789-L60	Series A, Version 16.00	Series A, Version 15.00	Not applicable	Series A, Version 13.02
RSLogix Emulate 5000	Version 16.00	Version 15.00	Not applicable	Version 13.00
1734-ACNR	Series A, Version 1.081	Series A, Version 1.079	Series A, Version 1.078	Series A, Version 1.077
1734-AENT	Series A, Version 2.3	Series A, Version 1.033	Series A, Version 1.032	Series A, Version 1.030
1738-ACNR	Series A, Version 1.081	Series A, Version 1.079	Series A, Version 1.078	Series A, Version 1.077
1738-AENT	Series A, Version 2.3	Series A, Version 1.033	Series A, Version 1.032	Series A, Version 1.030
1756-CN2, -CN2R	Series A, Version 12.01	Series A, Version 10.08	Not applicable	Not applicable

	V16.00	*V15.03 / V15.02 / V15.01 / V15.00*	*V14.01 / V14.00*	*V13.04 / V13.03 / V13.02 / V13.01 / V13.00*
Controllers (Continued)				
1756-CNB, -CNBR	Series E, Version 11.02 Series D, Version 5.51 Series B, Version 2.30 Series A, Version 1.19	Series D, Version 5.46 Series B, Version 2.30 Series A, Version 1.19	Series D, Version 5.45 Series B, Version 2.30 Series A, Version 1.19	Series D, Version 5.38 Series B, Version 2.27 Series A, Version 1.19
1756-DHRIO	Series D, Version 6.2 Series C, Version 5.4 Series B, Version 2.21	Series D, Version 6.1 Series C, Version 5.3 Series B, Version 2.21	Series C, Version 5.3 Series B, Version 2.21	Series C, Version 5.3 Series B, Version 2.21
1756-DNB	Series B, Version 7.001 Series A, Version 6.002	Series B, Version 6.002 Series A, Version 6.002	Series A, Version 6.002	Series A, Version 4.005
1756-ENBT	Series A, Version 4.3	Series A, Version 3.6	Series A, Version 3.6	Series A, Version 2.3
1756-ENET	Series B, Version 2.7 Series A, Version 1.18	Series B, Version 2.7 Series A, Version 1.18	Series B, Version 2.7 Series A, Version 1.18	Series B, Version 2.7 Series A, Version 1.18
1756-EWEB	Series A, Version 4.3	Series A, Version 2.2	Series A, Version 2.2	Series A, Version 1.2
1756-EN2T	Series A, Version 1.3	Not applicable	Not applicable	Not applicable
1757-FFLD	Series A, Version 1.1	Series A, Version 1.1	Series A, Version 1.1	Series A, Version 1.1
1768-ENBT	Series A, Version 1.3	Series A, Version 1.1	Not applicable	Not applicable
1769-SDN	Series B, Version 2.002	Series B, Version 2.002	Series B, Version 2.1	Series B, Version 2.1
1784-PCIC, -PCICS	Series B, Version 4.10 Series A, Version 3.10	Series B, Version 4.08	Series B, Version 4.08	Series A, Version 3.7
1784-PCIDS	Series B, Version 3.016 Series A, Version 2.008	Series A, Version 2.008	Series A, Version 2.008	Series A, Version 2.008
1784-PKTCS	Series B, Version 4.10	Series B, Version 4.08	Series B, Version 4.08	Series A, Version 3.7
1788-CN2DN	Series A, Version 1.024	Series A, Version 1.023	Series A, Version 1.023	Series A, Version 1.023
1788-CNC, -CNCR	Series A, Version 1.6	Series A, Version 1.5	Series A, Version 1.5	Series A, Version 1.5
1788-CNF, -CNFR	Series A, Version 1.6	Series A, Version 1.6	Series A, Version 1.5	Series A, Version 1.5
1788-DNBO	Series A, Version 2.002	Series A, Version 2.002	Series A, Version 2.002	Series A, Version 2.002
1788-EN2DN	Series A, Version 2.002	Series A, Version 2.002	Series A, Version 1.05	Series A, Version 1.05
1788-ENBT	Series A, Version 2.3	Series A, Version 2.1	Series A, Version 2.1	Series A, Version 1.28
1794-ACN15, -ACNR15	Series C, Version 4.3	Series A, Version 4.3	Series A, Version 4.3	Series A, Version 4.2
1794-AENT	Series A, Version 3.1	Series A, Version 2.12	Series A, Version 2.12	Series A, Version 2.12
56AMXN	Series B, Version 2.1	Series B, Version 2.1	Series B, Version 2.1	Series B, Version 2.1

	V16.00	*V15.03 / V15.02 / V15.01 / V15.00*	*V14.01 / V14.00*	*V13.04 / V13.03 / V13.02 / V13.01 / V13.00*
Motion Modules				
1756-HYD02	Series A, Version 16.01	Series A, Version 15.01	Not applicable	Series A, Version 13.2
1756-M02AE	Series A, Version 16.01	Series A, Version 15.01	Not applicable	Series A, Version 13.2
1756-M02AS	Series A, Version 16.01	Series A, Version 15.01	Not applicable	Series A, Version 13.6
1756-M03SE	Series A, Version 16.20	Series A, Version 15.05	Not applicable	Series A, Version 13.7
1756-M08SE	Series B, Version 16.20 Series A, Version 16.20	Series B, Version 15.05 Series A, Version 15.05	Not applicable	Series B, Version 13.7 Series A, Version 13.7
1756-M08SEG	Series A, Version 16.20	Series A, Version 15.03	Not applicable	Not applicable
1756-M16SE	Series A, Version 16.20	Series A, Version 15.05	Not applicable	Series A, Version 13.7
1768-M04SE	Series A, Version 16.20	Series A, Version 15.05	Not applicable	Not applicable
1784-PM02AE	Series A, Version 16.01	Series A, Version 15.01	Not applicable	Series A, Version 13.2
1784-PM16SE	Series A, Version 16.20	Series A, Version 15.05	Not applicable	Series A, Version 13.6
SERCOS Drives				
Kinetix7000 (2099 Series)	Version 1.97	Version 1.85	Not applicable	Version 1.80
Kinetix6000 (2094 Series)	Version 1.95	Version 1.85	Not applicable	Version 1.80
Kinetix2000 (2093 Series)	Version 1.97	Not applicable	Not applicable	Version 1.80
Ultra3000 (2098 Series)	Version 1.52	Version 1.50	Not applicable	Version 1.40
8720MC Series	Version 3.85	Version 3.85	Not applicable	Version 3.80
1394C Series	Version 1.85	Version 1.85	Not applicable	Version 1.80
Other Products				
DriveTools Software	Not Applicable	Version 3.01	Version 3.01	Version 3.01

Firmware

Note that most of the modules supported by RSLogix 5000 utilize Flash-ROM for the storage of firmware. If you possess a module that requires a firmware change, the ControlFLASH software tool can be used to perform an update to this Flash-ROM. This software tool and the firmware images for most of the supported modules are contained on a CD-ROM shipped with RSLogix 5000. Starting with RSLogix 5000 V10.00.00, you can access the ControlFLASH tool from within RSLogix 5000 (from the Tools menu), or you can automatically update your firmware as part of the project download process.

For additional information and assistance in performing a Flash-ROM update, please review the ControlFLASH Firmware Upgrade Kit User Manual, Publication 1756-6.5.6.

In addition, Rockwell Automation Services & Support has created a web site from which you can download firmware images for ControlLogix products. Go to http://support.rockwellautomation.com/ControlFLASH/ for a matrix detailing the versions of firmware that were released with each of the versions of RSLogix 5000 software, and to download the ControlFLASH firmware kits and release note documents. Note that you will need your RSLogix 5000 serial number to complete the download.

RSLogix 5000 Separately Installed I/O Configuration Profiles
With Version 13 and above, RSLogix 5000 supports the ability for new I/O Configuration profiles to be delivered independent from the RSLogix 5000 release. These profiles can be obtained independently and installed on a PC with RSLogix 5000 to extend the I/O configuration support beyond the capabilities initially supported when RSLogix 5000 was released. This capability was initially limited to a single I/O platform but with each new release new I/O platforms are added. If you are utilizing one of the supported platforms and the configuration profile for a specific product was not included with RSLogix 5000, check with the module / device vendor to determine if one is available. Additionally, I/O configuration profiles for modules / devices from Rockwell Automation are generally provided with RSLogix 5000. However, at times a module / device configuration profile may not be completed in time to make a software release. In these instances, the I/O configuration profiles will be made available via the Rockwell Automation Support site http://support.rockwellautomation.com/ControlFLASH/LogixProfiler.asp. The following table provides a listing of releases and their respective ability to support the field addition of I/O Configuration Profiles:

I/O Platform	*I/O Profile Communication Methods Supported*	*RSLogix 5000 Version*
Compact I/O (1769)	Local to CompactLogix	V13.00 or later
Compact Block Safety I/O (1791DS)	DeviceNet	V14.00, V16.00 or later
POINT I/O (1734)	ControlNet, EtherNet/IP	V15.00 or later
ArmorPoint I/O (1738)	ControlNet, EtherNet/IP	V15.00 or later
ControlLogix (1756)	Local, ControlNet, EtherNet/IP	V15.00 or later
ControlNet Direct Connect	ControlNet	V15.00 or later
EtherNet/IP Direct Connect	EtherNet/IP	V15.00 or later

Electronic Data Sheets
The version of RSLinx Classic provided with this version of RSLogix 5000 includes an updated set of Electronic Data Sheets (EDS) files for Rockwell Automation products. Installing this software ensures that RSLinx Classic and RSNetWorx will be able to work with the new versions of firmware. These EDS files are also available separately by contacting Technical Support (phone +1 440-646-5800), or via the internet (http://www.ab.com/networks/eds.html/). You can install them using the EDS Hardware Installation Tool, located in the RSLinx folder in the Windows Start Menu.

Installation Notes

Review these notes before attempting to install this version of the RSLogix 5000 software.

Prior to Installation

Keep the following considerations in mind before you install the RSLogix 5000 software:

- Be certain that no copies of RSLogix 5000 are currently running.
- Make sure that you have Administrator privileges (for your Windows 2000, Windows XP or Windows 2003 Server operating system) on the machine on which you want to install the software. You will not be able to complete the installation without these privileges.
- Close all other applications before running the setup process.
- If you want to perform online communications, you must install RSLinx Classic in addition to RSLogix 5000.

Installing the Software

The following section describes installing RSLogix 5000 software.

1. Start the PC.
2. Insert the RSLogix 5000 installation CD into your CD-ROM drive.

   The CD-ROM should autostart. If it does not autostart, run Setup.exe from the root of the CD.

   Note: If you already have a version of RSLogix 5000 installed on your computer and you are running Windows 2000, Windows XP or Windows 2003 Server, you may leave the older version installed on your system.
3. Follow the directions that appear on your screen.

   When prompted for a serial number, enter the 10-digit serial number identifying your software license, otherwise enter any sequence of characters, not longer than 10 characters. Use the F1 key if you need help.
4. When prompted, click Yes to complete the activation of the software.

   Follow the directions that appear on your screen and refer to the FactoryTalk Activation insert for additional information.

   Important: A temporary emergency key is included with all version 16 RSLogix 5000 packages. This activation is only to be used in case you have difficulty acquiring or restoring a FactoryTalk activation license. The FactoryTalk license is now the standard activation method for new customers. Please note that the emergency key expires on December 31, 2007.
5. Click Finish to complete the installation.

   When the setup utility finishes, an entry for the RSLogix 5000 application program appears in the program list in the Rockwell Software group.
6. Remove the CD of the RSLogix 5000 installation from the CD-ROM drive and store it in a safe place.

Starting RSLogix 5000 software

To start RSLogix 5000 software, click Start and then select All Programs > Rockwell Software > RSLogix 5000 Enterprise Series > RSLogix 5000 from the menu.

If RSLogix 5000 does not start up or run properly, keep the following in mind:

- Do you have the correct version of RSLinx Classic software installed? RSLinx Classic software provides communication between the controller and your personal computer.
- Does your computer have enough memory? Running RSLogix 5000 requires a minimum of 128 Mbtyes of RAM.
- Is the activation key installed?

Tip

Remember to use the Help function from within the application if you need help with a specific dialog or function. Press [F1] or click the Help button on a dialog, or select Help from the menu bar.

Uninstalling the Software

To uninstall the software, do the following:

1. Choose Start > Settings > Control Panel.
2. Double click on Add/Remove Programs.
3. From the Add/Remove dialog, select “RSLogix 5000 <version>” and click OK.

   You will be prompted to decide whether you wish to preserve any application settings you have previously configured. Follow the prompts of the uninstaller, and RSLogix 5000 will be uninstalled from your computer.

New Features in This Release

The following new features and functionality have been added to this release of RSLogix 5000.

System Install

With version 16 of RSLogix 5000, the installation has been enhanced to provide a more integrated user experience. With this new install it is possible to pick which RSLogix 5000 components, firmware kits, and tools to install. This install also provides easier access to the many optional tools available on the CD.

Start Page

With version 16, a new feature called the “Start Page” has been added. The Start Page organizes various resources intended to accelerate the user’s ability to use the software and easily locate relevant information. The Start Page is divided into three parts. The first part, called “Quick Start”, is intended to help first-time customers get started and helps more experienced customers learn or explore how to use the software. The second part, the “Learning Center” provides “What’s New”, “How Do I”, and “Did You Know” types of information. The third part, the “Resource Center” contains links to download sites, online books, and other reference material.

User Defined Add-On Instructions

Version 16 of RSLogix 5000 introduces the Add-On Instructions (AOI) feature, sometimes referred to as “User Defined Function Blocks (UDFBs)”. Each instruction instance has its own data instance, providing for data isolation and easier debugging and maintenance. AOIs can be created in Ladder Diagram (LD), Function Block Diagram (FBD), or Structured Text (ST) programming languages. Once an AOI has been created, it can be used in any of the programming languages: LD, FBD, ST, or Sequential Function Chart (SFC). AOIs may include most of the RSLogix 5000 built-in instructions as well as other AOIs.

AOIs can be imported and exported to an XML file, allowing for easy portability from one project to another. The CSV Import/Export of the AOI definition is also supported. Source Protection can be used to protect AOI definitions as either no access or view only.

FactoryTalk Alarms and Events (Logix-Based Alarms)

With RSLogix 5000 version 16, two new alarm detection instructions, Analog Alarm (ALMA) and Digital Alarm (ALMD), can be programmed in the controller. These instructions will be able to serve alarms information to the FactoryTalk Alarms and Events service, which will then publish this information to RSView SE HMI stations (CPR 9 version of RSView SE is required). Operators will be able to acknowledge, enable, disable, and suppress alarms from displays. Note that each of these new instructions and their associated data utilizes a substantial memory footprint and you should take this into account when estimating the amount of memory that an application will require.

GuardLogix Safety Integration

Version 16 provides complete safety integration. GuardLogix controllers (1756-L61S, 1756-L62S) support all standard ControlLogix control functions. For standard control, this includes all programming languages (LD, FBD, SFC, and ST), all motion capabilities, all process capabilities, etc., without restriction. Producer/consumer tags between GuardLogix controllers over ControlNet will require 1756-CN2/A or 1756-CN2R/A ControlNet bridge modules with version 12.01 or later firmware.

Logix Date Base Changed to be January 1, 1970

The Logix real-time clock operates as a 64-bit binary number that counts microseconds from a fixed date. Prior to version 16, the base date was January 1, 1972. Recent developments with the Common Industrial Protocol (CIP) specification have resulted in the selection of a different base date of January 1, 1970 by the Open DeviceNet Vendors Association (ODVA). With version 16, the date base that Logix uses has been changed to bring it into alignment with the CIP specification. Additionally, in support of the changes to the real-time clock, several other GSV attributes were also added: LocalDateTime, TimeZoneString, ApplyDST (Daylight Savings Time), and DSTAdjustment.

Generally, the date and time were accessed via the GSV instruction within a Logix program using the “DateTime” attribute, which breaks down the date and time to its various components (usec, sec, min, hour, day, month, and year). Applications that use this attribute to access the real-time clock should not be impacted by this change. However, the time was also available in its 64-bit form via the “CurrentValue” GSV attribute. A GSV of the “CurrentValue” of the wall clock was changed to be the number of microseconds from the new base date. Any applications that interpreted the old 1972 based 64-bit number may now require a change. (x72079)

Programmable Jerk Control

With RSLogix 5000 version 15 and earlier, single axis motion instructions (MAM Motion Axis Move, MAJ Motion Axis Jog, MAS Motion Axis Stop) allowed moves with either Trapezoidal (infinite jerk) or S-Curve (100% jerk control) velocity profiles. The trapezoidal profile allows shorter cycle times, thus increasing application throughput, but may stress the mechanics and/or end-product. Whereas, the S-Curve profile allows mechanics and/or end-product stress reduction, but may increase cycle time, thus limiting application throughput. With version 16 of RSLogix 5000, you will be able to specify acceleration and deceleration jerk rates on single axis moves directly via operands in the instruction faceplate for S-Curve profile motion. Jerk rates for S-Curve motion can be specified as either “Units/Sec3”, “% of Maximum”, or a new “% of Time”, allowing you to optimize the need for speed and smoothness. The configurable maximum jerk rates are accessible programmatically via GSV/SSV instructions. Earlier revision of projects using S-Curve velocity profiles will be automatically migrated forward and prepopulate the new Jerk Operands in the MAM, MAJ, and MAS instructions with default values for Jerk rate as 100 “% of Time”.

Kinematics Transformations

In version 16 of RSLogix 5000, the motion control capabilities of the ControlLogix standard and safety 1756-L6x controllers have been extended by allowing inverse and forward Kinematics transformations. This functionality is targeted for controlling robots used in packaging and pick-and-place applications. Kinematics transformations are not supported by ControlLogix 1756-L55, SoftLogix, and CompactLogix L4x controllers. Specifically, the native geometries supported are: 2 and 3 axes articulated-dependent and articulated-independent robot geometries, as well as configurable support for 3-axis SCARA geometries by leveraging the native geometries. In order to accomplish this functionality, the coordinate system configuration has been enhanced to allow selection of the coordinate system type as either Cartesian or articulated. Additionally, two new instructions, Motion Coordinated Transform (MCT) and Motion Calculate Transform Position (MCTP), have been added. The MCT allows “gearing’ relationship to be set between two coordinated systems, for example, between a Cartesian coordinate system made by virtual axes and an articulated coordinate system that is made by the robot’s real axes. Once the MCT is active, by simply programming moves on the virtual axes configured in the Cartesian coordinate system it is possible to move the robot in joint coordinates. The MCTP instruction allows the position to be transformed from that of one coordinate system to that of another coordinate system. Typically, the MCTP instruction would be used to calculate the Cartesian position from a given joint position (Forward kinematics).

Online Changes in Output CAM Editor

With RSLogix 5000 version 15 and earlier, no changes were allowed to the Output CAM profile while the controller was in RUN mode. With version 16 of RSLogix 5000, parameter values can now be changed either on the grid or by using the graphical view. Insertion and/or deletion of points while in run mode will not be allowed. Also, a new status rectangle icon has been added to the Output CAM Editor window to show the state of the control. The color of the rectangle will be green when the controller is in run mode, cyan in program, and gray in the offline state.

Kinetix 7000 Drive Analog Input Configuration

In RSLogix 5000 version 16, this feature allows an analog device to be connected to the Kinetix 7000 drive analog inputs. The drive will transmit to the controller an integer number with a range of -16384 to +16384 representative of the analog value. The analog values are accessible programmatically via the GSV instruction. These inputs are useful for “converting” applications with load cell (measuring web force on a roller) or “dancer” (measuring web force/position directly) which can be directly connected to the drive controlling the web.

Induction Motor Database Additions for Kinetix 7000

Version 16 of RSLogix 5000 includes support for the new HPK-Series Hi-Power AC Induction Servo Motor that combines the cost advantages of an AC induction motor with the control capabilities of a servo motor. This product provides a solution for both high-power and precision applications. Targeted also for opportunities where hydraulics are being replaced due to a preference for tighter control, higher performance and less maintenance.

Kinetix 2000 Drive, Catalog 2093 Family of RA SERCOS Drives

The Kinetix 2000 Servo Drive 230 Volt-AC family, which is now supported by RSLogix 5000 version 16, extends the Integrated Architecture benefits to low power motion control applications. This multi-axis drive provides time and money savings from initial wiring and programming to operation and diagnostics. Power range is 100 watts to 1.5 kilowatts. Paired with the CompactLogix 1768-L43 controller, the Kinetix 2000 is ideal for small and mid-sized applications looking to improve productivity, quality, and time to market while reducing total cost of ownership. The Kinetix 2000 can also be configured to operate with single-phase or three-phase power.

Home to Torque (Kinetix 2000, 6000, and 7000)

With version 16 the motion homing capabilities of Logix have been extended to provide two additional homing modes: Torque Level, which allows homing position to be set when a configured torque limit is reached, and Torque Level-Marker, where homing position is set when the configured torque limit is reached and feedback marker is detected. These capabilities allow for enhanced application flexibility by removing the need for a home switch.

Auto-Save and Recovery

With RSLogix 5000 prior to version 16, in the event of an unexpected shutdown of the workstation, operating system, or application, unsaved edits would be lost. With RSLogix 5000 version 16, RSLogix 5000 can now be configured to automatically create, at a user specified interval, a recovery file for the project file being edited. When opening the project, after an unexpected shutdown, the user is prompted to choose between recovery of the project, saving the recovery file, opening the most recent copy of the project, or canceling the open operation. This feature is enabled by default and the “Save Time Interval” parameter can be configured (1 - 1440 minutes) as one of the Workstation Options.

Instruction Defaults (FBD and SFC Programming Languages)

Version 13 of RSLogix 5000 allowed instruction defaults to be set for the Ladder Diagram (LD) and Structured Text (ST) language editors. With version 16, this enhancement is extended to the Function Block Diagram (FBD) and Sequential Function Chart (SFC) language editors. Use of this feature allows default values to be defined for instruction operands. This is useful for instructions that have many parameters, for example, but not limited to process instructions. Simply enter the operands for the instruction, right-click on the instruction’s faceplate, and select the “Save Instruction Defaults” or “Save Element Defaults” menu option to save the operands as the defaults. Every new instance of the instruction will be automatically populated with the saved default operands. The default operands are saved on a workstation basis. This allows you to set the defaults once and re-use them across multiple projects.

CSV Import/Export of FBD and SFC Text Boxes

Over the course of the previous releases of RSLogix 5000, the ability to export various object descriptions to a Comma Separated Variable (CSV) file has been provided. This allows for creation, editing, translation, and spell checking of descriptions with offline tools, such as Microsoft Excel. With version 16, this feature has been enhanced to also support FBD and SFC text boxes.

EtherNet/IP Unicast Produced/Consumed Tags

Through version 15 of RSLogix 5000, multicast Ethernet packets are used to broadcast I/O and produced/consumed (P/C) tags in one single transfer operation, allowing multiple consumers of the information to receive it at the same time. However, in order to reduce bandwidth usage and preserve system/network integrity, some IT departments block multicast Ethernet packets. With RSLogix 5000 version 16, P/C tags can now be configured to use Unicast connections over EtherNet/IP, instead of Multicast connections. This enhancement reduces network bandwidth and also simplifies Ethernet switch configuration.

DF1 Radio Modem Protocol Support

With version 16, the DF1 Radio Modem protocol, already supported by SLC500 and MicroLogix products, has been implemented in the ControlLogix, CompactLogix, FlexLogix, and DriveLogix controllers. Legacy and Logix5000 controllers can be mixed and can support both master and slave and store and forward configurations.

This feature has been disabled in this release of RSLogix 5000. Please contact Rockwell Automation Services & Support to determine when this feature will be available.

Context-Sensitive Instruction Help

With version 16, it is possible to launch the instruction's online help with context. To take advantage of this feature, select the instruction in the language editor and either press the key "F1" or select "Instruction Help" from the right-click context menu. Additionally, the online context menu for the instruction is available from the Add Element browser.

Logix5000 Firmware Supervisor

When a firmware revision mismatch situation exists, this feature enables the controller to update, with no user intervention, the firmware on modules configured in the I/O tree. Both local and remote modules can be updated while the controller is in Program or Run mode. This feature is supported for all ControlFLASH supported modules that have the "Electronic key" parameter set to "Exact Match". PowerFlex 70 and 700 drives firmware can also be updated; however, peripheral modules are not supported at this time. All firmware kits are transferred from the workstation and stored onto the controller's CompactFlash card during a "Store to NVS" operation. This feature makes firmware management simpler, addresses the needs of regulated industries (e.g., Life Sciences), and allows in-the-field updates for OEMs.

ControlLogix 1756-L64 Processor

The new 1756-L64 Series B ControlLogix Controller is supported with version 16 of RSLogix 5000. This controller is an extension of the 1756-L6x family of controllers and supports 16 Mbytes of user memory. The battery architecture for this controller leverages flash technology, which substantially improves battery life.

PowerFlex 7 & 4 Class Support

Version 16 or RSLogix 5000 integrates configuration and operation of ControlNet and EtherNet/IP connected PowerFlex 7 & 4 Class drives and most SCANport-enabled drives. The capability that was provided previously in the separate DriveExecutive software is now packaged into an RSLogix 5000 I/O Configuration Profile. Drive settings are stored within the RSLogix 5000 Project ACD file and controller memory, and drive specific Input/Output data structures are customized with user configured data link parameter names.

1756-IF8H, -OF8H Analog I/O with HART Communications

The new 1756-IF8H is an 8 channel differential voltage/current input module with built-in HART communications. The 1756-OF8H is an 8 channel voltage/current output module with HART communications. Both modules allow access to HART field device data in the ControlLogix controller. The modules also support pass-through capability to allow asset management software such as Endress+Hauser FieldCare to access HART field devices.

Security Log-On/Log-Off

For users who have installed and enabled security, RSLogix 5000 version 16 now provides a convenient way to Log-On and Log-Off the active user of the RSLogix 5000 software. Switching users in versions prior to version 16 required either changing the user logged into the Microsoft Windows or changing the FactoryTalk user via the "Log-on to FactoryTalk" dialog. The Security Log-On/Log-Off feature integrates with the FactoryTalk Security server, also know as the RSAsset Security server, by authenticating the user's name and password against those that have been configured in FactoryTalk. The FactoryTalk Security server is installed and configured when you install the FactoryTalk Automation Platform (FTAP), available on your RSLogix 5000 version 16 CD. Further information about FactoryTalk Security server is available in FactoryTalk online help.

Module Support (Catalog Numbers 1756, 1757, 1768, 1769, 1794)

The RSLogix 5000 programming software now supports configuration of these modules:

1756

- 1756-CN2/B — 1756 ControlNet Bridge
- 1756-CN2R/B — 1756 ControlNet Bridge, Redundant Media
- 1756-EN2F — 1756 10/100 Mbps Ethernet Bridge, Fiber Media
- 1756-EN2T — 1756 10/100 Mbps Ethernet Bridge, Twisted-Pair Media
- 1756-FFLDC — 1756 Foundation Fieldbus Linking Device
- 1756-IF8H — 8 Channel HART Analog Input
- 1756-OF8H — 8 Channel HART Analog Output

1757

- 1757-FFLDC — 1757 Foundation Fieldbus Linking Device

1768

- 1768-CNB — 1768 ControlNet Bridge
- 1768-CNBR — 1768 ControlNet Bridge, Redundant Media
- 1768-EWEB — 1768 10/100 Mbps Ethernet Bridge w/Enhanced Web Services

1769

- 1769-BOOLEAN — 8 Point Input, 4 Point Output, 24 V DC Combo Boolean
- 1769-OF8C — 8 Channel Single Ended Current Analog Output
- 1769-IF4I — 4 Channel Isolated Analog Current/Voltage Input
- 1769-IF8 — 8 Channel Current/Voltage Analog Input
- 1769-IQ32T — 32 Point High Density 24V DC Input
- 1769-OV32T — 32 Point High Density 24V DC Output, Sink
- 1769-OF4CI — 4 Channel Isolated Analog Current Output
- 1769-OF4VI — 4 Channel Isolated Analog Voltage Output
- 1769-OF8V — 8 Channel Single Ended Voltage Analog Output

1794

- 1794-AENT/B — 1794 10/100 Mbps Ethernet Adapter, Twisted-Pair Media

Enhancements in This Release

The following enhancements to existing features have been made in this release of RSLogix 5000.

- **Report Enhancements** – With RSLogix 5000 version 16, the reports capabilities have been enhanced by including the controller's properties information. This new report provides a detailed listing of the settings that appear in the controller configuration dialog, including important information like controller type, chassis location, serial port configuration, and the Sequential Function Chart (SFC) execution options
- **FBD Increased Sheet Size** – With version 16, the number of sheet size choices has been increased from 5 to 13. This allows an increased amount of logic to fit onto a single sheet. Additionally, it is now possible to print the application code on larger paper sizes.
- **FBD Option to Hide Tag Comments** – In version 16, an option has been added to provide the ability to hide tag comments, reducing the clutter in the FBD language editor and in reports.
- **Ability to Display Values on FBD Instruction Input Pins** – Version 16 of RSLogix 5000 provides the ability to configure the Function Block Diagram (FBD) Editor to display the values on the input pins of FBD instructions. This functionality, which is disabled by default, is configurable in the Workstation Options dialog for the FBD Editor. Additionally, there is an option to configure the FBD Editor to show values only for unwired inputs.
- **FBD Delete Tags When Instruction Deleted** – Prior to version 16, deleting an FBD block left the backing tag in the project and if needed, this tag could then later be linked with a new instruction. However, in many cases this tag is no longer needed. With V16, the user has a choice to either delete or keep the block's backing tag.
- **FBD Special Array Dialog Tab** – With prior versions of RSLogix 5000, it was necessary to separately use the Tag Editor to create array tags for the Deadtime (DEDT), Moving Average (MAVE), and Moving Standard Deviation (MSTD) function blocks. With version 16, a new tab has been added for the properties dialogs of these functions blocks, allowing the storage and weight array tags to be directly defined as function blocks are programmed and configured.
- **SFC Routine Overview Option to Allow It to Remain Visible –** Prior to version 16, the Sequential Function Chart (SFC) overview window would disappear when clicking outside of it. With version 16, the routine overview window can optionally be made to remain visible. This option is enabled by setting the AutoHide option available via right-click context menu.
- **Force Status Displayed for SFC Action Indicator Tag –** With version 16, a force status indicator has been added for the tag configured to display its value in an action. This force status indicator shows when the tag value is being forced.
- **64-Bit LINT Data Type** – Version 16 of RSLogix 5000 introduces a new LINT data type, a Long INTeger data type that can store a 64-bit integer value. In version 16, the LINT data type is used only for date and time stamps for the analog and digital alarm instructions (ALMA and ALMD). These time stamps will be displayed on the Alarm Summary, Alarm Banner, and Alarm Log in the CPR 9 release of FactoryTalk View SE. Support for this new datatype is limited to the GSV, SSV, ALMD, ALMA, COP, and CPS instructions.
- **GSV access to Axis DriveResolution** – With RSLogix 5000 version 16, access to Axis attribute configuration DriveResolution has been added (x56983)
- **GSV/SSV access to CommandUpdateDelayCompensation** – RSLogix 5000 version 16 allows GSV/SSV access to the Axis attribute CommandUpdateDelayCompensation for SERCOS axes. This is primarily used with the 1756-M08SEG module for third-party SERCOS interface (The standard Delay Compensation is provided for 1756-MxxSE modules using the Rockwell Automation SERCOS interface.) (x60439)
- **Axis Attribute SafeOffModeActiveStatus added** – With RSLogix 5000 version 16, access to status Axis.SafeOffModeActiveStatus attribute has been added to the Axis backing tag structure. It is also accessible as Axis.DriveStatus.(bit14). A value of 1 for this status bit indicates that the drive's Safety Monitor circuitry has encountered a loss of enable_1 or enable_2 on the Kinetix6000 Drive SafeOff I/O connector. This status will be returned from the Kinetix 6000 drive using firmware version 1.85 or higher.
- **Loss of Feedback detection on M02AS & HYD02** – With RSLogix 5000 version 16, the Loss-of-Feedback (LOF) detection has been enhanced for the 1756-M02AS and 1756-HYD02 modules to now recognize the LOF while the servo loop is off or disabled (MSF), as well as the prior check for LOF while the servo loop is on (MSO). (x54695, CR441)
- **S-Curve MCS stop adjustment via Dynamics Configuration Bits** – Bits for user definable configuration have been added to the COORDINATE_SYSTEM data type in RSLogix version 16 to allow for more adjustment to the deceleration mechanism for S-Curve profile moves. The DynamicsConfigurationBits attribute allows for configuration setting for these three items: reduced S-Curve stop delay, reduced S-Curve velocity reversal, and reduced S-Curve velocity overshoot. This attribute can be accessed via GSV/SSV. (x55080)
- **Option to Force Overhead Time Slice Usage –** Prior to version 16, the value of the System Overhead Time Slice (SOTS) could be set so that less than 1 msec was available for the execution of the continuous task. Because each task swap takes about 100 usec, this results in inefficient controller resource utilization. Version 16 of RSLogix 5000 forces at least 1 msec of execution time for the continuous task, regardless of the SOTS value.

- **Forced Usage of Overhead Time Slice** – The System Overhead Time Slice (SOTS) allows you to reserve a percentage of the controller processing resources for the handling of communications. Prior to version 16, any unused part of the SOTS was used by the controller to resume the continuous task. With RSLogix 5000 version 16, the unused portion of SOTS can be configured to either:

  - Run the continuous task (default/legacy mode), allowing for faster execution of application code, or
  - Reserve it for communications, providing for more predictable and deterministic continuous task scan time.

  This enhancement allows the full impact of communications on the continuous task to be determined if time reserved for communications were always fully used.

- **Programmatic GSV Access to Select Project names** – When RSLogix 5000 downloads a project to a Logix controller, most of the user entered names for the various parts of the project are also loaded and stored in the controller's memory. With version 16, some of these names can be accessed via the Get System Value (GSV) instruction so that the application can make use of the names to generate string messages that can be used for Human Machine Interface (HMI) displays. The names for the controller, tasks, programs, and routines can all be accessed either directly by selecting the item of interest from the GSV configuration or indirectly by using the "THIS" operation. This provides a way to create applications that are self configuring since the messages sent to the HMI can now automatically inherit the names.

- **Source Protected Routines are now included in the L5K Export File** – Prior to version 16, the source code for protected routines was not included in the L5K export files. With RSLogix 5000 version 16, the encrypted copy of source protected routines is now included in the exported L5K project file, allowing for easier handling and offline manipulation of L5K projects.

- **Granular Security Actions Added for GuardLogix** – In version16, users can assign granular security actions to safety components using the Security Server. The following granular actions are available in the Security Server explorer:

  Safety: Generate/Delete Signature
  Safety: Lock/Unlock
  Safety: Modify Component
  Safety: Modify Tag Mappings

- **Granular Security Actions Added for Add-On Instructions** – In version16, users can assign granular security actions to Add-On Instruction components using the Security Server. The following granular actions are available in the Security Server explorer:

  Add-On Instruction: Create
  Add-On Instruction: Delete
  Add-On Instruction: Modify

- **GuardLogix Support for Remote Safety Modules** – Version 16 of RSLogix 5000 supports remote safety bridging to GuardLogix controllers and DeviceNet safety I/O. In order to support this, the maximum safety task period allowed is now 100ms. Additionally, the maximum consumed tag RPI and input and output RPI for safety I/O modules is 100ms.

- **Change Tag Name Case via CSV Import** – The tag Comma Separated Value (CSV) Import/Export lets you manipulate tags offline using third party tools (e.g., Excel). However, earlier version of RSLogix 5000 did not take into account character case changes (e.g., MYTAG vs. MyTag). With RSLogix 5000 version 16, the import has been enhanced to inherit tag name character case as defined in the CSV file.

- **Make Duplicate Destructive Bit Detection the Default Setting** – With RSLogix 5000 version 16, the Duplicate Destructive Bit Detection is enabled by default in the Workstation Options. In earlier versions, this feature was disabled by default. This enhancement improves ease-of-use and improves code debugging by default without the need to configure a Workstation Option.

- **Ladder Diagram Shorted Branch Verification Warning and Search Option** – During startup or debug, a programmer may place a branch, containing no instructions, around a sequence of instructions in the code in order to bypass them. Once this is done, it can be difficult to later find the short. With RSLogix 5000 version 16, the ability to locate these shorts has been made easy by providing both a search option and a configurable verification warning. The existence of shorted branches does not stop download but merely provides a warning that the situation is present.

- **Controller Organizer notification when Task Output Updates are inhibited –** Along with the introduction of Event Based Tasks in version 12, a capability was added to selectively turn off the output processing at the end of the task in order to reduce the amount of task processing time. In RSLogix 5000 version 16, an indicator has been added in the Controller Organizer to show which task(s) are configured to disable output processing.

- **Sorting Added to PLC/SLC Data Mapping Dialog –** With RSLogix 5000 version 16, the file numbers on the PLC/SLC Mapping dialog box can now be sorted in ascending or descending order.

- **Tag Browser Enhancements** – With RSLogix 5000 version 16, the Tag Browser has been enhanced. The Tag Browser now supports the mouse scroll wheel. The Bit Picker for INT and DINT data types now shows which bits are already referenced by an instruction. A description ToolTip has been added for the Bit Picker.

- **Find All <tag name> to Row Context Menu Added for Tag Editor / Data Monitor** – With RSLogix 5000 version 16, the "Find All <tag name> option has been added to the right-click row context menu in the Tag Editor / Data Monitor.

- **Resizable Horizontal Scroll Bar for Language Editors** – With RSLogix 5000 version 16, the horizontal scroll bar for language editors is now resizable. Reducing the size of the horizontal scroll bar increases the available space for routine name tabs, allowing for easier selection and identification of opened routines.

- **AutoFlash for Rockwell Automation SERCOS Drives** – Prior to version 16, the AutoFlash feature allowed users to flash controller and motion module firmware on a project download. In version 16 of RSLogix 5000, the functionality of the AutoFlash feature has been enhanced to also allow for the Kinetix 2000, Kinetix 6000, Kinetix 7000, 1394, Ultra3000, and 8720MC Rockwell Automation SERCOS drives to be firmware flashed. This simplifies the software upgrade process by, in one step, flashing firmware for the controller module, motion modules, and Rockwell Automation SERCOS rings when downloading the application.

- **Generic Ethernet Module Extensions** – With version 16 of RSLogix 5000, the Generic Ethernet Module support that is used to interface Logix5000 to 3rd party devices via EtherNet/IP has been extended in a number of ways.

  - Generic EtherNet/IP modules can be added at run-time.
  - Tags can be consumed from a 3rd party device via the ETHERNET-MODULE Generic profile.
  - A Device's I/O and status connection request can be disabled by setting the "Comm Format" to "None".
  - The instance number for all generic profiles can now be larger than 255.

  These extensions provide greater flexibility when using this configuration option and expand the functionality so that 3rd party devices can interact more readily with Logix5000.

- **Updated I/O and Communication Module Requested Packet Intervals (RPI) Defaults –** When new modules are added into an RSLogix 5000 project, a default Requested Packet Interval (RPI) value is configured to set the rate at which the module will communicate with the controller. Initially, these defaults were set to accommodate higher speed applications, allowing the user to change the RPI value if it were necessary to save bandwidth. Because most people simply used the defaults, this placed some excessive demands on some parts of the system. To alleviate this, the RPI defaults were modified to be more typical settings. The updated defaults are as follows:

  20 msec for All Network Bridges and Adapters
  20 msec for Digital / Discrete I/O
  80 msec for Analog I/O
  20 msec for standard drives
  20 msec for Produced / Consumed Tags
  5 msec for CompactLogix local backplane

  Note that if you desire faster performance for select modules, you can still override the defaults to get the needed communications rate.

- **Configurable Power Loss Fault Action** – With RSLogix 5000 versions 15 and earlier, the default fault action for a phase loss to the drive AC main were: 3 phase loss = STOP and 1 phase loss = DISABLE and SHUTDOWN. With version 16 of RSLogix 5000, a new fault action, "Phase Loss", has been added for Kinetix 6000 and Kinetix 2000 Drives, which allows configuration of the fault action during a phase loss situation. The configurable fault actions are Shutdown (default), Disable Drive, Stop Motion, and Status Only. When the "Phase Loss" fault group is configured as Status Only, Logix5000 motion commands will continue and the drive will use available stored DC bus energy to operate axes. This attribute cannot be set via an SSV. Please refer to the Application Notes section "Phase Loss Fault-action for AM vs. IAM on Kinetix 2000 & 6000" for a description of user application logic needed to support this feature on Axis Modules (AM's).

- **CIP Safety Communication Support** – GuardLogix controllers with firmware revision 16 support EtherNet/IP and ControlNet CIP safety communications. This allows GuardLogix controllers to distribute and control remote CIP safety I/O as well as produce and consume safety tag data between GuardLogix controllers on EtherNet/IP or ControlNet networks. In RSLogix 5000, use a 1756-ENBT module to bridge communications to controllers on EtherNet/IP networks and a 1756-CN2 module to communicate over ControlNet networks.

Important Changes in This Release

The following items explain changes that have been made in this or previous releases in the way that RSLogix 5000 software works, compared to previous releases.

Controller Memory Changes

This revision of Logix5000 controllers may require more memory than previous revisions:

- Before upgrading to this revision, check the amount of unused memory that you have in the controller. To upgrade to this revision you may have to add an expansion memory card to the controller or use a larger memory card.
- To estimate the additional memory that your project will require, use the following table.
- For additional information about controller memory issues refer to the Knowledgebase document G19984 at http://support.rockwellautomation.com

Additional memory to upgrade to firmware revision 16.x

If you have this firmware revision (add all that apply):	*Component*	*Increase per instance*
15.x or earlier	Input module (I/O memory)	4 bytes
	Produced tag (I/O memory)	12 bytes
	Consumed tag (I/O memory)	4 bytes
	Task	20 bytes
	Program or Equipment Phase	24 bytes
	Routine	4 bytes
	Tag that uses COORDINATE_SYSTEM data type	748 bytes
	Axis tags (all AXIS data types)	800 bytes
	Serial Port	1120 bytes
	Project	4012 bytes
14.x or earlier	Tag that uses COORDINATE_SYSTEM data type	60 bytes
	Axis tags (all AXIS data types)	4 bytes
13.x or earlier	Program	12 bytes
	Task	4 bytes
	User-Defined Data Type	4 bytes
	I/O module	16 bytes
	Produced or consumed tag	8 bytes
12.x or earlier	I/O Module with Comm Format = Rack Optimization	90 bytes
	I/O Module with Comm Format = other than Rack Optimization	144 bytes
	CompactLogix 1769 I/O Module	170 bytes
	Bridge Module with Comm Format = None	160 bytes
	Bridge Module with Comm Format = Rack Optimization	220 bytes
11.x or earlier	Tags that use MOTION_INSTRUCTION data type	4 bytes
	Tags that use AXIS_SERVO_DRIVE data type	288 bytes
	Tags that use all other AXIS_* types	264 bytes
	Output cam execution targets	648 bytes
	Number of User-Defined Data Types	128 bytes
	Indirect addresses in single dimension arrays of a user-defined data type	(-60 bytes)
10.x or earlier	Project for a ControlLogix5555 only	1200 bytes
	Project for a ControlLogix5563 only	1200 bytes
	Programs	12 bytes
	Routines	16 bytes
9.x or earlier	Project for a ControlLogix5550 only	1200 bytes
	Tag that uses MESSAGE type	376 bytes

If you have this firmware revision (add all that apply):	*Component*	*Increase per instance*
8.x or later	Axis tags	(-21600 bytes)
8.x or earlier	Output cam execution targets	5404 bytes
	Motion group	32 bytes
7.x or earlier	Project	1050 bytes
	Tags	0.55 bytes (average)
	Axis tags	21600 bytes
	Messages that: ▪ Transfer more than 500 bytes of data and ▪ Target a controller in the same chassis	2000 bytes
6.x or earlier	Base tags	24 bytes
	Alias tags	16 bytes
	Produced and consumed tags	
	DINT data type	12 bytes
	REAL data type	12 bytes
6.x	Routines	68 bytes

Import/Export Changes

Import/Export Formats – RSLogix 5000 provides three different Import/Export file formats:
(1) Full project exported to ASCII text file (.L5K),
(2) Tag definitions and program documentation exported to ASCII text files in a Comma Separated Value (.CSV) or Tab Separated Value (.TXT) format, and
(3) Partial project exported to an Extensible Markup Language (XML) formatted file (.L5X).
Each of these formats is documented in "Logix5000 Controllers Import/Export Reference Manual" Publication 1756-RM084K-EN-P, which also describes modifications that can be made for backward compatibility of export format files.

Import/Export Major and Minor Revision – Beginning with the V9.00 release, the Import/Export Version number will be interpreted as a Major Revision and a Minor Revision (major.minor). Each version of RSLogix 5000 will export *.L5K files with specific IE Version numbers. RSLogix 5000 will import any *.L5K file with the same Major Revision number and the same or lower Minor Revision number. The Major Revision will be incremented when there is a significant change that affects compatibility with previous versions. The Minor Revision will be incremented whenever there is a change in the file format (a new module, an attribute is added, the set of options for an attribute is changed, etc.). Generally, the Minor Revision will be incremented for each release.

The Import/Export version number in V16 has been changed to 2.7. If you have export files (*.L5K) that were created in versions of RSLogix 5000 with an Import/Export version number less than 2 and you attempt to import them in V16, an error will be generated. The error message is "Failed to open file *.L5K. Syntax error found while scanning import file." To work around the problem, edit the *.L5K file and change the line IE_VER := x.x;, where x.x may be 1.0, 1.1, or 1.2 to IE_VER := 2.7; save the file and retry the import.

RSLogix 5000 Version	Import/Export Version
16.xx	2.7
15.xx	2.6
14.xx	2.5
13.xx	2.4
12.xx	2.3
11.xx	2.2
10.xx	2.1
9.00	2.0
5.02	1.2
2.xx, 6.xx, 7.xx, 8.xx	1.1
1.21, 1.23	1.0
1.10, 1.11	0.4

Import or Paste Error Messages – When attempting to import or paste between versions if the IE Version is invalid an error message will be displayed in the results window. If the major or minor revision number is larger than accepted the message "Error Line xxx: Invalid IE Version number. Can not import/paste into older version of RSLogix 5000" will be displayed. If the major revision number is smaller than accepted the message "Error Line xxx: Invalid IE Version number. See Release Notes for more detail" will be displayed.

I/E Format for Structured Text Routines – The Import/Export format for Structured Text routines was changed in V12. The STX_ROUTINE and END_STX_ROUTINE delimiters were changed to ST_ROUTINE and END_ST_ROUTINE, respectively. RSLogix V12.00 or later software will continue to recognize the obsolete STX_ROUTINE when importing, but will export using the new format. Any attempt to Copy/Paste, Drag/Drop, or Import a V12 or later Structured Text routine into V11 software will fail.

Online Editing Views for SFC and ST – With the addition of online editing for SFC and ST in V13, new LOGIC and END_LOGIC delimiters were added to identify Original, Pending Edits, and Test Edits views in the export file for the SFC and ST languages. These new delimiters are not recognized in older versions of RSLogix 5000, so V13 (or later) generated L5K files with SFC or ST online edits should not be imported into versions prior to V13.

Datatypes and Keywords – If you are importing an older version project (prior to V11) you may get the error message "An error occurred while creating DATATYPE xxxx (One or more arguments invalid.)" for some user-defined data types. The likely cause of this error is the use of RSLogix 5000 reserved keywords introduced in V11 as data type names. Normally, user-defined data types which used keywords are renamed by appending a numeral. If an undefined data type is nested within another data type, it may be that the undefined data type uses a reserved keyword name and causes the error. To work around this problem, rename any undefined data types to non-keyword names.

Motion Axis Tags and Axis Object Attributes – In addition to the Import/Export changes described above, there have been many changes to motion axis tags and axis object attributes that will result in warning messages when importing older version *.L5K files. These warning messages will be in the format:

Warning: Line ###: An error occurred while setting attribute <name_of_attribute> of tag <name_of_axis_tag> (Couldn’t be found).

Refer to the descriptions of these motion axis tag and axis object changes elsewhere in the release notes for clarification. The same type of warning message will be displayed if you import objects that previously accepted NA as values. In this release, the not applicable values are exported as <NA>.

Anomalies Corrected in This Release

RSLogix 5000

Many product anomalies have been addressed since Version 15. The most significant of these include:

- Copy/Paste of SFC elements displays incorrect error messages (x32814)
- Not all motion commands are recorded in the audit log by RSMACC/RSAudit. (x46659, x46660, x46661)
- Random failures of coordinated motion term type 3 (x53326)
- Friction compensation does not zero out after unchecking and then running Autotune (x55233)
- Backlash compensation not accounted for after Servo-off (x55239)
- File conversion issue for axis parameters in a Motion project referencing MPL-B300 series motors. (x56176)
- Standard routine allows write to safety class tag (x56362)
- Fatal Error when changing PIDE properties with Autotune tag defined as a user-defined data type (x57001)
- Event Task Overlap counter increments after going to run mode (x58132)
- Fatal Error importing obsolete CompactLogix 1769-L30 project (x58966)
- Unable to import CompactLogix project from RSLogix 5000 versions prior to version 10. (x58967)
- Fatal Error after declining to continue with Database Conversion. (x58982)
- Fatal error uploading an Add-on Profile module if the profile is not installed (x59533)
- Fatal Error opening LD routine with component browser open in ST Editor. (x60317)
- Fatal Error editing FBD routine with wire connected to a hidden pin (x60814)
- Task properties Program Schedule lists the same program twice (x61410)
- The DN bit for the Motion Axis Fault Reset (MAFR) instruction was being set prior to completion of fault handling process in SERCOS drive. This has been fixed so that the DN bit is now set only after the SERCOS drive has completed the Fault-Handling process. The correction applies to the following three instructions: MAFR, Motion Group Shutdown Reset (MGSR), and Motion Axis Fault Reset (MASR). (x62082)
- Fatal Error assigning alias for tag (x63025)
- Fatal Error deleting branch while online in Ladder Editor (x63570)
- Watch Pane allows data values to be edited after watch pane has been closed. (x66439)
- Implied convergence of an SFC branch can result in concurrent execution of more than one step on the same execution thread when the merged branch is terminated by a Stop element. (x67236)
- Mixing exponent and divide instructions in a compute instruction calculates incorrect result (x68272)
- Fatal Error launching RSLogix 5000 while logged in to a workstation with user names containing special characters (x69144)
- Fatal Error converting project to v16 after deleting an unverified axis tag that is referenced in logic (70125)

ControlLogix556x

Refer to the Firmware Release Notes for the ControlLogix family of controllers (Publication 1756-RN603) to review the most significant anomalies that have been addressed.

Known Anomalies

Keep the following concerns/limitations in mind when using this release.

Operands Missing after Copy/Paste or Drag/Drop of Motion Instructions to Version 16

Additional operands are required for the MAM, MAJ, and MAS Motion instructions (in Ladder Diagram and Structured Text) as part of the Programmable Jerk feature introduced in version 16 of RSLogix 5000. When porting any of these instructions to versions 16 from previous versions of RSLogix 5000 using copy and paste or drag and drop, the new operands are not automatically inserted, resulting in instructions that will not verify. When this occurs the user must make the necessary corrections to the copied instruction. It should be noted that this problem does not exist for converted or imported projects. For Ladder Diagram, a suitable work-around may be to use Partial Export/Import of rungs containing these instructions. (x57337)

GDI Object Leaks Can Occur When Opening and Closing Child Windows

Repeatedly opening and closing child windows may cause the number of graphics device interface (GDI) objects to increase when running RSLogix 5000 on Windows XP SP2 or on Windows Server 2003 with the Themes service started. Example child windows include, but are not limited to: the Controller Properties dialog, the Ladder Routine window, and the SFC Routine window. The leaks are minor in nature, but it is possible that unpredictable behavior can occur if the number GDI objects gets excessively high. This issue is documented in the Microsoft Knowledgebase article http://support.microsoft.com/?kbid=319740, which also provides instructions for obtaining a supported hotfix from Microsoft. A temporary work-around is to set the display properties to Windows Classic Theme. (x66929)

RSLogix 5000 Fatal Error When 1756 HART Module Is Deleted From Controller By Another User

The 1756-IF8H and 1756-OF8H HART modules can be configured online using version 16 of RSLogix 5000. If more than one user is accessing the same controller using RSLogix 5000, deleting one of these modules from the I/O Configuration tree will result in a Fatal Error in the RSLogix 5000 application for any other online users who are changing the module definition or who are viewing a confirmation dialog for the deleted module. (x72882)

SoftLogix Does Not Retrieve Object Values Set By SSV Instruction

After executing an SSV instruction using SoftLogix, an upload of the project will not retrieve the updated object values. As a workaround, the object attributes can be stored in tags. SSV can then be performed from those tags in an initialization routine. (Note that this is a problem only for the SoftLogix controller; uploads of object values modified by an SSV on other controllers will be successful.) (x59117)

RSMACC Audit Does Not Display Unicode Characters

When the description of a task, program, routine, module, trend, etc. is edited, any audit records displayed using RSMACC Audit will not properly display Unicode characters. (x63773)

RSLogix 5000 Fatal Error Inserting Unicode Characters

RSLogix 5000 employs a feature which allows the user to position the caret on an edit control and, without explicitly opening the edit control, to begin entering character data from the keyboard. This action will cause RSLogix 5000 to automatically open that edit control as character data entry continues. For many of the edit controls in RSLogix 5000, using this auto-open feature when inputting Unicode characters using an Input Method Editor (IME) will result in unexpected behavior or in a Fatal Error.

To avoid this Fatal Error when entering Unicode characters, the edit control should be explicitly opened before beginning to enter character data from the keyboard. In most cases, pressing [Enter] on the keyboard will open the edit control which has the caret. In other cases, a single click or double click of the mouse is required.

When using an IME to input Unicode characters, if the small IME character input dialog appears in the upper left corner of the display, then you have started to input an Unicode character string with no edit control opened. When this occurs, you can press [Esc] on the keyboard to cancel the input and then open the desired edit control before entering the Unicode character string.

(x59649, x59650, x59825)

DriveLogix “Major Fault On Controller…” Checkbox Display Not Consistent with Firmware Behavior

For the DriveLogix5730 controller, the “Major Fault On Controller If Connection Fails While in Run Mode” checkbox on the Connection tab of the CompactBus 1769 Virtual Backplane Adapter is always displayed as checked. This checkbox cannot be modified. DriveLogix5730 controller firmware revision 15.04, will always behave as if this checkbox is not checked. When using revision 15.04 of the DriveLogix5730 firmware, a major fault on the 1769 virtual adapter will not cause the controller to fault. Individual I/O modules can still be configured to cause the controller to fault in the event of a major fault on an I/O module.

Security Option for Motion: Modify Configuration Allows Modification on Module Properties

With the security action “Motion: Modify Configuration” not granted, you should be prevented from modifying motion configuration. You are prevented from changing axis association to a module from the Axis Properties dialog but are erroneously allowed to make this change from the Module Properties dialog. To secure the axis association configuration on the Module Properties dialog, deny access for the security action “Module: Modify Properties”. This will secure all of the tabs of the Module Properties dialog, including the Axis Association tab. (x55583)

Security Option for Module: Modify Properties Prevents Modification on Motion Configuration

With the security action “Motion: Modify Configuration” granted, you should be allowed to modify the motion configuration. You are allowed to change the axis association to a module from the Axis Properties dialog but are erroneously prevented from making this change from the Module Properties dialog. To allow the axis association to be configured on the Module Properties dialog, grant access for the security action “Module: Modify Properties”. This will enable all of the tabs of the Module Properties dialog, including the Axis Association tab. (x72088)

RSLogix 5000 Stops Logging Messages to RSMACC/RSAudit after Uninstalling FTAP Version 2.0

As part of the installation of RSLogix 5000 versions V15 and earlier, Factory Talk Diagnostics files versions earlier than 2.00 are also installed. When Factory Talk Automation Platform (FTAP) version 2.0 is installed (either separately or as part of another product install), these Factory Talk Diagnostics files are upgraded. If you then uninstall FTAP 2.0, the upgraded Factory Talk Diagnostics files will no longer function, and RSLogix 5000 will be unable to log audit and diagnostic messages. When this occurs, you can correct the problem by simply re-installing FTAP 2.0. In order to avoid getting into this situation, you should not uninstall FTAP 2.0 without first uninstalling all products that make use of Factory Talk Diagnostics files. (x55161)

RSLogix 5000 Fatal Error if GDI Objects Exceed OS Limit

If you are working on a large project (especially with a lot of graphical routines) and you perform an operation that causes the number of GDI objects to exceed 10,000 (on Windows XP) or 16,384 (on Windows 2000), then the result is an RSLogix 5000 fatal error. Operations which increase the number of GDI Objects include language editors, tag editor, trending, search and replace, and others. To work around this problem, avoid opening large numbers of editors simultaneously, doing large search and replace operations, and consider closing and reopening RSLogix 5000 more frequently. (x48079)

AutoFlash Updates for Motion Modules Across Bridged Serial Ports

AutoFlash firmware updates of motion modules does not work if the target chassis is reached via a bridged connection over a serial port. For example, if you navigate from one chassis out the serial port of a controller into the serial port of another controller in a different chassis which contains motion module(s), you will not be able to AutoFlash update the motion module(s). To workaround this issue, navigate to the chassis with the motion modules through another communication path that does not involve bridging serial ports or use the ControlFLASH tool to update the firmware. (x45686)

Unable to Update 1756-M02AE Module After Updating a Controller Module

Using ControlFLASH version 6.00.02, you cannot update the firmware of a 1756-M02AE motion module after a successful update of a controller module. Attempting to do this will generate the error: “#10300 Not enough data received in response of Update”. At this point, the user must exit the ControlFLASH tool and then restart it to allow completion of the 1756-M02AE firmware update. As an alternative, update the 1756-M02AE firmware before updating the controller firmware. In this case, both updates complete properly. Additionally, in the case of firmware updates using AutoFlash, the default sequence is to update controller modules followed by motion modules, which may result in the error “Failed to communicate to the target Device” being generated. The user must then update the 1756-M02AE firmware separately. (x71573)

Motion SERCOS Ring Phase Up Issue if Auxiliary Feedback Units Aux_Mm Or Aux_Inch

If a motion Axis_Servo_Drive axis is configured with a Loop Configuration using auxiliary feedback, there are 3 choices for the units for Drive Counts per: Aux Rev, Aux Inch, Aux Millimeter. Only the default Aux Rev is valid for RA SERCOS Drives. Selecting Aux Inch or Aux Millimeter will cause a SERCOS Ring phase up fault at Phase 3. The SERCOS Fault reported will be “Position Data Scaling – Invalid attribute value”. To workaround the problem, select Aux Rev as the units when configuring a Loop Configuration using Dual/Auxiliary feedback. (x43750, x43870, x44775)

Motion Impact to Motion Group Coarse Update Period on 1756-L55 Controller in Version 16

With version 16, there is a slight increase in the overhead for the coarse-update-period rate of the Motion Group when using a 1756-L55 controller. This may appear as a Module Synch Fault when executing a Motion Calculate Cam Profile (MCCM) instruction, especially when running S-Curve profiles with Term type = 2 (command tolerance). This may also be exhibited as a Position error when running several sequential 3-dimensional circles of short arc length using the MCCM instruction with Term type = 2. The workaround is to increase the Motion Group’s coarse-update-period to the next millisecond increment, for example from 4ms to 6ms when using a 1756-MxxSE module. (If running a SERCOS axes, this coarse-update-period must be an even multiple of the SERCOS module cycle time.) (x70145, x71388)

Hardware Overtravel (OT) Fault Does Not Always Stop Motion When Soft OT Fault Action = Status Only

For Kinetix 6000 axes configured in RSLogix 5000, if you have both Soft Overtravel and Hardware Overtravel Limits enabled, and you configure the Soft Overtravel Fault Action as "Status Only", be aware that a Hardware Overtravel Fault Action configured for "Stop Motion" may not "Stop Motion" due to the two faults existing together and the first fault action being set to "Status Only". For more information refer to Technical Note: ID=36709 "2094 Kinetix 6000; Soft Overtravel triggers first then sequential hard overtravel does not stop motion", and Technical Note: ID=21500 "How do I get off a Soft Overtravel?" (x66998)

Unable to Perform FBD Routine Pending Edits in Hard Run or Controller Locked Modes

You are restricted from performing FBD routine pending edits when the controller is in hard run mode (keyswitch) or the controller is locked by another user. To work around this problem put the controller into Remote Run or Program Mode or unlock the controller. (x43429, x41415)

Displaying Secondary Online Help Window May Cause Blank Primary Window

If you have a primary help window displayed and you open a help topic which displays a secondary window, the primary window may become blank. This is the result of a problem with the Windows Help compiler. To display the original topic, click Help Topics and re-select the original topic. (x39239)

Structured Text and Project Component References

The Structured Text (ST) Editor manages the references made in application code to project components (e.g. tag names, routine names, program names, task names, and module names) in order to ensure the application code continually points at the intended component. This ensures that operations such as a tag rename are reflected in the code automatically, thus avoiding the need to manually search and replace references within the code after a tag rename has occurred. Note that this operation is identical for both standalone ST subroutines and ST statements embedded within a SFC routine.

In the ST Editor, when a parameter is entered, the software automatically interprets the text utilizing a precedence scheme in the following order: ST key words, tag names, routine names, program names, task names, module names, instruction names, function names, and enumeration (used in GSV/SSV instructions or the motion family of instructions). When a full routine verification is performed, the software is able to rationalize the parameter name with the appropriate project component based on its use within the instruction. For example, the first parameter in a JSR is a routine name, or a reference within a GSV may be a program name. However, if the two different project components utilize the same name, a rename operation may result in an unintended change to a parameter reference. A warning is generated during verify that this may have occurred. The warning is "There is more than one project component with the same name as the referenced parameter. Ensure the correct reference or keyword is used in ST logic and re-verify".

Example 1
1. Create a tag named A and a routine named A
2. Enter the statement JSR(A); in an ST routine. At this point, the ST references the tag A.
3. Verify the ST routine (directly or during a download). At this point, the system determines that this is a JSR instruction and that the parameter is a routine. Now the reference is to routine A.

Example 2
1. Create a tag named A and routines named A and B.
2. Enter the statement JSR(A); in an ST routine. At this point, the ST references the tag A. Close the routine.
3. Rename tag A to B. All references to the tag now have the new name B.
4. Open the ST routine.
5. In the ST, the name was changed to B, so the statement is now JSR(B);.
6. Verify the ST routine (directly or during a download). At this point, the system determines that this is a JSR instruction and that the parameter is a routine. However, the routine B is referenced not the intended routine A.

The warning during verify is generated for both of the above cases. You need to check that the correct component or keyword is being referenced if this warning appears.

To avoid these warnings and ensure that you are referencing the correct item at all times, avoid naming tags, routines, programs, tasks, and modules with the same name. Also avoid using names that are the same as instruction names or parameter enumerations used in GSV/SSV instructions or the motion family of instructions. (x32846)

Structured Text Editor Does Not Support REAL#NNN.NN Format

The following syntax is defined by IEC 61131-3 as part of a real literal, REAL#NNN.NN. In the Structured Text language in RSLogix 5000, this syntax is not valid and will not verify. To avoid the problem, do not use strings of this form in RSLogix 5000. (x33122)

SFC Wire Routing in Sequence Loops

In some SFC charts involving sequence loops, the automatic routing of wires may result in the wire passing through the SFC element(s). In order to correct this wiring problem try these recommendations:

- If a wire passes through an element, move the element to the left or right a few grid spaces. Do not move the branch.
- Move another element connected to the wire the opposite direction a few grid spaces. This will route the wires such that they will be visible.
- Move elements that are wired to each other into a more vertical alignment. This will adjust the wire paths.
- Move a branch vertically to a different position, to lengthen the vertical distance between elements.
- Jog elements right or left a grid unit at a time to straighten out crooked lines.
- Save your project. (x28417)

Project Re-Verification Operations

If you perform an operation that requires re-verification of the entire project (e.g. changing the controller type, compacting the database, or importing) the operation will complete successfully but may take an extended amount of time. Projects with FBD routines with large blocks (many visible parameters) and numerous input and output references are particularly sensitive to this re-verification time. The amount of time will vary depending on the complexity and size of the project. (x33403)

Error Accessing Motion Module Properties After Import

The export format for the 1756-M02AE catalog number was corrected in V9.00. If you manually edit an L5K file for a release prior to V9.00 and change the catalog number it will not import correctly. A Fatal Error will occur when you access the module properties. (x28541)

Runtime Error Opening Trend Chart Properties

If your computer is running low on registry quota, you may observe a C++ Runtime error when attempting to open the properties of a trend chart in RSLogix 5000. To correct this problem, increase the maximum registry size. The maximum registry size is accessed from the My Computer, System Properties, Performance, Virtual Memory dialog. The recommended size is two times the current size plus 20%. (x26487)

Output Cam Execution Targets Not Converted

In previous versions of RSLogix 5000 that supported output cam functionality, the default number of execution targets supported per axis was set to four and you could not modify the number. When downloaded to a controller, enough memory was reserved for four execution targets even if only one was used. In this release of RSLogix 5000, an Output Cam Execution Targets field has been added to the Axis Properties dialog box that allows you to set the needed number of execution targets.

If you have routines with Motion Arm Output Cam (MAOC) instructions created in versions of RSLogix 5000 prior to V9.00 and you convert them to V13.00, the MAOC instructions will not operate unless the associated axis tag is manually corrected. The conversion of the previous version instructions set the execution targets for the axis tag to zero, which will cause the MAOC instructions to error when executed. To correct the problem, access the Axis Properties dialog General tab for the axis tag and set the Output Cam Execution Targets value to the correct number for your application. (x25982)

DH485 Message Size Limit

Messages sent over a DH485 network are limited to a size of 240 bytes. This limitation is to prevent certain SLC, operator interface, and other third party devices that cannot handle larger messages from generating communication errors. (x20920)

DH485 Protocol Limited to Baud Rate of 19,200

The RSLogix 5000 software will allow you to configure the System Protocol for DH485 and a Serial Port baud rate of 38,400. However the protocol does not support this baud rate and the serial port will not operate correctly if configured this way. Choose a baud rate of 19,200 or less when using the DH485 protocol. (x25526)

Online correlation failure accepting a large number of pending edits

When making online changes to ladder logic, you are limited to accepting changes to 1000 rungs at one time. If you attempt to accept pending edits for more than 1000 rungs, RSLogix 5000 will display an error "Failed to correlate the project with a change in the controller. RSLogix 5000 has been taken offline." You can avoid this problem by accepting pending rung edits before the 1000 rung limit is reached. (x06034)

Tag Editor / Data Monitor Expand All with large arrays

If your project has large array tags, the Expand All feature may result in a low virtual memory condition and sluggish response. To work around this condition, close all other applications except RSLogix 5000, or expand array tags manually. (x01860)

Unable to uninstall RSLogix 5000 when disk space is low

If there is insufficient disk space on the hard drive, uninstalling RSLogix 5000 may fail with an error message “Unable to locate/process internal binary resource. Please contact your software vendor.” To work around this problem, free up disk space and try to uninstall again. (x01857)

Programming Over a DF1 Master/Slave Network

Programming over a DF1 Master/Slave network is not currently supported in RSLogix 5000. (x08157)

Download Fails with Communication Time-out

Under certain conditions (e.g. downloading over a project with a large number of established connections) downloading a project to the Logix5550 controller may fail with a communication time-out and RSLogix 5000 will be taken offline. If this occurs you should wait about 2 minutes and try to download a second time. If the second attempt to download fails, you should check the communication wiring to the controller to insure that a cable has not become disconnected, and also to check that the controller still has power. (x01853)

User-Defined Data Type size limits

You may not create a data type with more than 512 members either by editing in the Data Type Editor or by importing from an .L5K file. An individual UDT member may be an array with more than 512 elements. (x03090, x06296)

Program-scoped tag aliased to controller-scoped tag with the same name

The Tag Editor will no longer allow you to create a program-scope alias to a controller-scope tag of the same name. If you created projects with this condition in previous releases, they will convert successfully to V9.00, but the controller will fail to upload with the error message “Failed to resolve tag target”. To work around this problem, you can do either of the following things:

- While online to the controller, change the name of all the program-scoped tags which alias a controller-scoped tag with the same name to something (slightly) different and then upload, or
- Save the project as an .L5K file (export) and open the .L5K file (import), which will cause the program-scoped tags to become unverified. Delete the program scope tags that are now unverified which will cause the instructions that used the program-scoped tags to re-bind to the controller-scoped tags with the same name. Finally, download the project to the controller. (x01858)

Failure to modify the RPI of a consumed tag

While attempting to modify the RPI of a consumed tag, the following error may be encountered: "Failed to modify the properties for the tag '<consumed tag name>'. Couldn't be found." To work around the problem, save the project as an .L5K file, then reopen the .L5K file. (x03204)

Wall Clock Time beyond January 17, 2038 causes RSLogix 5000 to crash

A Wall Clock Time in the controller beyond January 17, 2038 will cause RSLogix 5000 to crash. The Wall Clock Time may be set via an SSV instruction or on the Controller Properties dialog Date/Time tab. If the Wall Clock Time is inadvertently set to an invalid value or rolls over from an earlier valid value with the Date/time properties displayed, the RSLogix 5000 software will crash. (x06665, x06519)

Instances of going online for the first time failing

There are intermittent issues with attempts to go online after power-cycling the controller chassis and/or stopping and starting RSLinx that may cause a first time failure. Immediate subsequent attempts will succeed. (x06178, x06022)

Uploading controllers with multiple aliases to the same data

Caution should be used in developing applications that utilize multiple aliases to the same base tag. When such an application is uploaded, the alias may replace base tag operands in the ladder logic. The aliases are alphabetized internally on upload so the replacement operand will be the first alphabetical name (x03160, x07909, CR169)

Application Notes

The following information is provided to help you better understand the behavior of RSLogix 5000 in particular applications or under certain circumstances.

RSLogix 5000

Version 16 Installation Does Not Automatically Uninstall V16 Beta Versions

This application note affects customers who have Beta software for version 16 of RSLogix 5000 installed on their workstation. The version 16 Install will not offer to uninstall any previous installations of version 16 software. Before installing the released version 16 software, it is necessary to first uninstall the version 16 Beta software using Add/Remove Programs.

Using Security with Version 16 RSLogix 5000 and CPR 7 FactoryTalk Network Directory Server

Note: This only applies if you are using security with version 16 of RSLogix 5000. In order for CPR 7 FactoryTalk Network Directory clients to take advantage of new security actions added in version 16 of RSLogix 5000, a utility needs to be run on the CPR 7 FactoryTalk Network Directory Server. This utility is automatically run when version 16 of RSLogix 5000 is installed. However, if you will not be installing version 16 of RSLogix 5000 on the FactoryTalk Network Directory Server, it is strongly recommended that you run the utility manually on the server prior to installing or running version 16 of RSLogix 5000 on other workstations. The utility, named "UpdateActionsInSchema.exe", can be found in the "System\SecuritySchemaUpdate\" directory on the RSLogix 5000 installation media. Note that upon execution, the utility will provide further instructions.

SFCRESTART Attribute Removed for GSV/SSV

In version 16, the SFCRESTART attribute has been removed from the PROGRAM class for the GSV and SSV instructions. This attribute was not used in previous versions of Logix5000, and it will now report a verification error if present.

Migrating to FactoryTalk Security (from RSI Security Server)

Existing RSI Security Server installations can be migrated to FactoryTalk Security. The FactoryTalk Security server is provided with the FactoryTalk Service Platform, which can be found on the Version 16 RSLogix 5000 disk. See the FactoryTalk Security installation instructions for further migration information.

Removal of Built-In Action Groups for Security

In version 16, the built-in action groups have been removed from RSLogix 5000 (i.e., Full Access, Maintain Project, Go Online, and View Project). If you are upgrading to RSLogix 5000 version 16 and continue to use RSI Security Server for Logix security rather than migrating to FactoryTalk, a set of predefined action groups can be found in the RSLogix5000Security.bak file and are for use with version 16. These new action groups for the RSI Security Server are

- RSLogix 5000 Full Access
- RSLogix 5000 Maintain Project
- RSLogix 5000 Go Online
- RSLogix 5000 View Project

They will be available in the RSI Security server once the RSLogix5000Security.bak file has been imported.

Tag Modify Properties is Required to Update Configuration Dialogs Having a Tag Tab

When making changes to a configuration dialog that contains a Tag tab, you may see an error message displayed indicating that "Tag: Modify Properties" is not granted. Allowed configuration changes to tabs other than the Tag tab are still committed, and this error can be ignored. (x72089)

FactoryTalk Security – Resource and Action Groups Coming With FactoryTalk CPR 9 Release

The release and update of FactoryTalk Security is independent of the release of RSLogix 5000. FactoryTalk Security in CPR 9 will support resource groups and action groups. This feature will allow the user to conveniently group resources, like ControlLogix controllers, and actions, like "Tag Create", for easier security administration.

Ramp/Soak (RMPS) Results Appear to Be in Error

Due to the operation of single precision floating point arithmetic processing in the controller, intermediate results shown in the Soak time Left of the Ramp/Soak (RMPS) instruction may appear to be inaccurate during the execution of the instruction. This does not cause improper execution of the instruction. (x72583)

File Import of Axis with MPx motors May Generate Warning for Axis Performance Verification

In the Motion Database prior to version 16 of RSLogix 5000, the Maximum Rated Current (I-rated) value for certain MPF, MPG, MPL, and TL motors were defined with settings from 1% to 7% higher than rated. If a project created in version 15 or earlier contains an AXIS_SERVE_DRIVE type axis configured with one of these motors, then when this project is imported (L5K format project file) into RSLogix 5000 version 16, the following warning will be generated: "Warning: During conversion of Axis '<tag name>' – Parameters for the associated motor have change, which may have caused changes to some axis parameters. Please verify the axis performance." When this warning is encountered, the user should verify that the Axis Parameters pertaining to Rated Current are configured for proper axis operation. As an alternative, the user can reassociate the motor to the axis, but in this case all motor parameters will be Reset to

default Motion database values, canceling many previously tuned and saved axis values. This issue does not exist with database conversion of an ACD format project file. The motors that are affected are: MPF-B310P, -B320P, -B330P, -B4430K; MPG-A004-031, -A110-031, -A11-0-091; MPL-A310F, -A430P, -B420P, -B4520P, -B4530F, -B4530K, -B580J, -B980L; TL-A120P-H, -A130P-H, -A220P-H, A230P-H.

LINT Time Stamp Values Not Displayed With FactoryTalk View SE

A new 64-bit Long INTeger data type (LINT) was introduced in version 16 of RSLogix 5000. This data type is currently used only for date and time stamps for the analog and digital alarm instructions (ALMA and ALMD). In the CPR 9 release of FactoryTalk View SE, these LINT time stamp values can be displayed only on the Alarm Summary, Alarm Banner, and Alarm Log. LINT time stamps cannot be displayed on custom FactoryTalk View SE graphics. Support for display of LINT time stamp values on custom graphics will be added to a future release of FactoryTalk SE.

Controller Time Object Changed in Version 16

The Controller Time Object was modified in version 16 of RSLogix 5000 to support future alarms and events functionality. Time stamps now use Universal Coordinated Time (UTC), also referred to as Greenwich Mean Time (GMT). If the logic in your application reads or sets the controller clock by using the GSV/SSV attribute “DateTime”, then this logic should be updated to use the new attribute “LocalDateTime”. You may also need to make other modifications to your application as a result of this change. (x72073, x72238)

Use New Clock Update Tool with Version 16 of RSLogix 5000

A Logix5000 Clock Update Tool is included on the RSLogix 5000 media. Only revision 2.2.5 or later of this tool should be used with version 16 of Logix5000. Older revisions may not properly synchronize workstation time and controller time.

Version 16 of RSLogix 5000 Phase Manager Requires a Patch to RSBizware Batch V8.00.00

When using Phase Manager in version 16 of RSLogix 5000 in conjunction with RSBizware Batch V8.00.00 (CPR 7 Release) you will need to apply patch 8.00.00.38 to RSBizware in order to be compatible.

Firmware Update Required for 1734 and 1738 Ethernet Point Adapters

When using a 1734-AENT or a 1738-AENT that is configured in one of the following two cases, you need to upgrade the firmware in the adapter module in order for both controllers to make a connection. The two scenarios are:

- Two Logix5000 revision 16 firmware controllers connected to one POINT output module. One controller connected as an owner. The other controller connected as a listener.
- Two Logix5000 controllers connected to one POINT output module. One controller is at Logix5000 revision 16. The other controller is at Logix5000 firmware revision 15 or earlier.

The required firmware for the 1734-AENT module is revision 2.003.4 or later, and the required firmware for the 1738-AENT module is revision 2.003.4 or later.

Display of non-Unicode Character Fonts in RSLogix 5000

It is recommended that the Microsoft® Windows operating system’s “Language for non-Unicode programs (System Locale)” be configured to match the localized language of RSLogix 5000 Editions. This is especially true for Chinese, Japanese, and Korean RSLogix 5000. Not configuring the PC’s operating system’s System Locale to match the language of RSLogix 5000 may result in the inability of RSLogix 5000 to display certain fonts.

If the Microsoft® Windows operating system is not configured with the recommended System Locale, a warning will be displayed when RSLogix 5000 is started. Clicking “Change” on this warning dialog will navigate to the operating system dialog from which the user can adjust the System Locale.

The System Locale can then be changed by selecting a new “Language for non-Unicode programs (System Locale)” on the Advanced tab of the Regional and Language Options (accessed from Microsoft® Windows Control Panel). For example, if you are running the Chinese version of RSLogix 5000 (9324-RLD300ZHE), you should select “Chinese (PRC)” for the System Locale.

CTree Errors Opening RSLogix 5000 Projects With McAfee VirusScan Running

With McAfee VirusScan Enterprise Edition 7.1 running, unexpected CTree errors may be seen when RSLogix 5000 project files are opened. This is caused by files in the temporary RSLogix 5000 folders, AB_xxxx, being modified by the McAfee VirusScan software. McAfee VirusScan software should be configured to ignore the contents of the AB_xxxx folders.

Starting with RSLogix 5000 Version 14, the directory structure for temporary RSLogix 5000 folders has been modified so that all AB_xxxx folders now reside within a single folder named “RSLogix 5000.Temp” located under the Temp directory (C:\Documents and Settings\<username>\Local Settings\Temp on Windows 2000 and XP). To prevent the CTree errors from occurring, the McAfee VirusScan software settings can now be configured to ignore the contents of the “RSLogix5000.Temp” folder. (x51417)

RSLogix 5000 Enterprise Series (Multiple Revision Support)

RSLogix 5000 Enterprise Series supports multiple revisions of the programming software on a single personal computer (PC) running Windows 2000, Windows XP, or Windows 2003 Server. With RSLogix 5000 Version 10 and later, you may install as many of the later major versions as needed plus one version earlier than Version 10 (e.g. V8.02).

MOTION_INSTRUCTION Data Type Change

The MOTION_INSTRUCTION data type changed in V12 and later and the size increased from 12 bytes to 16 bytes. **If you have created User-Defined data types that include members of type MOTION_INSTRUCTION you will lose tag initial values when you convert your project files from previous versions**. To work around this problem, export your project using the pre-V12 version of RSLogix 5000 and then import the project in V12.02 or later. If you have written logic that relies on the old 12-byte size (for example by doing a COP of a MOTION_INSTRUCTION tag) you will need to verify that your logic is still correct.

The new MOTION_INSTRUCTION data type structure is:

FLAGS	DINT
EN	BOOL
DN	BOOL
ER	BOOL
PC	BOOL
IP	BOOL
AC	BOOL
ACCEL	BOOL
DECEL	BOOL
ERR	INT
STATUS	SINT
STATE	SINT
SEGMENT	DINT
EXERR	SINT

Note the addition of a new flag AC and a new element EXERR. (x36228, x34556, x33393)

Extra Digit of Precision Shown for REAL Data Type

The REAL data type now shows a 32-bit (4-byte) IEEE floating-point value with the following range:

- -3.40282347E38 to -1.17549435E-38 (negative values)
- 0
- 1.17549435E-38 to 3.40282347E38 (positive values)

The REAL data type also stores ±infinity, ±NAN, and -IND, but the software display differs based on the display format.

Display Format:	Equivalent:	
Real	+infinite - infinite +NAN -NAN -indefinite	1.$ -1.$ 1.#QNAN -1.#QNAN -1.#IND
Exponential	+infinite - infinite +NAN -NAN -indefinite	1.#INF000e+000 -1.#INF000e+000 1.#QNAN00e+000 -1.#QNAN00e+000 -1.#IND0000e+000

The software also stores and displays the IEEE subnormal range:

- -1.17549421E-38 to -1.40129846E-45 (negative values)
- 1.40129846E-45 to 1.17549421E-38 (positive values)

Sequential Function Charts Reset to Initial Step During Online Editing

When performing online editing operations in a Sequential Function Chart (SFC), be aware that switching the executing logic from the original programming to the test edits version (or vice versa) will reset the chart to the initial step and reset all stored actions. This occurs regardless of which step(s) and action(s) were active at the time of the switch. To work around this problem, you can force the transition with the initial step to false, wait for the routine to execute to the initial step, and then perform the test/un-test operation followed by removal of the force. Also, you could leverage the SFC Reset (SFR) instruction to re-position the chart back to the desired step. (x36331, x43482)

RSLogix 5000 Appears to Lock Up When RSMACC Connection Broken

If RSAudit message logging is enabled and the workstation is unable to connect to the RSMACC server to log messages, RSLogix 5000 experiences intermittent freezes while it is waiting for the message requests to time out. This might cause RSLogix 5000 to appear as though it has locked up, but if you wait about one minute it will begin responding again. To resolve this problem, either restore the connection to the RSMACC server or disable the RSAudit message logging. Once a connection has been restored, cached messages will be logged to the server and RSLogix 5000 will resume normal operation. (x36127)

RSLogix 5000 Save May Result In Large Project ACD File

During a file save operation RSLogix 5000 attempts to compress the contents of a project so that the resulting file (ACD) requires less disk space. When opening a project this process is reversed and the contents of the ACD file are de-compressed. In some instances, RSLogix 5000 may not be able to compress the information within the ACD file. In order to prevent the loss of project information, RSLogix 5000 will perform the save without the compression. When this occurs, your ACD file may become abnormally large but it is

still usable, that is, you can continue to work with the file as you would normally. However, if you contact technical support and provide a copy of your project file, this could help the RSLogix 5000 development team to locate the source of the compression failure.

Activation Error Running Multiple Versions Simultaneously

If you have V10.00 or later and an earlier version of RSLogix installed on your computer, you will observe an activation error if you run the V10.00 or later version first and then attempt to run the earlier version simultaneously. To work around this problem, always run the earlier version first and then run the V10.00 or later version.

Default Project Directory and Windows 2000/XP

When using RSLogix 5000 on a Windows 2000 or XP computer, be careful when performing operations with project files that depend on the default project directory. Windows 2000 and XP control and retain the default directory for the Open, Save As, and New Controller dialogs. Be sure to check that the folder selected is the one you wish to use when performing these operations to avoid mistakenly overwriting your project files. The Project Directory setting in the RSLogix 5000 Tools Options dialog is normally used unless you navigate to a different directory within the Open, Save As, or New Controller dialogs. (x28475, x27886)

FBD Routine Localized Feedback Wiring Errors

In releases prior to Version 10.00 if you had a Function Block Diagram routine that contained nested feedback loops (outer and inner) you could download the project to a controller but may have encountered an error when uploading the project. This problem was caused by selecting multiple localized feedback wires in the outside feedback loop. In this release, this condition will be detected as a verification error in the routine. To correct this problem, select a feedback wire in the inner loop that is not also in the outer loop to be the localized feedback wire. (x28963, x27712)

FBD Routine Order of Execution for Unwired Blocks

If you have a Function Block Diagram routine with function blocks that are not wired together, the execution order is not deterministic. Operations such as Verify Routine or Export/Import may change the execution order unexpectedly for unwired blocks. To define the execution order, you must wire function blocks together. See the Function Block Attributes Order of Execution topic in the RSLogix 5000 Online Help or the Logix5000 Controllers Process Control and Drives Instructions Reference Manual for more information. (x28703, x28681)

Describing a Full Circle Using the MCCM Instruction

In order to describe a full circle in a system with 2 axes in a coordinate system, the Direction flag in the MCCM instruction should be programmed using a code of 2 (CWF - Clockwise Full) or 3 (CCWF - Counterclockwise Full). Due to internal round-off in the floating point calculations, using a Direction flag of 0 (CW) or 1 (CCW) with the start and end point being equal (or nearly equal) may result in a small arc of nearly 0 degrees, instead of a full circle of nearly 360 degrees. (x56812)

Motion Module Servo Update Period Changed

The Servo Update Period for the 1756-M02AE 2 Axis Analog/Encoder Servo module has been changed from 200 microseconds to 250 microseconds. The servo update period is displayed on the Module Properties dialog Associated Axes tab. This change in the Servo Update Period will have no affect on the behavior of existing motion control applications or on the overall performance of the motion control system. (x28647)

Motion Group Fault No Longer Produces Major Fault in Program Mode

In V12.01 and later, a motion group that is configured as General Fault Type: Major Fault, will no longer produce a Major Fault in program mode but will produce a Major Fault if the controller is in run or remote run mode. In versions previous to V12.01, the motion group could produce a major fault while the controller was in program or remote program mode. For example, a store to nonvolatile memory interrupts the execution of the motion planner, which produces a fault. (x36957)

Phase Loss Fault-action for AM vs. IAM on Kinetix 2000 & 6000

With the new Phase Loss Fault-action, added in version 16, if the Integrated Axis Module (IAM) detects a phase loss fault, the motor attached to that IAM will respond with respect to the phase loss fault action setting as configured in RSLogix 5000 without any user logic being written. However, a Kinetix Axis Module (AM) on the same power rail will require logic to be written if the user expects the motor on the AM to perform in the same manner as does the IAM. This logic should monitor the IAM's phase loss status bit, and based on the value of this bit, cause the motor attached to the AM to respond in the same manner as the IAM in regards to axis and drive stopping action. The AM cannot have the Power Loss Fault-action configured; only the IAM can. For more detail see also Kinetix Drive Firmware Release Notes (x71448, x71717).

Motion Axis Fault Reset MAFR timing changed on Kinetix Drives to accommodate motor commutation

The Fault Reset timing for Kinetix based Sercos Drives has changed in Drive firmware revision 1.85 to accommodate new checks for reset of the motor commutation angle on the reset of certain drive faults, in particular E05 (IPM), E18 (Overspeed), and E19 (Following Error). Average timing changes observed were 20ms in Version 13 associated drive firmware and now up to 400ms, in the RSLogix 5000 Version 15 associated drive firmware for Motion Fault Reset MAFR instruction to complete for clearing the above listed faults. For more detail see also Kinetix Drive Firmware Release Notes. (x55240)

ControlFLASH Update of Rockwell Automation (RA) Sercos Drives via SERCOS Ring

Version 13 of RSLogix 5000 added the capability to use either RSLinx RSWho and RSLogix 5000 Who Active dialogs to Browse to RA Sercos drives. In Version 15, support was added to allow direct firmware update of the RA Sercos drives via ControlFLASH. The

SERCOS Ring must be connected and able to reach Phase 2 to use ControlFLASH for firmware update. The ControlFLASH via Sercos will 1st transition the Ring to Phase-0, then re-establish Phase-2, and finally establish Phase-5 on the drive that ControlFLASH will be updating. ControlFLASH of the drive(s) on the Ring must be done one drive node at a time.

Specific firmware revisions must exist on both the Logix MxxSE Sercos Interface motion modules and on the RA Sercos Drives to support ControlFLASH via SERCOS. The Logix MxxSE module must have at minimum revision 15.06, the RA Kinetix Sercos drives must have revision 1.85 or higher, and the RA Ultra Sercos drives must have revision 1.50 or higher. Also required is RSLinx Version 2.42 or later, and if using a 1784-PCICS card for the communication routing, the PCICS card should have current firmware and driver Version 2.7 or later. (x51766)

Updating Controller Firmware in a DH485 Network

If you update the firmware of a controller while it is connected to a DH485 network, communications on the network may stop. To prevent this, disconnect the controller from the DH-485 network before you update the firmware of the controller. (x28491)

Online Disconnection after Nonvolatile Store or Load Operation

When using any of the controllers with nonvolatile memory, the memory store and memory load operations will take between 30 seconds and approximately 3 minutes to complete. During these operations the RSLogix 5000 software will be taken offline and will require you to manually reconnect. Any other workstations connected to the controller will also be taken offline. If you performed a store operation, or a load operation where your project did not have any online changes, you will be able to go back online immediately and the project will need to be saved. If you performed a load operation, and your project included online changes that you saved since the last store operation, you will be prompted to upload or download before going online.

I/O Module List Appears Empty

If the list of modules appears empty in the Select Module Type dialog box when you attempt to create a new module, there may be a problem with system DLL files on your computer. Make sure that the version of files on your computer matches the compatible version listed in the table below. (x19891, x18680, x06823)

DLL Name	*Compatible Versions*	
Comcat.dll	4.71	5.0
Ole32.dll	4.0	4.71 or later

Configuring CRC Error Detection for RSLogix 5000 Software

RSLogix 5000 software is configured to use BCC error detection by default when using DF1 serial port communication. CRC error detection can be configured instead of BCC by following these two steps. First, CRC Error Detection must be selected on the Controller Properties dialog System Protocol tab. Second, the RSLinx DF1 Communications Device Driver must be Auto-Configured so the driver's Error Checking will be set to CRC to match the Logix5550 Controller. The process is simplified if non-DF1 communications is used to select CRC Error Detection in the Logix5550 Controller using RSLogix 5000 software.

To change the error detection, open a project and establish online communications using Ethernet, ControlNet, or DF1 communications to the target Logix5550 controller. Open the Controller Properties dialog and select the System Protocol tab. Under Error Detection enable the CRC radio button and select Apply. If using DF1 communications, there will be a short delay and then the RSLogix 5000 information dialog will display the error: "Failed to modify the DF1 Protocol configuration. Communications timed out." This is expected and normal for this operation, click OK to acknowledge the error. The other protocols will not display the error. Start RSLinx and select the Communications menu. Under this menu select Configure Drivers… and then Configure… for the desired DF1 driver such as AB_DF1-1. Click on the Auto-Configure button and the text following the list box Error Checking: will change from BCC to CRC. Click on OK to close the dialog and reduce RSLinx to an icon. If using DF1 communications, in RSLogix 5000 select Go Online to re-establish online communications. This DF1 driver will now communicate only with Logix5550 Controllers that are setup to use CRC Error Detection.

Changes in Fatal Error Handling

Starting with RSLogix 5000 Version 2.25, there are changes in the way abnormal program terminations will appear. There is now a single format for the Fatal Error dialog, which will appear regardless of the cause of the problem. There is also a single log file generated that records the abnormal events and can be delivered to Customer Support so that the problem can be recorded, diagnosed, and fixed. An abnormal termination of RSLogix 5000 will result in a short period of program unresponsiveness followed by the appearance of a dialog box with the title "RSLogix 5000 Fatal Error" and containing specific details about the cause of the error. In addition, this information is appended to the file "RSLogix 5000 Fatal Error.Log" located in the Temp directory. (C:\Documents and Settings\<username>\Local Settings\Temp on Windows 2000, Windows XP, and Windows Server 2003). In order to more effectively address software error conditions, starting with V14.00, the Fatal Error information will be stored in a file named RSLogix 5000 Fatal Error.Dmp. This file, containing the exact memory image at the time the error occurred, greatly extends our ability to determine the cause of the Fatal Error and to address product anomalies if those were the case. The new file will be large. If it must be sent to Customer Support, it can be either (a) copied to a CD or (b) posted onto our public FTP site (ftp://ftp.rockwellautomation.com/pub/). The RSLogix 5000 Fatal Error.Dmp file can also be deleted if not needed.

Destination operands for GSV commands

Caution should be used in selecting the proper data type for the destination operand of a GSV instruction. Use of mismatched operand data types may result in unexpected results. Refer to the Instruction Set reference manual or the online instruction help to determine the proper data types.

Downloading controllers that use more memory than available

If a controller utilizing more memory than is available in the physical controller is downloaded, the user will receive an appropriate error message. However, in some instances, the serial port will become inoperative. It is recommended that in this case the controller memory be cleared (power turned off and the battery removed).

Multiple owners and/or listeners of 1756 analog modules

When using multiple owners and/or listeners of 1756 analog modules, set the Requested Packet Interval (RPI) for all connections to the same value. If different RPIs are used, connections may not recover correctly in a power-up situation.

Configuring the DHRIO module

When online, if the DHRIO module is configured for DH+ only, this module continuously displays Faulted as its Status on the Module Properties dialog box even when normal communications exist. To avoid this erroneous fault condition, include the DHRIO module in the I/O configuration only if the application uses the Remote I/O features.

Note: If the Logix controller is not located in the default slot (slot 0) of the ControlLogix chassis, you must use RSLinx V2.20 or later, or the ControlLogix Gateway Configuration Tool (1756-GTWY) to setup a controller slot for the 1756-DHRIO module.

User disk memory utilization

If an RSLogix 5000 session is terminated abnormally, some large temporary files may be left on the hard drive. You should periodically delete old folders named AB_xxxx from your temporary directory (typically C:\Documents and Settings\<username>\Local Settings\Temp on Windows 2000, Windows XP, and Windows Server 2003). Smaller files with .SEM and .WRK suffixes may be left in your project directory after an abnormal termination and may be deleted. Starting with V14.00, the AB_xxxx temporary files will be located in a folder named RSLogix 5000.Temp, which will be a subfolder of the system defined Temp folder.

Application Errors at end of install or at RSLogix 5000 startup on some systems

Caused by a corrupted activation key file (evrsi.sys). To correct this problem, contact Rockwell Automation Services & Support by telephone at 440-646-5800 or by email at RACleAskTheExpert@ra.rockwell.com.

RSLinx with RSLogix 5000

Configuring the Ethernet Port on a CompactLogix5532E

You may be prevented from configuring the Ethernet Port of a CompactLogix5532E (1769-L32E) via Channel 0 using RSLinx. To workaround the problem, use RSLogix 5000 to configure the port (if the 1769-L32E is at Revision 13) or use the BootP utility (which is enabled for a 1769-L32E at Revision 1).

RSLinx Classic Professional Activation

Beginning with RSLinx V2.31.00, the RSLogix 5000 Professional activation will also enable the RSLinx Classic Professional (RSLinx Classic OEM with version 16 and higher) version features. Only one professional activation is required for both products. The RSLogix 5000 Professional Activation must be installed on the personal computer hard disk in order to activate RSLinx Classic Professional (RSLinx Classic OEM with version 16 and higher).

Configuring drivers for the 1756-ENET, 1756-ENBT, and 1756-EWEB modules

You configure a driver for communicating from the workstation through the 1756-ENET, 1756-ENBT, or 1756-EWEB module by selecting "Configure Drivers ..." from the RSLinx "Communications" menu. In the dialog box, select "Ethernet devices" in the list of available driver types and click on the "Add New" button.

- In the Station Mappings, click Add New to add a new mapping line if needed.
- Enter the IP address of the Ethernet module in the Host Name field. If your network has host name resolution capability, you can use the host name instead of the IP address
- You can put up to 63 devices in the configuration of a single Ethernet devices driver.

If you are using RSLinx 2.40 or later, you can use the EtherNet/IP driver. This driver will automatically browse for all EtherNet/IP-capable devices on the local or configured remote subnet. See RSLinx online help for information on this driver. Note that 1756-ENET/A and 1756-ENET/B modules will not respond to the browse commands. You must use a different driver for these modules.

Configuring DF1 drivers

For DF1 point-to-point communications, choose “RS232 DF1 Devices” from the list of available drivers in RSLinx. Then choose "Logix5550 Serial Port" for DeviceType. We recommend that you do not use the DF1 Polling Master Driver or the DF1 Slave Driver with RSLogix 5000 software. You may be able to download successfully, but there are problems accessing information from I/O modules.

Offline Tag and UDT Changes Downloaded to the Controller May Cause RSLinx (2.X) To Halt Communications

RSLinx maintains knowledge of the memory layout of a Logix5000 controller in order to optimize the data access performance when accessing the data in these controllers. However, changes made to an offline project that are then downloaded can result in RSLinx attempting to access tag information that is no longer present. When this occurs, RSLinx halts the communications to the controller. To recover, both RSLinx and the software requesting tags from RSLinx must be re-started. To avoid this problem, use caution when making offline changes to a project and then downloading to a Logix5000 controller. In particular, changing the size of an array if elements of the array are already on scan, renaming a structure or a member of a user-defined data type used by a tag that is on scan, or changing the data type of a tag on scan from a larger size to a smaller size (e.g. changing a DINT to a SINT). Note that RSLinx Enterprise Series is able to accommodate these changes without requiring a restart.

Contact Information

For technical assistance, please use the following contacts:

- Technical Support Telephone - +1 440-646-5800
- Technical Support Fax - +1 440-646-5801
- World Wide Web - http://support.rockwellautomation.com

When you call:

When you call, you should be at the computer running the Rockwell Software product and be prepared to provide the following information:

- the product serial number on the Activation disk labels
  You can find the serial number online. On the RSLogix 5000 menu, click Help, and then click About RSLogix 5000
- the product version number
  This information also appears in the About box.
- the hardware you are using
- the exact wording/exact error codes of any messages that appear on the screen
- a description of what happened, and what you were doing when the problem occurred
- a description of how you tried to solve the problem

Trademark Information

WINtelligent Series is a registered trademark, and the Rockwell Automation logo, RSAlarm, RSAnimator, RSAssistant, RSBatch, RSBreakerBox, RSButton, RSChart, RSCompare, RSControlRoom, RSData, RSDataPlayer, RSEventMaster, RSGuage, RSJunctionBox, RSLogix Emulate 5, RSLogix Emulate 500, RSGuardian, RSHarmony, RSKeys, RSLadder, RSLadder 5, RSLadder 500, RSLinx, RSLogix 5, RSLogix 500, RSLogix 5000, RSLogix Frameworks, RSMailman, RSNetWorx for ControlNet, RSNetWorx for DeviceNet, RSPortal, RSPower, RSPowerCFG, RSPowerRUN, RSPowerTools, RSRules, RSServer32, RSServer, RSServer OPC Toolkit, RSSidewinderX, RSSlider, RSSnapshot, RSSql, RSToolbox, RSToolPak I, RSToolPak II, RSTools, RSTrainer, RSTrend, RSTune, RSVessel, RSView32, RSView, RSVisualLogix, RSWheel, RSWire, RSWorkbench, RSWorkshop, SoftLogix 5, A.I. Series, Advanced Interface (A.I.) Series, AdvanceDDE, ControlGuardian, ControlView, INTERCHANGE, Packed DDE, WINtelligent, WINtelligent LINX, WINtelligent LOGIC 5, WINtelligent VIEW, WINtelligent RECIPE, WINtelligent VISION, and WINtelligent VISION2 are trademarks of Rockwell Automation, Inc.
PLC, PLC-2, PLC-3 and PLC-5 are registered trademarks, and Data Highway Plus, DH+, DHII, DTL, MicroLogix, Network DTL, PowerText, Pyramid Integrator, PanelBuilder, PanelView, PLC-5/250, PLC-5/20E, PLC-5/40E, PLC-5/80E, SLC, SLC 5/01, SLC 5/02, SLC 5/03, SLC 5/04, SLC 5/05, SLC 500, and ControlLogix are trademarks of the Rockwell Automation, Inc.
Microsoft, MS-DOS, Windows, Visual Basic, and .NET Framework are registered trademarks, and Windows NT, Windows 2000, Windows XP, and Microsoft Access are trademarks of the Microsoft Corporation.
ControlNet is a trademark of ControlNet International.
Ethernet is a registered trademark of Digital Equipment Corporation, Intel, and Xerox Corporation.
IBM is a registered trademark of International Business Machines Corporation. AIX, PowerPC, Power Series, RISC System/6000 are trademarks of International Business Machines Corporation.
UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.
AutoCAD is a registered trademark of Autodesk, Inc.
Portions copyright 1992-2000 FairCom Corporation. "FairCom" and "c-tree Plus" are trademarks of FairCom Corporation and are registered in the United States and other countries. All Rights Reserved.
All other trademarks are the property of their respective holders and are hereby acknowledged.

Rockwell Automation, Inc.

END-USER LICENSE AGREEMENT

IMPORTANT—READ THIS AGREEMENT CAREFULLY: This End-User License Agreement (“EULA”) is a legal contract between you (either an individual or a single entity) (“You or Licensee”) and Rockwell Automation, Inc. ("Rockwell Automation”) for the software product or products that Rockwell Automation licenses to You, which includes computer software and may include associated media (“Software”). Rockwell Automation may also license to You printed materials, and “online” or electronic documentation ("Documentation"). An amendment or addendum to this EULA may accompany the Software. **ROCKWELL AUTOMATION IS WILLING TO LICENSE THE SOFTWARE AND DOCUMENTATION TO YOU ONLY ON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS AND CONDITIONS IN THIS AGREEMENT. YOU ACCEPT AND AGREE TO BE BOUND BY THE TERMS OF THIS EULA BY INSTALLING, COPYING, OR OTHERWISE USING THE SOFTWARE. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON OR A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND THAT PERSON, COMPANY, OR LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS, DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, OR USE THE SOFTWARE, AND PROMPTLY RETURN THE SOFTWARE WITH ALL ACCOMPANYING ITEMS TO YOUR PLACE OF PURCHASE FOR A FULL REFUND. IF YOU DOWNLOADED THE PROGRAM, CONTACT THE PARTY FROM WHOM YOU ACQUIRED IT.**

This Software is licensed to You -- not sold. Your rights to use the Software are only those rights specified in this EULA.

GRANT OF LICENSE

Provided You comply with all the terms and conditions of this EULA, Rockwell Automation and its third party licensors grant You a non-exclusive license to install and use the Software on a single computer, a network server, or on multiple computers owned or leased by the Licensee provided the number of installations and users is not greater than the number of valid software activations purchased.

If the Software You have acquired is a client application utilizing FactoryTalk® Activation and You have acquired a concurrent activation, You may distribute and install an unrestricted number of copies of the client Software on computers or networks owned or leased by the Licensee provided the number of users accessing or using the Software concurrently does not exceed the number of valid software activations You purchased.

If the Software You have acquired is a server application, You are permitted to create or access a single instance of the server application. You are not permitted to install multiple instances of the server application unless You have purchased multiple server activations.

If the Software You have acquired is licensed to You based upon a capacity measurement, including but not limited to a specific number of users, units, assets, active tags or screens, You agree not to take any actions to exceed this capacity. If You desire additional capacity for your Software, You agree to purchase such additional capacity only from Rockwell Automation or its authorized distributors and resellers.

This License does not grant You the right to provide or utilize the Software as an application service provider or the like. Any attempted sublicense, rental, sale, lease, transfer or commercial hosting of the Software is prohibited. If the Software requires a software activation process, such as FactoryTalk® Activation, You agree to follow this activation process as part of the license to You under this EULA.

If this Software is an upgrade or update to a previous version of a Rockwell Automation product, You may not transfer the prior version to another user. This EULA supersedes any prior license with respect to Your use of the Software.

The Software and the Documentation are copyrighted. Unauthorized copying, reverse assembly, reverse engineering, decompilation, and creating derivative works based on the Software are prohibited. You may make a copy of the Software provided that any such copy is only for archival purposes to internally back-up the Software, or is created as an essential step in the internal installation of Software within your organization for concurrent activation of Software You have acquired that utilizes FactoryTalk® Activation. You may not make any other copies of the Software. You may not copy the Documentation.

LIMITED WARRANTY

The Software is warranted for ninety days after its initial delivery to You that it will substantially conform with its Documentation supplied by Rockwell Automation at the time of initial delivery of the Software. Defective media will be replaced without charge if returned during the warranty period. This warranty shall be void if You attempt to modify the Software in any way. Rockwell Automation makes no representation or warranty, express or implied, that the operation of the Software will be uninterrupted or error free, or that the functions contained in the Software will meet or satisfy Your intended use or requirements; You assume complete responsibility for decisions made or actions taken based on information obtained using the Software.

TO THE MAXIMUM EXTENT PERMITTED BY LAW THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ROCKWELL AUTOMATION DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OR CONDITIONS, INCLUDING (WITHOUT LIMITATION) ANY WARRANTY OF TITLE, NONINFRINGEMENT OF THIRD PARTY RIGHTS, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY UNDER UCITA.

SOME COUNTRIES AND STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM COUNTRY TO COUNTRY OR STATE TO STATE.

LIMITATION OF REMEDIES

Rockwell Automation's entire liability and Your exclusive remedy for breach of the Limited Warranty shall be:

1. The replacement of the Software not meeting the Limited Warranty specified above which is returned with proof of purchase; or

2. If Rockwell Automation is unable to deliver replacement Software which meets the Limited Warranty specified above, You may terminate this EULA by returning or destroying the Software as provided herein, and Rockwell Automation or its reseller will refund Your purchase price.

LIMITATION OF LIABILITY

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL ROCKWELL AUTOMATION OR ITS THIRD PARTY LICENSORS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFITS OR CONFIDENTIAL OR OTHER INFORMATION, FOR BUSINESS INTERRUPTION, FOR LOST SAVINGS, FOR LOSS OF PRIVACY, AND FOR ANY OTHER PECUNIARY OR OTHER LOSS WHATSOEVER) ARISING OUT OF OR IN ANY WAY RELATED TO THE USE OF OR INABILITY TO USE THE SOFTWARE, EVEN IF ROCKWELL AUTOMATION OR ITS RESELLER HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

SOME COUNTRIES DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ROCKWELL AUTOMATION'S MAXIMUM CUMULATIVE LIABILITY RELATIVE TO ALL CLAIMS AND LIABILITIES, INCLUDING THAT WITH RESPECT TO DIRECT DAMAGES AND OBLIGATIONS UNDER ANY INDEMNITY, WHETHER OR NOT INSURED, WILL NOT EXCEED THE COST OF THE SOFTWARE GIVING RISE TO THE CLAIM OR LIABILITY. ALL OF THESE DISCLAIMERS AND LIMITATIONS OF REMEDIES AND/OR LIABILITY WILL APPLY REGARDLESS OF ANY OTHER CONTRARY PROVISION OF THIS EULA OR ANY OTHER AGREEMENT BETWEEN YOU AND ROCKWELL AUTOMATION AND REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT OR OTHERWISE, AND FURTHER WILL EXTEND TO THE BENEFIT OF ROCKWELL AUTOMATION'S VENDORS, APPOINTED DISTRIBUTORS AND OTHER AUTHORIZED RESELLERS AS THIRD-PARTY BENEFICIARIES.

TERM AND TERMINATION

This EULA takes effect upon Your use of the Software and remains effective until terminated for any reason. You may terminate it at any time by destroying all copies of the Software and Documentation in Your possession. It will also automatically terminate if You fail to comply with any term or condition of this EULA. You agree on termination of this EULA to either return to Rockwell Automation or destroy all copies of the Software and Documentation in Your possession. If this Software has been licensed to You as part of a subscription service, this EULA shall terminate after the period of the subscription has lapsed.

ACADEMIC USE

If this Software was purchased for academic or research use by an educational institution, it may be used for teaching and research purposes only. Commercial use of the Software is prohibited if the software was intended for educational use. Only the instructor/professor registered to the software is eligible to contact Rockwell Automation for technical support and product updates.

PREPRODUCTION RELEASES

As an accommodation to Licensee, Rockwell Automation may provide Licensee with a preproduction release of the Software (often labeled a "beta release"). These releases are not suitable for production use. SUCH RELEASES ARE PROVIDED ON AN "AS IS" BASIS. ROCKWELL AUTOMATION DOES NOT WARRANT PREPRODUCTION RELEASES.

SAMPLES

The Software may contain samples that are provided as an accommodation to You ("Sample Project Files"). These Sample Project files are intended to be used for example only. The Sample Project Files may be contained in the Software, Documentation (electronic or printed) or downloaded from the Rockwell Automation website. Rockwell Automation and its third party licensors make no representations or warranties regarding Your use of the Sample Project files and related Documentation. All such Sample Project Files are provided "as is". Rockwell Automation disclaims all warranties with regard to this information, including all implied warranties and conditions of merchantability, fitness for a particular purpose, title and non-infringement.

GOVERNMENT RESTRICTED RIGHTS

If You are a branch or agency of the United States Government, the following provision applies. The Software and Documentation are comprised of "commercial computer software" and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (SEPT 1995) and are provided to the Government (i) for acquisition by or on behalf of civilian agencies, consistent with the

policy set forth in 48 C.F.R. 12.212; or (ii) for acquisition by or on behalf of units of the Department of Defense, consistent with the policies set forth in 48 C.F.R. 227.7202-1 (JUN 1995) and 227.7202-3 (JUN 1995).

EXPORT CONTROLS

You acknowledge that the Software is subject to the export control laws and regulations of the United States and any amendments thereof. You agree that You will not directly or indirectly transfer or use the Software except in compliance with applicable U.S. export laws and regulations.

AUDIT

You agree that Rockwell Automation may audit your use of the Software for compliance with these terms, upon reasonable notice. In the event that such audit reveals any use of the Software by You other than in full compliance with the terms of this EULA, You shall reimburse Rockwell Automation for all reasonable expenses related to such audit in addition to any other liabilities You may incur as a result of such non-compliance.

OWNERSHIP

The Software and Documentation are protected by copyright and other intellectual property laws and treaties. Rockwell Automation or its licensors own the title, copyright, and other intellectual property rights in the Software and Documentation. The Software and Documentation is licensed, not sold. Nothing in this EULA constitutes a waiver of our rights under U.S. or international copyright law or any other law.

MISCELLANEOUS

This EULA shall be governed by the laws of the State of Wisconsin, without regard to any conflict of laws provisions. The United Nations Convention on the International Sale of Goods will not apply. You agree to bring any action in connection with this EULA or the Software exclusively in the state or federal courts of Wisconsin, and You further agree to the jurisdiction of the state and federal courts of Wisconsin for any action that Rockwell Automation brings against You.

This EULA, and any amendment or addendum to this EULA that accompanies the Software is the complete and exclusive agreement between Rockwell Automation and You, and supersedes all prior agreements, whether written or oral, relating to the Software provided and the Documentation. This EULA may not be changed or modified except by an instrument in writing signed by a duly authorized representative of Rockwell Automation. If for any reason a court of competent jurisdiction finds any provision of this EULA or portion thereof, to be unenforceable, that provision of the EULA shall be enforced to the maximum extent permissible so as to effect the intent of the parties, and the remainder of this EULA shall continue in full force and effect.

The parties acknowledge that they have required the EULA to be drafted in English. Les parties reconnaissent avoir exigé la rédaction en anglais du Contrat. In the event of a conflict between the English and other language versions, the English version will prevail.

LICENSE ADDENDUM TO END USER LICENSE AGREEMENT FOR RSLOGIX SOFTWARE

RSLogix License Restriction:

If the Software is RSLogix, this License does not grant You the right to provide or utilize the Software as part of or in connection with a third party service or software application that interacts with the Software: (a) without You manually inputting all commands (e.g. local or remote keyboard emulation without manual keyboard input would be prohibited); or (b) by providing or applying automated instructions or scripting technology to the Software. If this Addendum is being provided for an update of Software that did not contain the above RSLogix License Restriction when it was originally licensed to You, your earlier rights of use shall apply for the update if You were previously using the Software in the manner now restricted.

Automation Interface Program:

Rockwell Automation has developed a programmatic interface to its RSLogix Software (the “Automation Interface”). The Automation Interface is intended to provide enhanced functionality between Rockwell Automation software products.

I. RSLogix 5 and 500. Access to the Automation Interface is provided with some versions of RSLogix 5 and 500 and in these cases, You are granted a non-exclusive license to use the Automation Interface in conjunction with your use of the RSLogix 5 and 500 Software and application code created by the RSLogix 5 and 500 Software, but only:

a) in applications programmed by You for use in and for your own control systems within your own facilities, including the programming of control systems having controllers within them which are intended to be resold as equipment systems with a substantial value added component, or
b) in applications custom developed for your individual customers, where each application so developed is owned and used exclusively by a single customer end-user who owns one or more control systems operating within its own facility and the application code developed for each customer is not shared with or among other such end-user customers.

II. RSLogix 5000. Access to the Automation Interface has not been provided to You with RSLogix 5000 Software and accordingly, You are not granted a license to use the Automation Interface in conjunction with your use of the RSLogix 5000 Software.

III. Additional restrictions for all RSLogix Software. You are not licensed to use the Automation Interface to:

a) provide any of the functional capabilities of the RSLogix Software in or enabled through the Automation Interface, in a non-custom retail product as an ASP service or use the Automation Interface in providing any kind of subscription service or the like based on the functionality of the RSLogix Software, such as for remotely validating or verifying controller application code,
b) provide automated capabilities available to multiple clients or the general public for generating controller application code,
c) remotely or locally furnish the same software products or services to multiple clients or to the general public, except as permitted in Section I above, or
d) create or facilitate any script driven applications that provide functionality or interface with any commercially available software programs.

PLEASE NOTE: Rockwell Automation does not include debugging or troubleshooting services for custom applications as a part of our standard support.

Rockwell Automation, Inc. EULA 7-Sep-2006
RSLogix Addendum 4-Jan-2007