



DriveLogix™ 5720 Controller (12.23)

Catalog Number 5720

When to Use These Release Notes

These release notes should be used with DriveLogix5720 Controller firmware major revision 12, minor revision 23. Use this firmware with:

Update this:	To this revision or later:
RSLinx® software	2.41
RSLogix™ 5000 software	12.01 (We recommend you upgrade to 12.02.)
RSNetWorx™ for ControlNet™ software	4.11
RSNetWorx for DeviceNet™ software	4.12

What Is In These Release Notes

These release notes provide the following information:

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Determining Firmware Revision Level

To determine the firmware revision level for a DriveLogix controller, use RSNetWorx or RSLinx software to view the properties of the node occupied by the controller.

Before You Update Your System

Before you update your controller or RSLogix 5000 software to this revision, do the following preliminary actions:

If:	Then:
Your controller is connected to a DH-485 network.	Disconnect it from the DH-485 network <i>before</i> you update the firmware of the controller. If you update the firmware of a controller while it is connected to a DH-485 network, communication on the network may stop.
Your controller is close to its limits of memory.	This revision <i>may</i> require more memory than previous revisions. Before you upgrade to this revision, do the following: <ol style="list-style-type: none"> 1. Check the amount of unused memory that you have in the controller. To determine your unused memory, see either of the following documents: <ul style="list-style-type: none"> • Knowledgebase document G19984. To access Rockwell Automation's Knowledgebase, go to www.ab.com. Select <i>Support</i>. • <i>Logix5000 Controllers Common Procedures</i>, publication 1756-PM001E or later 2. If your controller is close to its limits of memory, see "Additional Memory Requirements" on page 5 to determine how much additional memory you require. 3. For additional information on how the controller organizes its memory, see Knowledgebase document G19984.

Corrected Anomalies

The corrected anomalies are listed in the table below.

Corrected anomaly:	Corrected in	Description:
Module May Not Have Behaved as Expected During Communication Faults and Program Mode Transitions	DriveLogix FW 12.23	<p>If the DriveLogix controller was connected to an output module on either the local or extended-local rail via a rack-optimized connection, the module may not have behaved as expected when a communications fault occurred or the DriveLogix controller transitioned to Program Mode.</p> <p>Typically, output modules on the local and extended-local rails are configured to Reset Outputs when a fault occurs or the controller transitions to Program Mode; these settings are the module's default configuration. However, the output module behaved as if configured to Hold Last Outputs when the fault occurred or the DriveLogix controller transitioned to Program Mode.</p> <p style="text-align: right;">Lgx00050654</p>
Application code lost on power cycle	DriveLogix FW 12.23	<p>The application code in the DriveLogix controller is occasionally lost when power to the drive is cycled.</p> <p style="text-align: right;">Lgx00043909</p>
MCLM and MCCM Instructions Still Provided Command Output for Axes when Speed = 0.0	DriveLogix FW 12.23	<p>Multi-Axis MCLM and MCCM instructions calculated a small command output value when Speed = 0.0. The X and Y positions would increase slightly.</p> <p style="text-align: right;">Lgx00043991</p>
Coordinate System ActualPosition Value Returned Wrong Data Type	DriveLogix FW 12.23	<p>The Coordinate System ActualPosition value returned an array of DINT values rather than an array of REAL values.</p> <p style="text-align: right;">Lgx00043991</p>

Corrected anomaly:	Corrected in	Description:
Certain Conditions Could Generate an Unknown Major Fault When a Motion Axis Fault Occurred	DriveLogix FW 12.23	<p>Under these conditions, RSLogix 5000 software displayed an unknown major fault after an axis fault occurred:</p> <ul style="list-style-type: none"> • UID/UIE instruction in an event, periodic, or continuous task • the motion group is configured to trigger major faults in response to axis faults • fault handler routine responds to axis faults and clears the axis fault code • an axis fault occurs while the user task is in the UID section of code <p style="text-align: right;">Lgx00046070</p>
Loss of UID/UIE Behavior if a Fault Routine Executed	DriveLogix FW 12.23	<p>The controller uses an internal count to keep track of nesting UID/UIE instructions. When a UID is scanned, the count increments by one; when a UIE is scanned, the count decrements by one. The count is set to zero when a program completes execution.</p> <p>If a fault routine executed when the UID/UIE count was not zero, at the end of the fault routine, the controller set the UID/UIE count back to zero. Control was returned to the program with interrupts enabled when they should still be disabled.</p> <p style="text-align: right;">Lgx00046070</p>
Non-recoverable Fault Occurred when Motion Speed Set to Zero	DriveLogix FW 12.23	<p>A non-recoverable fault occurred on some motion moves when the speed was set to zero. This occurred because planning calculations divided by 0.</p> <p style="text-align: right;">Lgx00046949</p>

Restrictions

This firmware version has these restrictions:

Restriction:	Description:
Forcing is not supported between the PowerFlex 700S and DriveLogix	The forcing values can be set for the controller inputs and outputs. However, these values will not be used by the Logix program nor will they be transmitted to the PowerFlex 700S.
Minimum RPI for local Flex I/O	The minimum recommended Requested Packet Interval (RPI) setting for the local Flex I/O rail is 30 ms.
Unsupported Motion Commands	<p>The following Logix Motion Instructions are not intended for use with DriveLogix and the PowerFlex 700S:</p> <p>Motion State (for 1756-M02AE Only)</p> <ul style="list-style-type: none"> • MDO (Motion Direct Drive On) • MDF (Motion Direct Drive Off) <p>Motion Configuration (for tuning SERCOS cards only)</p> <ul style="list-style-type: none"> • MAAT (Motion Apply Axis Tuning) • MRAT (Motion Run Axis Tuning) • MAHD (Motion Apply Hookup Diagnostics) • MRHD (Motion Run Hookup Diagnostics)
Difficulty Flash Updating a DriveLogix Controller with Memory Expansion to 12.23 through EtherNet	When using EtherNet to flash update a DriveLogix controller to 12.23, the memory expansion option must be temporarily removed during the flash upgrade.
Application Program Loss with the Memory Expansion Option	If equipped with the memory expansion option, the DriveLogix5720 controller can possibly lose the application program after power cycles.

Additional Memory Requirements

Revision 12.x *may* require more memory than previous revisions (e.g., 10.x, 11.x). To estimate the additional memory that your project *may* require, use the following table:

Table 1 Additional memory requirements when you convert a project to revision 12

If you have this firmware revision (add <i>all</i> that apply):	Then add the following memory requirements to your project:		Which comes from this type of memory: ⁽¹⁾		
	Component	Increase per instance	I/O (base)	Data and Logic (expansion)	
11.x or earlier	tag that uses the MOTION_INSTRUCTION data type	4 bytes		Yes	
	tag for an axis				
	If the data type is:	And the tag is:			
	AXIS_CONSUMED	⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒	264 bytes	Yes	
	AXIS_SERVO	produced for another controller	264 bytes	Yes	
		<i>not</i> produced for another controller	264 bytes		Yes
	AXIS_SERVO_DRIVE	produced for another controller	288 bytes	Yes	
		<i>not</i> produced for another controller	288 bytes		Yes
	AXIS_VIRTUAL	produced for another controller	264 bytes	Yes	
		<i>not</i> produced for another controller	264 bytes		Yes
	output cam execution targets	648 bytes		Yes	
user-defined data type: <ul style="list-style-type: none"> number of user-defined data types in the controller organizer ⇒Data Types folder ⇒User-Defined folder <i>not</i> the use of that data type in tags 	128 bytes		Yes		
indirect address (using a tag as the subscript for an array in an instruction, e.g., Array_A[Tag_B]). This memory change applies <i>only</i> if the array: <ul style="list-style-type: none"> uses a user-defined data type has only one dimension (e.g., UDT_1[5]) 	(-60 bytes)				
10.x or earlier	project for a DriveLogix controller	1200 bytes	Yes		
	programs	12 bytes		Yes	
	routines	16 bytes		Yes	

⁽¹⁾ In the DriveLogix controller, the I/O and expansion memory types are merged into a single memory pool.

IMPORTANT

An internal change on DriveLogix controllers resulted in less available memory with major revision 7 as compared to major revision 6.

- The 1794-L33 controller has 34k bytes less memory available.
- The 1794-L34 controller has 96k bytes less memory available.

Subsequent upgrades to new major revisions maintain this internal change.

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Rockwell Automation Support

Before you contact Rockwell Automation for technical assistance, we suggest you please review the troubleshooting information contained in the supporting product publications first (e.g. publications 20D-UM002, *User Manual - DriveLogix System*, and 1756-PM001, *Logix5000 Controllers Common Procedures Programming Manual*).

If the problem persists, call your local distributor or contact Rockwell Automation in one of the following ways:

Phone	United States/Canada	1.262.512.8176 (7 AM - 6 PM CST) 1.440.646.5800 (24 hour paid support available through the TechConnect Support Program)
	Outside United States/Canada	You can access the phone number for your country via the Internet: Go to http://www.ab.com Click on <i>Support</i> (http://support.rockwellautomation.com/) Under <i>Contact Customer Support</i> , click on <i>Phone Support</i>
Internet	⇒	Go to http://www.ab.com/support/abdrives/
E-mail	⇒	support@drives.ra.rockwell.com

Be prepared to furnish the following information when you contact support:

- Product Catalog Number
- Product Serial Number
- Firmware Revision Level



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Publication 20D-RN014A-EN-P - September 2004