DriveLogix™5730 Controller Firmware (15.04)

Catalog Number 5730

When to Use These Release Notes

These release notes should be used with DriveLogix5730 Controller firmware major revision 15, minor revision 4. Use this firmware with:

Update this:	To this revision or later:
RSLinx® Classic software	2.50
RSLinx® Enterprise Software	3.00
RSLogix™ 5000 software	15.00
RSNetWorx™ for ControlNet™ software	6.00
RSNetWorx for DeviceNet™ software	6.00
RSNetWorx for EtherNet/IP software	6.00
1769-SDN Firmware	2.002

What Is In These Release Notes

These release notes provide the following information:

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Known Issues

- Tasks are the basic scheduling mechanism for executing a program and are created as part of the project and program creation process. In addition to other internal tasks, the DriveLogix5730 controllers have an internal task to provide communication with the 1769 I/O modules. This task executes periodically at the Requested Packet Interval (RPI) selected in the properties of the CompactBus. If the task has not completed before it is time to execute again, a task overlap occurs. This task overlap causes the controller to declare a minor fault of Type = 6 (Task Overlap), Code = 4 (VA task).

  You can use various strategies to resolve minor faults due to task watchdog timeout and/or task overlap. For more information, see RSLogix™ 5000 Online Help "Identifying and Managing Tasks".

  In the case of a minor fault caused by VA task overlap, increase the RPI until the overlap no longer occurs.

- A major fault will not occur if the connection to the Compact I/O Adapter is lost even though the "Major Fault on Controller if Connection Fails while in Run Mode" check box for the local I/O Adapter (Compact Bus Local) is ignored.

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 *before* 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. We recommend that you use DH-485 communications as follows: • If you update the firmware of a controller while it is connected to a DH-485 network, communication on the network may stop. To prevent this, disconnect the controller from the DH-485 network before you update the firmware of the controller. • Logix5000 controllers should be used on DH-485 networks only when you wish to add these controllers to an existing DH-485 network. For new applications with Logix5000 controllers, DeviceNet, Ethernet, and ControlNet are the recommended networks.

Enhancements

This revision of DriveLogix controllers adds these enhancements:

- Support for 100 programs and equipment phases (combined) per task.

Known Anomaly

This revision of DriveLogix5730 controllers has this known anomaly:

Restriction:	Description:
LimitsInv and SelectLimitInv Are Swapped in an HLL Instruction	In the HLL instruction, the LimitsInv parameter is set when the SelectLimit is invalid, and the SelectLimitInv parameter is set when the HighLimit and LowLimit parameters are invalid. Lgx00055977

Corrected Anomalies

This revision of DriveLogix5730 controllers corrects these anomalies:

Corrected Anomaly:	Description:
Loss of Power to DriveLogix™ I/O Prior to Controller on Drive Power Cycle	When power is removed from the drive, the controller firmware will persist operating for some time - depending on the size of the drive. The controller on a large drive will persist operating for minutes after the removal of power. Some . If a drive is connected to DriveLogix I/O modules that utilizes AC line power, they will lose power before the controller ceases execution. This situation will result in a fault condition, because the controller will recognize a loss of power to the I/O. This issue is resolved by configuring the Compact I/O modules to be not required (i.e., un-checking the "Major Fault on Controller if Connection Fails while in Run Mode" check box). For the adapter (Compact Bus Local), this check box is ignored and cannot be configured. If there is an I/O loss when the "Major Fault on Controller if Connection Fails while in Run Mode" check box is unchecked for all of the Compact I/O Modules, an I/O fault will not occur. You can configure RSLogix 5000 to monitor the status of the Local Fault bits for each I/O Module (refer to publication 1769-UM007, CompactLogix™ System User Manual, for more information on monitoring I/O Modules). Note: If this check box for any of the Compact I/O modules is checked, a loss of power will cause a major fault. Lgx 00054108

Corrected Anomaly:	Description:
Cannot Clear I/O Faults with 1769 LX	When a Compact I/O fault occurs, the fault cannot be cleared using the RSLogix 5000 fault clear feature. The DriveLogix5730 Controller must be power cycled. The DriveLogix5730 firmware was modified to enable the clearing of 1769 I/O faults without the requirement of power cycling. Now, if the problem that caused the I/O fault is removed, the controller will reconnect to the adapter. Previously, the controller required a power cycle to reconnect to the I/O. Lgx 00059187
5730 Watchdog Timeout Fault from Compact I/O Power Loss	When power is lost and re-established to Compact I/O, the 5730 Watchdog times out and declares a Watchdog Timeout fault. After powering up Compact I/O that previously lost power, the 5730 Controller must reset the 1769 Adapter I/O and re-establish connections. This process takes more time than the default time for the 5730 Watchdog. The DriveLogix 5730 firmware was modified to prevent this delay from causing task watchdog timeouts. Lgx 00059050
CompactLogix 1769-L35E Faults but Outputs Remain on when Compact Bus Terminator is Removed	When an CompactLogix 1769-L35E faults, the outputs do not turn off when the Compact Bus terminator is removed. This anomaly was resolved. Lgx 00059797

Additional Memory Requirements

Revision 15.0 or later 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:

If you have this firmware revision (add *all* that apply):	Then add the following memory requirements to your project:		Which comes from this type of memory:	
	Component	Increase per instance	I/O (base)	Data and Logic (expansion)
15.x or earlier	tag that uses the COORDINATE SYSTEM data type	60 bytes		✔
13.x or earlier	program	12 bytes		✔
	task	4 bytes		✔
	user-defined data type	4 bytes		✔
	I/O module	16 bytes	✔ (8 bytes)	✔ (8 bytes)
	produced or consumed tag	8 bytes	✔	

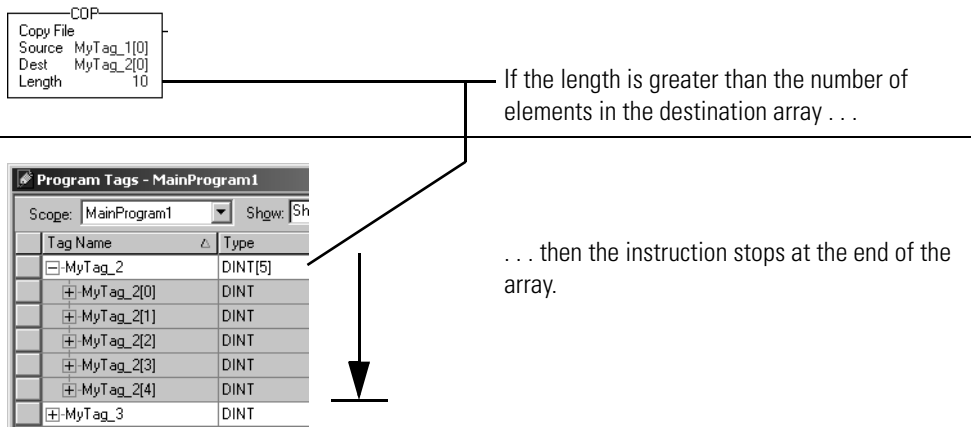
Restrictions

This firmware version has these restrictions:

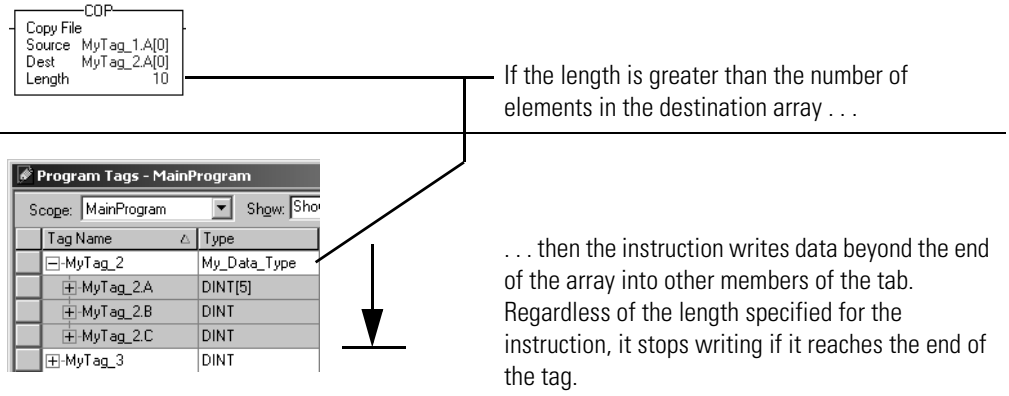
Restriction:	Description:
Forcing is not supported between the PowerFlex 700S and DriveLogix	The forcing values can be set for the controller inputs and outputs. However, these values will not be used by the Logix program nor will they be transmitted to the PowerFlex 700S.
Unsupported Motion Commands	The following Logix Motion Instructions are not intended for use with DriveLogix and the PowerFlex 700S: **Motion State (for 1756-MO2AE Only)** • MDO (Motion Direct Drive On) • MDF (Motion Direct Drive Off) **Motion Configuration (for tuning SERCOS cards only)** • MAAT (Motion Apply Axis Tuning) • MRAT (Motion Run Axis Tuning) • MAHD (Motion Apply Hookup Diagnostics) • MRHD (Motion Run Hookup Diagnostics)
Power down banks of local 1769 I/O when the controller is powered down.	When powering down the controller (the host drive), also power down any banks of local 1769 I/O modules. Leaving additional banks of 1769 I/O modules powered on may result in major fault code 22 during the power-up process of the controller.

Restriction:	Description:
In a Tag of a User-defined Data Type, an Instruction May Write Past the End of an Array.	If you write too much data to an array that is within a user-defined data type, some instructions write beyond the array and into other members of the tag.

Example 1: Instruction Stops at the End of the Array



Example 2: Instruction Writes Beyond the Array



The following instructions write beyond the array into other members of the tag:

BSL	FBC	LFL
BSR	FFL	LFU
COP	FFU	SQL
CPS	FLL	SRT
DDT	GSV	SSV

This restriction also applies to *all previous revisions*.

To prevent writing beyond the limits of the destination array, make sure that the length operand of the instruction is less than or equal to the number of elements in the array.

Hold Last State and User-Defined Safe State Not Supported

When 1769 Compact I/O modules are used as local I/O modules in a DriveLogix5730 system, the local I/O modules do not support the Hold Last State or User-Defined Safe State features, even though you can configure these options in the programming software.

- If a local I/O module fails such that its communication to the controller is lost, or if any module is disconnected from the system bus while under power, the controller will go into the fault mode. All outputs turn off when the system bus or any module faults.
- RSLogix 5000 software creates tags for modules when you add them to the I/O configuration. The 1769 module tags define configuration (C) data type members which may include attributes for alternate outputs. DriveLogix5730 does not enable local modules to use the alternate outputs.

  Do not configure the attributes listed below:

For digital output modules:	For analog output modules:
• ProgToFaultEn • ProgMode • ProgValue • FaultMode • FaultValue	• CH*x*ProgToFaultEn • CH*x*ProgMode • CH*x*FaultMode • where CHx = the channel number

  Any 1769 Compact I/O modules used as remote I/O modules in a DriveLogix5730 system do support the Hold Last State and User-Defined Safe State features.

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-UM003…, *User Manual - DriveLogix5730 Controller*, 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 *Support* (http://support.rockwellautomation.com/) Under *Contact Customer Support,* click on *Phone Support*
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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